# SATURN V

# Laboratory Maintenance Instruction for LTE

## Volume V

## Programmable Test Controller

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Federal Systems Division
Owego, New York

VOLUME V OF V

Laboratory Maintenance Instructions

# SATURN V
# LAUNCH VEHICLE DIGITAL COMPUTER
# AND LAUNCH VEHICLE DATA ADAPTER
# TEST EQUIPMENT

International Business Machines Corporation

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VOLUME V

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## LIST OF RELATED MANUALS

| Equipment | Manufacturer | Manual Title |
|---|---|---|
| Platter Assembly Model 565 | California Computer Products Incorporated | Instruction Manual for Digital Incremental Platter, Model 565 |
| Power Supply Model M36-5-0V | Trygon Electronics, Inc. | Trygon Electronics, Inc. Instruction and Maintenance Manual, Model M36-5-0V |
| Power Supply Model M15-10-0V | | Trygon Electronics, Inc. Instruction and Maintenance Manual, Model M15-10-0V |
| Power Supply Model M36-10A-0V | | Trygon Electronics, Inc. Instruction and Maintenance Manual, Model M36-10A-0V |
| Power Supply Model M15-30A-0V | | Trygon Electronics, Inc. Instruction and Maintenance Manual, Model M15-30A-0V |
| Automated Logic Diagrams | IBM Corporation | Saturn V LTE-Programmable Test Controller Automated, Logic Diagrams |

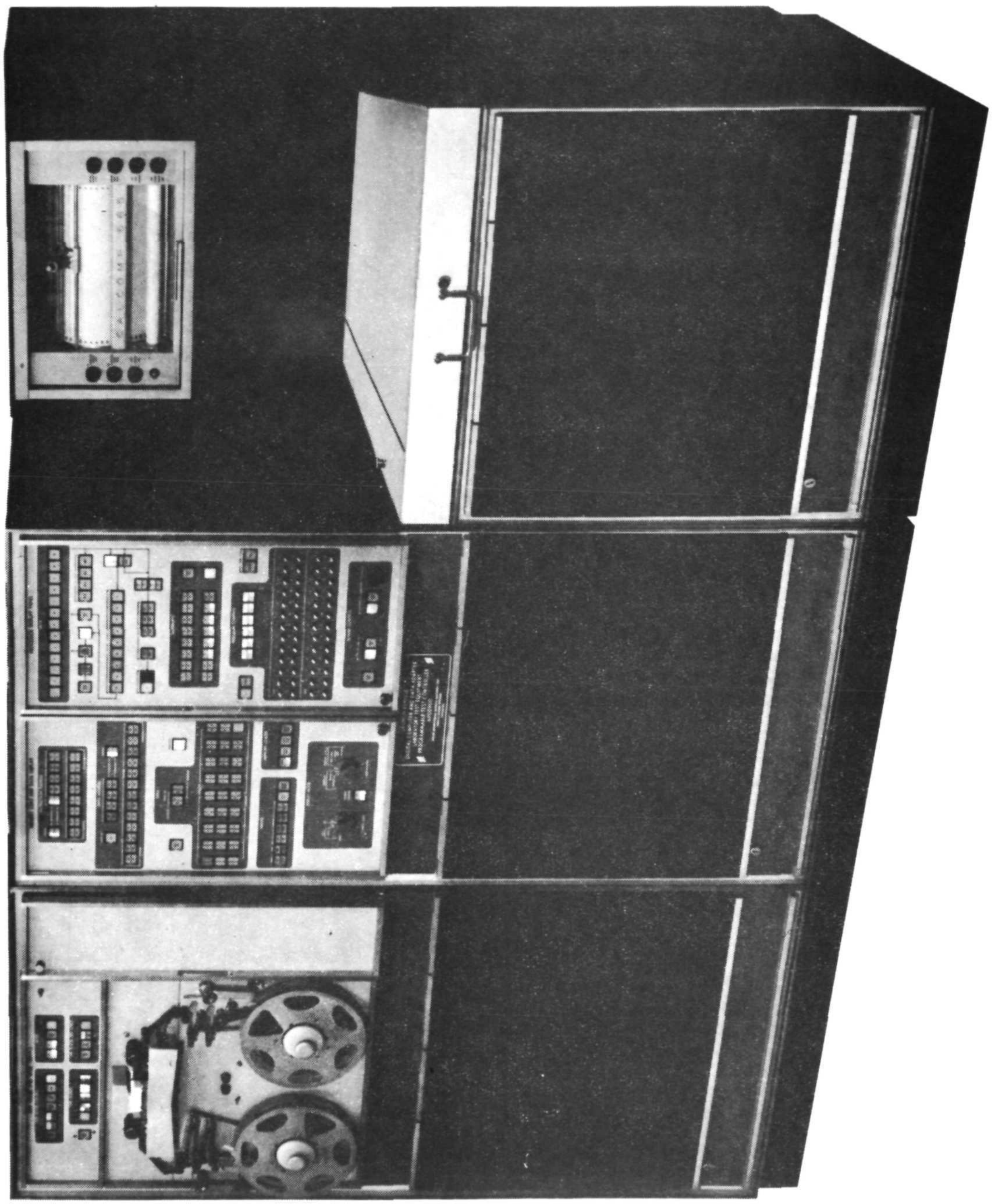

Figure 1-1. Programmable Test Controller

## SECTION I

## INTRODUCTION AND DESCRIPTION

1-1. SCOPE.

1-2. This section outlines the contents of this volume and specifies related publications and documents. This section also presents a general physical description of the Programmable Test Controller and its major component assemblies.

1-3. INTRODUCTION.

1-4. PURPOSE OF THIS VOLUME.

1-5. This volume of the manual provides operating and maintenance instructions for the Saturn V Programmable Test Controller (PTC), IBM part number 6900900, shown on figure 1-1. The PTC is manufactured by the International Business Machines Corporation, Federal Systems Division, Rockville, Maryland.

1-6. CONTENTS. This volume is composed of ten sections as follows:

| | |
|---|---|
| Section I | Introduction and Description |
| Section II | Theory of Operation |
| Section III | Interface and Controls |
| Section IV | Test Equipment and Special Tools |
| Section V | Preparation for Use, Storage and Shipment |
| Section VI | Preventive Maintenance |
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| Section IX | Repair |
| Section X | Diagrams |

At the beginning of each section a paragraph labeled SCOPE describes the contents of the section and relates the contents of the section to applicable contents of other sections.

1-7. A glossary and index are located at the back of the volume. The glossary lists signal names and acronyms in alphabetical order. (Standard abbreviations in this volume conform with military standard MIL-STD-12B.) The topical index indicates the page or pages on which the discussion of a topic begins.

1-8. RELATED MANUALS. Maintenance information for PTC assemblies not built or modified by the Federal Systems Division is not included in this volume. This information is contained in the commercial manuals supplied with this volume. The List of Related Manuals in the front of this volume lists the titles and source of supply for these manuals.

1-9. Four copies of PTC Automated Logic Diagrams (ALD's) are also supplied by the IBM Corporation; the title of the books containing these diagrams is included in the List of Related Manuals.

1-10. LOGIC SYMBOLS. The logic symbols used in this volume and on the ALD's are defined in the table of logic symbols. A discussion of the physical layout and interpretation of the ALD's is included in Section X.

1-11. PART SYMBOLS. Symbols for standard electrical and electronic parts conform with military standard MIL-STD-15-1.

1-12. REFERENCE DESIGNATIONS. Reference designations for standard electrical and electronic parts conform with military standard MIL-STD-16B.

1-13. PURPOSE OF THE PTC.

1-14. The purpose of the PTC is to evaluate the Launch Vehicle Digital Computer and/or the Launch Vehicle Data Adapter by either the ADAPT or the ASTEC laboratory test equipments. (Refer to Volume I for the ADAPT and ASTEC descriptions.)

1-15. DESCRIPTION.

1-16. BASIC CONSTRUCTION.

1-17. The PTC is composed of three frames (01, 02, and 03, right to left on figure 1-1). Frames 02 and 03 are secured together by tie blocks and screws to form a unit approximately 58 inches long, 31 inches deep and 60 inches high that weighs approximately 1700 pounds. Frame 01 is not mechanically secured to frames 02 and 03. Frame 01 is approximately 30 inches wide, 31 inches deep and 60 inches high and weighs approximately 800 pounds. All three frames are further divided into modules. The upper module in each of these frames is designated module A; the lower module is designated module B.

1-18. Each module is composed primarily of hinged or slide mounted assemblies that can be pulled out from the frame to facilitate servicing the PTC. The side covers of each module can be removed to facilitate servicing assemblies that are fixed to the PTC frames.

1-19. Filtered openings at the base of the PTC permit the intake of cooling air. The cooling air is circulated through the PTC by fans and expelled through screened openings in the top of the PTC.

1-20. Casters at the bottom of each frame facilitate moving the PTC.

1-21. MAJOR ASSEMBLIES.

1-22. Each PTC assembly has a reference designation which identifies its location in the PTC. Each major assembly is referenced by a four-character designation that identifies the frame (01, 02, or 03), module (A or B), and module assembly number (1 through 8) of the assembly. For example, the reference designation for assembly 1 in module A of frame 02 is 02A1.

1-23. The assignment of numbers for assemblies in a typical module B is shown on figure 1-2. A movable assembly in position 1, 2, 3, or 4 opens to the front of the module; a movable assembly in position 5, 6, 7, or 8 opens to the rear of the module.

1-24. The location of each major PTC assembly is shown on figure 1-3. The assembly name and reference designation for each assembly is shown in the legend for figure 1-3.

1-25. A brief description of each assembly shown on figure 1-3 is given in figure 1-4.

1-26. GATE ASSEMBLIES. The swinging gate assemblies contain the many printed circuit board assemblies that constitute the PTC logic circuitry. The gate assemblies and printed circuit board assemblies are discussed in detail in the following paragraphs.

1-27. Mechanical Features of the Gate Assemblies. The gate assemblies are hinged as shown on figure 1-5. Gate assemblies in B modules swing up to open.

1-28. Figure 1-6 illustrates a module B gate assembly in its fully extended position. The gate assembly is extended from the frame by pulling handle 2 toward handle 1 (to release the holding mechanism shown on figure 1-9) and pulling the gate assembly to the desired position in its arc; the gate assembly is stopped in its arc when handle 2 is released.

1-29. Access to the gate assembly handles is gained by rotating the cover plate away from the gate assembly. Cover plates for gate assemblies in B modules must be turned down, as shown on figure 1-6. The cover plate cannot be returned to its normal position until the gate assembly is returned into the frame. The latch engages the striker plate to hold the gate assembly in the frame.

1-30. As indicated on figure 1-6, a fan is mounted on the gate assembly to force cooling air over the logic circuits on the printed circuit board assemblies. The fans for module B gate assemblies are mounted on the bottom of the gate assemblies.

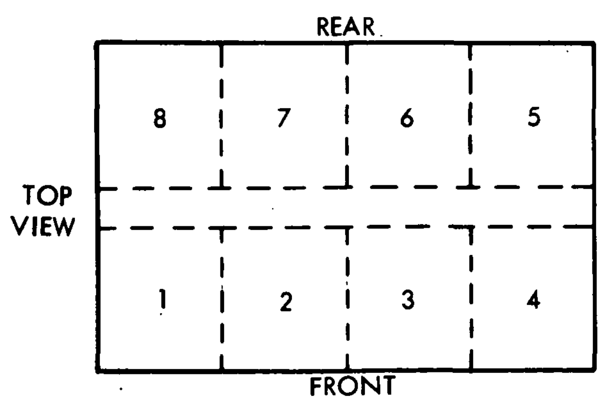
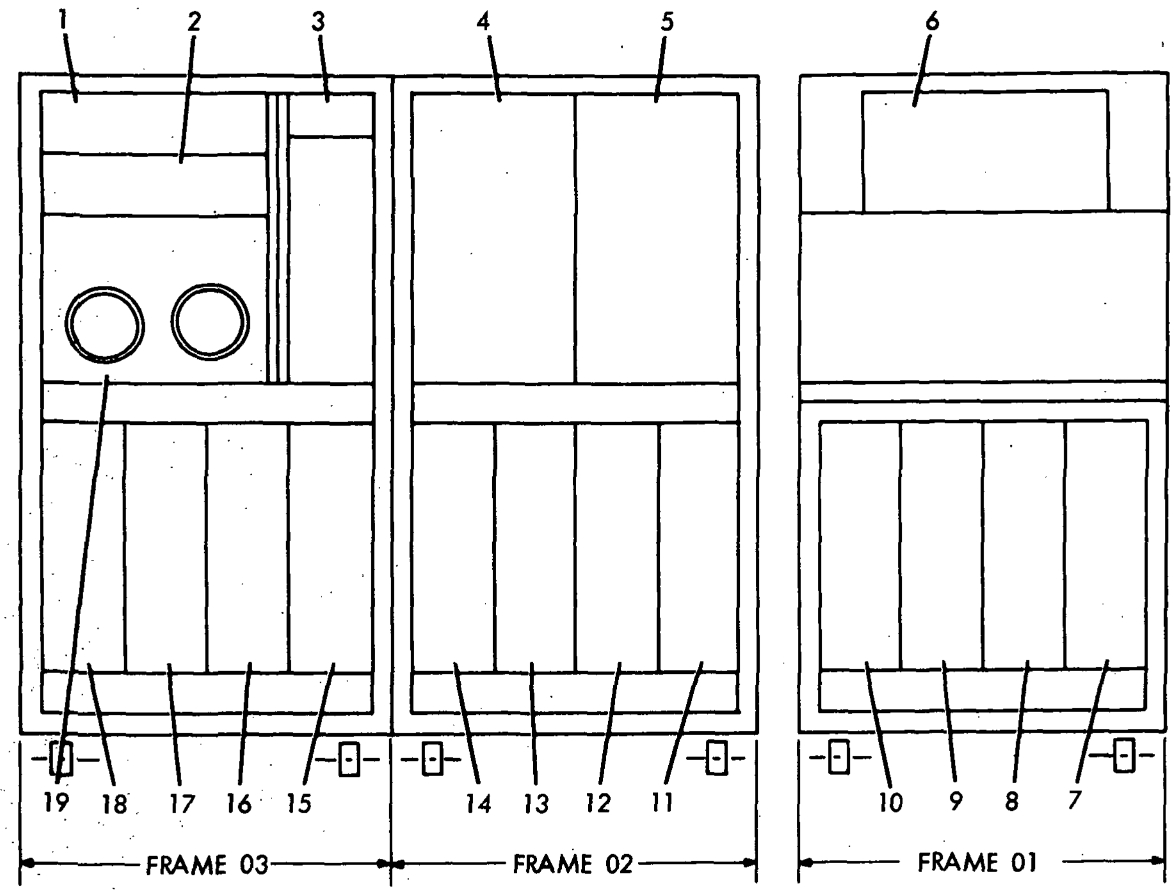



Figure 1-2. Numbering System for Module Assemblies

(Text continued on page 1-12.)

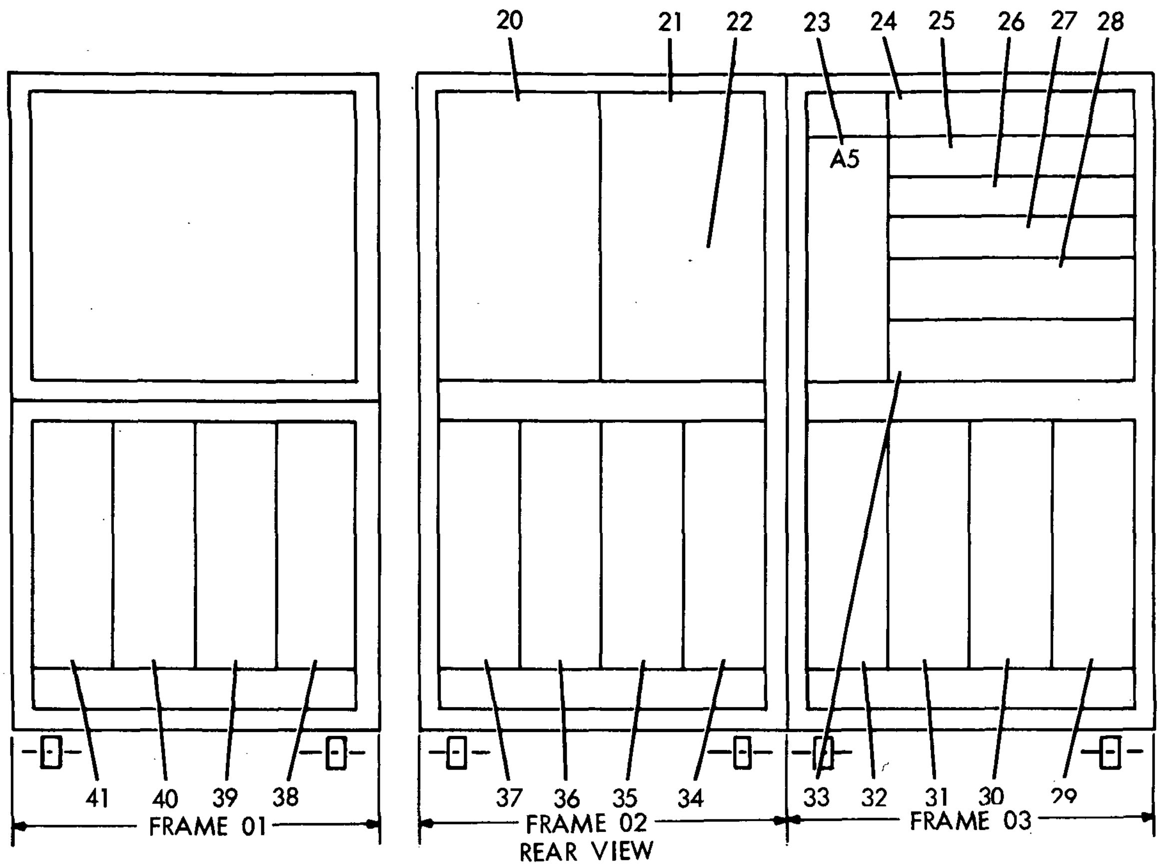



FRONT VIEW

Legend for Figure 1-3

| Index Number | Assembly Name and Reference Designation |
|---|---|
| 1. | Tape Reader Control Panel Assembly 03A1 |
| 2. | Tape Reader Assembly 03A2 |
| 3. | C. E. Panel Assembly 03A4 |
| 4. | Memory Load and Data Display Panel Assembly 02A1 |
| 5. | Processor Panel Assembly 02A2 |
| 6. | Plotter 01A1 |
| 7. | -48 VDC and -12 VDC Power Supply 01B4 |
| 8. | Gate Assembly 01B3 |
| 9. | Gate Assembly 01B2 |
| 10. | Gate Assembly 01B1 |
| 11. | Gate Assembly 02B4 |
| 12. | Gate Assembly 02B3 |
| 13. | Gate Assembly 02B2 |
| 14. | Gate Assembly 02B1 |
| 15. | Gate Assembly 03B4 |
| 16. | Gate Assembly 03B3 |
| 17. | Gate Assembly 03B2 |
| 18. | Gate Assembly 03B1 |
| 19. | Tape Spooler Assembly 03A3 |

Figure 1-3. PTC Assembly Locations (Sheet 1 of 2)




Legend for Figure 1-3 (cont)

| Index Number | Assembly Name and Reference Designation |
|---|---|
| 20. | Memory Array 02A4 |
| 21. | Memory Array 02A5 |
| 22. | Sense Cards Frame Assembly 02A6 |
| 23. | Relay Gate Assembly 03A5 |
| 24. | +30 VDC Power Supply 03A7 |
| 25. | +30 VDC Power Supply 03A6 |
| 26. | +12 VDC Power Supply 03A8 |
| 27. | +12 VDC Power Supply 03A9 |
| 28. | -28 VDC Power Supply 03A10 |
| 29. | Spare Gate 03B8 |
| 30. | Gate Assembly 03B7 |
| 31. | Gate Assembly 03B6 |
| 32. | Gate Assembly 03B5 |
| 33. | -12 VDC Power Supply 03A11 |
| 34. | Gate Assembly 02B8 |
| 35. | Gate Assembly 02B7 |
| 36. | Gate Assembly 02B6 |
| 37. | Gate Assembly 02B5 |
| 38. | -12 VDC and +30 VDC Power Supply 01B8 |
| 39. | -6 VDC and +12 VDC Power Supply 01B7 |
| 40. | Resonator Supply 01B6 |
| 41. | Interlock and Filter Box Assembly 01B5 |

Figure 1-3. PTC Assembly Locations (Sheet 2)

| Reference Designation | Index Number (Figure 1-3) | Name | Part Number or Manufacturers Designation | Manufacturer | Description |
|---|---|---|---|---|---|
| 01A1 | 6 | Plotter Assembly | Model 565 (IBM Part Number 6900170) | California Computer Products Inc. | Provides a means of plotting digital data by plotting one variable against another. See maintenance instructions for this item. (Refer to list of related manuals.) |
| 01B1 | 10 | Gate Assembly | 6900720 | IBM Corp. | Hinged on top. Contains typewriter logic circuits. |
| 01B2 | 9 | Gate Assembly | 6900730 | IBM Corp. | Hinged on top. Contains plotter logic circuits. |
| 01B3 | 8 | Gate Assembly | 6900800 | IBM Corp. | Hinged on top. Contains printer logic circuits. |
| 01B4 | 7 | Power Supply | 6900740 | IBM Corp. | Hinged on top. Contains power supplies 473390 and 477250. Provides -48 VDC to the typewriter and -12 VDC to PTC logic circuits. |
| 01B5 | 41 | Interlock and Filter Box Assembly | 6900540 | IBM Corp. | Hinged on top. |
| 01B6 | 40 | Resonator Supply | 6900810 | IBM Corp. | Hinged on top. Contains power supplies 473400 and 477210. Provides -20 VDC to the printer and -6 VDC to PTC logic circuits. |
| 01B7 | 39 | Power Supply | 6900790 | IBM Corp. | Hinged on top. Contains power supplies 473390 and 473410. Provides -6 VDC and +12 VDC for PTC logic circuits. |

Figure 1-4. PTC Assemblies (Sheet 1 of 5)

| Reference Designation | Index Number (Figure 1-3) | Name | Part Number or Manufacturers Designation | Manufacturer | Description |
|---|---|---|---|---|---|
| 01B8 | 38 | Power Supply | 6900780 | IBM Corp. | Hinged on top. Contains power supplies 473380 and 473520. Provides -12 VDC and +30 VDC for PTC logic circuits. |
| 02A1 | 4 | Memory Load and Data Display Panel Assembly | 6900830 | IBM Corp. | Hinged on left side. Contains controls and indicators required during processor memory loading and verification. (Refer to figure 3-7 for the description of each control and indicator on this panel.) |
| 02A2 | 5 | Processor Panel Assembly | 6900840 | IBM Corp. | Hinged on right side. Contains controls and indicators required for controlling and verifying processor operation. (Refer to figure 3-7 for the description of each control and indicator on this panel.) |
| 02A4 | 20 | Memory Array | 6900634 | IBM Corp. | Inside rear cabinet door. Contains a 4096 word memory module. |
| 02A5 | 21 | Memory Array | 6900633 | IBM Corp. | Inside rear cabinet door. Contains a 4096 word memory module. |
| 02A6 | 22 | Sense Cards Frame Assembly | 6900609 | IBM Corp. | Inside rear cabinet door. Contains processor memory logic circuits. |
| 02B1 | 14 | Gate Assembly | 6900850 | IBM Corp. | Hinged on top. Contains processor memory logic circuits. |
| 02B2 | 13 | Gate Assembly | 6900860 | IBM Corp. | Hinged on top. Contains processor timing generator and accumulator logic circuits. |

Figure 1-4. PTC Assemblies (Sheet 2)

| Reference Designation | Index Number (Figure 1-3) | Name | Part Number or Manufacturers Designation | Manufacturer | Description |
|---|---|---|---|---|---|
| 02B3 | 12 | Gate Assembly | 6900870 | IBM Corp. | Hinged on top. Contains processor transfer register, OP codes and address register logic circuits. |
| 02B4 | 11 | Gate Assembly | 6900880 | IBM Corp. | Hinged on top. Contains processor CIO decoding logic circuits. |
| 02B5 | 37 | Gate Assembly | 6900280 | IBM Corp. | Hinged on top. Contains processor logic circuits. |
| 02B6 | 36 | Unused | | | |
| 02B7 | 35 | Unused | | | |
| 02B8 | 34 | Unused | | | |
| 03A1 | 1 | Tape Reader Control Panel Assembly | 6900470 | IBM Corp. | Hinged on left side. Mounted on slide mounted rack with assemblies 03A2 and 03A3. Contains controls and indicators for the tape reader and tape spooler. (Refer to figure 3-7 for the description of each control and indicator on this panel.) |
| 03A2 | 2 | Tape Reader Assembly | Model RR-1002B | Rheem Electronic Corp. | Mounted on slide mounted rack with assemblies 03A1 and 03A3. See maintenance instructions for this item. (Refer to list of related manuals.) |
| 03A3 | 19 | Tape Spooler Assembly | Model RS-500A | Rheem Electronic Corp. | Mounted on slide mounted rack with assemblies 03A1 and 03A2. See maintenance instructions for this item. (Refer to list of related manuals.) |

Figure 1-4. PTC Assemblies (Sheet 3)

| Reference Designation | Index Number (Figure 1-3) | Name | Part Number or Manufacturers Designation | Manufacturer | Description |
|---|---|---|---|---|---|
| 03A4 | 3 | C. E. Panel Assembly | 6900650 | IBM Corp. | Located behind panel door. Contains controls, indicators and test points required for trouble shooting the PTC. (Refer to figure 3-7 for the description of each control and indicator on this panel.) |
| 03A5 | 23 | Gate Assembly | 6900660 | IBM Corp. | Hinged on bottom. Contains voltage sequencing relays used during power-up and power-down operations. |
| 03A6 | 25 | Power Supply | Model M36-5-0V (IBM Part Number 6900542) | Trygon Electronic Inc. | Provides +30 VDC for PTC circuits. See maintenance instructions for this item. (Refer to list of related manuals.) |
| 03A7 | 24 | Power Supply | Model M36-5-0V (IBM Part Number 6900542) | Trygon Electronic Inc. | Provides +30 VDC for PTC circuits. See maintenance instructions for this item. (Refer to list of related manuals.) |
| 03A8 | 26 | Power Supply | Model M15-10-0V (IBM Part Number 6900524) | Trygon Electronic Inc. | Provides +12 VDC for PTC circuits. See maintenance instructions for this item. (Refer to list of related manuals.) |
| 03A9 | 27 | Power Supply | Model M15-10-0V (IBM Part Number 6900524) | Trygon Electronic Inc. | Provides +12 VDC for PTC circuits. See maintenance instructions for this item. (Refer to list of related manuals.) |
| 03A10 | 28 | Power Supply | Model M36-10A-0V (IBM Part Number 6900525) | Trygon Electronic Inc. | Provides -28 VDC for PTC circuits. See maintenance instructions for this item. (Refer to list of related manuals.) |

Figure 1-4. PTC Assemblies (Sheet 4)

| Reference Designation | Index Number (Figure 1-3) | Name | Part Number or Manufacturers Designation | Manufacturer | Description |
|---|---|---|---|---|---|
| 03A11 | 33 | Power Supply | Model M15-30A-0V (IBM Part Number 6900541) | Trygon Electronic Inc. | Provides -12 VDC for PTC circuits. See maintenance instructions for this item. (Refer to list of related manuals.) |
| 03B1 | 18 | Gate Assembly | | IBM Corp. | Hinged on top. (Spare gate assembly) |
| 03B2 | 17 | Gate Assembly | 6900680 | IBM Corp. | Hinged on top. Contains address and OP code logic circuits. |
| 03B3 | 16 | Gate Assembly | 6900690 | IBM Corp. | Hinged on top. Contains sector, syllable, and module logic circuits. |
| 03B4 | 15 | Gate Assembly | 6900890 | IBM Corp. | Hinged on top. Contains lamp driver logic circuits. |
| 03B5 | 32 | Gate Assembly | 6900670 | IBM Corp. | Hinged on top. Contains tape reader register logic circuits. |
| 03B6 | 31 | Gate Assembly | 6900770 | IBM Corp. | Hinged on top. Contains tape reader and timing control logic circuits. |
| 03B7 | 30 | Gate Assembly | 6900760 | IBM Corp. | Hinged on top. Contains tape reader parity and serializer logic circuits. |
| 03B8 | 29 | Gate Assembly | 6900750 | IBM Corp. | Hinged on top. (Spare gate assembly) |

Figure 1-4. PTC Assemblies (Sheet 5)

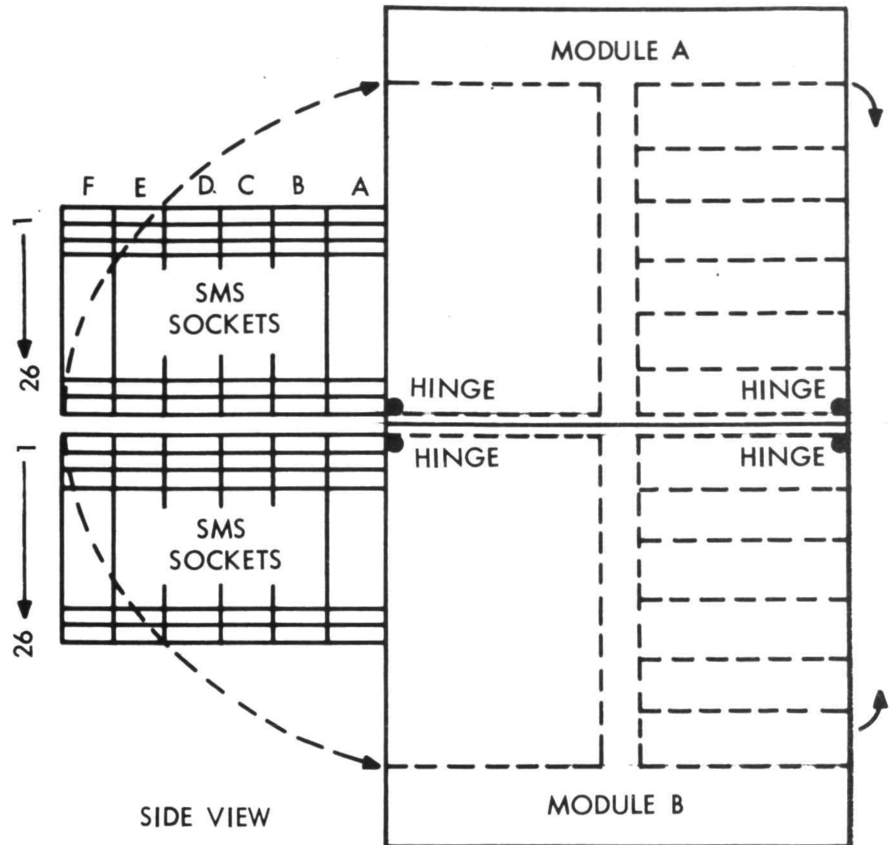



Figure 1-5. Gate Assembly Movement

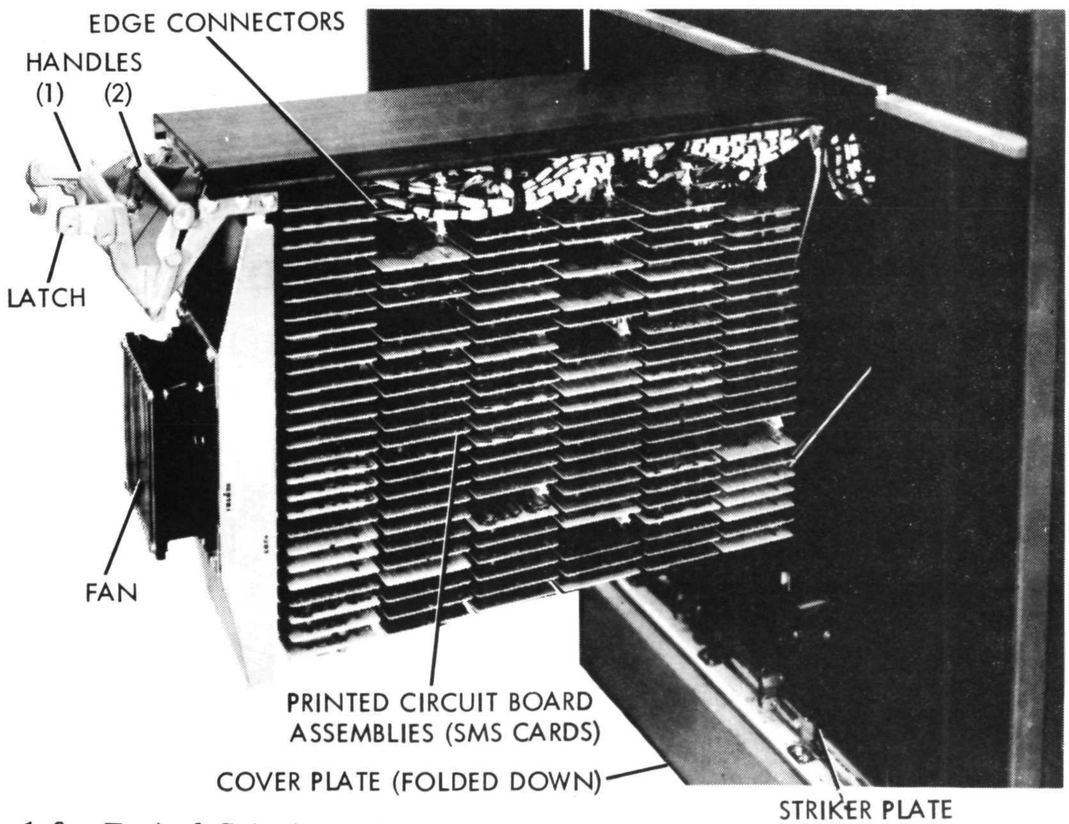



Figure 1-6. Typical Gate Assembly, Card Side

1-31. Each gate assembly contains 156 card sockets arranged in six columns and 26 rows. These sockets are the receptacles for the printed circuit board assemblies. Normally, the sockets in rows 1 and 2 of gate assemblies in the B modules are used for cable connectors. The cables that plug into these sockets are called edge connectors, since they make their connections at the edges of the gate assemblies.

1-32. Standard Modular System (SMS) Logic Cards. The logic circuits in the PTC are contained on printed circuit board assemblies called IBM Standard Modular System (SMS) cards. These pluggable printed circuit cards contain all the components and printed wiring necessary for a particular electronic function. A special program cap on some SMS printed circuit cards gives additional flexibility to this form of packaging, and reduces the number of cards required for field servicing. Each card is identified by a four-character card type code and a six- or seven-digit IBM part number. (See figure 1-7.)

1-33. The SMS single card, the kind used in the PTC, is made of an epoxy paper laminate material; it is approximately 1/16 inch thick, 4-1/2 inches long, and 2-1/2 inches wide. All of the electronic components and the program cap, if used, are mounted on the front side of the SMS card form. Connections to the components and program cap are made on the back side of the SMS card form by printed wiring patterns that terminate at contacts at the bottom of the card. These contacts, labeled A through R, couple the signals and voltages to the circuit components when the card is inserted into its receptacle. The printed circuit wiring (land pattern) depends on the type of circuit on the card.

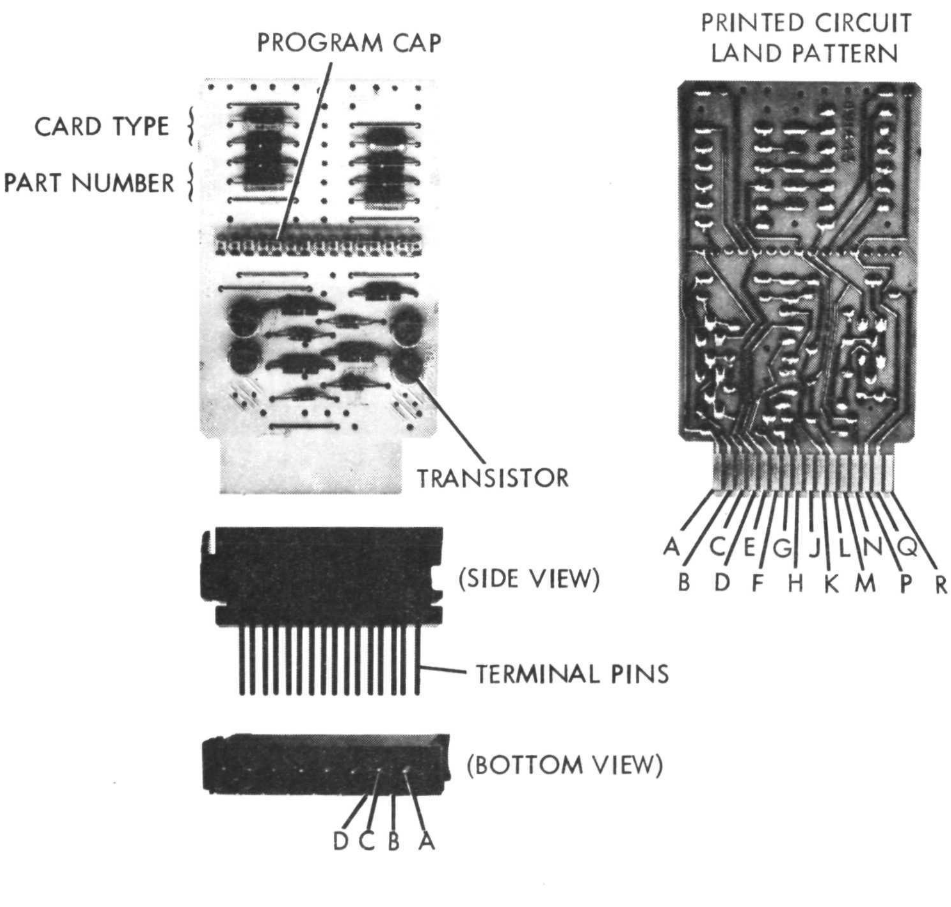



Figure 1-7. SMS Printed Circuit Card and Single-Position Receptacle

1-34. The program cap on the front of some SMS cards comprises two conductor rails which, in the pre-cut state, connect to tabs on the printed circuit land pattern. By cutting the program cap, various jumpering (cap) connections are made to the tabs to allow one SMS card to be used in several circuit configurations.

1-35. SMS Card Receptacles. The pluggable printed circuit cards are inserted into SMS card receptacles. The receptacles used in the PTC are the single-position type, shown on figure 1-7, and the eight-position type, which serves as a common receptacle for eight SMS cards, as shown on figure 1-8. Although the contacts are all in line on the card insertion side of the receptacle, they pass through the receptacle in a staggered arrangement. This arrangement allows additional room for wire-wrapping or soldering of wires to the terminal pins, as shown on figure 1-9.

1-36. Figure 1-9 shows how the pins of each SMS card (and receptacle) are identified, using an extension of the reference designation discussed previously.

1-37. Voltage Distribution Assemblies. Figure 1-9 also illustrates the standard position for a voltage distribution assembly in a module B gate assembly. A typical voltage distribution assembly is shown on figure 1-10.

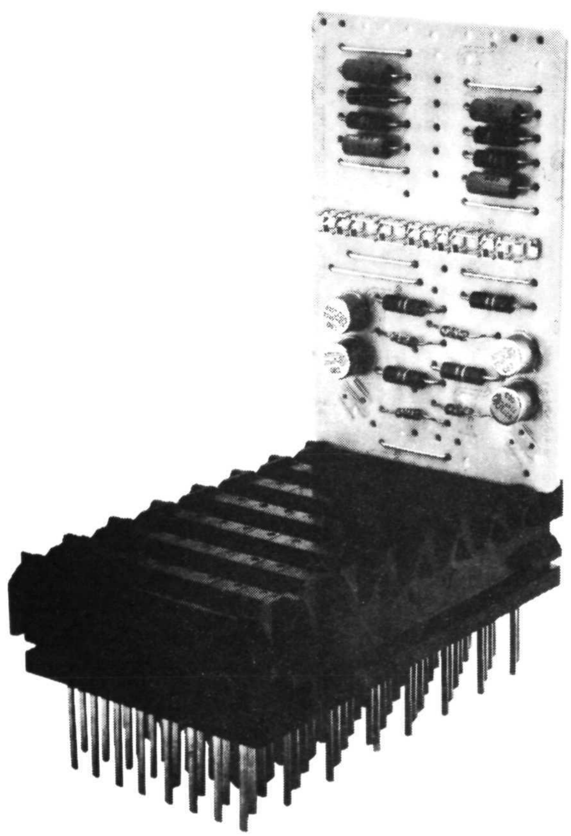


Figure 1-8. SMS Printed Circuit Card Inserted in Eight-Position Receptacle

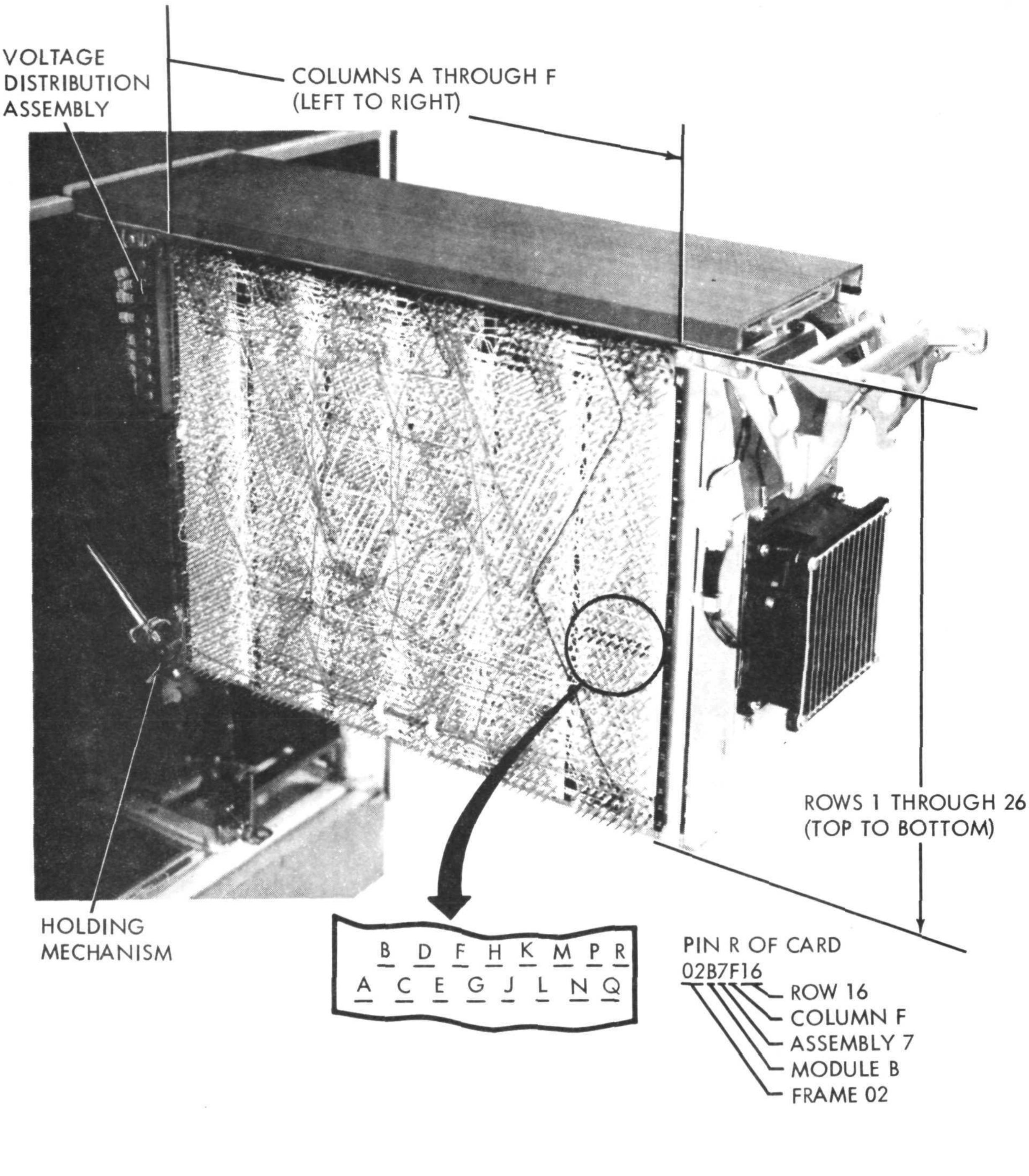



Figure 1-9. Typical Gate Assembly, Wiring Side

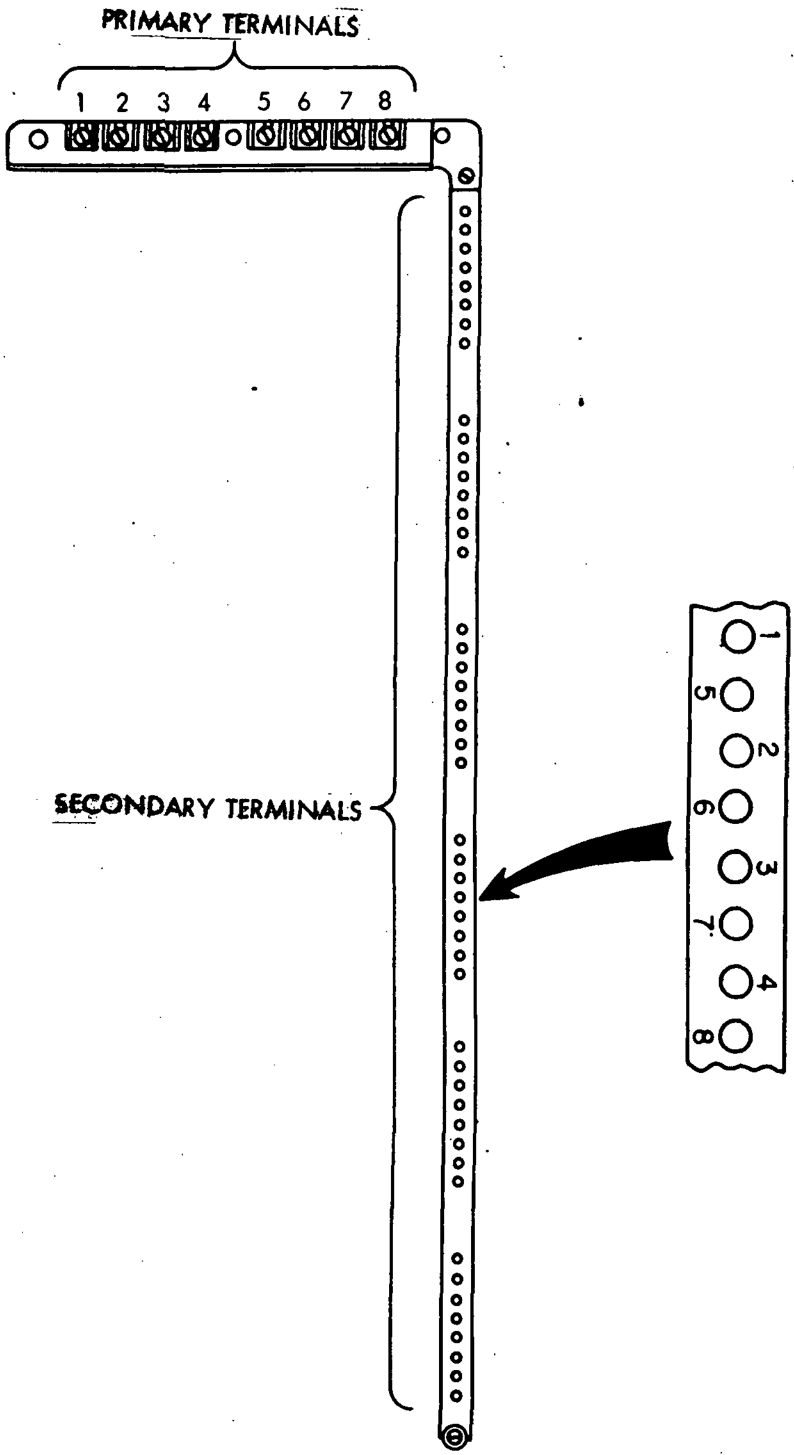



Figure 1-10. Typical Voltage Distribution Assembly

1-38. Each voltage distribution assembly contains a primary group of eight terminals and six secondary groups of eight terminals. Power is distributed within the assembly from the primary terminals to the secondary terminal of the same number; for example, power applied to the number 1 primary terminal is distributed to the eight number 1 secondary terminals of the voltage distribution assembly. Each secondary group of terminals transfers power to one row of SMS cards by jumpers from the secondary terminals to the SMS card receptacle pins. The jumpers from the secondary terminals are usually connected only to the pin of the nearest receptacle in which the voltage is used. From this first receptacle a voltage bus transmits the power to the pins of other receptacles in that row. Usually a voltage is restricted to pins of the same letter; for example, the K pin of most receptacles is connected to -6 VDC.

1-39. CONTROL PANELS. Each PTC control panel is divided into areas in which associated controls and indicators are mounted. The function of each group of controls and indicators is indicated by a prominent title in each area. Figure 3-8 (in Section III) lists and briefly describes all controls and indicators on these panels.

1-40. POWER SUPPLIES. Each of the six Trygon power supplies has been modified from the configurations shown in the maintenance manuals for these supplies. One modification is the replacement of the standard input plugs with plugs that fit the power supply receptacles in the PTC. The other modification is the removal of internal power supply jumpers to allow remote rather than local sensing of the power supply voltages.

1-41. Each power supply can provide an output that is current and/or voltage regulated. In the PTC, each current regulation circuit is disabled by placing the CURRENT potentiometer in the full clockwise position.

1-42. ELECTRICAL, MECHANICAL, AND ENVIRONMENTAL CHARACTERISTICS.

1-43. Figure 1-11 lists the salient electrical, mechanical, and environmental characteristics of the PTC.

| | |
|---|---|
| Input Power | Phase: 3 phase; 5 wire; wye connected; phase sequence is ABC<br>Frequency: 60 (± 5) cycles/second.<br>Voltage: 115 (± 11. 5) VAC line-to-neutral (208 VAC line-to-line minimum)<br>Current: 20 (minimum) to 30 (maximum) amperes/phase |
| Environment | Ambient Temperature: +60 +95 degrees Fahrenheit<br>Relative Humidity: 10 to 80 percent |

Figure 1-11. Electrical, Mechanical and Environmental Characteristics (Sheet 1 of 2)

| | |
|---|---|
| Mechanical Packaging | Cabinet: Three frames. Two frames (02 and 03) mechanically and electrically bonded together<br>Size: Height - 60 inches<br>Length - 58 inches<br>Depth - 31 inches<br>Weight: 1700 pounds<br>Frame 01 is not mechanically secured to frames 01 and 02 but is electrically connected.<br>Size: Height - 60 inches<br>Width - 30 inches<br>Depth - 31 inches<br>Weight: 800 pounds<br>Logic Chassis Design: Hinged on one edge for ease of accessibility; a blower is mounted on each chassis for cooling of SMS circuit cards and components.<br>Printed Circuit Cards: The basic logic subassembly is SMS cards. |
| Central Processing Unit | Storage: Core Memory - 8196 words of simplex storage<br>Data Word Length: 28 bits - 26 data plus 2 parity bits<br>Arithmetic: Add/Subtract - 82 microseconds/operation<br>Data Accuracy - 25 bits plus sign<br>Interrupts: 16 hardwire interrupts<br>Instruction Word Length: 13 bits plus one parity bit; 2 instructions/computer word<br>Timing: Clock Oscillator - 2. 048 megacycles<br>Computer Cycle - 81. 9 microseconds<br>Phases - Three phases/computer cycle; each phase 27. 3 microseconds, labeled A, B, and C<br>Bit Time: 14 bit times/phase time, numbered 1 through 14<br>Clock Times: 4 clocks/bit time; clocks are labeled W, X, Y, Z; each occurs at 512 KC rate |

Figure 1-11. Electrical, Mechanical and Environmental Characteristics (Sheet 2)

## SECTION II

## THEORY OF OPERATION

### 2-1. SCOPE.

2-2. This section describes the operation of the PTC circuits. The PTC is composed of three functional units: (1) Central Processor, (2) Memory Loader/Data Display, and (3) Input/Output. A Self Check feature is also incorporated.

2-3. The descriptions contained in this section are as follows:

1. Power Distribution

a. AC Power Distribution

b. DC Power Distribution

2. Subsidiary Circuits

a. Exclusive OR Comparators

b. Binary Counters

c. Parity Detectors

d. Indicator Lamp Circuits

e. PTC Timing

3. Central Processor

4. Memory Loader/Data Display

5. Input/Output

6. Self Check

2-4. In describing the functions, simplified diagrams and timing charts are presented to familiarize the reader with the equipment. Detailed drawings are provided in Section X; reference to these drawings is made as necessary.

2-5. The signal names in the logic diagrams in Section X are preceded by voltage level symbols. The voltage levels represented by these symbols are as follows:

| Symbol | "1" | "0" |
|---|---|---|
| +C | +1.3 VDC | -1.25 VDC |
| -C | -1.25 VDC | +1.3 VDC |
| +R | +12.0 VDC | 0 VDC |
| -R | 0 VDC | +12.0 VDC |
| +S | 0 VDC | -12.0 VDC |
| -S | -12.0 VDC | 0 VDC |
| +W | 0 VDC | -48.0 VDC |
| -W | -48.0 VDC | 0 VDC |
| +Y | 0 VDC | -6.0 VDC |
| -Y | -6.0 VDC | 0 VDC |

2-6. POWER DISTRIBUTION.

2-7. AC POWER DISTRIBUTION. (See figures 10-7, 10-9, 10-10, 10-13, and 10-14.)

2-8. Primary power (115 VAC, 60 cycle, 3-phase) is applied to connector 01B5J1 (figure 10-7.) Each phase is applied through circuit breaker 01B5CB1 to movable contacts of relay 01B5K2. Phase B (through circuit breaker 01B5CB3) and phase C are also connected across the primary of transformer 01B5T1. The secondary winding of transformer 01B5T1 develops 24 volts. The 24 volts is used for power control when the jumper plug is installed on receptacle 9009J4 or when cable 6900915 is connected between receptacles 9009J4 and 01J11. The power control voltage is routed through the normally closed contacts of PTC MAIN PWR-EMERGENCY PULL switch 02A2S81 (figure 10-14), normally closed contacts of PTC MAIN PWR-PWR OFF switch 02A2S82, and normally closed contacts of relay 01B5K1 to PTC MAIN PWR-PWR OFF lamps 02A2DS70.

2-9. When PTC MAIN PWR-PWR ON switch 02A2S83 is actuated, relay 01B5K1 picks and holds through its own contacts. The power control voltage is now routed through normally closed contacts of switch 02A2S81; normally contacts of switch 02A2S82; interlock switches 03S4, 03S1, and 01S1; and normally closed contacts of relay 01B5K1 to PTC MAIN PWR-PWR ON lamp 02A2DS71.

2-10. Relay 01B5K2 picks when relay 01B5K1 picks. (See figure 10-7.) Primary power is then routed through the normally open contacts of relay 01B5K2 to fan motors, DC power supplies, tape reader and spooler, plotter, and typewriter and printer interface. The phases are distributed as follows (figure 10-9):

Phase A: -48 VDC power supply (01B4PS1)

-12 VDC power supply (01B4PS2)

-12 VDC power supply (01B8PS1)

+30 VDC power supply (01B8PS2)

- 6 VDC power supply (01B7PS1)

+12 VDC power supply (01B7PS2)

- 6 VDC power supply (01B6PS1)

-20 VDC power supply (01B6PS2)

Regulator (01B6)

Phase B: All fan motors

+30 VDC power supply (03A6)

+30 VDC power supply (03A7)

+12 VDC power supply (03A8)

+12 VDC power supply (03A9)

-28 VDC power supply (03A10)

Printer interface

Phase C: Tape reader and spooler

Plotter

Typewriter interface

Printer interface

-12 VDC power supply (03A11)

2-11. When PTC MAIN PWR-PWR OFF switch 02A2S82 is actuated the control voltage is momentarily removed from the coil of relay 01B5K1. This action causes relays 01B5K1 and 01B5K2 to drop, removing primary power from the fan motors, DC power supplies, tape reader and spooler, plotter, and typewriter and printer interfaces.

2-12. DC POWER DISTRIBUTION . (See figures 10-11, 10-12, 10-17, 10-18, 10-19, 10-20, and 10-21.)

2-13. DC power distribution paths are controlled by relays and switches. The circuit paths vary when the relay and switch contacts are transferred. The subsequent description covers the initial conditions and the voltage sequencing during DC power on and DC power off operations.

NOTE

In the following discussion prefix all abbreviated reference designations with 03A5.

2-14. Initially all DC power distribution relays are deenergized and -28 VDC which is applied to PTC DC PWR-PWR OFF lamps 02A2DS72 is returned through the normally closed contacts of relay K12. When PTC DC PWR-PWR ON switch 02A2S85 is actuated relays K5A, K5B, K5C, and K5D pick. (See figure 10-20.) These relays are held picked through the interlocks formed by the normally closed (NC.) contacts of relay K7 and the normally open (NO.) contacts of relay K5D. Relays K1, K2, K3, K8, and K10 are now picked by power supply voltages as follows (figures 10-18, 10-19, and 10-21):

| Relay | Power Supply | Interlock Switches |
|---|---|---|
| K1 | - 6 VDC (01B7) | K5B NO. contacts |
| K2 | -12 VDC (03A11) | K5C NO. contacts |
| K3 | +12 VDC (03A8) | K5A NO. and K6 NC. contacts |
| K8 | +12 VDC (01B7) | K5A NO. contacts |
| K10 | +12 VDC (03A9) | K5A NO. and K6 NC. contacts |

2-15. When relays K1, K2, K3, K8, and K10 pick, energizing voltages are applied to time-delay relays K4, K9, and K11 as follows (figure 10-17):

| Relay | Power Supply |
|---|---|
| K4 | +30 VDC (03A6) |
| K9 | +30 VDC (03A7) |
| K11 | +30 VDC (01B8) |

Relays K4, K9, and K11 pick after approximately 1.5 seconds applying 28 VDC across the coil of relay K12 and PTC DC PWR-PWR ON lamps 02A2DS73 completing the DC power on sequencing. (See figure 10-20).

2-16. The DC voltages are distributed as follows (figures 10-17, 10-18, 10-19 and 10-21):

+12 VDC (03A8) -- Memory (through relay K5A NO. contacts).

+12 VDC (03A9) – Memory (through relay K5A NO. contacts).

+12 VDC (01B7) – Printer interface.

Bus bar, memory, CE PANEL, MEMORY LOAD AND DATA DISPLAY panel, TAPE READER AND MODE CONTROL panel, and PROCESSOR DISPLAY PANEL (through relay K5A NO. contacts).

-12 VDC (01B4) – Printer interface

-12 VDC (01B8) – Indicator lamps (through relay K5B NO. contacts).

-12 VDC (03A11) – Memory and bus bar (through relay K5C NO. contacts).

+30 VDC (03A6) – Memory (through relays K1, K2, K3, K4, K8, and K10 NO. contacts).

+30 VDC (03A7) – Memory (through relays K1, K2, K3, K8, K9, and K10 NO. contacts).

+30 VDC (01B8) – Memory (through relays K1, K2, K3, K8, K10, and K11 NO. contacts).

+28 VDC (03A10) – MEMORY LOAD AND DATA DISPLAY panel, CE PANEL, PROCESSOR DISPLAY panel, TAPE READER AND MODE CONTROL panel, gate 03B6, and the coil of relay 01B4K1 (through relay K5D NO. contacts).

-48 VDC (01B4) -- Typewriter interface (through relay 01B4K1 NO. contacts).

-20 VDC (01B6) -- Printer interface.

- 6 VDC (01B6) – Printer interface.

- 6 VDC (01B7) – Bus bar, CE PANEL, memory, PROCESSOR DISPLAY PANEL, and MEMORY LOAD AND DATA DISPLAY panel.

2-17. When PTC DC PWR-PWR OFF switch 02A2S84 is actuated relay K6 picks and holds through the interlocks formed by relay K6 NO. and relay K7 NC. contacts. figure 10-20). When relay K6 picks; (1) energizing voltage is applied to time-delay relay K7; and (2) relays K3, K4, K9, K10, K11 and K12 are deenergized. Relay K7 picks after approximately 1. 5 seconds. This action causes relays K1, K2, K5A, K5B, K5C, K5D, and K8 to deenergize. Also, when relay K7 picks, relay K6 is deenergized which in turn deenergizes relay K7. Relays K1 through K12 are now deenergized and the DC power off sequencing is complete.

2-18. SUBSIDIARY CIRCUITS.

2-19. Subsidiary circuits are those circuits that are related to more than one PTC function. These circuits are necessary to the operation of the PTC and are categorized as such only to prevent repetitious explanations.

2-20. EXCLUSIVE OR COMPARATORS.

2-21. The PTC contains many exclusive OR comparators that compare corresponding data from two sources. Figure 2-1 shows a typical exclusive OR comparator in which three parallel inputs (X1, X2, and X3) are compared with three other parallel inputs (Y1, Y2, and Y3).

2-22. If a compare exists, the input to each A0 will be unlike, and the output of each A0 will be a "1". This will result in a "1" on the COMPARE line and a "0" on the COMPARE NOT line. If a compare does not exist, at least one of the A0's will have two "1" inputs. This will result in a "0" on the COMPARE line and a "1" on the COMPARE NOT line.

2-23. Two additional A0's are required to compare each additional pair of inputs. A single stage comparator is used to compare serial data from two sources.

2-24. BINARY COUNTERS.

2-25. The PTC contains many binary counters which are alternately set or cleared everytime the signal they are monitoring changes from a "0" to a "1". Figure 2-2 shows a typical binary counter which is monitoring signal B and controlled by signal A.

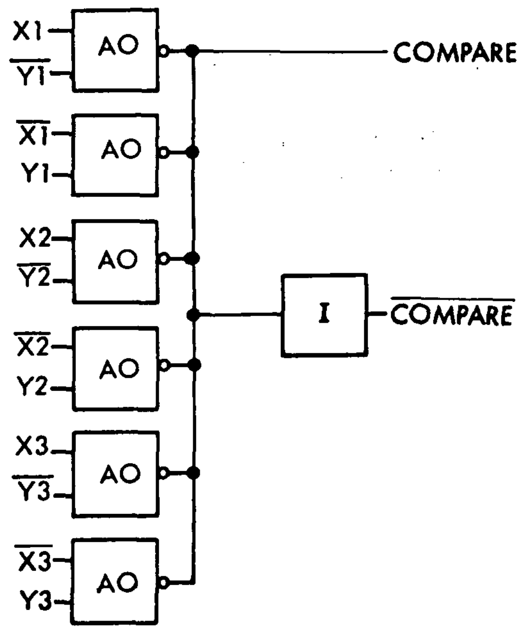



Figure 2-1. Typical Exclusive OR Comparator Circuit

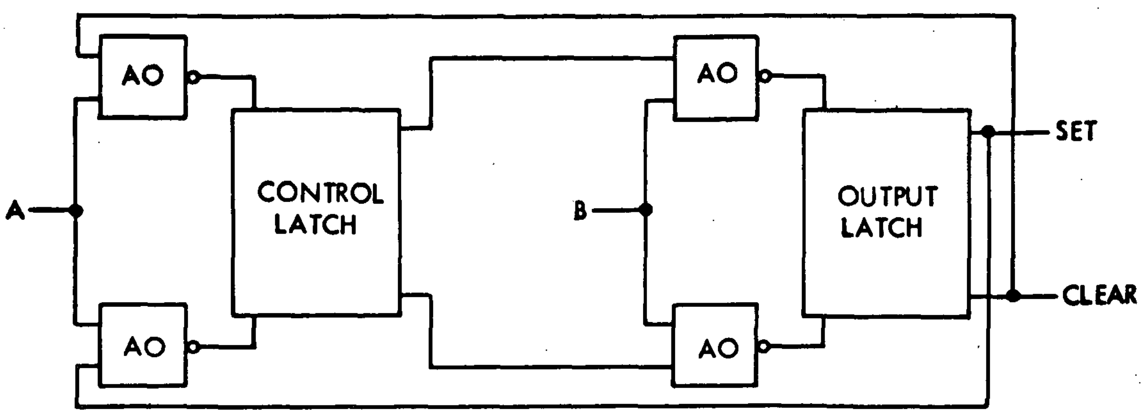



Figure 2-2. Typical Binary Counter

2-26. The control latch stores the configuration of the output latch providing A is a "1". The output latch is then alternately set or reset everytime B goes from a "0" to a "1". When A is a "0" the configuration of the output latch cannot be changed. The binary counter can be initially set or cleared by routing a signal through an inverter to the output latch set or reset input.

2-27. PARITY DETECTORS.

2-28. The PTC contains several parity detectors that are used for parity bit generation and parity error detection. These parity detectors detect whether an odd or even amount of "1's" is contained in the information feeding them. (See figure 2-3.)

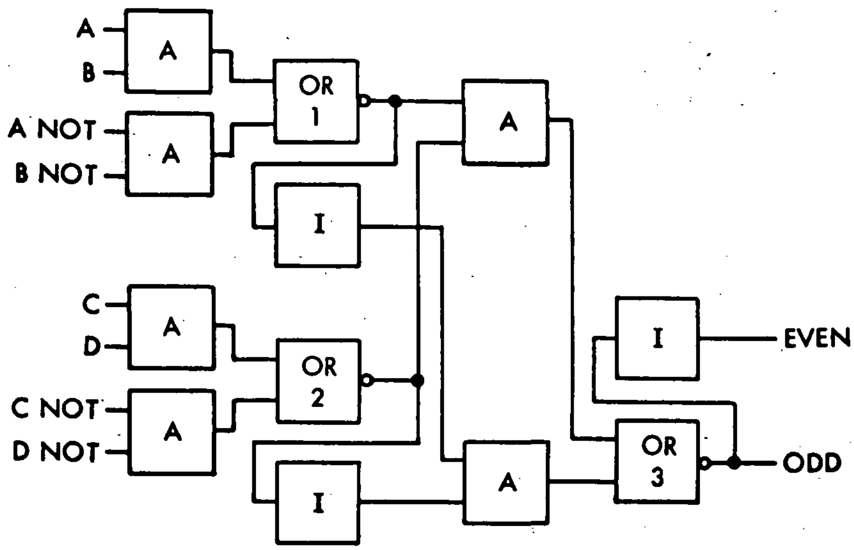



Figure 2-3. Typical Parity Detector

2-29. When none, 2, or four of the inputs A, B, C, and D are "1's" the outputs of OR circuits 1 and 2 are the same value. Therefore one of the inputs to OR circuit 3 is a "1" and the EVEN and ODD outputs are respectively a "1" and a "0". When an odd number of the inputs are "1's" the outputs of OR circuits 1 and 2 are unlike values. Thus the inputs to OR circuit 3 are "0's" and the EVEN and ODD outputs are a "0" and "1" respectively.

2-30. INDICATOR LAMP CIRCUITS.

2-31. The PTC contains many indicator lamps that are associated with either switches or latches. These lamps are all commonly connected to -12 VDC on one side. A lamp associated with a switch is lighted by providing a return path to ground for -12 VDC through the lamp and the normally open or normally closed contacts of the switch.

2-32. A lamp associated with a latch is connected in the collector circuit of an indicator driver. The lamp is lighted by a "1" input into the indicator driver which is fed by the set or reset output of a latch.

2-33. The lamps on the CE PANEL, PROCESSOR DISPLAY PANEL, MEMORY LOAD AND DATA DISPLAY, and TAPE READER AND MODE CONTROL panels are lighted when the associated LAMP TEST pushbuttons are depressed. When the LAMP TEST pushbuttons are depressed, the lamps are lighted as follows:

1. By applying ground to the lamps associated with switches.

2. By removing the +12 VDC control voltage which is normally applied to the indicator drivers and applying -28 VDC.

## 2-34. PTC TIMING.

2-35. The timing circuits generate timing signals for the operation of the PTC logic. The PTC timing is generated under control of external synchronization signals from the LVDCME or LVDAME. The timing circuits consist of the clock generator, the bit gate generator, the phase generator, and the sync control circuit. The timing relation between the various timing gates developed by the timing circuits is shown on figure 2-4.

2-36. In this section, timing is designated by a three-part notation that indicates the phase, bit-gate, and clock-time. For example phase B bit-gate 13 clock-time X is designated by the notation B-13-X time. In instances where the three levels of timing do not apply, only the timing levels specified appear in the notation. For example phase B bit-gate 13 and clock-time X are designated by B-13 time and X time respectively.

2-37. CLOCK GENERATOR (Figure 10-28, sheet 4). The clock generator is triggered by W clock pulses from the LVDCME or LVDAME. These pulses are delayed a total of four clock times by two delays. The delayed W clock (W DLY) triggers a single shot which produces the PTC W clock pulses (CPW). Similarly the W clock pulses are delayed five, six, and seven clock times to produce CPX, CPY, and CPZ respectively. The clock pulses occur at a repetition rate of 512 KC.

2-38. BIT GATE GENERATOR (Figure 10-28, sheets 5 and 6). The bit gate generator consists of a control circuit, a seven stage shift register, and a bit decoding circuit.

2-39. The control circuit is a binary counter which is complemented every Y time. The outputs of the binary counter (A and A NOT) control the rate at which the shift register is cycled.

2-40. The shift register produces seven outputs (G1 through G7) which change states as shown on figure 2-5. The bit decoder generates 14 signals that identify the 14 bit times. These signals are produced by ANDing the outputs of the shift register as follows:

| | | |
|---|---|---|
| BG1 | = | G1 and G2 NOT |
| BG2 | = | G2 and G3 NOT |
| BG3 | = | G3 and G4 NOT |
| BG4 | = | G4 and G5 NOT |
| BG5 | = | G5 and G6 NOT |
| BG6 | = | G6 and G7 NOT |
| BG7 | = | G1 and G7 |
| BG8 | = | G1 NOT and G2 |
| BG9 | = | G2 NOT and G3 |
| BG10 | = | G3 NOT and G4 |
| BG11 | = | G4 NOT and G5 |
| BG12 | = | G5 NOT and G6 |
| BG13 | = | G6 NOT and G7 |
| BG14 | = | G1 NOT and G7 NOT |

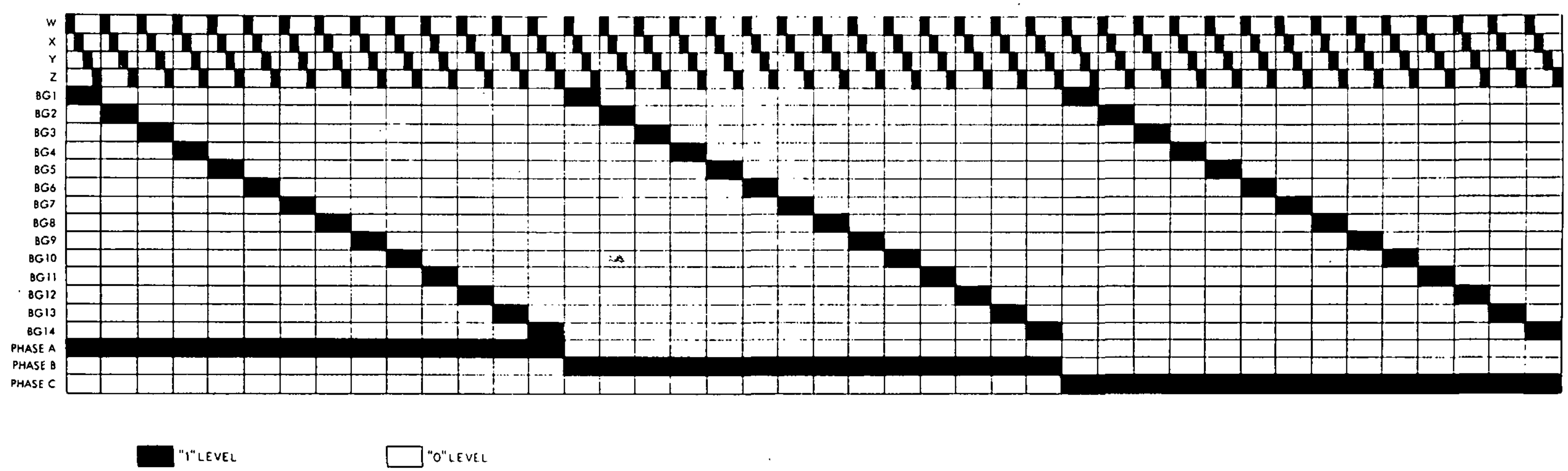



Figure 2-4. PTC Timing Gates

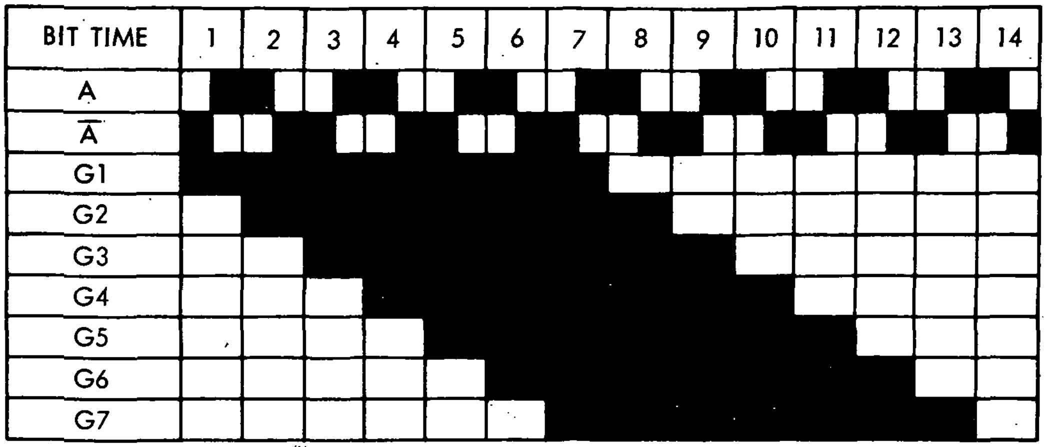



Figure 2-5. Bit Gate Generator Timing

2-41. PHASE GENERATOR (Figure 10-28, sheet 5). The phase generator is a three-step ring counter formed from three latches (PA, PB, and PC). The ring stabilizes itself with one latch set and two reset; the set condition is then stepped around the ring in alphabetical sequence each bit 1 time. At W time the next latch in the sequence is set; at the following Y time, the preceding latch is reset.

2-42. SYNC CONTROL CIRCUIT (Figure 10-28, sheets 4 and 7). The sync control circuit receives the phase B NOT signal from the LVDCME or LVDAME. This signal triggers a single shot which produces the sync control pulse (SYNC CTRL) every LVDCME or LVDAME B-1 time. This pulse is sent to the bit gate generator where it sets the control circuit and shift register to states that correspond to bit one time. The sync pulse is also sent to the phase generator where it sets the PB latch.

2-43. A sync error is generated if the PTC timing is not within one bit time of the LVDCME or LVDAME timing when the sync control pulse is generated. Sync errors are stored in a latch which produces an output, SYNC ERR. If a sync error is detected, the clock on/clock off trigger is reset which halts the generation of PTC clock pulses.

2-44. CENTRAL PROCESSOR

2-45. The following paragraphs describe the operation of the Central Processor. The general organization of the Central Processor is described first, followed by a description of the logic circuits.

2-46. CENTRAL PROCESSOR ORGANIZATION.

2-47. Functionally the Central Processor is a modified version of the Launch Vehicle Digital Computer. The following describes the organization of the Central Processor from the aspects of its functional organization, word organization and timing organization and the instructions it may be programmed to perform.

2-48. FUNCTIONAL ORGANIZATION. The Central Processor is a general purpose computer which, under control of a stored program, processes data using fixed point, two's complement arithmetic. Data is processed serially in an arithmetic section which performs addition, subtraction, and logical extractions.

2-49. The principal storage device is a random access ferite-core memory with separate controls for data and instruction addressing. The memory operating mode is program controlled. Temporary storage is provided by static and shift registers composed of latches.

2-50. The major parts of the Central Processor and how they are inter-connected are shown on figure 10-28, sheet 3. The Central Processor consists of the memory and memory control, data control, program control, arithmetic, and external control elements. The composition of these elements is as follows:

| | |
|---|---|
| Memory and Memory Control – | Core Arrays A and B |
| | Sense Amplifier A and B |
| | Inhibit Drivers |
| | Address Drivers |
| | Memory Timing |
| | Memory Buffer Register |
| | Parity Check Logic |
| Data Control – | Transfer Register and Controls |
| Program Control – | Address Register |
| | OP Code Register |
| | Data Sector Register |
| | Instruction Sector Register |
| | Data Module Register |
| | Instruction Module Register |
| | HOP Saver Register |
| | Instruction Word Syllable Control Logic |
| Arithmetic – | Accumulator Register and Controls |
| External Control (Not shown on block diagram). – | Central Processor Start Stop and Interrupt Control Logic. |

2-51. Memory and Memory Control Element. The programmed instructions, and the constants and data required by the program are stored in the memory under control of the memory control circuits. The memory control circuits determine when a transfer will occur and select both the direction of transfer and the memory location to be exercised. Data being transferred into or out of the memory is routed through buffer storage.

2-52. The memory is composed of two arrays (module 0 and module 1) each of which contains 16 sectors (0 through $17_8$). Each module contains different information and only one module can be selected at a time. Each sector contains $400_8$ addresses ranging from 0 through $377_8$. Sector $17_8$ of module 0 is set aside for residual storage and its addresses range from $400_8$ to $777_8$.

2-53. Data words and constants are stored in the sector addresses in two segments called syllables. Thus, the memory is described as being divided into syllables. One syllable of data is transferred to or from the memory at a time; consequently, two memory cycles are necessary to transfer a complete data word. Instructions are only half the length of data words and thus are stored one per syllable.

2-54. A parity check is performed on information being read into memory and odd parity is assigned if required. A parity check is also performed on information being read out of memory and if odd parity does not exist a parity error is generated.

2-55. Data Control Element. Data words and constants enter the transfer register from the memory in two syllables. Each syllable enters the transfer register in parallel and is then serialized and distributed to the arithmetic element and the Memory-Loader/Data Display.

2-56. Data words which are bound for the memory enter the transfer register in serial form from the arithmetic element, the program control element, or the Memory Loader. The transfer register then divides them into syllables and forwards each syllable to the memory buffer register in parallel. At the memory buffer register, a "parity bit" is added to each syllable before it is stored in the memory. The parity counter monitors the number of "1's" entering the transfer register and assigns odd parity to the memory buffer register by controlling the parity bit.

2-57. Another item which enters the transfer register serially is the contents of the instruction counter. The instruction counter controls the normal sequencing of the program through the memory. Just before a new instruction is required, the contents of the instruction counter are shifted into the transfer register and transferred in parallel to the address register in the program control element. The address register then selects the memory sector address location of the new instruction.

2-58. When the new instruction is read, it is transferred from the memory buffer register into the transfer register. The instruction is then separated into an operation code and an operand address; the two parts are transferred in parallel to the program control element. The operation code is loaded into the operation code register and the operand address into the address register. The operand address of some instructions constitutes a special constant which, in addition to the parallel transfer, is shifted out of the transfer register in serial form.

2-59. Program Control Element. The program control element stores and decodes the programmed instructions and in addition, controls sequencing the program through the memory. The operation code register and the address register store their respective parts of the instructions. Outputs of the operation code register, and those of the operation decoders, control the arithmetic, data, and memory and memory control elements, and parts of the program control element to perform the commanded operations.

2-60. The address register selects the memory sector address location of the data to be used in the commanded operation. When the operation is complete, the address register is reloaded with the contents of the instruction counter to address the next instruction. The memory module and sector selection is controlled by (1) the data module register and the instruction module register and (2) by the data sector register and the instruction sector register.

2-61. The module and sector registers preselect an area of the memory within which the program must operate. As implied by the names of the registers, two selections are made, one for data and one for instructions (the same area may be selected for both). The syllable selection for instructions is stored in the instruction word syllable control logic. Timing signals determine whether the stored selection will be used or whether the selection will be sequenced to read both syllables of a data word. The address register then selects individual locations within the preselected areas from which data and instructions will be read. Timing signals discriminate between instruction and data addressing. The contents of the module and sector registers are changed upon command of the program.

2-62. It was noted previously that the program control element controls sequencing the program through the memory. Actually, the program controls its own sequencing through the use of instructions which command the program control element to change the contents of the module and sector registers (discussed in the preceding paragraph), and the instruction counter.

NOTE

> Although the instruction counter is logically part of the program control element, it is instrumented in the arithmetic element.

The instruction counter stores the address of the next instruction to be operated. Each time the Central Processor performs an instruction, the instruction address is incremented by one to develop the address of the following instruction. In this manner, the program steps sequentially through the area of memory selected by the instruction module register and the instruction sector register.

2-63. The sequential stepping continues until the program issues an instruction to alter the sequence or select a different area of the memory to read instructions from. Area selection is changed by shifting a "HOP constant" out of the transfer register which reloads the module and sector registers. The same HOP constant also reloads the instruction counter to select the starting location of the next instruction sequence. The instruction counter then begins stepping sequentially through the newly selected memory area beginning at the specified starting point.

2-64. The instruction counter can also be reloaded without affecting the module and sector registers. This feature permits repeating short program loops and enables the computer to make logical choices. When commanded, the computer can examine the contents of the accumulator register for certain conditions and alter the program sequence if the condition exists. If the condition is not met, sequential stepping continues.

2-65. The hop saver register is loaded with a HOP constant, every Central Processor cycle, which identifies the locations in memory currently selected. The contents of the hop saver register can then be stored in residual address $776_8$ or $777_8$. Thus after transferring out of a routine the program may be directed back to that routine by referring to the HOP constant stored in address $776_8$ or $777_8$.

2-66. Arithmetic Element. The arithmetic element performs addition, subtraction, shifts, and logical extractions. The accumulator register provides one of the operands for all arithmetic instructions and the memory provides the other. The two operands are combined in the accumulator control logic and the result is stored in the accumulator. The result can then be sensed to control logical decisions or it can be transferred to the memory. After sensing or transfer the result remains unchanged in the accumulator register.

2-67. To illustrate a typical operation, assume that the Central Processor program has been initiated and is running smoothly. The area of the memory in which the program will operate has been selected and instructions are coming from syllable zero. For descriptive purposes, a typical operation begins with reading an instruction from the memory. The address of the instruction is shifted out of the instruction counter and applied to the transfer register and the accumulator control logic in the arithmetic element. The accumulator control logic increments the count by one and reinserts it into the accumulator register where it is circulated. The instruction address is shifted into the transfer register and then transferred in parallel to the address register.

2-68. Timing signals indicate to the memory control circuits that an instruction is due to be read. The memory control circuits then decode the contents of the instruction module and instruction sector registers rather than the data module and data sector registers. Syllable zero, which is the stored syllable selection for instructions, is also decoded. The memory control circuits then produce read timing pulses which enable the instruction to be transferred out of the addressed memory location.

2-69. The memory sense amplifiers transmit the instruction to the memory buffer register. The memory buffer register stores the instruction for parity checking and to enable the inhibit drivers during the restore memory cycle. The instruction is then transferred from the memory buffer register to the transfer register.

2-70. Reading information from a ferrite-core memory destroys the information in the memory. Consequently, a read operation must always be followed by a store (or restore) operation to preserve the contents of the memory. The restore operation is accomplished after the instruction has been transferred to the transfer register. The memory control circuits produce store timing pulses which transfer the instruction from the memory buffer register back into the memory through the inhibit drivers.

2-71. Upon entering the transfer register, the instruction is separated into an operation code and an operand address. The operation code defines what operation will be performed and the operand address gives the location in memory of the data to be used in the operation. The operation code is transferred in parallel to the operation code register and the operand address to the address register. The remainder of the operation is dependent upon the code transferred to the operation code register. The code can specify any of three general types of operations: 1) those which require data from memory; 2) those which place data into the memory; and 3) those which do not use the memory.

2-72. Assume first that the operation code requires data to be read from the memory The instruction word syllable control circuit selects syllable zero, the first syllable of the data word. The memory control circuits decode the contents of the address, data sector, and data module registers. A read cycle is then initiated which transfers the first half of the data word to the memory buffer register. While in the memory buffer register, the half-data word is parity checked, then transferred to the transfer register and restored in the memory. The transfer register serializes the data by shifting it to the TRS output. The TRS output makes the data available to the Arithmetic, program and memory, and memory control elements and to the Memory Loader/Data Display. Outputs from the operation code register and the operation decoders determine which element will accept the data and how it will be used.

2-73. As the first half of the data word nears the end of the transfer register, the instruction word syllable control circuit selects syllable one and the memory control circuits initiate another read cycle. This read cycle transfers the second half of the data word into the memory buffer register where it is parity checked. Then, just in time to fall in behind the last bit of the first half data word, the second half of the data word is transferred into the transfer register. The transfer register continues shifting and the two halves of the data word appear as a continuous serial output on the TRS line.

2-74. When providing a data output, the transfer register is synchronized with the accumulator register. The output of the transfer register and the contents of the accumulator register are combined bit-for-bit in the accumulator control logic. The results of these operations are placed in the accumulator register for recirculation. As the last bit of the accumulator contents emerges from the accumulator register, timing signals end the arithmetic processes in the accumulator control logic and the contents of the instruction counter begin to emerge from the accumulator register. The accumulator control logic increments the instruction count by one and reinserts it in the accumulator register immediately behind the result of the arithmetic operation. Simultaneously, the instruction count is shifted into the transfer register to address the next instruction.

2-75. When the operation code specifies that data is to be transferred into the memory, the basic operations are reversed. Instead of transferring two syllables of data to the transfer register which serializes them into a continuous unit, a continuous unit of serial data is shifted into the transfer register which divides it into syllables. The syllables are then transferred to the memory in parallel. After the instruction is loaded into the operation code and address registers the data word to be stored begins to emerge from the accumulator register. Outputs from the operation code register and the operation decoders condition the transfer register to shift in step with the accumulator register and accept its output. As the data word enters the first position of the transfer register, a parity counter monitors the number of "1's" it contains.

2-76. Timing signals indicate to the memory control circuits that a data word is to be transferred to or from the memory. The operation code specifies that data is going to memory and the memory control circuits initiate a store cycle. The instruction word syllable control circuit selects syllable zero as the first syllable is to be transferred. The memory control circuits decode the contents of the address, data sector, and data module registers. Just before the last bits of the syllable enter the transfer register the memory control circuits produce read timing pulses which clear the addressed memory location.

2-77. Simultaneous with clearing the memory location, the last bit of the syllable enters the transfer register and the syllable is transferred to the memory buffer registers. The transfer register continues shifting and the second syllable of data starts to enter the transfer register. At the memory buffer registers, a "parity bit" is added to the syllable entering the memory. The parity bit is controlled by a parity count circuit so that the memory buffer register contains an odd number of "1's." The memory control circuits now produce store timing pulses and the first syllable of data enters the memory through the inhibit drivers. The second syllable of data enters the memory in the same manner as the first.

2-78. Operations which do not use the memory either shift the contents of the accumulator register or use the operand address as a constant for controlling the program. Shifting the contents of the accumulator register is accomplished by shortening or lengthening its circulation loop. Before the first bits of the accumulator contents are shifted, outputs from the operation code register and the operation decoders, along with control bits from the address register, alter the recirculation path of the accumulator register to affect the shift. When the last bit has been shifted, timing signals restore the loop to normal to prevent shifting the contents of the instruction counter. The instruction counter is then incremented and shifted into the transfer register to address the next instruction.

2-79. Among the operations which do not use the memory are those which make logical decisions based on the contents of the accumulator register. As noted previously, logical decisions are made by altering the contents of the instruction counter if a specified condition exists in the accumulator register. If the condition exists, the operand address of the instruction replaces the existing contents of the instruction counter and the next instruction begins the new sequence. Logical decisions are implemented by continuously sampling the accumulator contents part way through the register for the conditions upon which decisions are based. Thus, when a logical decision is initiated, most of the accumulator contents have already been sampled and the Central Processor need not wait until the complete contents emerge from the register to make the decision. The contents of the instruction counter immediately follow the accumulator contents in the accumulator register. Consequently, when the last data bit has been sensed and the decision made, the contents of the instruction counter are still only part way through the accumulator register. If the condition is met, the accumulator register is broken just behind the last bit of the accumulator contents and the operand address is shifted into the accumulator register from the transfer register, replacing the existing instruction count.

NOTE

> Since the memory is not being used, the transfer register is not needed to distribute data from it, and therefore is not cleared after the instruction is distributed to the program control element.

If the condition is not met, the accumulator register is not broken and the existing contents of the instruction counter are retained to address the next instruction.

2-80. <u>External Control Element</u>. Control over Central Processor start-stop and interrupt operations is provided by the external control element. The Central Processor cycles continuously under internal program control unless one of these operations is initiated.

2-81. The external control element stops the Central Processor operation as follows:

1. Until PTC DC power is completely sequenced on.

2. Momentarily when the RESET-HALT or RESET-MACHINE pushbutton is actuated.

3. Momentarily by every Data Display address compare when the MODE CONTROL switch is in the PROG CYCLE-REPEAT position.

4. When the Memory Loader/Data Display is in the ML mode unless a load or verify operation is in process.

5. When a Central Processor single step operation is initiated.

2-82. A Central Processor single step operation is commanded as follows:

1. By a Data Display address compare when the MODE CONTROL switch is in either the PROG CYCLE-ADR HOLD or SINGLE STEP position.

2. When the manual single step mode is selected under control of the MAN CST pushbutton.

3. By a CIO 114 command generated by the Central Processor.

4. By a memory parity error when the ERROR HOLD mode of operation is selected.

5. When a PTC single step command (ACNCST) is received from the LVDCME and the MODE CONTROL switch is not in either PROG CYCLE-ADR HOLD or SINGLE STEP positions.

2-83. After a single step operation is initiated Central Processor operation is normally not resumed until a restart signal is generated by actuating a PTC ADVANCE pushbutton or by a PTC advance command (ACGACISS) from the LVDCME. Central Processor operation is then resumed as follows:

1. Until another Data Display address compare occurs when the MODE CONTROL switch is in the PROG CYCLE-ADR HOLD position.

2. For one Central Processor cycle when: (1) the MODE CONTROL switch is in the PROG CYCLE-SINGLE STEP position; (2) in the ERROR HOLD mode if the parity error is not cleared; (3) when the MAN CST mode is selected; or (4) when the ACNCST signal is present.

3. Until another single step operation is initiated if the previous one was initiated by: (1) a CIO 114 command; or (2) a parity error in the ERROR HOLD mode and the parity error is now cleared.

4. Until another signal step operation is initiated: (1) upon exiting from the manual single step mode under control of the MAN CST pushbutton; or (2) when the ACNCST signal is dropped.

The single step command is removed for two Central Processor cycles when an interrupt command is received from the LVDAME. The single step command is also removed when the Memory Loader/Data Display is placed in the ML mode or when the RESET-HALT or MACHINE pushbutton is actuated.

2-84. A PTC single step (PTC CST) signal is sent to the LVDAME when a Central Processor single step operation is initiated by any method other than a ACNCST signal. The PTC CST signal is generated for approximately 62 microseconds when the single step operation was commanded by a CIO 114 command. The PTC CST signal is generated for the duration of the time the single step operation is maintained for any other condition.

2-85. The interrupt control circuit enables any one of 16 interrupts to break off normal sequencing of the program and direct it to process data of a higher priority. The interrupt control circuit allows the instruction in progress at the moment of the interruption to finish, then forces the selection of one of the residual addresses $400_8$ through $417_8$, if the INT B latch is reset. This latch is normally reset at the end of an interrupt processing routine. Residual addresses $400_8$ through $417_8$ contain "HOP" constants which direct the program to the start of an interrupt processing routine.

2-86. Interrupts 1 through 15 which force the selection of residual addresses $400_8$ through $416_8$ are generated by the LVDAME. When one of these interrupt signals is sent to the Central Processor it is stored by a latch in the external control element, but is not acted upon until its associated inhibit is removed. The removal of these inhibits is accomplished either under program control or manually with switches. When the INHIBIT CTRL pushbutton is not in the INHIBIT CTRL position the removal of the inhibits is under program control. If the INHIBIT CTRL position is selected an inhibit is removed when the corresponsing pushbutton (I1/B1 through I15/B15) is actuated. Interrupt 16 which forces residual address $417_8$ selection is generated under control of the I16 pushbutton.

2-87. WORD ORGANIZATION. The Central Processor uses a 28-bit word consisting of two 14-bit syllables. Each syllable includes 13 data bits and one parity bit (figure 2-6) and each syllable is stored separately in the memory. The parity bits are used only to check the accuracy of transfers to and from the memory which leaves a data word 26 bits in length.

2-88. The use of the data word is at the discretion of the programmer. Each of the 26 bits may be used as an indicator to show the presence or absence of some condition, or the word may be used as a binary number for arithmetic computations. Binary numbers are represented by a sign bit and 25 magnitude bits; negative numbers are shown in two's complement form.

2-89. In this section bit positions in the data word are designated SIGN and 1 through 25, proceeding toward the least significant digit (LSD). When used in this context, bits 1 through 25 are called "magnitude bits".

2-90. The Central Processor word is also used to store the instructions of the Central Processor program. Instructions are 13 bits in length with one instruction stored in each syllable of the Central Processor word. An instruction consists of a 4-bit operation code (OP1-OP4) and a 9-bit address (A9, A1-A8). Figure 2-7 shows how the instructions are placed in the Central Processor words.

2-91. TIMING ORGANIZATION. The basic unit of Central Processor timing is called the "Central Processor cycle." The duration of a Central Processor cycle is approximately 82 microseconds; this is the time required for the Central Processor to read, decode and operate its basic instructions. A Central Processor cycle is three phase times in duration.

2-92. The Central Processor cycle is separated into "instruction time" and "operation time". As the names imply, instruction time is the period in which an operation is read and decoded, and operation time is the period in which the operation commanded by the instruction is performed. Generally, the instruction time occurs during A time and the operation time occurs during B and C times.

| BIT POSITION | SYLLABLE 1 | | | | | | | | | | | | | | SYLLABLE 0 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | PAR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | PAR |
| BIT DESIGNATION | S | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |

Figure 2-6. Data Word Layout

| BIT | SYLLABLE 0 | | | | | | | | | | | | | | SYLLABLE 1 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POSITION | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | PAR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | PAR |
| DESIGNATION | A 8 | A 7 | A 6 | A 5 | A 4 | A 3 | A 2 | A 1 | A 9 | O P 4 | O P 3 | O P 2 | O P 1 | | A 8 | A 7 | A 6 | A 5 | A 4 | A 3 | A 2 | A 1 | A 9 | O P 4 | O P 3 | O P 2 | O P 1 | |
| USE | OPERAND ADDRESS | | | | | | | | | OPERATION CODE | | | | | OPERAND ADDRESS | | | | | | | | | OPERATION CODE | | | | |

Figure 2-7. Instruction Word Layout

2-93. Notice the correlation between the organization of timing and word layout. The Central Processor cycle is defined by three phase times and involves three syllables of information: one syllable for an instruction and two syllables of data for an operand. The correlation also extends downward one step. A syllable consists of 14 bits (13 data, 1 parity) and each phase time is divided into 14 equal segments called "bits times." A bit time is the time each bit of data is stored in one position of a serial storage device before moving on to the next.

2-94. INSTRUCTION ORGANIZATION. The Central Processor uses a complement of 16 single address instructions which are composed of a 4-bit operation code and a 9-bit operand address. The 4-bit operation code can select one of 15 different instructions to be executed, this range is extended to 16 by grouping two instructions under one operation code, then using bit A8 of the address to discriminate between them. Bit A8 serves no other function for the instructions which are grouped. Figure 2-8 is a map of the operation codes showing the names of the instructions assigned to each code. Figure 2-9 shows how addition of each bit of the operation code narrows the field of selection by de-selecting half the remaining area of the map. A list of the 16 instructions available is given inffigure 2-10 with the operation code and a brief description of each. Figure 2-11 lists the CIO codes used by the PTC.

2-95. The 9-bit operand address, figure 2-12 permits selection of memory addresses for use as operands or data storage locations. Address bits A1 through A8 select one of the addresses within a sector. Bit A9 determines whether the address will be in a sector previously selected by the program or in a special sector called "residual memory." Consequently, bit A9 is called the residual bit; residual memory is selected when A9 is a "1."

2-96. Instructions which do not require that data be read from the memory frequently use the operand address for special purposes. These special purposes are pointed out in the List of Instructions, figure 2-10, where they occur. For example the shift instructions (SHF) always mainipulates the contents of the accumulator and thus requires no operand address; this frees the operand address for use as shift control.

2-97. MEMORY AND MEMORY CONTROL ELEMENT LOGIC CIRCUITS.

2-98. The Memory Element, figure 2-13 provides 4,096 locations of primary storage in each of two memory modules, memory module 0 and memory module 1. Each memory module operates independently on command from the memory control element. The memory modules are each divided into 20 octal sectors, sectors 0 through 17. Sector 17 of only memory module 0 is designated as the "Residual" sector. Each sector contains $400_8$ locations or addresses and are designated $0_8$ through $377_8$ except residual locations. These are designated $400_8$ through $777_8$. Sector selection is identical for each module, and address selection is the same for every sector except the residual sector.

Address, sector, and module selections are controlled separately in the memory control element. As far as "addressing" in the usual sense is concerned, the memory control element provides only sector and individual location addressing signals. These signals are applied to both modules in the memory element and select the same address in each module. The memory control element then commands only the selected module to operate.

2-99. Toroidal ferrite cores are the storage medium in which coincident current addressing and destructive readout techniques are utilized. A restore cycle follows every read operation to preserve the contents of the memory. Each memory location stores a 28-bit word which is divided into two 14-bit syllables. The memory element transfers one syllable at a time which necessitates four operations (two read cycles and two restore cycles) to transfer a complete word. The Central Processor has random access to stored information within preselected sectors.

2-100. CORE MEMORY FUNDAMENTALS. Figure 2-14 illustrates the properties of a ferrite core. As shown in the figure, the core can be magnetized in either of two directions. By establishing that a core contains a "1" when magnetized in one direction and a "0" when magnetized in the opposite direction, the core can be used to store one "bit" of a binary number. The core is magnetized by passing a d-c current of I/2 through the X and Y drive lines in coincidence.

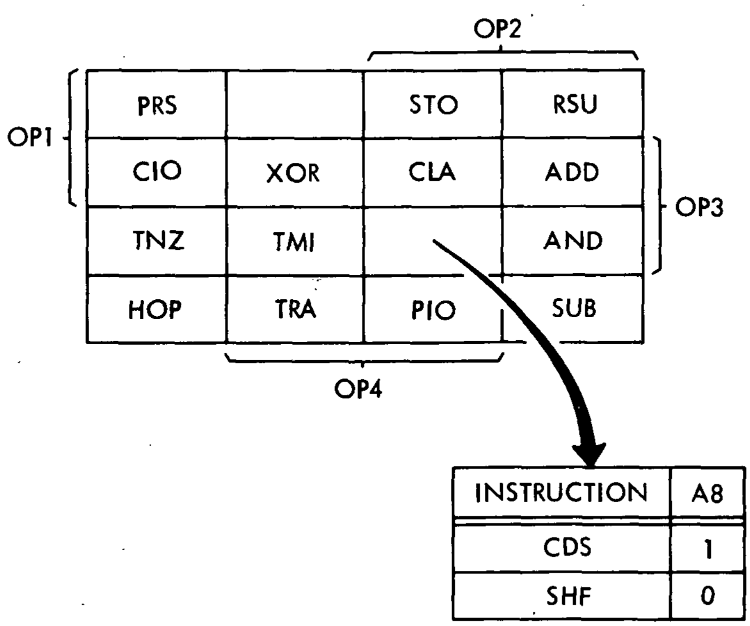



Figure 2-8. Operation Code Map

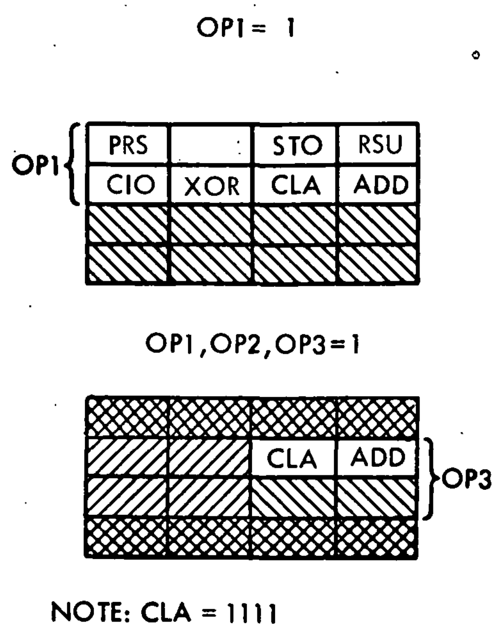



Figure 2-9. Selecting An Instruction

NOTE

I is the current necessary to drive the core into magnetic saturation. The directions of the currents in both the X and Y drive lines must be additive to operate the core.

The direction of magnetic flux about the core can be reversed by passing the same currents through the drive lines in the opposite direction. Reversing a core in this manner is called "switching" it. A sense winding, represented by S in figure 2-14, also passes through the core and lies within its magnetic field. When a core is switched, the resulting field collapses and then expands causing a pulse of voltage to be induced in the sense winding. Thus, if a core containing a "1" is switched to a "0", the resulting voltage pulse in the sense winding can be amplified and used to set a latch, indicating the core contained a "1". If the core already contained a "0", it would not switch and no voltage pulse would appear in the sense winding to set the latch.

2-101. The following method is used for reading information from a core memory. It is called "destructive readout" because after the core is read, it no longer contains the "1" which was sensed from it. The latch into which the "1" was read is a buffer between the core and the circuits which use the stored information. The "buffer latch" stores the "1" until it can be transferred into the Central Processor and until the core can be switched back to its original state. The process of driving a core to a "0" and sensing whether or not it produced an output is called "read cycle". Switching the core back to its original state is called a "store cycle".

| Instruction | Operation Code 4 3 2 1 | Description |
|---|---|---|
| HOP | 0 0 0 0 | Transfers program to memory location specified by HOP constant. Operand address specified memory location of HOP constant used to load the registers shown in HOP constant format (below). Full HOP constant MUST be specified each time. First instruction following HOP comes from new location. |

| S | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I M | Data Sector | | | | | | | D M | | | Instruction Address | | | | | | | | S Y L | Instruction Sector | | | | | |
| | | 4 | 3 | 2 | 1 | | | | | | A8 | A7 | A6 | A5 | A4 | A3 | A2 | A1 | | 4 | 3 | 2 | 1 | | |

| Instruction | Operation Code 4 3 2 1 | Description |
|---|---|---|
| PRS | 0 0 0 1 | Print store. Initiates a printer operation. The printer operation performed is specified by the operand address.<br><br>**Address** — **Operation**<br>$000_8$ to $773_8$ — Data in memory address specified is transferred to the printer.<br>$774_8$ — A group markword mark is sent to the printer.<br>$775_8$ — Data in the accumulator is transferred to the printer. |
| SUB | 0 0 1 0 | Subtracts contents of memory location specified in operand address from contents of accumulator. Places remainder in accumulator. |
| TNZ | 0 1 0 0 | Conditional transfer. Transfers operand address (A1-A8) to instruction counter and A9 to syllable select if accumulator contents are not zero. Next instruction comes from new syllable and address. If accumulator is zero, perform next instruction in sequence. |
| CIO | 0 1 0 1 | Controls the input, output operations of the Central Processor. The operand address bits specify the operation to be performed (see figure 2-11 for CIO codes used by PTC). |
| AND | 0 1 1 0 | AND's contents of memory location specified in operand address with contents of accumulator. Result is placed in accumulator. |

Figure 2-10. List of Instructions (Sheet 1 of 3)

| Instruction | Operation Code 4 | 3 | 2 | 1 | Description |
|---|---|---|---|---|---|
| ADD | 0 | 1 | 1 | 1 | Adds contents of memory location specified in operand address to contents of accumulator. Sum is placed in accumulator. |
| TRA | 1 | 0 | 0 | 0 | Unconditional transfer. Transfers operand address (A1-A8) to instruction counter and A9 to syllable select. Next instruction comes from new syllable and address. |
| XOR | 1 | 0 | 0 | 1 | Exclusive - OR contents of memory location specified in operand address with contents of accumulator, bit-for-bit. When accumulator bit and bit from memory are different a "1" is placed in the corresponding bit of the accumulator; if accumulator bit and memory bit are alike, a "0" is placed in the accumulator. |
| PIO | 1 | 0 | 1 | 0 | Process input or output. Operand address specifies input or output and gives address of data source and destination. These codes are the same as the computer codes. |
| STO | 1 | 0 | 1 | 1 | Contents of accumulator is stored in memory location specified by operand address. Contents of accumulator is unchanged. A STO instruction with operand address 776 or 777 causes contents of HOP save register to be stored in memory location 776 or 777 as specified. These addresses are used for HOP save feature. |
| TMI | 1 | 1 | 0 | 0 | Conditional transfer. Transfer operand address (A1-A8) to instruction counter and A9 to syllable select if accumulator sign is minus. Next instruction comes from new syllable and address. If accumulator sign is plus, perform next instruction in sequence. |
| RSU | 0 | 0 | 1 | 1 | Reverse subtract. Contents of accumulator are subtracted from contents of memory location specified by operand address. Remainder is placed in accumulator. |

Figure 2-10. List of Instructions (Sheet 2)

<table>
<tr><th>Instruction</th><th>Operation Code<br>4 3 2 1</th><th>Description</th></tr>
<tr><td>SHF</td><td>1 1 1 0<br>A8 = 0</td><td>Contents of accumulator are shifted MSD or LSD a maximum of 6 bit positions as specified by operand address. On a MSD shift the vacated bit positions will become "0's", on a LSD shift the vacated bit positions will be assigned the value of the SIGN bit. A MSD shift occurs if A7 equals a "0" and a LSD shift occurs if A7 equals a "1". The number of bit positions shifted is determined by decoding address bits A1 through A6.
<table>
<tr><th>Shift</th><th>A1</th><th>A2</th><th>A3</th><th>A4</th><th>A5</th><th>A6</th></tr>
<tr><td>1</td><td>"1"</td><td>"0"</td><td>"0"</td><td>"0"</td><td>"0"</td><td>"0"</td></tr>
<tr><td>2</td><td>"0"</td><td>"1"</td><td>"0"</td><td>"0"</td><td>"0"</td><td>"0"</td></tr>
<tr><td>3</td><td>"0"</td><td>"0"</td><td>"1"</td><td>"0"</td><td>"0"</td><td>"0"</td></tr>
<tr><td>4</td><td>"0"</td><td>"0"</td><td>"0"</td><td>"1"</td><td>"0"</td><td>"0"</td></tr>
<tr><td>5</td><td>"0"</td><td>"0"</td><td>"0"</td><td>"0"</td><td>"1"</td><td>"0"</td></tr>
<tr><td>6</td><td>"0"</td><td>"0"</td><td>"0"</td><td>"0"</td><td>"0"</td><td>"1"</td></tr>
</table></td></tr>
<tr><td>CDS</td><td>1 1 1 0<br>A8 = 1</td><td>Change data sector. Operand address is used as a constant to load registers indicated below.
<table>
<tr><td>A<br>9</td><td>A<br>8</td><td>A<br>7</td><td>A<br>6</td><td>A<br>5</td><td>A<br>4</td><td>A<br>3</td><td>A<br>2</td><td>A<br>1</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td>0</td><td>D<br>M</td><td colspan="4">Data<br>Sector</td></tr>
<tr><td colspan="4"></td><td></td><td>4</td><td>3</td><td>2</td><td>1</td></tr>
</table></td></tr>
<tr><td>CLA</td><td>1 1 1 1</td><td>Contents of memory location specified by the operand address are transferred to cleared accumulator.</td></tr>
</table>

Figure 2-10. List of Instructions (Sheet 3)

| CIO Operand Address | Operation |
|---|---|
| 000 | Enables the interrupt inhibit register latches to be set under control of accumulator data bits 11 through 25 (Data bit 11 sets interrupt inhibit latch 15, etc.) |
| 004 | Enables the interrupt inhibit register latches to be reset under control of accumulator data bits 11 through 25 (Data bit 25 resets interrupt inhibit latch 1, etc.) |
| 010 | Reset interrupt 1 latch |
| 014 | Reset interrupt 2 latch |
| 020 | Reset interrupt 3 latch |
| 024 | Reset interrupt 4 latch |
| 030 | Reset interrupt 5 latch |
| 034 | Reset interrupt 6 latch |
| 040 | Reset interrupt 7 latch |
| 044 | Reset interrupt 8 latch |
| 050 | Reset interrupt 9 latch |
| 054 | Reset interrupt 10 latch |
| 060 | Reset interrupt 11 latch |
| 064 | Reset interrupt 12 latch |
| 070 | Reset interrupt 13 latch |
| 074 | Reset interrupt 14 latch |
| 100 | Reset interrupt 15 latch |
| 104 | Reset inetrrupt 16 latch |
| 110 | Resets the main interrupt latch. |
| 114 | Generates a PTC single step command. |
| 120 | Generates a type alpha numeric command. Positions SIGN and 1 through 5, respectively, of the accumulator data word contain the "BA8421" code. |

Figure 2-11. PTC Internal CIO Operations (Sheet 1 of 3)

| CIO Operand Address | Operation |
|---|---|
| 124 | Generates a type decimal command. Positions SIGN, 1, 2, and 3, respectively, of the accumulator data word contain the "8421" code. |
| 130 | Generates a type octal command. Positions SIGN, 1, and 2, respectively, of the accumulator data word contain the "421" code. |
| 134 | Generates a typewriter control command. Positions SIGN and 1 through 5 of the accumulator data word are decoded to perform one of six operations.<br><br>Data Bit — Operation<br>SIGN — Space<br>1 — Black Ribbon<br>2 — Red Ribbon<br>3 — Index<br>4 — Return<br>5 — Tap |
| 140 | Generates an X plot command. |
| 144 | Generates a Y plot command |
| 150 | Generates a Z plot command. |
| 154 | Stores the configuration of the interrupt latches in positions SIGN and 1 through 15 of the accumulator data word. (Data bit 1 stores interrupt latch 1 configuration, etc.) |
| 160 | Generates a printer carriage control command. Positions SIGN and 1 through 5, respectively, of the accumulator data word contain the "BA8421" code. |
| 164 | Generates a print octal command. |
| 170 | Generates a print BCD command. |
| 204 | Enables the program control display register to be loaded. Positions 21 through 25 of the accumulator data word are loaded into positions P40, P20, P10, P4, P2 and P1, respectively, of the program control display register. |
| 210 | Enables one of six output discretes to be generated. Discretes 1 through 6, respectively, are controlled by positions 25, 24, 23, 22, 21, and 20 of the accumulator data word. |
| 214 | Transfers the PROG REG A data word into the accumulator. |
| 220 | Transfers the PROG REG B data word into the accumulator. |

Figure 2-11. PTC Internal CIO Operations (Sheet 2)

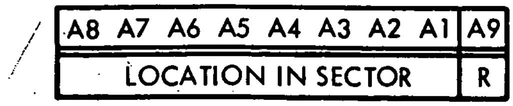



Figure 2-12. Operand Address Layout

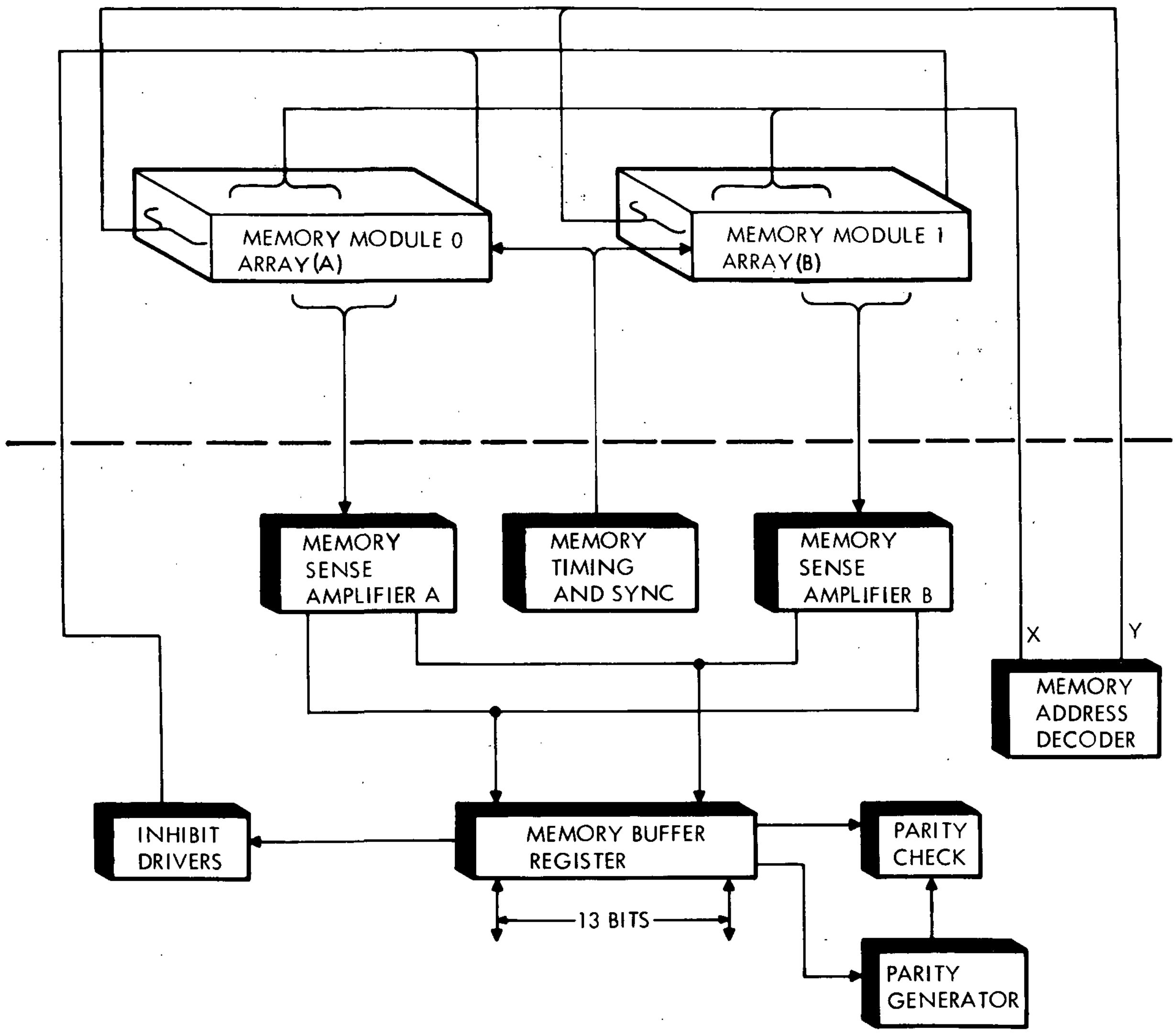



Figure 2-13. Memory Element Block Diagram

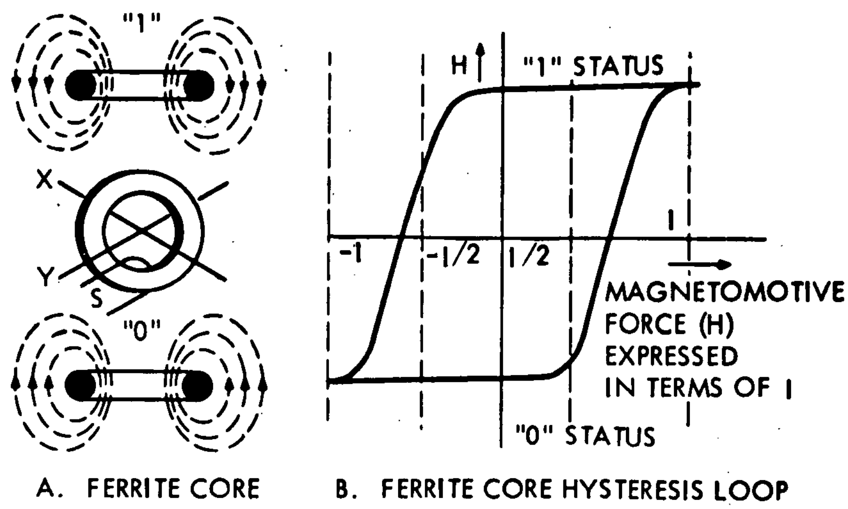



Figure 2-14. Ferrite Core Characteristics

2-102. The preceding paragraphs dealt with the operation of a single core. However, a single core can store only one bit of information while a core memory must store many bits and select each bit on command. This ability can be achieved by arranging cores in rows and columns as shown in figure 2-15. An X drive line passes through all the cores in two rows and a Y drive line through all the cores in two columns. The cores are held in place by the wires passing through them; the wires are fastened to a frame and the unit is called a plane. The cores are positioned on the drive lines in a pattern which puts the magnetic fields of adjacent cores 90 degrees apart; this eliminates interference between cores. The sense windings run parallel to the X drive lines and pass through all the cores in a segment of a plane. There are four segments to each plane, and the sense windings are interconnected as shown in figure 2-16. The sense winding is wound in a pattern which results in cancellation of "half-select" noise (discussed later).

2-103. The arrangement of cores into planes facilitates storing and addressing many bits of information, but still falls short of practicality, because only two bits can be addressed per plane. The Central Processor operates using "words" which comprise a number of bits, thus the memory must be expanded to store a complete word in each location. The expansion is accomplished by providing a separate plane for every two bits in each syllable of the word. (See figure 2-17.) The planes are stacked one above the other to form an "array" which accommodates a word of 13 bits and parity in each syllable. (See figure 2-18.)

2-104. Each plane has four separate sense windings: segments 1 and 2 for the even bits in both Syllables 0 and 1 and segments 2 and 1 for the odd bits in both syllables 0 and 1. (See figure 2-16.) Memory address register bit 5 controls sense amplifiers for two segments at a time while the buffer latches allow individual bits to be sensed. The problem, however, is encountered in attempting to restore the information back into memory. As presented up to this point, energizing drive lines switch all of the cores in the addressed location to the same state. There is (thus far) no provision for storing numbers which contain both "1's" and "0's". Therefore, another winding called an "inhibit" winding is wound through each quadrant of every plane to allow bits to be stored individually. The inhibit windings run parallel to the Y drive lines and carry the same current as the drive lines but operate only during the store cycles. During a store cycle, the drive lines attempt to switch every core in the addressed locations to "1's".

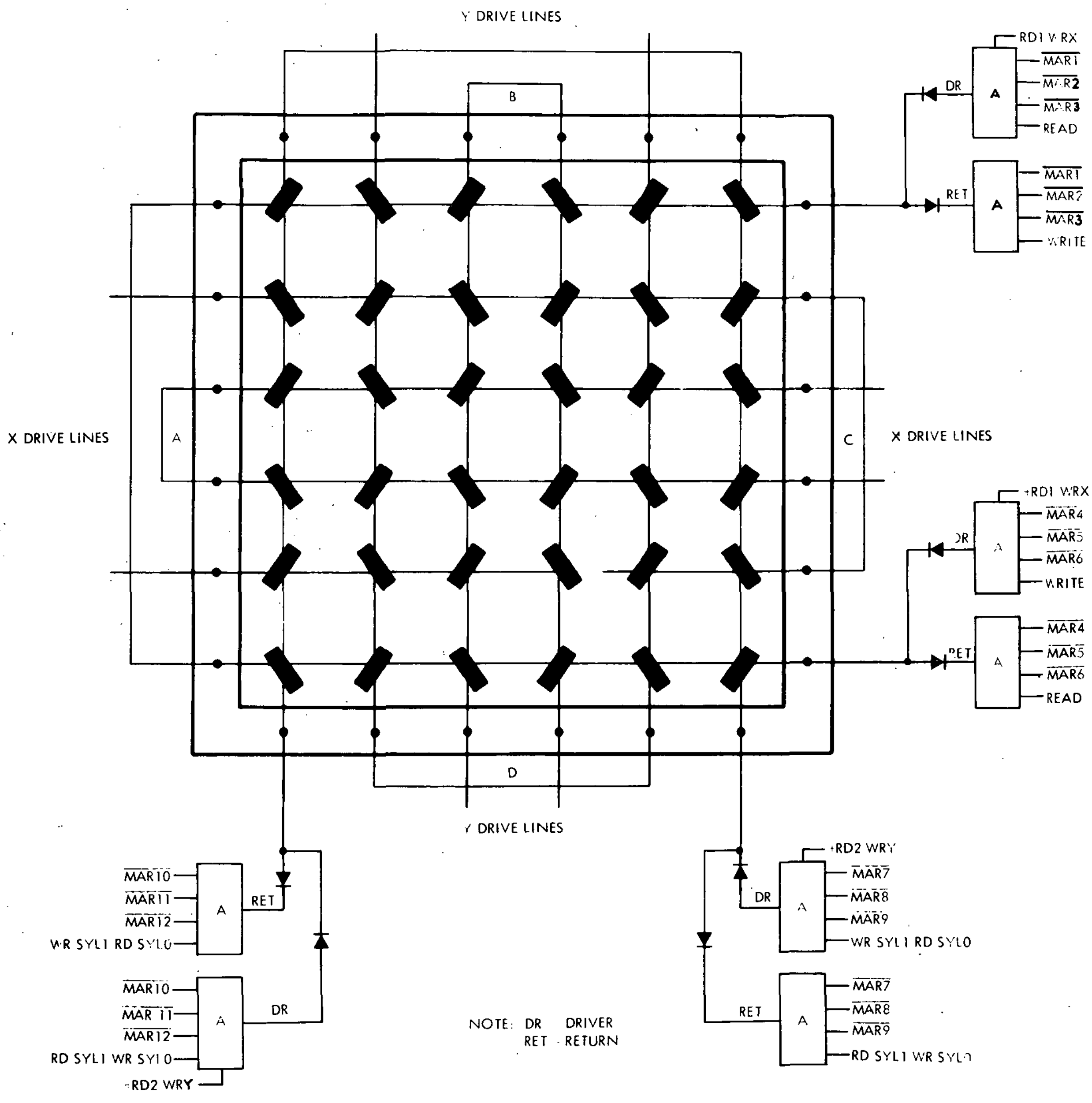



Figure 2-15. 6x6 Core Plane

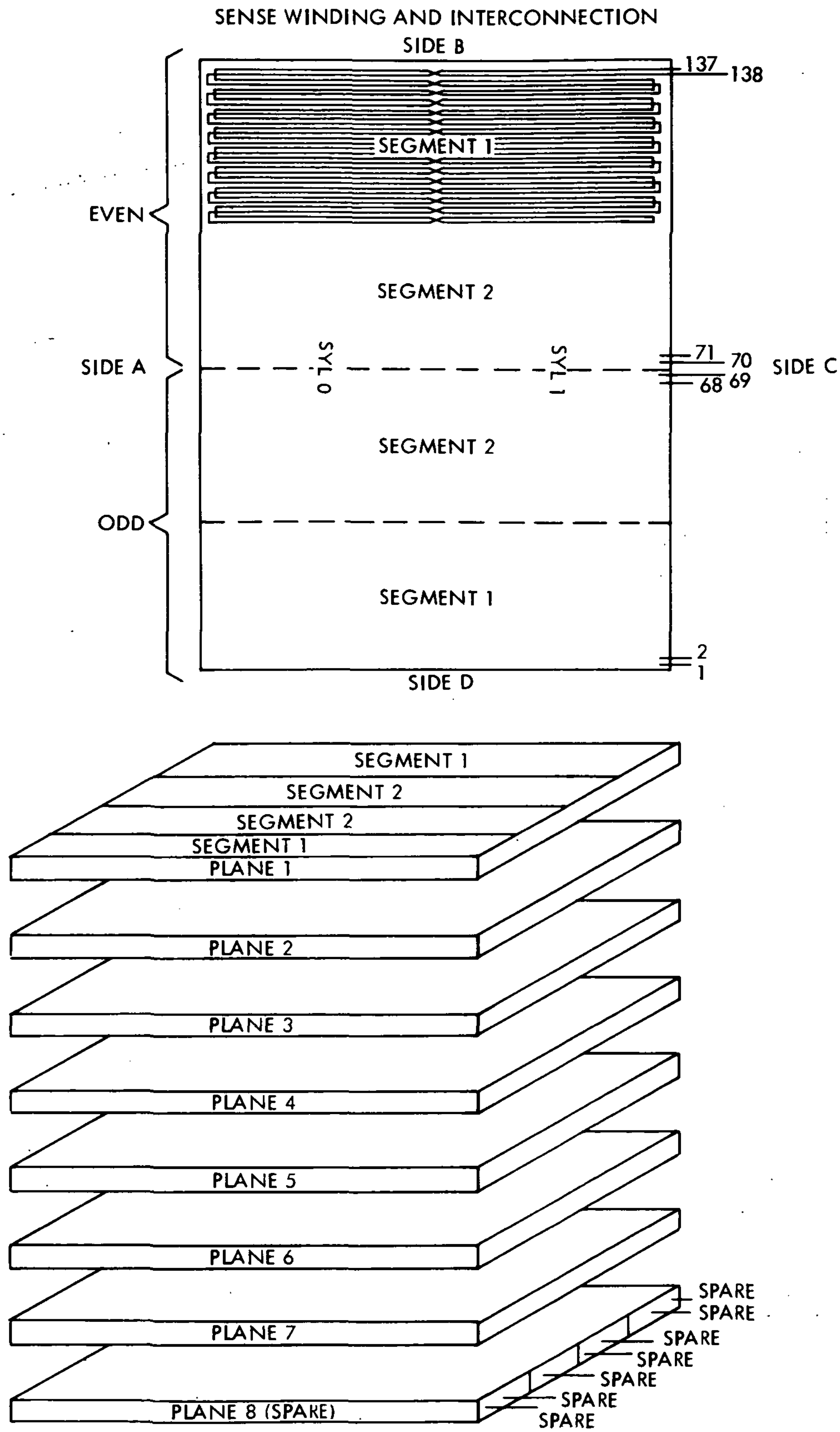



Figure 2-16. Memory Sense Winding and Interconnection Block Diagram

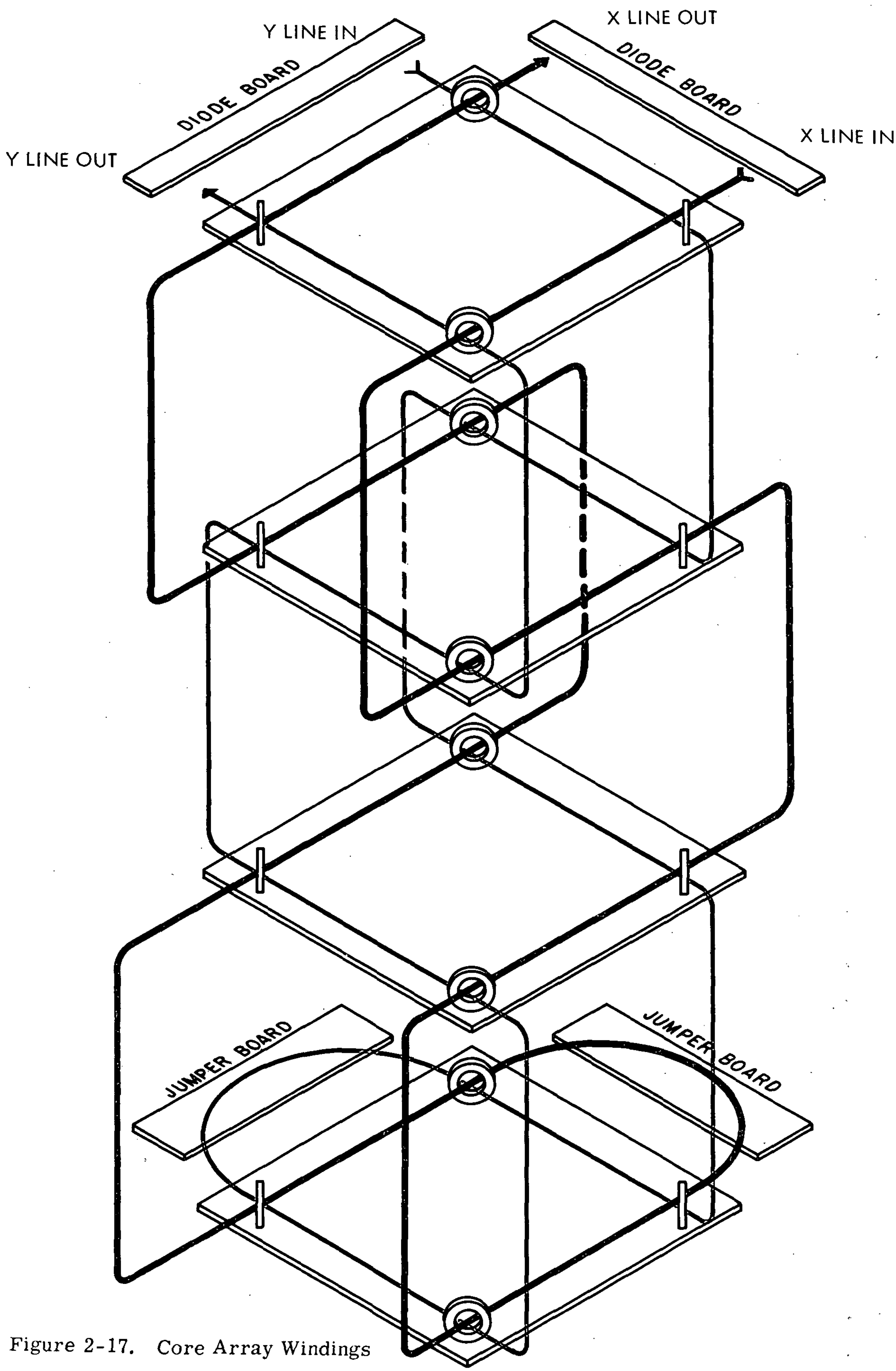



Figure 2-17. Core Array Windings

However, any buffer storage latches containing "0's" energize the inhibit windings in the quadrant of the bit position selected. (See figure 2-19.) Inhibit current opposes the current in the Y drive line and cancels its effect. Thus the addressed cores in the inhibit quadrants feel only the half selected current of the X drive line and do not switch. Since the cores in the addressed locations were all switched to "0's" when they were read, any inhibit cores will simply remain in the "0" state.

2-105. Associated with the array are a number of special circuits which are required to operate it. Included in these circuits are the sense amplifiers, some special timing circuits, and the circuits which provide power to the drive lines and inhibit windings. These circuits vary widely from system to system and therefore are not included in the description of Core Memory Fundamentals. Detailed operation of the circuits used in this system are described in subsequent paragraphs.

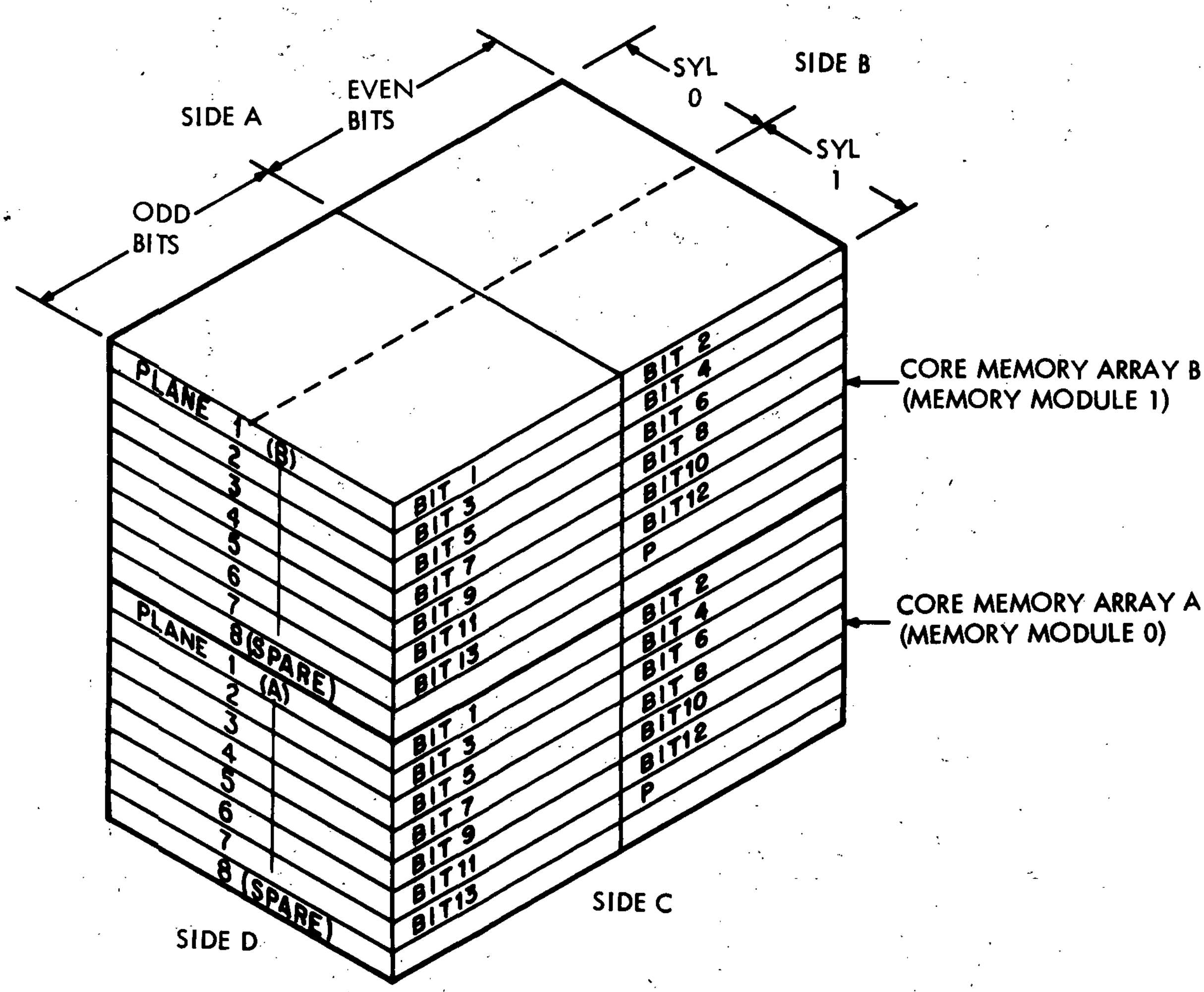



Figure 2-18. Physical Layout of PTC Memory Array

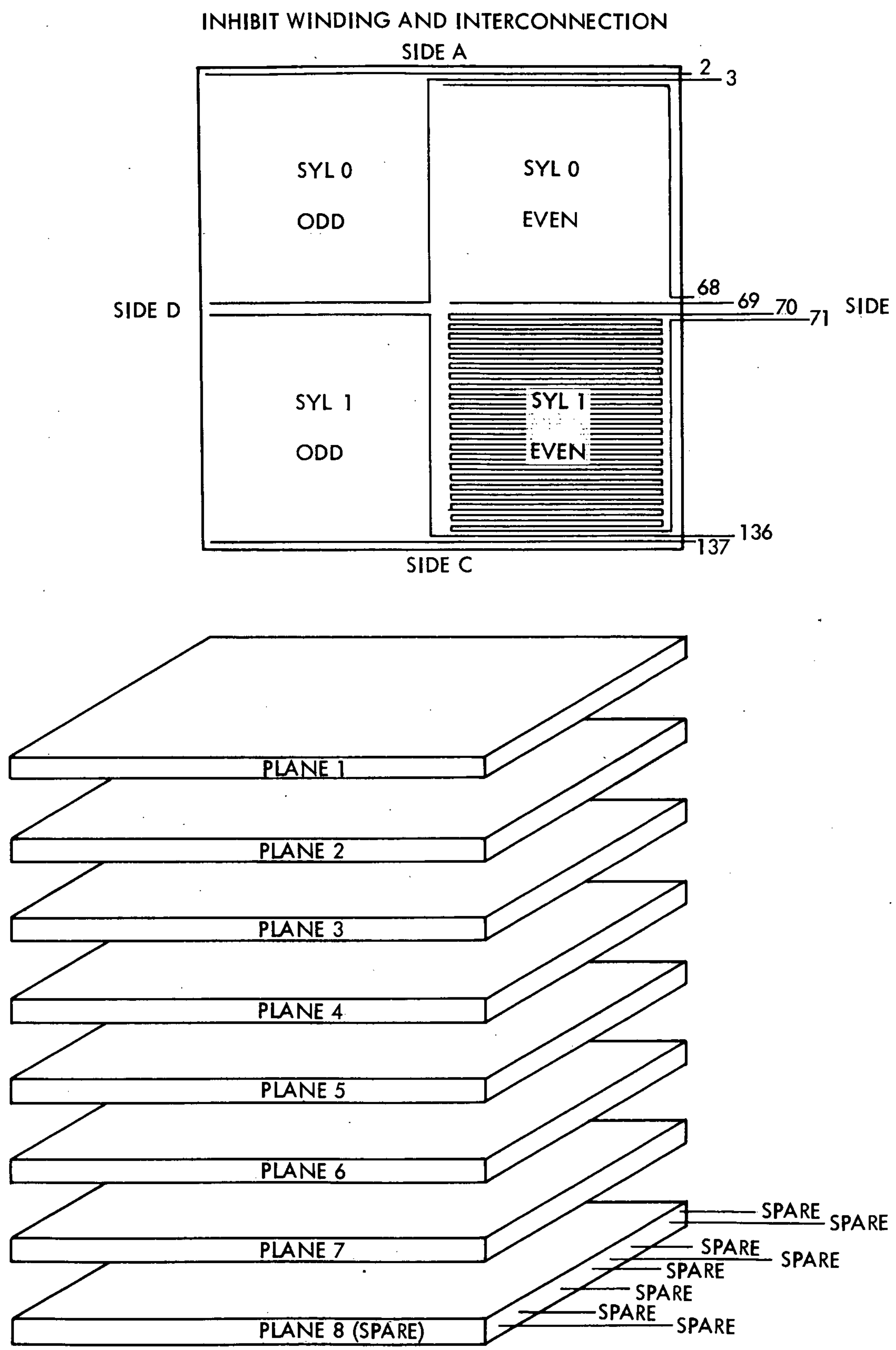



Figure 2-19. Memory Inhibit Winding and Interconnection Block Diagram

2-106. The location of cores can be defined by the X and Y drive lines which pass through them. The circuits which operate the plane are controlled so that two X and two Y drive lines carry current through four cores at any given time. The two selected cores at the intersection of the X and Y drive lines in each plane receive the coincident current necessary to switch them. An odd and an even bit can therefore be selected in either syllable, in all core planes. The two non-selected cores that have both X and Y lines passing through them have equal and opposite currents which cancel each other. This method of selecting memory locations is called "coincident-current addressing." When a memory location is selected by coincident current addressing, the selected cores along each drive line receive the full current to select them. However, there are a number of other cores along each of the selected lines which receive one-half the current of the selected cores; these cores are called "half-selects". Although half-select cores remain virtually at magnetic saturation, those containing "1's" will transmit small voltage spikes (called half select noise) into the sense winding. The sense winding is wired so that half-select noise from one core cancels that from another. Thus, half-selected noise cannot mask a "0" in the selected core.

2-107. MEMORY MODULES. The memory element is composed of two integral asynchronous memory modules, which operate under control of the memory control element. The modules are termed "integral" because each module is a complete memory in itself. Included in each module are a core array and all the circuits required to transfer information to and from it. Asynchronous refers to the fact that the timing signals within a module are not in synchronism with the other module in the Central Processor. When information is to be transferred to or from the memory element, the Central Processor delivers a "sync" impulse to the selected module, waits a reasonable time for the module to perform the transfer, and then continues assuming that the transfer is complete. During the memory cycle, the memory control element provides signals to the memory element which control addressing and determine the direction of transfer.

2-108. Figure 2-20 is a block diagram of a memory module showing all the circuits it comprises. The memory drive controls (upper left) receive the sync impulse from the Central Processor and convert it to a series of read or store timing pulses. The timing pulses turn the Memory Address Drivers and Inhibit Drivers on and off and strobe the Sense lines in the array. Addressing signals from the memory control element select one X and two Y drive lines by conditioning an X driver and return and a Y driver and return. When the timing pulses occur, the conditioned memory address drivers pass coincident current pulses through the selected drive lines to switch the cores in the addressed location. Diode matrices provide isolation between drive lines and return lines. A temperature controlled current regulator adjusts the memory address driver current to produce the optimum current output for the prevailing temperature in the array. A temperature sensing element near the array develops the inputs for the temperature controlled current regulator.

2-109. Static control signals from the memory control element determine whether information will be read or stored by conditioning the memory drive controls to produce the appropriate series of timing pulses. If information is to be read, a series of read pulses is generated causing the memory address drivers to switch all the addressed cores to "0's". Read timing includes a strobe pulse, for the sense amplifiers, which is delayed from the drive current to allow for the inductive reactance of the windings through the array. If the purpose of the read cycle is to clear the addressed location so that new information may be stored in it, the strobe pulse is inhibited and the sense amplifiers produce no outputs.

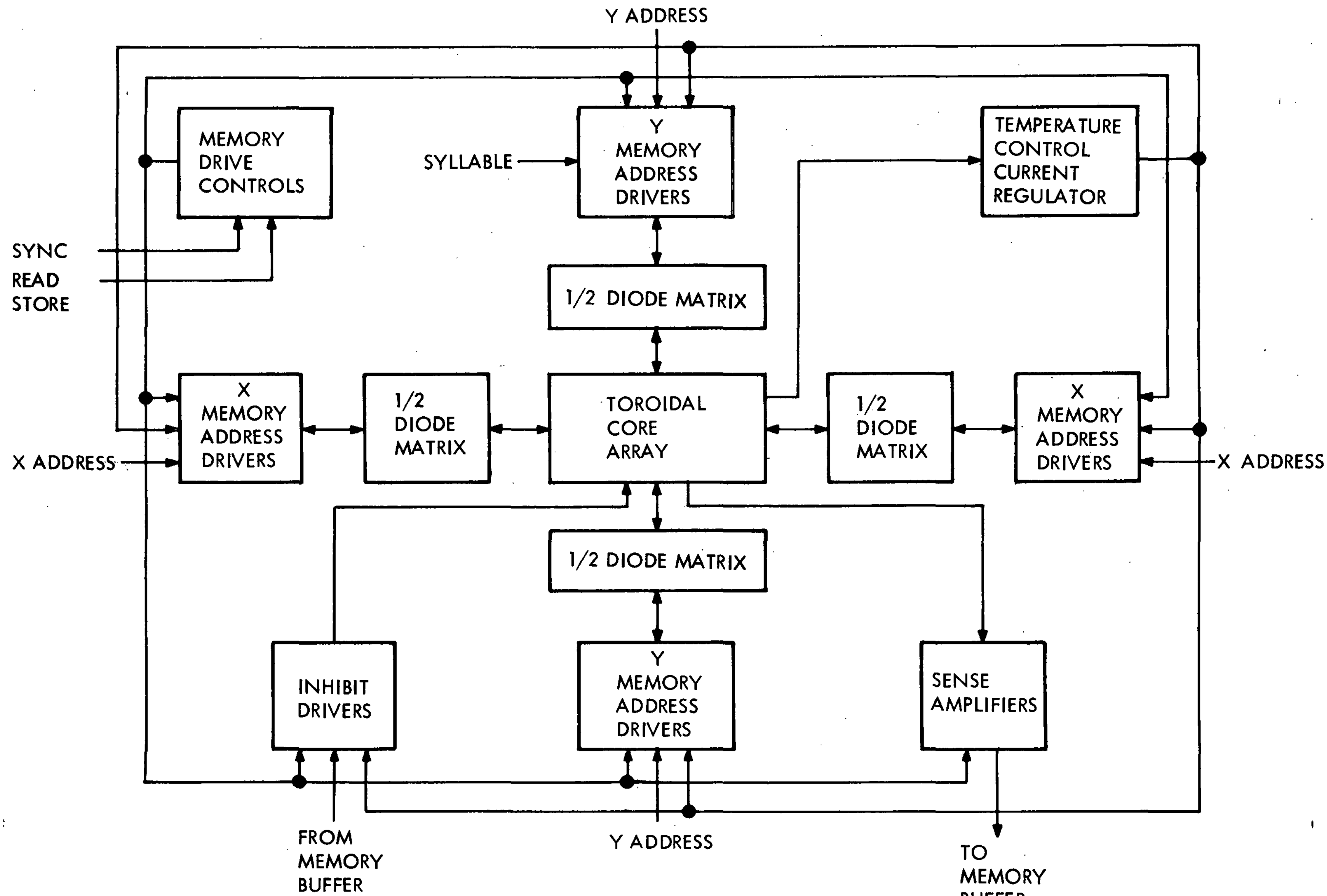



Figure 2-20. Memory Module Block Diagram

2-110. If a store cycle is required, the timing pulses produced by the memory clock drivers reverse the polarity of the memory address driver outputs. The memory address drivers then attempt to drive all the addressed cores to "1's"; however, the store pulses are also routed to the inhibit drivers. Any inhibit drivers conditioned by "0's" in the memory buffer register will produce an output opposing the Y drive current. Inhibited cores feel only the X half-select current and, therefore, remain in the "0" state.

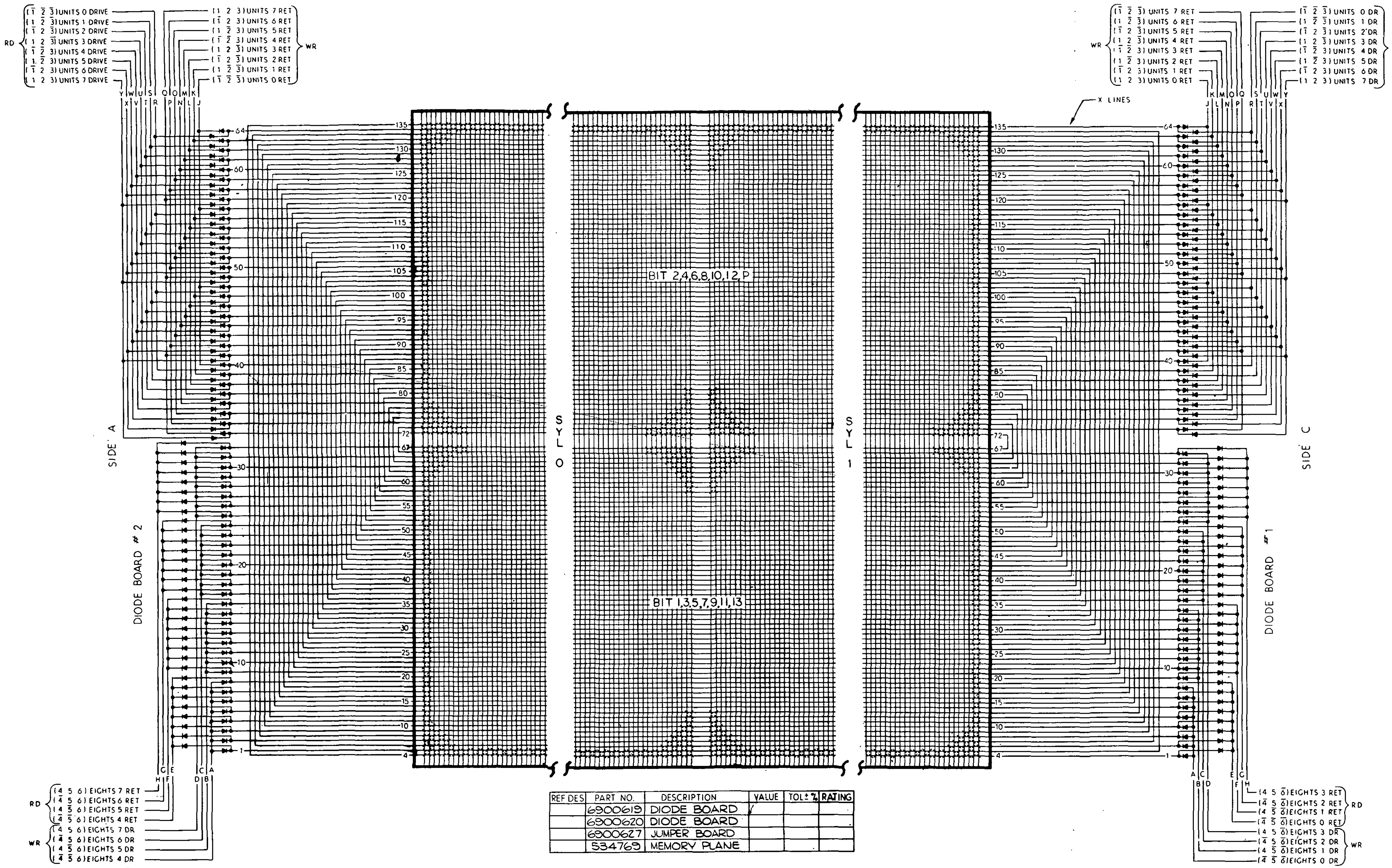
2-111. Core Array. A memory module is built around a torodial core array with a capacity for storing 4,096 28-bit Central Processor words. The core array, figure 2-17, is a stack of 16 memory planes, 128 cores wide and 128 cores long. Each plane stores two bits of information, an odd bit and an even bit, for every location of the two syllables into which the Central Processor is divided. The array is electrically split into two 8 plane modules. The modules are stacked one on the other and are physically and electrically independent of each other. Each array is described as being divided into syllables, and the two halves of the array are called "Syllable 0" and "Syllable 1". Each syllable contains 4,096 14-bit locations which are defined by the X and Y drive lines passing through them.

The Y drive lines are connected between sides B and D of the planes and are numbered as shown on figure 2-21. The X drive lines are connected between sides A and C of the planes and are assigned specific numbers also. The Y drive lines as decoded determine syllable usage. Thus syllable selection is a part of the memory addressing scheme. Also wound through each plane are four sense windings and four inhibit windings. The sense windings run parallel to the X drive lines, and the inhibit windings run parallel to the Y drive lines.

2-112. Short pins protruding from all sides of the planes facilitate connections to the planes and interconnections between planes. The sense and inhibit windings are connected to pins, four pairs per plane, as shown on figures 2-16 and 2-19. Drive lines enter plane 1 from diode boards, and are then jumpered to plane 2. After passing through plane 2, they are jumpered to plane 3. In a similar fashion they weave their way down through plane 7. The lines exit plane 7, circle around via jumper boards, re-enter the plane on the same side, and weave their way up through the 7 planes. The drive lines exit plane 1 and are connected to the diode board.

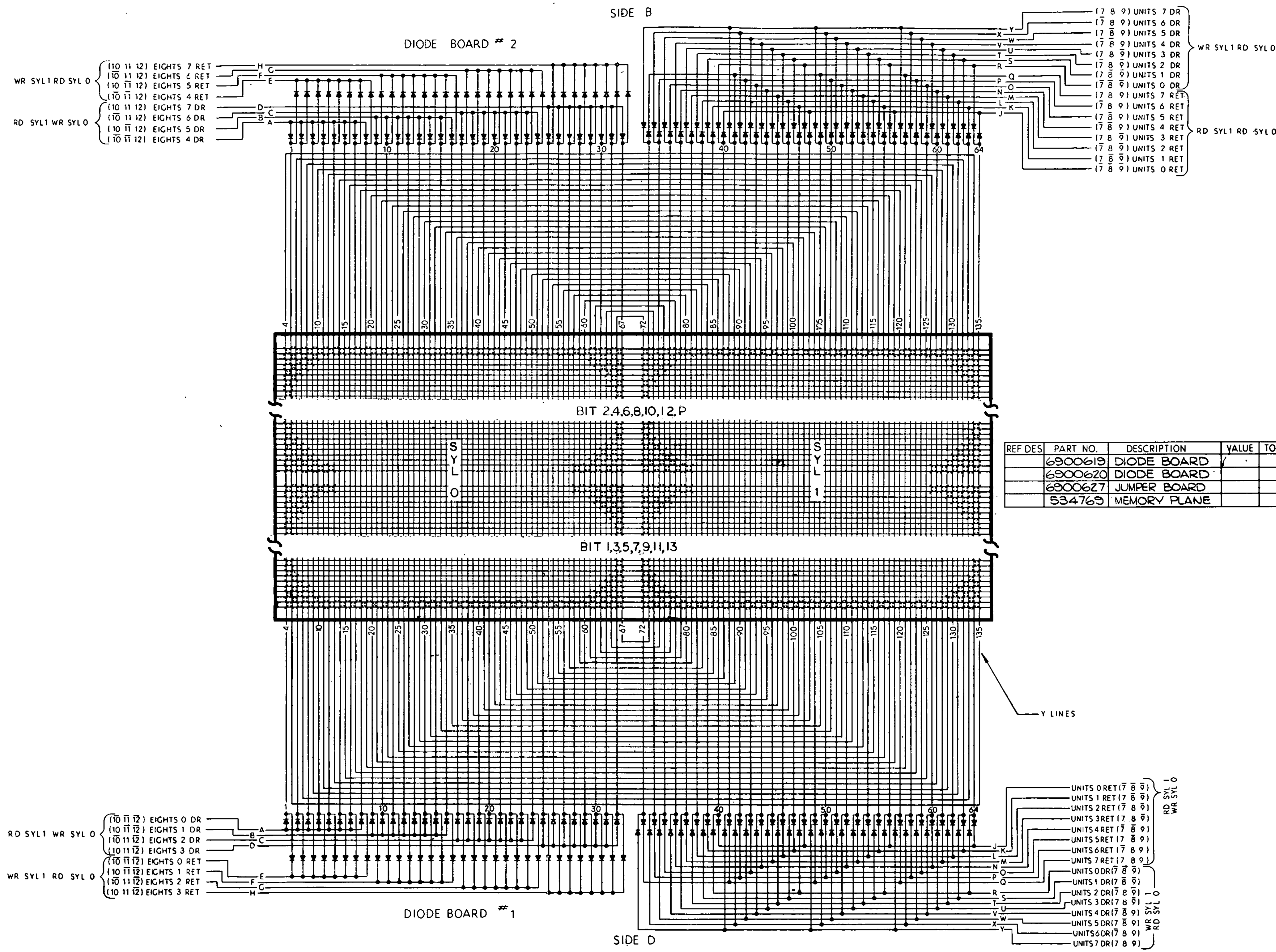
2-113. To reduce congestion, adjacent drive lines enter from opposite directions. Thus drive currents in adjacent lines flow in opposite directions. (See figure 2-21.) The four pairs of inhibit windings then enter the planes at one side; each pair weaves it way back and forth through one quadrant of the plane. (See figure 2-19.) Consequently inhibit current reverses direction with each pass across a quadrant of the plane so as to always oppose Y drive current in that quadrant during store cycles. Drive current for both X and Y is provided by the memory address drivers; the direction of the drive current is controlled by the memory drive controls.

2-114. Memory Control. (See figure 10-28, sheet 25, and timing charts, figures 2-22, 2-23, 2-24 and 2-25.) Memory has the capability of performing four operations: reading syllable 0, reading syllable 1, writing syllable 0 and writing syllable 1. The read-write operations begin with the memory control circuits. A latch output level which starts all read-write operations is the SINK level. The SINK latch is set when initiating a read-memory during instruction time (A-13-Y time) or a read-memory during operation time (B-2-Y time or C-2-Y time), providing the read level (-Y RD) is present. The read level is present during memory operate (MOP) time when the operation decoded is not a store operation. The SINK latch is set when (1) initiating a write-into memory for storing into syllable 1 during A-2-Y time or (2) storing into syllable 0 during




| REF DES | PART NO. | DESCRIPTION | VALUE | TOL ± % | RATING |
|---|---|---|---|---|---|
| | 6900619 | DIODE BOARD | | | |
| | 6900620 | DIODE BOARD | | | |
| | 6900627 | JUMPER BOARD | | | |
| | 534769 | MEMORY PLANE | | | |

Figure 2-21. Memory Array Diode Jumper Schematic (Sheet 1 of 2)




| REF DES | PART NO. | DESCRIPTION | VALUE | TOL ± % | RATING |
|---|---|---|---|---|---|
| | 6900619 | DIODE BOARD | | | |
| | 6900620 | DIODE BOARD | | | |
| | 6900627 | JUMPER BOARD | | | |
| | 534765 | MEMORY PLANE | | | |

Figure 2-21. Memory Array Diode Jumper Schematic (Sheet 2)

C-2-Y time (3) or to force syllable 1 to zeroes during C-12-Y time. A read SINK is developed during memory operate at A-7-Z time for reading an instruction out of memory; during memory operate, a write SINK is developed at A-Z-10 time for restoring the instruction back into memory. A read or write SINK is initiated during memory operate and B-12-Z time either to read data from syllable 1 or to force syllable 0 into a store zeroes condition.

2-115. Memory operate (MOP) is a conditioning level which allows memory to operate. The absence of MOP causes memory timing to be inhibited. The MOP level is present at all times except when any one of seven gates (see figure 10-28, sheets 25 and 8) is conditioned. The gates are conditioned as follows:

1. When a change data sector (CDS) instruction, a transfer if minus (TMI) instruction, or a shift (SHF) instruction (OP1 NOT, OP3 and OP4) is decoded.

2. When in computer single step (CST) at 6 through 13 A time. (Instructions are prevented from being read.)

3. When in memory load (RUN NOT) at 6 through 13 A time. (Instructions are prevented from being read.)

4. When an interrupt (INT) is programmed at 6 through 13 time.

5. When a HOP is programmed during memory load.

6. When the operation code for an absolute transfer (TRA = OP1 NOT, OP2 NOT and OP3) is decoded.

7. When the operation code for a transfer if not zero (TRZ = OP1 NOT, OP2 NOT and OP4) is decoded.

2-116. During self-check, the FREE RUN SS level allows generation of MOP so that memory timing checks can be performed.

2-117. MEMORY MODULE SELECTION. Memory module selection circuits select data or instructions from a specified memory module. Data module and instruction module latches under control of the processor determine which module will be selected for data and instructions. Either memory module A or memory module B is started by means of a SYNC A or SYNC B starting pulse. (See figure 10-28, sheet 25.)

2-118. SYNC B is developed from either of two gates. One gate is conditioned by the output of the data module latch (DM1) during operation time (PAD, i.e., phase A delayed time). The gating level of SYNC B is a latch output which occurs from W to Z time with each SINK.

2-119. The other gate is conditioned during instruction time (PAD NOT) providing the residual sector is not selected (A9 NOT) when reference is made to memory B for an instruction word (IM1). The gating level in this case is the same as above, i.e., a latch output which occurs from W to Z time with each SINK.

2-120. SYNC A is developed similarly to SYNC B. The only difference is that the conditioning levels for selecting memory module A sync (sync A) are either DM0 or IM0 latch outputs. A case unique only to memory A is the development of a SYNC A when the residual sector is selected by address Bit A9 during operate time (PAD NOT). The gating level is the latch output which occurs from W to Z time with each SINK.

2-121. Memory Drive Controls. The Memory Drive Controls cause generation of timing pulses which gate information in and out of the array. During read cycles, read current pulses are gated out of the memory address drives and the sense amplifiers are strobed at the proper time. During the store cycle, pulses of store current are gated out of the memory address drivers and the selected inhibit drivers are turned on and off. Included in the memory drive controls are a binary counter which develops a read or write gate (RD-WRA) and an inhibit gate (INHIBIT GATE), five memory read or write delay circuits for proper sequencing of selection circuits, and a strobe gate. (See figure 10-28, sheets 24 and 27.) These circuits produce a series of read timing pulses and a store pulse sequence. A read memory (RDM) latch output (figure 10-28, sheets 25 and 24) in the Memory Control Element determines whether a read gate or write gate will be activated by each SYNC pulse.

2-122. Operation of a read cycle and a write cycle is identical, except for the strobe gate which applies only to read. Figures 2-22, 2-23, 2-24 and 2-25 show the timing of a read cycle, a write cycle and a strobe cycle. A memory cycle is initiated when the SYNC pulse starts the binary counter which produces a read or write gate (RD + WR). The read or write gate develops read or write delays. (See figure 10-28, sheet 24.) The read or write delays when gated by the read gate (RD GATE) control the timing and pulse width of the "read current" by timing the memory drivers on and off. The strobe gate, STROB, (figure 10-28, sheet 27) enables the memory sense amplifiers to sense the output of the cores at the proper time. The STROB output is normally a "1" level and is momentarily switched to "0" by the positive transition of the 2.25 read or write delay (RD + WR DLY 2.25) during sense amplifier enable time. When the outputs of the cores are not to be sensed, i.e., during a store operation, the inhibit strobe (STROBE INH) signal is enabled. When STROB INH is a "1" the strobe gate produces no output; consequently the memory sense amplifiers are not enabled and do not sense the core outputs. If a store cycle is required, the SYNC pulse starts the binary counter which produces the RD + WR gate. The RD + WR gate is developed just as in the read cycle. A write gate (WR GATE), however, controls the timing and pulse width of the write (store) current. Like the read, the memory address drivers are turned on and off. There is however a reversal of polarity of the memory address drivers, producing "store current" instead of "read current".

2-123. SYLLABLE SELECTION. (See figure 10-28, sheets 25 and 26.) The syllable select circuits determine which syllable of the memory will be addressed with each memory cycle. Syllable selection is determined by the SYL1 latch. The SYL1 latch is controlled by four gates in the sequence as follows:

1. A C-6-Z time the SYL1 latch is set which forces selection of SYL1.

2. At the following A-6-Y time the SYL1 latch is reset, if the syllable 1 control latch (SYLC1) is reset. SYLC1 if reset allows reading of instruction from syllable 0. If the SYLC1 latch is set at A-6-Y time, an instruction is read from syllable one.

3. At the following A-13-Y time, SYL1 latch resets or remains reset if already in the reset state. This allows syllable zero to be selected for a data read or store operation.

4. At the following B-6-Z time, if reading from memory (read level present) SYL1 latch is set and syllable one selected. If a store operation is underway syllable zero remains selected since SYL1 latch was previously reset.

5. At C-6-Z time, forced selection of syllable one is effected and the sequence of syllable selection is started again.

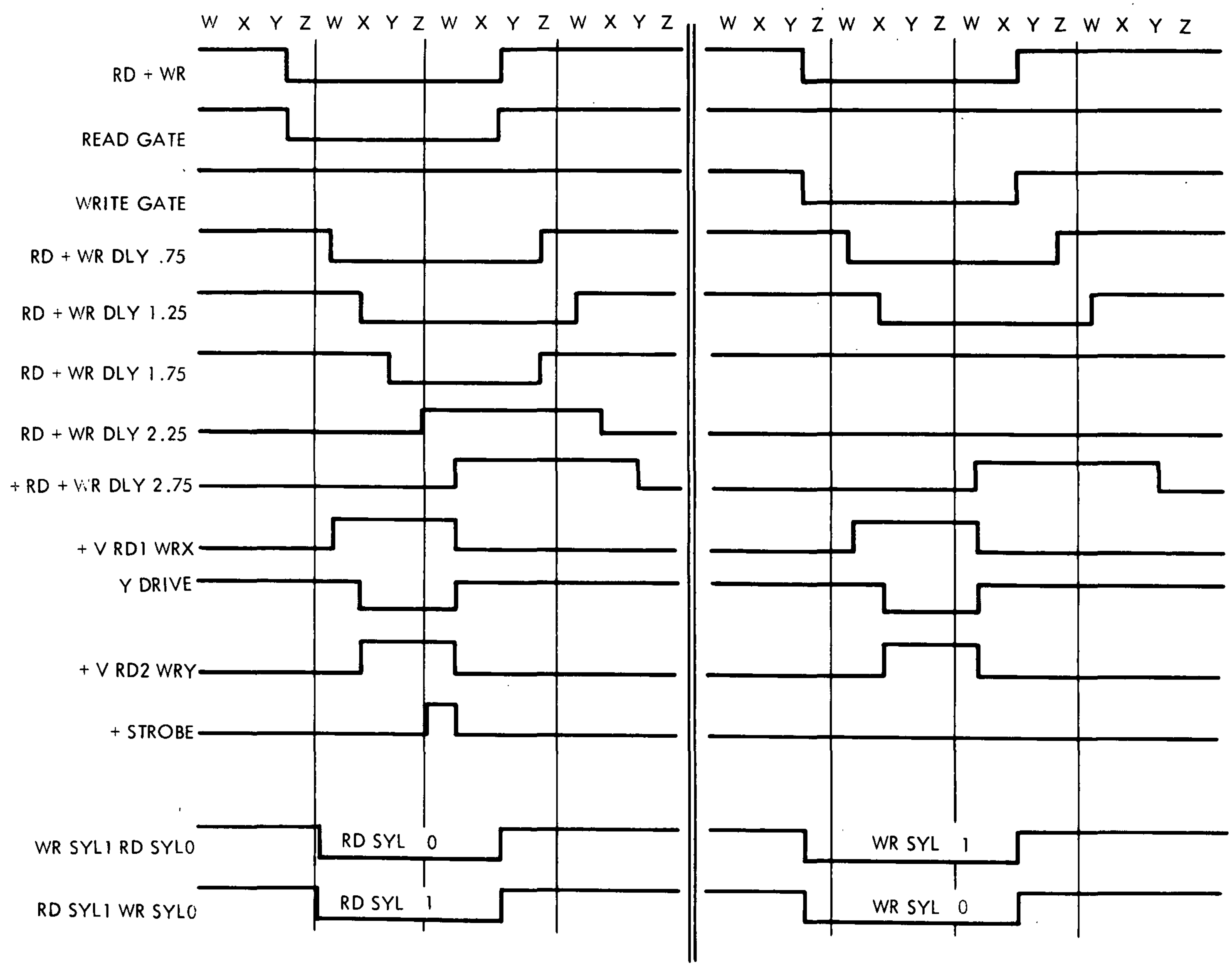



Figure 2-22. Memory Timing

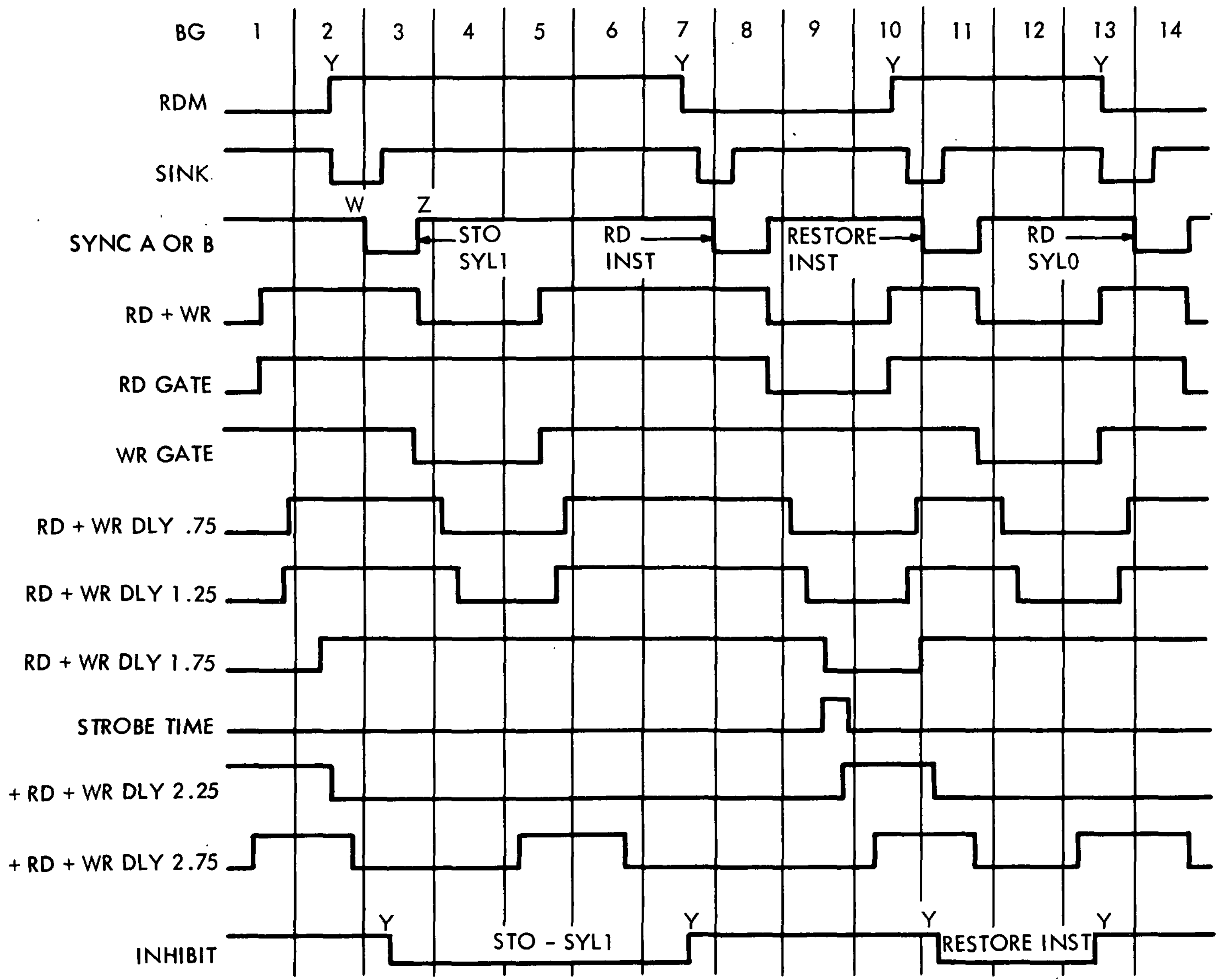



Figure 2-23. Central Processor Phase A Memory Timing

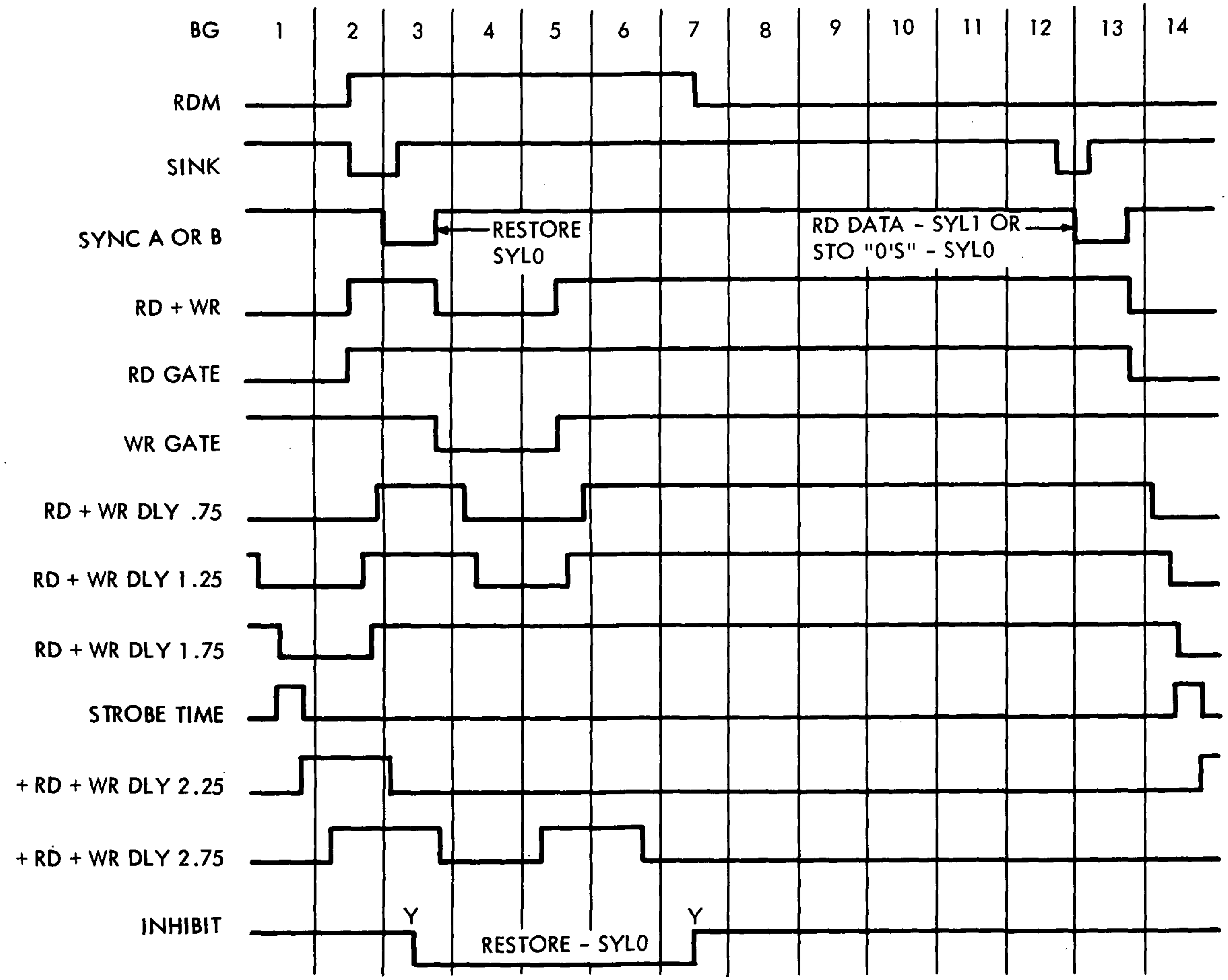



Figure 2-24. Central Processor Phase B Memory Timing

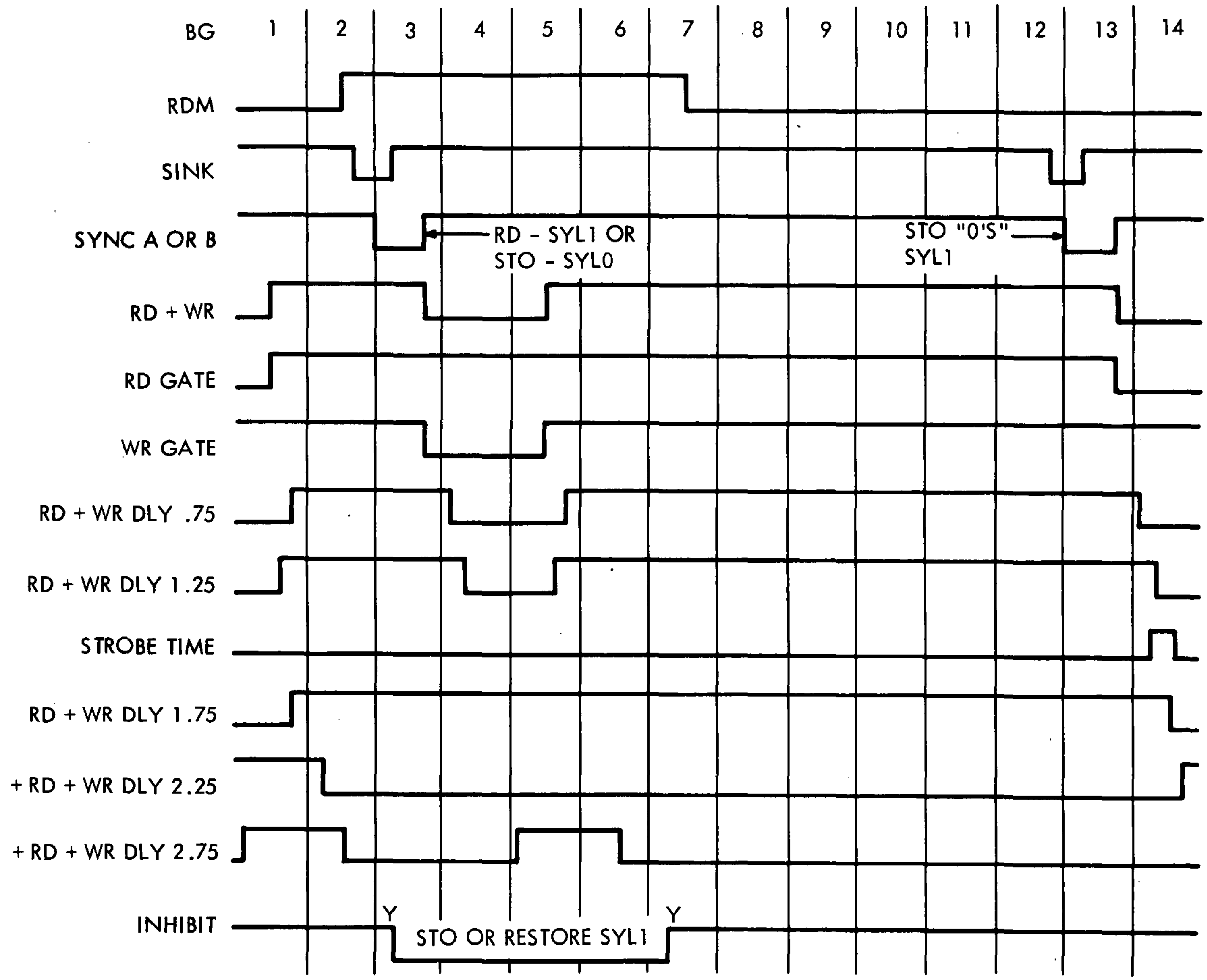



Figure 2-25. Central Processor Phase C Memory Timing

2-124. The syllable select latch outputs are ANDed with the read and write gates to form the memory drive controls. (See figure 10-28, sheet 26.) The memory drive control levels, write syllable 1 - read syllable 0 (WR SYL1 RD SYL0) and the read syllable 1 - write syllable 0 (RD SYL1 WR SYL0) for either memory A or B are developed as follows:

1. WR SYL1 RD SYL0 is developed when either the SYL1 latch is set coincident with the write gate (WR GATE) or when the SYL1 latch is reset coincident with the read gate (RD GATE).

2. RD SYL1 WR SYL0 is developed when either the SYL1 latch is set coincident with the RD GATE or when the SYL1 latch is reset coincident with the WR GATE.

2-125. MEMORY ADDRESSING (See figure 2-26.) - Random access to memory's contents facilitates variation in the programmed instruction sequence and processing similar data with a common program sub-routine. The system for specifying the location of information in the memory is the addressing scheme. A complete memory address specifies a memory module, a syllable within a module, a sector within the syllable and a location within the sector. The syllable selection applies to both modules, the sector address applies to both syllables of both modules, and the location address applies to all sectors of both syllables of both modules. But this is not yet a true picture of the memory addressing scheme because modules are not addressed in the usual sense. Instead a sector address and location address are combined in the memory address decoders to develop X-Y coordinate selection signals. These signals along with syllable selection signals, are applied to the memory address drivers of each module. The module is addressed by routing the sync impulse which initiates a memory cycle to only the selected module. Module SYNC selection has been previously described and the remainder of this discussion is limited to correlating the sector and location addresses to the X-Y coordinate of the array.

2-126. Two 4-bit registers in the processor store separate sector addresses for instructions and data words. The instruction sector register is used during instruction time and the data sector register during operation time. The content of these registers is changed at intervals in the program by special instructions located at appropriate points in the instruction sequence. The sector register latch outputs provide gated control levels which develop into A10, A11 and A12 memory address bits and augment a single 9-bit address register thereby selecting individual locations within the selected data or instruction sector. The address register is loaded twice per Central Processor cycle, once at the beginning of instruction time and again at the beginning of operation time.

2-127. The memory address decoders combine memory address register bits 10 through 12 (MAR10-12) developed from instruction sector, data sector and memory address registers in four 3-bit groups to form octal selection signals for the X-Y drivers. Figure 2-27 shows how the two addresses are combined and which set of X-Y drivers is selected by each 3-bit group. In the Lo X and Lo Y groups, octal values 0 through 7 select X and Y drivers 0 through 7 respectively; in the Hi X and Hi Y groups, the same values select X and Y drivers 00 through 70 respectively.

2-128. Notice that bit A9 of the memory address register overlaps the entire sector register in figure 2-27, part A. Bit A9 is a special purpose bit which provides the option of addressing data for one instruction from the residual sector instead of the preselected data sector. Because of its purpose, A9 is sometimes called the "residual bit". A "1" in bit A-9 appears to the memory address decoders as though the data sector register contained all "1's"; this overrides the registers actual content. The A9 option

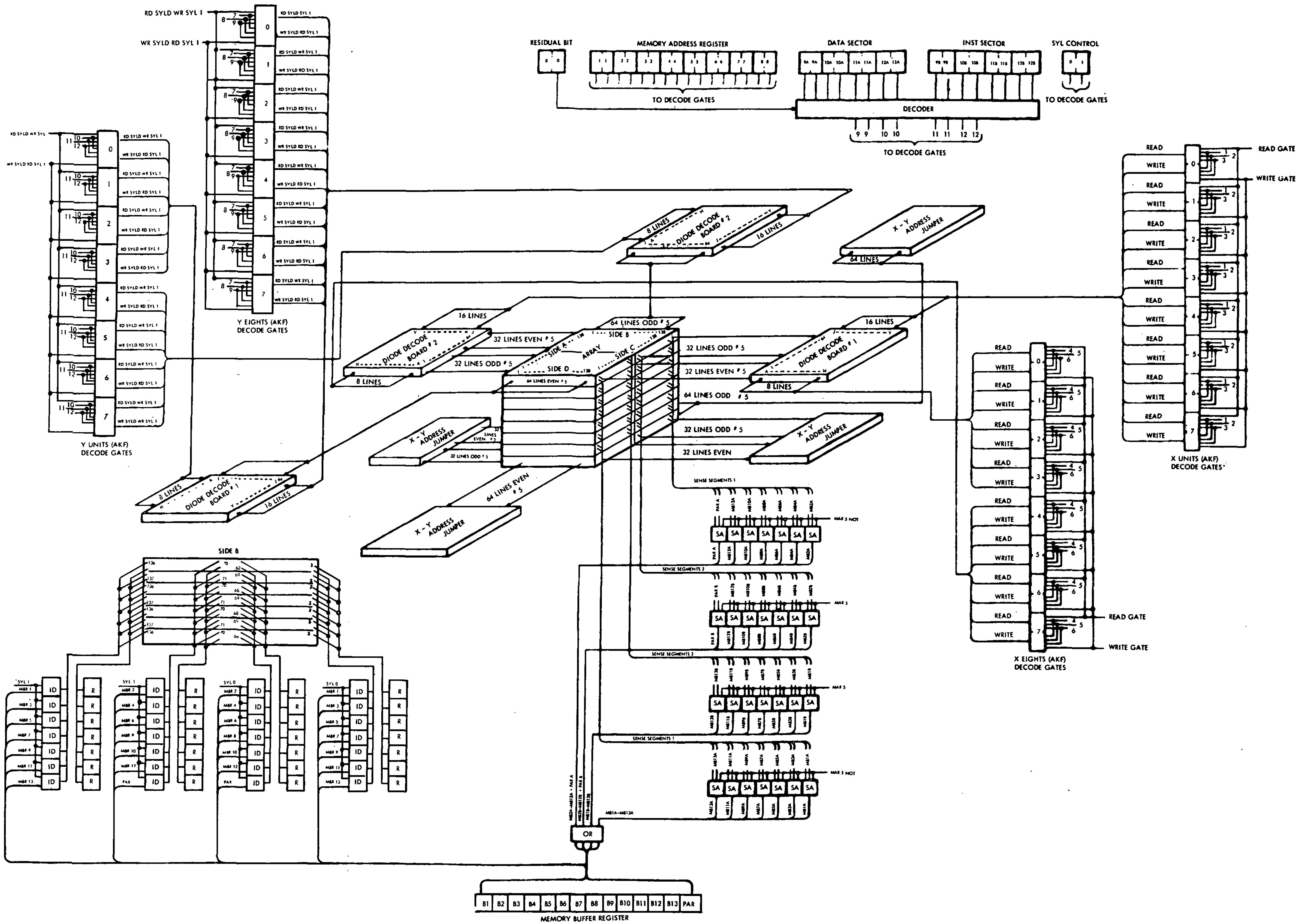
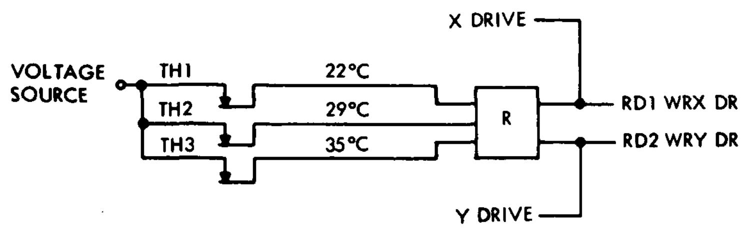



Figure 2-26. Central Processor Memory Block Diagram

| REGISTER | SECTOR ADDRESS | | | | LOCATION ADDRESSES | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MEMORY ADDRESS REG | A9 | | | | A8 | A7 | A6 | A5 | A4 | A3 | A2 | A1 |
| SECTOR REG (IS/DS) | MAR12 3 | MAR11 2 | MAR10 1 | 4 | | | | | | | | |
| X-Y DRIVERS | HI Y | | | LO Y | | | HI X | | | LO X | | |

PART A - MEMORY ADDRESS DECODING




PART B - TEMPERATURE CONTROLLED CURRENT REGULATOR

Figure 2-27. Address Decoding and Drive Current Regulation

is not available for addressing instructions; however, instructions can be read from the residual sector by selecting it with the instruction sector register. Similarly, the residual sector can be selected by the data sector register but this defeats the purpose of the A9 bit.

2-129. Both syllables of the array are identically divided because syllable selection is independently controlled and constitutes a separate facet of memory addressing. The sectors in each syllable are assigned the octal addresses 0 through 17; sector 17 in memory module 0 is designated the residual sector. Every sector is made up of 400 octal addresses, and all but the residual sector are assigned the same set of addresses, 0 through 377. The locations in the residual sector are assigned addresses 400 through 777.

2-130. The addresses assigned to the residual sector seem to contradict figure 2-27. But, in the figure, address bit A9 is excluded from the location address in order to show its correlation to the sector register. Thus, addresses 400 through 777 exceed the capacity of the bits which specify the location address. However, each instruction contains a 9-bit operand address and it is convenient to consider all nine bits in describing data addresses. Thus the addresses in the residual sector become 400 through 777.

2-131. MEMORY ADDRESS DECODERS - (See figure 10-28, sheet 23.) The memory address decoders process memory addressing signals from the processors program control and data control sections, into conditioning levels for the memory address drivers. These conditioning levels originate in the 9-bit memory address register (MAR1 through 9) and the two 4-bit registers, instruction sector and data sector registers. The nine latches in the memory address register reflect gated transfer register bits for selection of data addresses. MAR9 latch of the memory address register has other controls. These controls are inputs IS4 and DS4 which are the high-order bits of the instruction and data sector registers, respectively. Input IS4 is sensed at A-7-Z time con-current with the instruction address transfer, and DS4 is sensed at A-13-Z time with the operand address transfer.

2-132. The three least significant bits of both sector addresses are developed into the hi-order octal selection bits of the Y-coordinate (MAR10, MAR11, MAR12 and inverses). Inputs are selected from the instruction sector register during instruction time and from the data sector register during operation time. During operation time (PAD NOT) when the residual sector is not selected (A9 = 0), DS1, DS2 and DS3 or their inverses are gated to form decode levels MAR10, MAR11 and MAR12 or their inverses, respectively. During instruction time (PAD), IS1, IS2 and IS3 or their inverses are gated to form decode levels MAR10, MAR11 and MAR12 or their inverses, respectively. When address bit A9 is a "1" during instruction time, MAR10, 11 and 12 bits are forced to "1" for residual sector selection regardless of contents of data sector latches.

2-133. Each MAR bit and its inverse is an input to a power inverter (figure 10-28, sheet 29) which has four outputs. Two outputs go to driver circuits and two to return circuits for X and Y drive line selection.

2-134. Memory Address Drivers. The Memory Address Drivers develop the X and Y drive currents and provide a means for selecting X and Y drive lines. Thirty two composite circuits represented as OR circuits on figure 10-28, sheet 29, are divided into two groups. There are 16 for X and 16 for Y, which implement a coincident current addressing scheme. Each group drives through a diode matrix (figure 2-21) to maintain isolation between drive lines. The memory address decoders develop the selection signals which condition an X drive and return circuit and a Y drive and return circuit at one time. The output of an X or Y driver is a "1" when all inputs are "0", and the output of an X or Y return is a "0" when all inputs are "0". When selected, the drivers produce coincident pulses of either read or store current through one X and one Y drive line. The five inputs to the memory address drivers are the memory address register bits (MAR and MAR NOT) and the memory drive control gates (read and write).

2-135. The logical layout of the PTC memory drive lines is illustrated on figure 2-28. When decoded, bits 1, 2 and 3 of the memory address register select $10_8$ X drive lines in both the even and odd half of memory. The next three bits decoded (4, 5 and 6), select one X drive line in both the even and odd halves of memory. The $10_8$ X lines selected are called the units drive lines while the single line selected as a result of the higher bits decoded is called the eights selection. The eights X drive line completes the path for current flow with one of the selected units X drive lines. It is readily seen that there are therefore 100 octal (0 through 77) X drive line selections possible in each half (odd and even) of memory. There are four gates originating in the memory timing controls which control X drive line selections for either reading or writing. They are the write syllable 1 - read syllable 0 gate (WR SYL1 RD SYL0), the read syllable 1 - write syllable 0 gate (RD SYL1 WR SYL0), the read 1 - write X gate (RD1 WRX DRIVE) and the read 2 - write Y gate (RD 2 WRY DRIVE). These gates are discussed in later paragraphs.

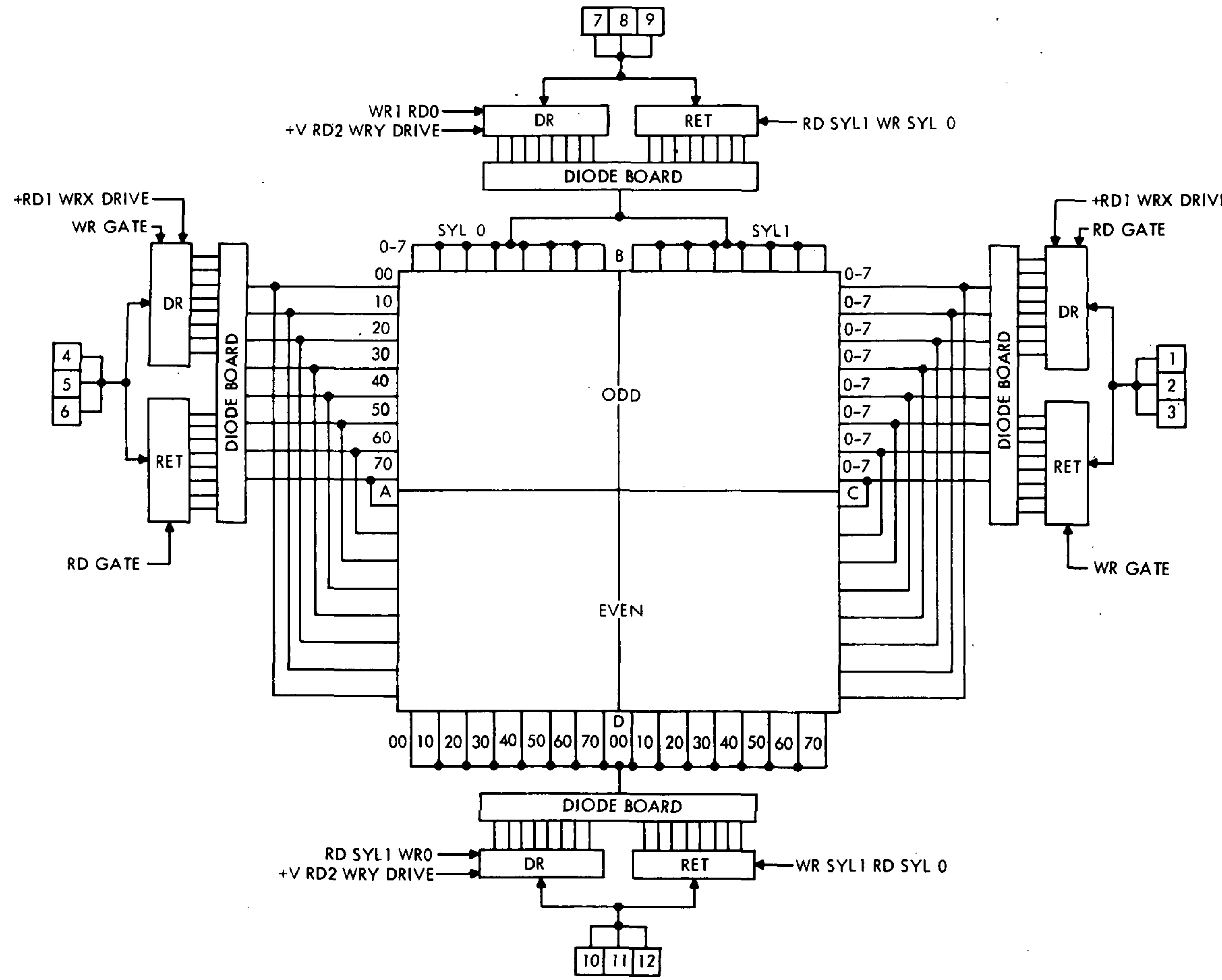



Figure 2-28. Logical Layout of Memory Drive Lines

2-136. The units and eights method for selecting Y drive lines is the same. Memory address register bits (7, 8 and 9) and (10, 11 and 12) are used for units and tens drive line selections respectively. There is however a major variation. Instead of odd - even bit selection, syllable selection (either 1 or 0) is made through the Y selection gates. The syllables are selected as a result of control gates which have their origin in the memory timing controls. They are the write syllable 1 - read syllable 0 gate (WR SYL1 RD SYL0), the read syllable 1 - write syllable 0 gate (RD SYL1 WR SYL0), and the read 2 - write Y gate (+URD2 WRY). (To be discussed later.)

2-137. In both the X and Y drive lines, read current flows in the opposite direction to write current. This allows selections of the same cores using the same drive lines but different drive sources. Figure 2-29 illustrates core selection for address location 00 during both read and write. The two selected cores in address 00 are in the corners of the plane where X and Y drives intersect. Note that the current flows from the return (RET) to the driver (DR) in every case and that half currents (in both X and Y) in the two corner cores are aiding while the coincident currents in the other two cores are opposing thereby cancelling each others effect. All other cores shown are half-selects.

2-138. Core locations for addresses that follow in the next higher order are not in close proximity to those in address 00. If it is desired to find the physical location of the cores in other address locations, find the X and Y drive lines (figure 2-21) from the decoded memory address bits. The locations where X and Y drives intersect and their currents are aiding reflects the address selected cores.

2-139. Temperature Controlled Current Regulator. (See figure 10-28, sheet 26.) The switching characteristics of ferrite cores are subject to change with variations in temperature. The temperature controlled current regulator continuously adjusts the X and Y driver output current to the optimum value for the temperature in the array. A shunt resistance (R) is controlled by thermal switches, which effectively changes the value of current supplied by the 40 watt current source. Decreases in memory ambient temperature require increases in drive current. As the temperature decreases, three resistors are successively shunted across a 40 watt current limiting resistor via thermal switches TH1, TH2 and TH3, thereby decreasing its resistance and permitting more current to flow. Thermal switches TH1 - TH3 open successively as the temperature increases thereby effectively increasing the resistance which decreases the drive current. (See figure 2-27, part B.)

2-140. The current developed passes through the selected X and Y drive lines at the times dictated by the read - write delays. The X drive current, called read 1 write X drive (RD 1 WRX DRIVE), starts earlier than the Y drive current (RD2 WRX DRIVE) to eliminate possible noise from simultaneous starting of X and Y drive currents.

2-141. Inhibit Drivers. The Inhibit Drivers facilitate storing each bit of an addressed memory location separately, by preventing cores which are to contain "0's" from being switches to "1's". Twenty-eight inhibit drivers (four per plane), such as the one shown in figure 2-30, are provided to drive the seven active planes of each memory array. During store or restore cycles, inhibit drivers conditioned by "0's" in the memory buffer registers develop current pulses equal in magnitude but opposing the Y half-select current. Memory timing causes inhibit drivers to turn on and off so that inhibit current overlaps the Y drive current. Thus, addressed cores in inhibited planes supply only the X half-select current and are not switched.

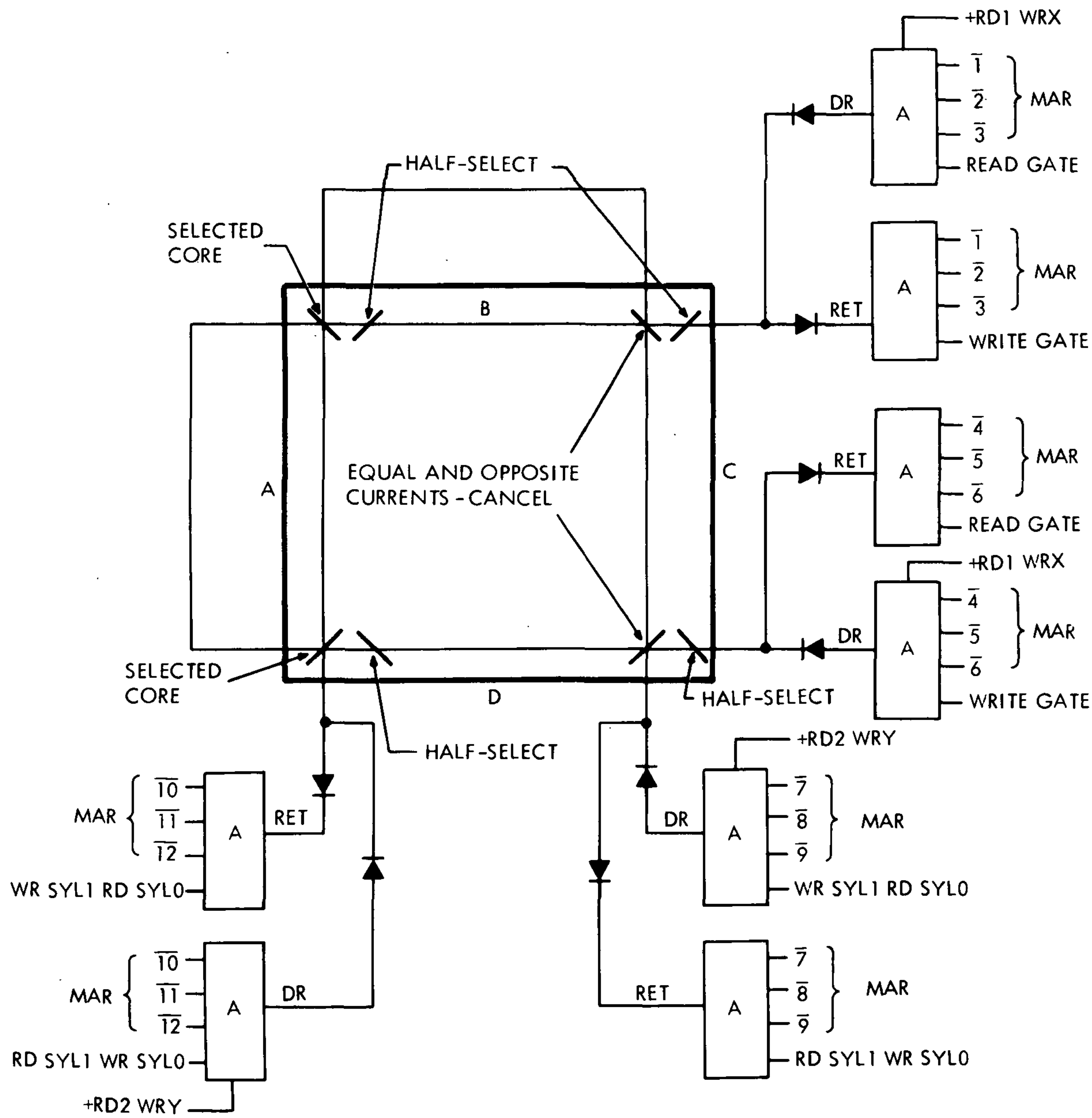



Figure 2-29. Core Selection for Location 00 During Read and Write

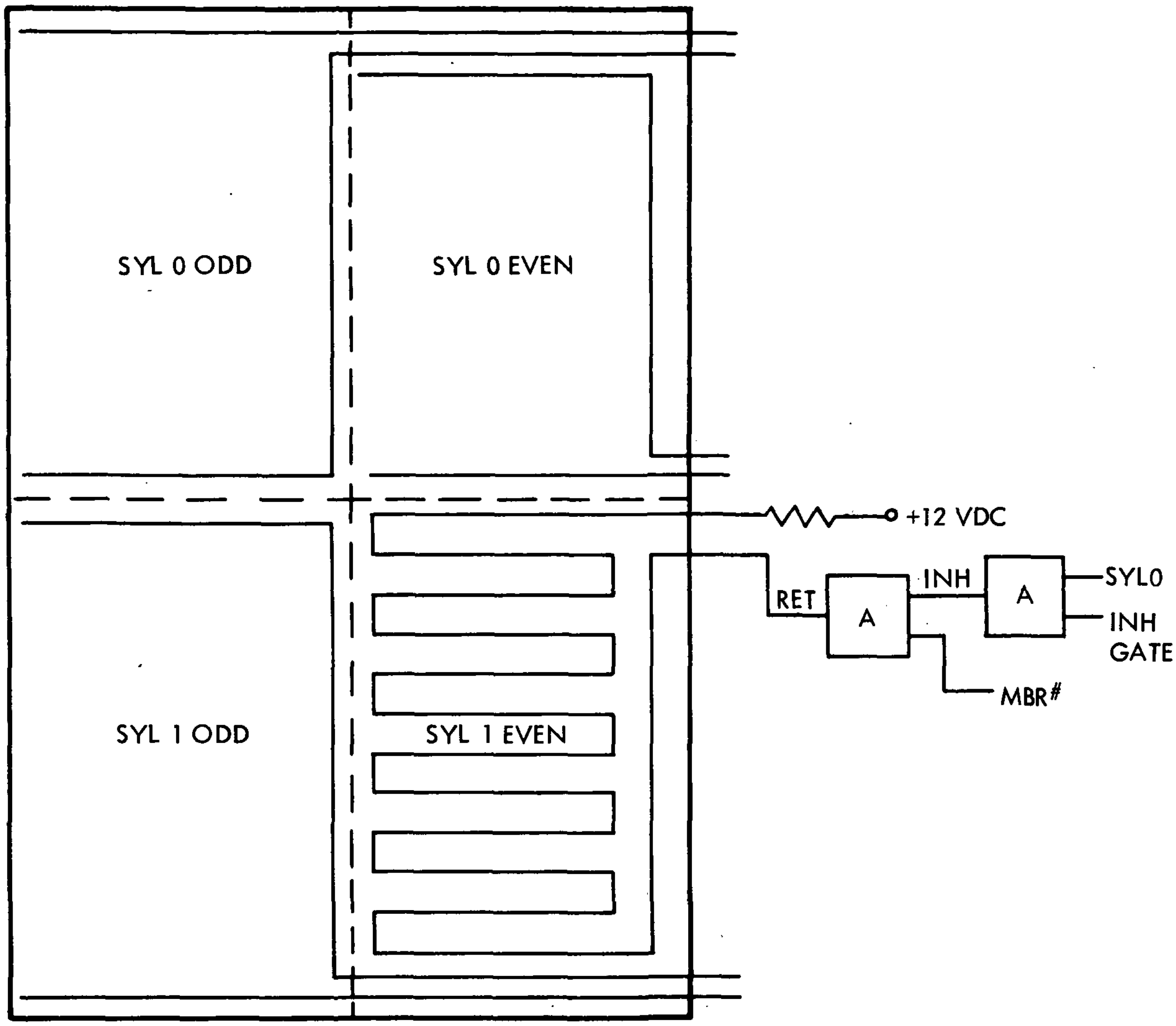



Figure 2-30. Inhibit Winding and Driver

Two signals condition an AND circuit which controls the turning on of each inhibit driver. They are the memory buffer register latches (bit = "0") and an inhibit (INH) level developed from memory timing controls. The INH level occurs for the syllable selected when the INHIBIT GATE is present. The INHIBIT GATE, a latch output level, is developed at each SYNC and Y time prior to the setting of the RD+ WR latch. (See figure 10-28, sheets 24 and 27 and figures 2-23, 2-24 and 2-25 for inhibit circuits and timing.) The INHIBIT GATE latch is reset every read memory time; therefore, an inhibit operation can take place only during a write time.

2-142. Memory Sense Amplifiers. (See block diagram, figure 2-26, for the overall sense amplifier scheme and figure 10-28, sheets 27 and 28 for particulars.) The memory sense amplifiers discriminate between "1's" and "0's" at the outputs of the memory plane segments sense windings. A separate memory sense amplifier (figure 2-31) is provided for each of the four segments of each plane of the array; thus, each bit of each syllable is sampled individually. Upon sensing a "1" in the sense winding, the memory sense amplifier delivers a timed output to the memory buffer latch corresponding to the bit which was sensed.

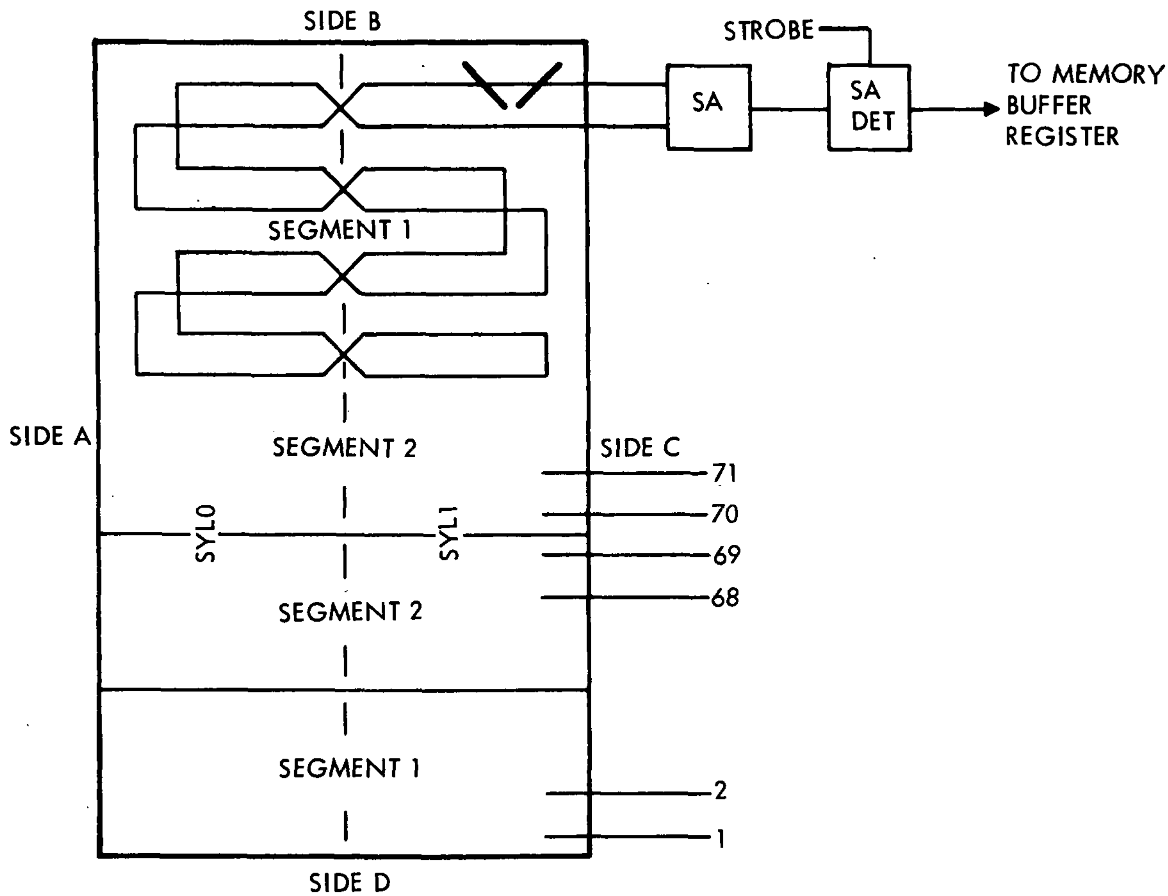



Figure 2-31. Memory Sense Amplifier and Winding

2-143. The input stage to the memory sense amplifier is a differential amplifier (SA); thus the circuit senses both positive and negative "1" outputs from the sense winding when enabled by bit A5 for proper segment selection (A5 = "0" enables segment 1, and A5 = "1" enables segment 2). The outputs of the differential amplifier are coupled to an output switching stage which is controlled by the input of a strobe gate (SA STROBE). The output switching stage (SA DET) is a strobed Schmitt trigger that produces a "1" output only when its associated sense amplifier senses a "1" and the strobe input is a "0". The SA STROBE is an inverted and amplifier STROBE. STROBE is a "1" during coincidence of decoded store operation and the 2. 25 and 1. 75 RD+ WR DLY.

2-144. Memory Buffer Register. (See figure 10-28, sheet 21.) The memory buffer register is an intermediary register consisting of 14 latches which regulate information flow into and from the memory.

2-145. Computer memory readout is destructive: as data is read from the memory, the applicable memory bits are all driven to "0". The buffer registers hold the data read from memory long enough so that it can be read back in, thereby making the memory readout effectively non-destructive.

2-146. In addition to saving the memory from progressive obliteration, the memory buffer registers feed memory data to the transfer register and receive data to be stored in memory from the transfer register.

2-147. Each of the memory buffer latches is similar. A typical buffer latch with input controls and outputs is shown in figure 2-32.

2-148. Each memory buffer latch is controlled either manually or automatically (normal operation). The manual loading of the memory buffer register is a self-check device and its use is available only when the timing is stopped.

2-149. When manually selected, the memory buffer register switches (MBR SW#) on the CE PANEL condition set gates of the corresponding buffer latches. The condition of each buffer latch and associated manual selection switch is indicated by corresponding lamps on the CE PANEL. All previous information is cleared from the buffer by a buffer reset (MBRST) level. The MBRST, a positive level, is caused by the set output of a control latch together with a gating level which stops CE PANEL timing. The control latch is set when the LOAD switch (MEM LOAD SW) is pressed; the CE PANEL timing is stopped when the SINGLE PHASE switch is actuated. MBRST is inverted to form control buffer resets 1 and 2 (CBR1 and 2) which clear all of the memory buffer latches. When the LOAD switch is released, an AND gate is conditioned and the set memory buffer 1 and 2 (SET MBR 1 and 2) gating levels gate all of the selected switch information into the memory buffer register. At the same time, the reset buffer register level is removed. The first Y time after clock pulses start, the control latch is now reset causing the gating levels to be removed and the reset levels to be reapplied.

2-150. The buffer latches are set in two ways while operating automatically (normal operation). Transfer register bits (TR#) are gated into the buffer with a set buffer register level (SBR X, Y or Z). The set buffer register level is implemented only during a store operation during clock times X, Y or Z as shown on figure 10-28, sheet 21. A memory buffer register latch is also set whenever the output of the corresponding sense amplifier reflects a "1" level. The memory buffer register is reset every bit gate 6 time or A-14 time.

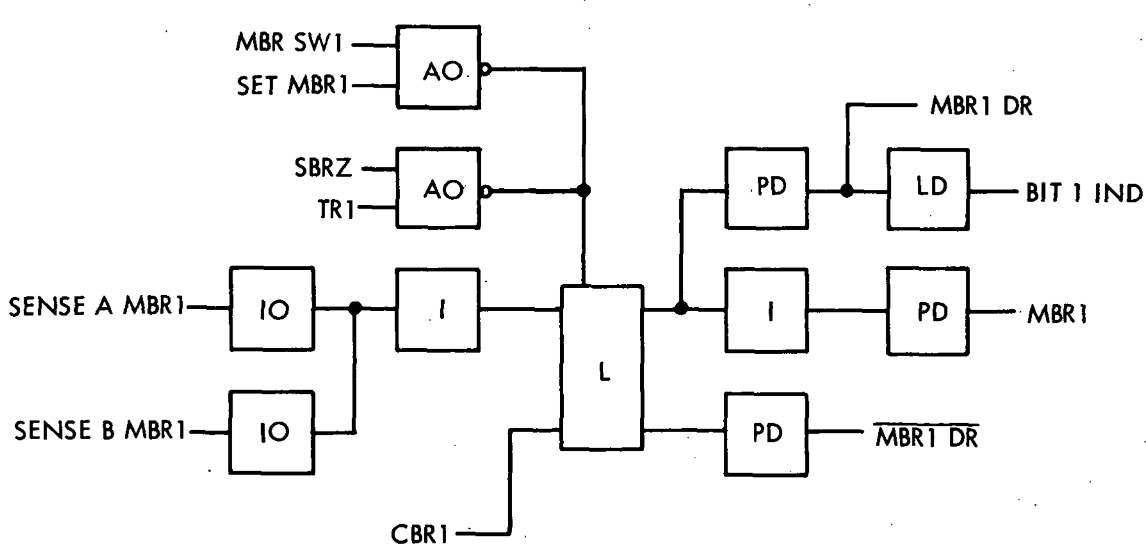



Figure 2-32. Typical Memory Buffer Latch

2-151. Each buffer latch has two outputs. The memory buffer drive (MBR #DR) goes to the transfer register and parity check circuits whereas the memory buffer output (MBR #) is applied to the inhibit drivers.

2-152. The condition of the memory buffer latches is displayed on the CE PANEL as previously described. Memory buffer register information can also be displayed on the PROCESSOR DISPLAY PANEL if desired. (See figure 10-28, sheet 23.) Buffer register or transfer register information is gated into the data lamps by memory buffer indicator inhibit not (MBR IND INH NOT) or transfer register indicator inhibit not (TR INDINH NOT) levels respectively. The generation of either of these two levels is developed by manually actuating alternate action switches: memory register switch (MEM REG SW) or transfer register switch (TR REG SW) on the PROCESSOR DISPLAY PANEL.

2-153. MEMORY PARITY CHECK. (See figure 10-28, sheet 22.) The memory buffer register, broken into four parts, is checked for odd parity by four parity detector circuits. The detector circuit outputs, called memory buffer register parity levels 1, 2, 3 and 4 (MBRL 1, 2, 3 and 4), are inputs to another parity detector circuit which finally determines total buffer register parity. (Typical parity detector circuits are described in detail in a previous paragraph and a diagram of a parity detector circuit is shown on figure 2-3.) When an even number of one's are detected the resultant is an error buffer register parity level (EAP) output. An EAP is checked for by a parity check latch. The checking time of the parity check latch is two clock pulses in duration at read memory time from A-10-Y, B-2-Y or C-2-Y times. If the error is coincident with the error check time, a PARITY ERROR latch is set and an error indicator lamp is lit on the CE PANEL.

2-154. DATA CONTROL ELEMENT LOGIC CIRCUITS.

2-155. TRANSFER REGISTER. (See figure 10-28, sheet 9.) The transfer register is a 13-bit shift register which receives from and sends inputs to the memory buffer register, arithmetic element, and the Memory Loader/Data Display. Figure 2-33 is a block diagram of the transfer register which consists of 19 latches connected in series. Serial inputs are applied to the TR1 latch and from there shifted bit-by-bit into the register. The serial inputs are DIN, HOPC1, and AI 1. DIN is the input from the Memory Loader. HOPC1 is the output of the automatic HOP save circuit and is gated into the transfer register for a STO $776_8$ or $777_8$ command (SSS). The 26 bit data word appearing on the AI 1 line is gated into the transfer register during a store operation unless the operand address is $776_8$ or $777_8$ (STACC). The instruction counter bits appearing on the AI 1 line are gated into the transfer register every central processor cycle from C-14 time to the following A-7 time.

2-156. Data is transferred in parallel into the transfer register from the memory buffer register (MBR1 DR through MBR13 DR). The data is transferred into the corresponding transfer register latches TR1 through TR13 at X time, except for latches TR2, TR4, TR7, and TR10 which have data shifted into them at Y time. These latches are loaded at Y time to avoid a double read-in.

2-157. The transfer register also receives parallel inputs from the external control element INTIME, and FORCE A1 through FORCE A4. These signals are generated during an interrupt operation and form a code which is loaded into latches TR5 through TR9. This action allows one of the residual addresses $400_8$ through $417_8$ to be loaded into the transfer register.

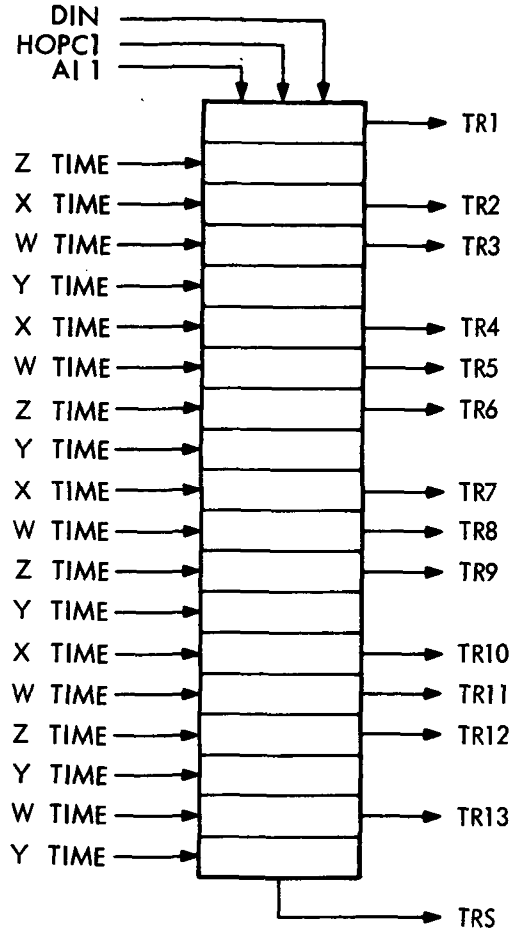



Figure 2-33. Transfer Register

2-158. TRANSFER REGISTER CONTROL LOGIC. (See Figure 10-28, sheet 8.) The transfer register control logic consists of the transfer register control latches SRTR, CLTR, and TBR, and the parity counter.

2-159. Transfer Register Control Latches. The control latches determine when data is shifted into, through, or out of the register (SRTR), when the register is cleared of data (CLTR), and when data is loaded into the register in parallel (TBR).

2-160. When the SRTR latch is set, data may be shifted into and through the register, or data in the register may be shifted out through the TRS latch. Stored data is shifted out of the TRS latch from B-3-Y time to the following A-7-Y time except when a TNZ, TMI, or TRA operation is being performed (TTT = "O"). When a TNZ, TMI, or TRA operation is being performed data is shifted out of the TRS latch starting at B-5-Y time. During a STO operation data is shifted into the transfer register from B-1-Y time to the following A-7-Y time. When the Central Processor operation is halted (RUN NOT = "1") and OP 2 = "1", the SRTR latch is reset at A-2-Y Time.

2-161. When the TBR latch is set, data is transferred from the memory buffer register into the transfer register. The instruction word is transferred at A-11 time. Syllable 0 and Syllable 1 of the data word are transferred at B-3 and C-2 times respectively.

2-162. When the CTRL latch is set the transfer register is cleared as follows:

1. At A-8-Y time prior to transfer of the instruction word from memory.

2. At A-14-Y time prior to the transfer of a data word from memory except when a TNZ, TMI, or TRA operation is being performed (TTT = "0").

3. When central processor operation is halted (RUN NOT = "1") and OP2 = "1" at A-2-Y time.

2-163. Parity Counter. The parity counter assigns parity bits by making all syllables have "odd" parity. Odd parity means that the total number of "1's" in a syllable is odd. The parity counter "counts" the number of "1's" in a syllable and adds a "1" as necessary, so that the total number of "1's" is an odd number. Thus, if the total number of "1's" is even, the parity counter adds a bit; if odd, no bit is added. The parity counter operates during a Store operation when data is loaded into the memory.

2-164. The parity bit counter consists of a binary counter whose outputs are PDD and PDD NOT, control latch CKP, and parity bit storage latch PAR. The binary counter is set every central processor cycle at A-1 time. During a store operation, bits are read into the transfer register during B and C times. As syllable zero bits 25 through 13 are shifted out of the TR1 latch into the TR2 latch, the bits are also read into the binary counter and the PAR latch. The PAR latch is unaffected by bits 25 through 14 because the input gates are closed (SBRZ = "0"). The first "1" out of TR1 clears the binary counter indicating that the total number of bits is odd and an odd parity bit is not needed. The next "1" sets the binary counter indicating that an odd parity bit is needed. Thus the first, third, fifth, etc. "1" resets the binary counter, while the second, fourth, sixth, etc. "1" set the binary counter.

2-165. When the last bit in syllable zero is read into the TR1 latch (bit 13 at 14 time) the entire syllable zero is stored in the transfer register. Syllable zero is now ready to be transferred to the buffer register. This transfer occurs at B-14-Z time when SBRZ = "1". The parity of the low order half of the data must be assigned prior to the transfer. At B-14-W time the binary counter contains the parity "state" of the first 12 bits of data. The TR1 latch contains bit 13 of the data word. These two pieces of information are applied to the set gates of the PAR latch. Two conditions may exist which necessitate a parity bit to be assigned to the syllable of data: if the number of "1's" in the first 12 bits is even (PDD = "1") and TR1 = "0", thus making the total even; or the number of "1's" in the first 12 bits is odd (PDD = 0) and TR1 = "1", also making the total even. When SBRZ = "1" both conditions will set the PAR latch and assign a "1" to the parity bit of the data placed in the memory. At the same time SBRZ will initialize to the zero, or even bit, condition. Note that parity is checked anytime data is shifted into, or out of, the transfer register (SRTR - "1" sets CKP = "1"). However, only a Store operation can set SBRZ = "1".

2-166. PROGRAM CONTROL ELEMENT LOGIC CIRCUITS.

2-167. ADDRESS REGISTER. (See figure 10-28, sheet 17.) The address register stores instruction or data word addresses while the selected word is read from memory. During an instruction word time, the address register stores the instruction address (from the instruction counter) to select the instruction word address; the operand address portion of the instruction word, stored during data word time, is used to select the data word address.

2-168. The address register consists of nine latches, A1 through A9. Latches A1 through A8 select one of the $400_8$ memory locations in a sector; latch A9 determines whether the addressed data will come from a pre-selected sector, or from the residual memory. The addresses of selected memory locations are loaded into the address register from the transfer register. The address register outputs condition the address decoders in the memory control element and provide control to the LVDCME and LVDAME for PIO and CIO operations. The transfer address (TA) latch provides timing and control for the register.

2-169. The instruction address (from the instruction counter) is stored in the address register from A-8-W through A-13-X time. During this period, the addressed instruction is read from memory and placed in the transfer register. The operand address portion of the instruction is then transferred to the address register at A-13-Z time for storage while the data word is read from memory. The address register stores the data word address from A-14-W through the following A-7-X time. The address register is reset at A-7-Y and A-13-Y times, prior to storing the instruction and data addresses.

2-170. The TA latch is set during two different periods. The TA latch is set from A-7-X to A-8-W time, during this period the address register is reset at A-7-Y time and is loaded with the instruction address at the following Z time. The TA latch is set again from A-13-X to A-14-W time; at this time the address register is reset at A-13-Y time and is loaded with the word address at the following Z time.

2-171. OP CODE REGISTER. (See figure 10-28, sheet 18.) The four-bit OP code register stores the code of the commanded instruction while the instruction is executed. The OP code register outputs control the operation of the circuits which execute the instructions.

2-172. The OP code register, loaded by the transfer register, stores the operation code from A-12-Y to A-5-Y time, nearly a full central processor cycle. Operation of the register differs slightly during a computer single step operation.

2-173. The single step (CST) signal generated in the external control element during C time of the selected central processor cycle, forces a TNZ operation code (OP3) into the OP code register. The TNZ code disables memory because it requires no operand. The central processor then idles in this condition until the CST signal is removed allowing the next operation code to be loaded into the OP code register.

2-174. DATA AND INSTRUCTION SECTOR REGISTERS. (See figure 10-28, sheets 18 and 19.) The data and instruction sector registers store sector codes to select one of 16 memory sectors during operation and instruction times, respectively. Sector codes are loaded into both registers during a HOP instruction, the data sector register is also loaded during a change data sector (CDS) instruction. The registers store the sector codes until the next HOP (or CDS) instruction commands them to change.

2-175. The data sector (DS) and instruction sector (IS) registers each contain four latches. The HOP constant appears as a 26-bit serial output of the transfer register serial output latch (TRS) during B and C times. The data sector code emerges from the TRS latch from C-9 time to C-12 time and is loaded into the corresponding DS register latches at Z time. The DS register can also be loaded with the code contained in operand address bits A1 through A4 of a CDS instruction. These bits are stored in latches TR5 through TR8 of the transfer register and are loaded into the DS register at A-7-Z time (CDS TAZ). The DS latches are reset at the Y time preceeding the Z time at which they are loaded.

2-176. The IS register is loaded in the same manner as the DS register with the following exceptions. The IS latches are set and reset only during a HOP instruction. The instruction sector code occupies a different position in the HOP constant than the data sector code and consequently requires different timing signals to accept it. The IS register is loaded at bit times B-5-Z through B-8-Z.

2-177. DATA AND INSTRUCTION MODULE REGISTERS. (See figure 10-28, sheet 19.) The data and instruction module registers control the selection of the memory modules during operation and instruction times respectively. Module codes are loaded into both registers during a HOP instruction; the data module register is also loaded during a CDS instruction. The registers store the module codes until the next HOP (or CDS) instruction commands them to change.

2-178. The data module (DM) and instruction module (IM) registers each contain one latch. For a HOP instruction the data module code emerges from the TRS latch during C-6 time and is loaded into the DM latch at Y time. During a CDS instruction the DM latch is loaded with the code contained in operand address bit A5. This bit is stored in the transfer register TR4 latch and is loaded into the DM latch at A-7-Z time (CDS TAZ). The DM latch is reset at the Y time preceeding the Z time at which it is loaded.

2-179. The IM latch is loaded in the same manner as the DS latch with the following exceptions. The IM latch is set and reset only during a HOP instruction. The instruction module code emerges from the TRS latch during C-14 time and is loaded into the IM latch at Z time.

2-180. INSTRUCTION WORD SYLLABLE CONTROL LOGIC. (See figure 10-28, sheet 19.) The instruction word syllable control logic controls the selection of the memory syllable during instruction time. The instruction word syllable control logic consists of the SLYC1 latch and a control latch. The control latch is set when TRS = "1" at B-9-Z time (HOP constant syllable code = "1" or operand address A9 bit = "1"). The SLYC1 latch is then set at the next B-10-Z time, if a HOP TNZ, TMI, or TRA operation (UTR) is being performed. The control latch is reset every B-12-W time and the SLYC1 latch is reset at the Y time preceeding the Z time at which it is loaded.

2-181. HOP SAVER REGISTER. (See figure 10-28, sheet 20.) The HOP saver register assemblies a HOP constant; stores the HOP constant for approximately one Central Processor cycle and when commanded by the central processor program enables the transfer register to accept the HOP constant for storage in memory. The HOP constant will not be stored in memory unless a store instruction is given with an address of $776_8$ or $777_8$. The HOP constant register consists of a storage register and two serializers.

2-182. The storage register consists of 19 latches which are loaded with the HOP constant at A-14-Z time as follows:

1. Latches HIC1 through HIC8 are loaded from accumulator latches DLA 8, DLA 9, DLA 10, DLA 12, DLA 13, DLA 14, DLA 16, and DLA 17. These latches contain the instruction counter code.

2. Latches HDS1 through HDS4 are loaded with the data sector code contained in the data sector register.

3. Latches HIS1 through HIS4 are loaded with the instruction sector code contained in the instruction sector register.

4. Latches HDM1, HIM1, and HSYCL1 are loaded with the data module, instruction module, and instruction syllable codes respectively contained in the data module register, instruction module register, and instruction word syllable control logic.

The storage register latches are reset at the X time preceeding the Y time at which they are loaded..

2-183. The outputs of the storage register latches are gated into the serializer which produces the HOPC1 signal by Z clock pulses during B and C times. The outputs of the sector and module registers and the instruction word syllable control logic are gated into the serializer which produces the HOPTL signal by Y clock pulses during B and C times. Figure 2-34 shows the order in which the information appears on the HOPC1 and HOPTL lines.

| Bit Gate | HOPC1 | | HOPTL | |
|---|---|---|---|---|
| | Phase B | Phase C | Phase B | Phase C |
| BG1 | | HDM1 | | |
| BG2 | | | | |
| BG3 | HIS1 | | | |
| BG4 | HIS2 | HDM1 | IS1 | |
| BG5 | HIS3 | | IS2 | DM1 |
| BG6 | HIS4 | | IS3 | |
| BG7 | HSYLC1 | HDS1 | IS4 | |
| BG8 | HIC1 | HDS2 | SYLC1 | DS1 |
| BG9 | HIC2 | HDS3 | | DS2 |
| BG10 | HIC3 | HDS4 | | DS3 |
| BG11 | HIC4 | | | DS4 |
| BG12 | HIC5 | HIM1 | | |
| BG13 | HIC6 | | | IM1 |
| BG14 | HIC7 | | | |

Figure 2-34. HOP Saver Serializer Outputs

2-184. INSTRUCTION COUNTER. The instruction address is incremented in the arithmetic element and stored in the unused portion of the accumulator register. The instruction address consists of nine bits but only eight bits are stored in the accumulator register. When the instruction address is transferred to the address register from the accumulator register to select an instruction, a "0" is forced into address register bit A9 position. The instruction address is increased by one each instruction time during normal operation. The instruction address is not increased after the commanded instruction is completed during computer single step (CST) operation. The instruction address is changed during a transfer operation; the instruction address currently stored in the accumulator-register is dropped and the transfer instruction operand address is loaded into the unused portion of the accumulator register. The instruction counter is actually part of the arithmetic element.

2-185. The instruction address is incremented by forcing a "1" into the C latch (figure 10-28, sheet 10) forcing the BOR latch to "0" during A time, and adding these two values, at the add-subtract circuit to the least significant digit of the instruction address when the bit arrives at A14. The subsequent address bits are also added with the C and BOR latch values but the C latch is reset when the first "1" of the instruction address reaches A14. (See arithmetic element for description of the add-subtract circuit.)

2-186. During normal operation, the C latch is reset when the first "0" of the instruction address is read from the accumulator register A14 latch. (A14 NOT equals "1" to reset the C latch.) The C latch operation differs during CST operation.

2-187. The instruction address is also prevented from increasing during a CST operation while CST equals "1". The C latch is repeatedly reset at A-2-X time when CST equals "1" to keep instruction address from increasing. To select the next programmed instruction during CST operation the externally controlled CST level becomes a "0" momentarily to allow the instruction address to increase by one.

2-188. The accumulator register stores the instruction address after the results of the arithmetic computations. The accumulator circulates the instruction address in the same manner that the arithmetic computations are circulated. The instruction address is loaded into the accumulator automatically by the add circuit and also, during transfer operations, by the transfer register serializer (TRS). The accumulator also supplies the transfer register with the instruction address to select programmed instructions.

2-189. During a transfer operation, the transfer instruction operand address is serialized through the transfer register and TRS latch to load ACC1 of the accumulator register. During this period, UTR equals "1" and UACCO equals "0" to enable TRS to load the new instruction address and inhibit the currently stored instruction address at ACCO. The ITR and UACCO levels originate at the same latch so can never equal "1" simultaneously. UACCO equals "1" during nontransfer operations to enable the current instruction address to be circulated through the accumulator. The AI1 latch of the accumulator register sequentially loads the TR1 latch of the transfer register with the instruction address during bit times C-14 through A-7. The instruction address, while stored in the transfer register, selects the next programmed instruction.

## 2-190. ARITHMETIC ELEMENT LOGIC CIRCUITS.

2-191. The Arithmetic Element performs the following general type of operations:

a. Arithmetic (addition, subtraction and shifting).

b. Logical extraction.

c. Stores new operand and a new instruction counter (previously described).

d. Modifies the stored instruction counter.

2-192. The Arithmetic Element consists of the following:

a. Accumulator Control Circuits (Accum Control)

b. Add/Subtract Circuit (A/S)

c. Accumulator Register (Acc Reg)

The A/S Circuit and Acc Reg make up an accumulator which performs the arithmetic and logic operations and stores the results. The Acc Reg stores two pieces of data: the results of the arithmetic operation, called the stored operand, and the instruction counter.

2-193. The Accum Control Circuits provide timing and conditioning gates for the A/S and Acc Reg circuits. (The conditioning gates are instruction oriented.)

2-194. The A/S Circuit performs the following arithmetic and logical extraction operations:

| | | |
|---|---|---|
| Addition | (ADD) | Arithmetic |
| Subtraction | (SUB) | |
| Reverse-Subtraction | (RSU) | |
| Clear-and-Add | (CLA) | |
| And | (AND) | Logical Extraction |
| Exclusive Or | (XOR) | |

In each of the preceding operations only the stored operand and the new operand are affected. During a CLA operation the stored operand is inhibited and the new operand enters the Acc Reg unaltered. Similarly, the input data from the input serializer and input data on the CIO data and PIO data lines enters through the A/S circuit and replaces the stored operand in the Acc Reg.

2-195. The Acc Reg is a circulating shift register which utilizes the A/S circuit to complete the loop. When no operations are called forth, the stored operand and instruction counter are continually circulated; the stored operand is unaltered and the instruction counter updated during each pass through the A/S circuit. A new instruction counter (required when performing one of the transfer operations) or a new instruction counter and HOP constant (which becomes the stored operand) may be entered directly into the Acc Reg when performing a HOP. Figure 2-35 shows the Acc Reg timing.

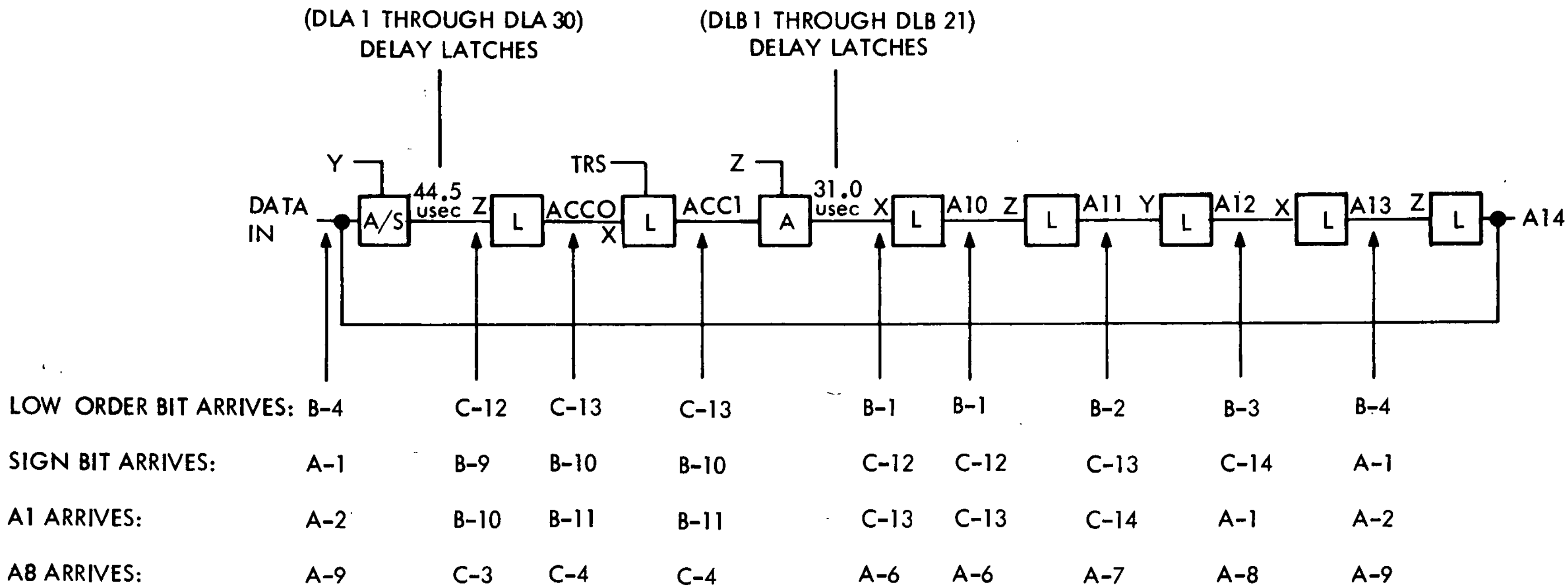



Figure 2-35. Accumulator Register Timing

2-196. ARITH CONTROL. The Arith Control circuits consist of the following three latches (figure 10-28, sheet 10):

a. RAC

b. ZER

c. UTR-UACCO

2-197. RAC Latch. The RAC latch is set by the following instructions:

1. STO
2. TMI
3. TRA
4. PIO
5. SHF
6. CDS
7. CIO
8. TNZ
9. HOP
10. PRS $774_8$ or $775_8$

When the RAC latch is set, the contents of the Acc Reg are recirculated. The RAC latch is reset every A-14-Y time.

2-198. ZER Latch. The ZER latch stores the result of a check on the stored operand (ACCO). This check is necessary during TNZ and TMI operations. If the stored contents is not equal to zero or is negative (a "1" is present in ACCO), the latch is reset.

2-199. UTR-UACCO Latch. The latch may be set to UTR at B-10-Y time when the following instructions are set in the OP code register:

1. TNZ
2. TMI
3. HOP
4. TRA

Once the latch is set it cannot be reset until C-4-Y time. The period from B-10-Y time to C-4-Y time is the time when the instruction counter (A1 through A8) is available at the ACCO latch. During central processor single step, if the latch is set to UTR it is reset the following Z time.

2-200. A/S CIRCUIT. (See figure 10-28, sheets 11 and 12.) The A/S circuit consists of the BOR latch, C latch, and the A/S logic. This circuit performs the arithmetic operations and logical extractions previously mentioned.

2-201. BOR Latch. The BOR latch provides the one-bit storage needed to enter serial data from the transfer register (TRS), from the LVDCME or LVDAME (CIO DATA and PIO DATA), or from the input serializer (SCRS). The B latch also provides the entry point for the result during an RSU operation.

2-202. C Latch. The C latch provides a carry-borrow capability during arithmetic operations ADD, SUB, and RSU. The C latch remains set (or reset) as long as a carry-borrow (or no carry-borrow) is needed. The carry-borrow condition is always the result of the previous one bit summation.

2-203. A/S Logic. The A/S logic consists of the AND gates which are the inputs to the accumulator. These AND gates perform arithmetic computations.

2-204. ADDITION, SUBTRACTION, REVERSE SUBTRACTION, AND CLEAR AND ADD LOGIC DESCRIPTION. The A/S circuit (figure 2-36) serially adds or subtracts the contents of the accumulator (A14), the contents of the addressed memory location (B), and any carry (C) that develops from the previous bit summation. For each arithmetic operation the following equation is solved:

1. (ADD) A/S = AI4 + B + C
2. (SUB) A/S = AI4 - (B + C)
3. (RSU) A/S = B - (AI4 + C)
4. (CLA) A/S = B

2-205. Figure 2-37 shows the truth table for all combinations of values of AI4, B, and C required to solve equations 1. through 4. (Carry means the present value of carry that resulted from the last addition that will be used during this addition or subtraction; Next Carry means the value of the carry that will be used during the next addition or subtraction. The truth table shows that the values of A/S are the same for all addition and subtraction conditions of equations 1. through 4.

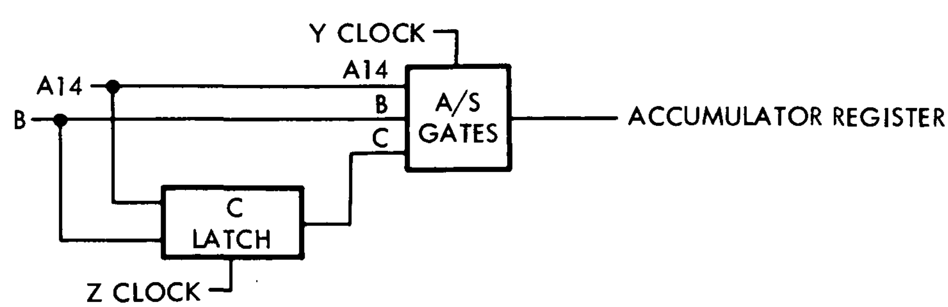



Figure 2-36. A/S Circuit, Simplified

| | | | Sum or Remainder | ADD | SUB | RSU |
|---|---|---|---|---|---|---|
| AI4 | B | Carry | A/S | Next Carry | Next Carry | Next Carry |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 |

ADD SUB RSU

Figure 2-37. A/S Circuit Truth Table

NOTE

Clear and Add (CLA) is a special addition when AI4 and C are both forced to zero.

2-206. AND gates A37 through A40 define when A/S is a "1". Since the truth table for A/S is the same for ADD, SUB, and RSU, these gates are applicable for all three arithmetic operations. The gate which makes A/S = 1 when B = 1 and AI4 and C = 0 also applies to CLA. Thus, gates A37 through A40 apply for all four arithmetic operations.

2-207. The carry latch is designed to change state according to the conditions established by the truth table (figure 2-37). The arrows indicate the values of B, AI4 and carry which cause the carry latch to change state for each arithmetic operation. For example: on the second line of the truth table, if the carry latch is reset (carry = 0) and a "1" (AI4) is subtracted (during RSU) from a "0" (B) a borrow shall be generated (Next carry = 1). OP code OP2VN and OP3V defines four operations. However, the only operation that is performed by the A/S circuit is RSU. Since AI4 = 1 and B = 0 are possible conditions when the contents of the accumulator is recirculating, RAC NOT is applied to prevent a carry from being generated during a recirculating condition. The carry latch will remain set until the carry condition no longer exists.

2-208. XOR LOGIC DESCRIPTION. During an XOR operation the contents of the Acc Reg (AI4) and the contents of the addressed memory location (B) are ORed exclusively bit-by-bit. The result is stored in the Acc Reg. The Add-Subtract Element is used to perform the operation. The following Boolean equation expresses the conditions required for an exclusive OR:

$A/S = AI4 \cdot BN + AI4N \cdot B$

The carry latch cannot be set during an XOR operation.

2-209. AND, LOGIC DESCRIPTION. During an AND operation the contents of the Accumulator (AI4) and the contents of the addressed memory location (B) are ANDed bit-by-bit. The result is stored in the Acc Reg. The A/S circuit is used to perform the operation. The following Boolean equation expresses the conditions required for an AND:

$A/S = AI4 \cdot B$

2-210. ACCUMULATOR REGISTER. The Acc Reg is a 3-phase, circulating shift register which stores the results of arithmetic and logical extraction operations and stores and updates the value of the instruction address. The Acc Reg, in conjunction with the A/S circuit and Accum Control, perform LSD and MSD shift operations.

2-211. SHIFT LOGIC DESCRIPTION. 12 shift operations can be commanded by the program:

| | |
|---|---|
| LSD-1 | MSD-1 |
| LSD-2 | MSD-2 |
| LSD-3 | MSD-3 |
| LSD-4 | MSD-4 |
| LSD-5 | MSD-5 |
| LSD-6 | MSD-6 |

2-212. LSD Shift. An LSD shift operation is performed during a STO operation if the value of the A7 bit of the operand address = "0". Bits A1 through A6 of the operand address denote the number of positions the data word is shifted. The value of the SIGN bit appears in all the MSD bit positions vacated by the shift.

2-213. The LSD shift operation is controlled by the RT SH and SIGN CTRL latch. The RT SH latch is set at B-4-X. The accumulator register circulation loop will then be shortened as specified by operand address bits A1 through A6. The SIGN CTRL latch is set at Y time of the bit time the RT SH latch is reset. This latch allows the value of the sign to be retained in the MSD positions.

2-214. MSD Shift. A MSD operation is performed during a STO operation if the value of the A7 bit of the operand address is "1". As in an LSD shift, bits A1 through A6 of the operand address denote the number of positions shifted. The value of the sign bit is lost and "0's" appear in the LSD bit positions vacated.

2-215. The LF SH latch controls the LSD shift operation. This latch is set at B-4-X time. This latch controls the clocks which shift the data word through the accumulator.

2-216. EXTERNAL CONTROL LOGIC CIRCUITS.

2-217. START-STOP CONTROL. The central processor program start-stop operation is controlled by two externally provided signals; (1) HALT 1 (figure 10-28, sheet 7); and (2) NCST (figure 10-28, sheet 69). The HALT 1 signal conditions the RUN latch to control the central processor program start-stop operation during normal operation. The CST (Central Processor Unit single step) signal conditions the CST gate to control the processor start-stop operation during computer single step operation.

2-218. RUN Latch. (See figure 10-28, sheet 25.) The RUN latch is set each A-6-Y time and remains set until the processor is externally commanded to halt; then HALT 1 equals "1" which resets the RUN latch at A-6-Z time. During the periods that the RUN latch is set the processor is permitted to operate as programmed. The processor program is initiated when the RUN latch becomes set by a simulated HOP to 000 instruction since the syllable latch, module, sector, OP code and address registers contain "0's". A HOP constant is stored in memory location 000 to start the processor program.

2-219. When the run latch is reset the processor program is halted in the following manner. The run latch disables memory during phase A, consequently instruction words cannot be read from memory. The transfer register and in turn the OP code and address registers will be loaded with "0's"; thus commanding a HOP to 000. When the HOP code is loaded into the OP code register the HOP latch becomes set. When both HOP and RUN equal "1" memory operation is also disabled during phases B and C. The reset run latch prevents the transfer of the instruction address into the transfer register; consequently the HOP to 000 command is continuously recycled.

2-220. The RUN signal enables the transfer register to be loaded from external sources via the DIN line. The DIN line is used during a memory load or verify operation. During memory load or verification, CLA and STO commands are loaded into the transfer during instruction time via the DIN line. During execution of these instructions memory operation is enabled during phases B and C but remains disabled during phase A. During data word time of STO commands, data is loaded into the transfer register via the DIN line for storage in memory. The RUN signal clears the transfer register at the completion of these command operations.

2-221. CST Gate. The output of the CST latch (figure 10-28, sheet 7) is called the CST gate. The CST gate inverts the externally provided CST signal to halt the processor program during single step operation. The CST signal forces a transfer nonzero (TNZ) operation code into the OP code register, prevents the instruction counter from stepping, and prevents the operand address from transferring from the transfer register into the instruction counter if the accumulator contains a nonzero number. Since the instruction counter is unable to increase and transfer is inhibited, the TNZ operation is continuously repeated halting the processor program. When the CST gate is disabled the next programmed instruction is performed.

2-222. The use of the CST feature when the PTC is used as a single unit or part of a system has been described earlier. The following is a list of the latches involved in the CST operation, presented with a brief description of each:

1. SET CST latch (figure 10-28, sheet 69) — is a primary latch which enables switch CST (SW CST) and SET CST gates to generate a data display compare (DD COMP) signal.

2. Address Compare latch (ADR COMP) — forces an address compare to take place during a CST operation.

3. DD COMP latch — enables CST operation under control of the ADR COMP level.

4. CST latch (figure 10-28, sheet 7) — generates the CST gate which is used throughout the processor to induce CST operation.

5. CC TWO latch (figure 10-28, sheet 69) — disables CST operation for two cycles (word times). The CC TWO latch is set by an interrupt.

6. First Compare (FIRST COMP) latch — is set when a like comparison of address switches and processor address is effected during data display and CST mode of operation. The latch remains set to force an address compare to take place during a subsequent CST operation.

7. ACP CST latch — stores the enabling level of the ACN CST line. The latch is disabled when (1) ACN CST is removed for more than one cycle if an ACG ACTSS is present, or (2) if ACN CST is removed when ACG ACISS is not present.

8. C STORED latch (figure 10-28, sheet 7) — remembers that a CST operation had been initiated. This latch is used during interrupt of a CST mode and during manual operation of the PTC.

9. ST ADV latch — stores a CST advance signal.

10. MAN CST latch (figure 10-28, sheet 69) — follows the MAN CST SW and removes the switch bounce effects.

11. SS HOLD INH latch — disables ACP CST latch if the data display mode switch is in address hold or single-step. If the mode switch is in either of the two positions, the latch is set by the first CST ADV and remains set for the duration of the switched position.

12. SS HOLD latch — is set by the first address compare when the data display switch is in address hold or single-step and remains set for the duration of the switched position. The output of this latch is one of the signals which generate a PTC CST signal for I/O usage.

13. C2-C11 latch — is used to cover the time when ACG ACISS is disabled and ACN CST is set.

2-223. PROCESSOR INTERRUPTS. (See figure 10-28, sheets 31, 32 and 33.) The PTC processes 16 interrupt signals, 15 from external equipment and one (INTRPT 16) from manually activating the interrupt 16 switch on the processor display panel. The 16 interrupts are stored in a 16-bit interrupt register until interrupt processing is complete. The processor reads the interrupt register with a programmed CIO 115 instruction.

2-224. The receipt of an interrupt causes the forced selection of a residual memory sector location (shown on figure 2-38), unless the recognition and subsequent processing of the interrupts (1 through 15) is inhibited. Automatic or manual inhibit is effected by setting any of the interrupt inhibit bits in the 15-bit inhibit register. Manual inhibit is accomplished by activating the inhibit control switch (INH CTRL SW) on the processor display panel. This places the inhibit register under manual control by setting all bit positions of the register. Individual inhibit bits are manually inhibited by pressing the desired inhibit bit switch, thus allowing the processing of only the specified interrupt. Automatic inhibit is accomplished first by turning off the inhibit switches on the display panel. The inhibit register can then be loaded by a CIO 000 and accumulator bits 25 through 11 (for inhibit bits 1 through 15) respectively. The inhibits are reset with a CIO 004 and accumulator bits 25 through 11 for interrupts 1 through 15 respectively. There is no provision for inhibiting interrupt 16.

2-225. MEMORY LOADER/DATA DISPLAY.

2-226. The Memory Loader/Data Display contains the circuits necessary to perform the memory load - memory verify and data display functions. (See figure 10-3, sheet 3.) The majority of these circuits are used in both the memory load - memory verify and data display functions. Consequently although this discussion treats the two functions separately only one circuit description is included.

| LVDC/ DA-PTC Interrupt | Forced Residual Location Address (8) | Location Contents | Terminating CIO |
|---|---|---|---|
| 1 | 400 | Initiate Interrupt No. 1 Subroutine | 010 |
| 2 | 401 | Initiate Interrupt No. 2 Subroutine | 014 |
| 3 | 402 | Initiate Interrupt No. 3 Subroutine | 020 |
| 4 | 403 | Initiate Interrupt No. 4 Subroutine | 024 |
| 5 | 404 | Initiate Interrupt No. 5 Subroutine | 030 |
| 6 | 405 | Initiate Interrupt No. 6 Subroutine | 034 |
| 7 | 406 | Initiate Interrupt No. 7 Subroutine | 040 |
| 8 | 407 | Initiate Interrupt No. 8 Subroutine | 044 |
| 9 | 408 | Initiate Interrupt No. 9 Subroutine | 050 |
| 10 | 409 | Initiate Interrupt No. 10 Subroutine | 054 |
| 11 | 410 | Initiate Interrupt No. 11 Subroutine | 060 |
| 12 | 411 | Initiate Interrupt No. 12 Subroutine | 064 |
| 13 | 412 | Initiate Interrupt No. 13 Subroutine | 070 |
| 14 | 413 | Initiate Interrupt No. 14 Subroutine | 074 |
| 15 | 414 | Initiate Interrupt No. 15 Subroutine | 100 |
| 16 | 417 | Initiate Interrupt No. 16 Subroutine | 104 |

Figure 2-38. Forced Addresses Caused by Interrupts

2-227. MEMORY LOAD - MEMORY VERIFY.

2-228. The memory load - memory verify function is selected (1) when PTC DC power is sequenced on or off and (2) under control of the ML/DD pushbutton. The central processor memory is loaded and/or verified when this function is selected. The contents of the tape reader register and the display registers are displayed by corresponding COMMAND and COMPUTER lamps respectively. These lamps are used in conjunction with the ERROR lamps for failure analysis. The memory load - memory verify function is divided into three operations as follows:

1. Tape reader control.

2. Tape reader register loading.

3. Data transfer.

2-229. TAPE READER CONTROL. The tape reader is controlled by the TAPE READER CONTROL and AUTO/MANUAL pushbuttons. The PWR ON/PWR OFF pushbutton turns the tape reader power on or off. Power is also removed from the tape reader if the tape reader timing circuit malfunctions. The direction of tape flow is controlled by the FORWARD/REVERSE pushbutton (FORWARD is a clockwise flow and REVERSE is a counterclockwise flow). The INHIBIT READER CONTROL pushbutton turns the tape spooler power on or off (this permits manual indexing of the tape). The tape reader can be operated in the AUTO or MANUAL mode.

2-230. The AUTO mode which is used for reading the tape is selected when the AUTO/MANUAL pushbutton is in the AUTO position. The tape is read in the FORWARD mode; the REVERSE mode is used for tape rewind. The tape reader is started by pressing the START pushbutton and continues to run until the stop pushbutton is pressed, an error is detected, or the last tape word is read (tape address of 00001). When the last tape word is read the tape automatically stops and rewinds to the beginning of the first tape word (tape address of 11111).

2-231. The MANUAL mode which is used for loading the tape on the tape spooler and for initially positioning the tape is selected when the AUTO/MANUAL pushbutton is in the MANUAL position. If the leader portion of the tape (sprocket holes only) is under the tape reader read head, the tape advances to the beginning of the first tape word when the MANUAL ADVANCE TAPE pushbutton is pressed. When the information portion of the tape is under the tape reader read head the tape advances one word every time the MANUAL ADVANCE TAPE pushbutton is pressed.

2-232. TAPE READER REGISTER LOADING. The tape reader register can be loaded with information generated automatically by the tape reader or manually with switches.

2-233. Automatic Tape Reader Register Loading. In the AUTO mode the tape reader register is loaded with information stored on the memory load and verify tape. This tape is comprised of eight channels and a sprocket hole (see figure 2-39). A tape word consists of nine tape characters each of which contains eight bit locations. The value of each bit will be a "1" if a hole is punched in the tape and a "0" if the tape is blank.

2-234. Channel 7 (Sequence Channel) always contains a "0" in tape characters 1 through 8 and a "1" in tape character 9. Channel 8 (Parity Channel) contains a "1" in any tape character that contains an even number of "1's" in channels 1 through 7. SYL1 PB will be a "1" if data bit locations SIGN and B1 through B12 contain an even number of "1's" and SYL0 PB will be a "1" if data bit locations B13 through B25 contain an even number of "1's".

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | (Parity Channel) | | | | | Channel 8 |
| | | | | (Sequence Channel) | | | | Always A one | Channel 7 |
| DS1 | | OA9 | OA3 | B3 | B9 | B15 | B21 | SYL1 PB | Channel 6 |
| DS2 | OP1 | OA8 | OA2 | B4 | B10 | B16 | B22 | TAADR 5 | Channel 5 |
| DS3 | OP2 | OA7 | OA1 | B5 | B11 | B17 | B23 | TAADR 4 | Channel 4 |
| | | | | | | | | | Sprocket Holes |
| DS4 | OP3 | OA6 | SIGN | B6 | B12 | B18 | B24 | TAADR 3 | Channel 3 |
| MM1 | OP4 | OA5 | B1 | B7 | B13 | B19 | B25 | TAADR 2 | Channel 2 |
| | | OA4 | B2 | B8 | B14 | B20 | SYL0 PB | TAADR 1 | Channel 1 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Tape Character |

NOTE

The tape address bits (TAADR 1 through TAADR 5) are used for automatic control of the tape reader and data transfer control circuits.

Figure 2-39. Memory Load and Verify Tape Format

2-235. The tape is read one tape character at a time at a rate of 500 characters per second until a complete tape word is read. The logic value of each bit located in channels 1 through 6 except SYL0 PB and SYL1 PB is stored in a corresponding position of the tape reader register. Parity and sequence checks are performed on each tape character and if an error is detected the tape stops. If any other error is detected the tape stops on tape character 9. When no errors are detected the next word is read. This process is continued until the complete tape is read.

2-236. Manual Tape Reader Register Loading. In the MANUAL mode the tape reader register is loaded with information generated by the DATA ADDRESS, DATA, and TAPE ADDRESS pushbuttons. Pressing a DATA ADDRESS or DATA pushbutton will complement the value stored in the corresponding position of the tape reader register.

These positions of the tape reader register are also cleared when the COMMAND DISPLAY RESET pushbutton is pressed. Pressing a TAPE ADDRESS pushbutton will complement the value stored in the corresponding position of the tape reader register providing the ADV CTR/SEL ADR pushbutton is in the SEL ADR position.

2-237. DATA TRANSFER. The data address and data information stored in the tape reader register is serialized at the central processor timing rate. This information is then sent to the central processor unless:

1. A serial parity error is detected in the AUTO or MANUAL $\overline{\text{REPEAT}}$ mode.

2. The VERIFY ONLY pushbutton is in the VERIFY ONLY position during a load operation.

3. The VERIFY ONLY pushbutton is in the VERIFY ONLY position and the tape address is 00010.

4. An error generated during the previous load or verify operation has not been reset.

5. The data information is not transferred during a verify operation or when a data address compare error occurs.

2-238. The central processor after receiving the data address information sends this information back to the memory loader. Correct data address transfer is then substantiated by comparing the data address information generated by the memory loader with the data address information received from the central processor. The current central processor sector, module, OP code, and operand address bit values contained in the data address information are stored in corresponding display register positions.

2-239. During a load operation (OP code 1011) the data information is sent to the central processor and loaded into the memory location specified by the sector, syllable, module, and operand address bit values. During a verify operation (OP code 1111) the data information contained in the memory location specified by the sector, module, and operand address bit values is sent to the memory loader. A correct memory load is verified by comparing the data information generated by the memory loader with the data information received from the central processor. The current data bit values contained in the data information are stored in corresponding data display shift register positions.

2-240. Data transfer occurs in either the AUTO or MANUAL mode. These two modes of transferring data are discussed in the following paragraphs.

2-241. Automatic Data Transfer. In the AUTO mode data is continuously sent to the central processor as long as the tape is running forward and an error is not detected. Since the data transfer is the same for each tape word, only the transfer of information for one tape word is discussed. Because the tape reader timing rate is much slower than the central processor timing rate, six central processor cycles (cycle 0 through cycle 5) are required to complete one load or verify operation. The transfer of information occurs while the tape is moving from character nine of the tape word being transferred to character one of the next tape word.

2-242. The tape reader register is loaded as tape characters one through nine are read (cycle 0). During B and C times of cycle 1 the serial parity check is performed. Data address information is sent to the central processor on the DIN line during cycles 2 and 3.

The sector and module bit values are transferred during B time of cycle 2 (DSMSO). The OP code and operand address bit values are transferred during C time of cycle 2 and A time of cycle 3 (INSSO).

2-243. Data address information is serially transferred from the central processor to the memory loader on the TRS and HOPTL lines and parallel transferred on the OP1 through OP4 and A1 through A9 lines. Sector and module bit values are gated into the sector-syllable-module buffer register. This data is then parallel transferred to the sector-syllable-module display register. OP code and operand address bit values are parallel transferred into the address buffer register and from there parallel transferred to the instruction display register.

2-244. Correct data address transfer to the central processor is substantiated during cycles 2 and 3 by performing two compares. Sector and module bit values appearing on the DSMSO line are compared with corresponding bit values appearing on (1) the TRS line during C time of cycle 2 and (2) the HOPTL line during C time of cycle 3. OP code and operand address bit values stored in the tape reader register are compared with corresponding bit values received from the central processor on the OP1 through OP4 and A1 through A9 lines. Several other compares are performed to substantiate the correct internal transfer of data between the buffer and display registers.

2-245. Data information is sent to the central processor on the DIN line during a load operation (DTSO). Data bit values 12 through 25 are transferred during B time of cycle 3 and data bit values SIGN and 1 through 11 are transferred during C time of cycle 3. During a verify operation data information is received from the central processor on the TRS and AI3 lines. TRS data is stored in the data display shift register if a TRS compare error occurs; AI3 data is stored in the data display shift register if an AI3 compare error occurs.

2-246. A correct memory load is verified by performing three compares during cycles 3, 4, and 5. The data bit values appearing on the DTSO line are delayed two bit times (2BDDTSO) and compared with the data bit values appearing on the TRS line during B and C times of cycle 3 and A time of cycle 4. The data bit values appearing on the DIN line are also compared with the data bit values appearing on the AI3 line during B and C times of cycle 4 and A time of cycle 5. The tape reader register data syllable 0 and syllable 1 parity bit values are compared with the parity bit values generated by the central processor memory circuits.

2-247. Manual Data Transfer. In the manual mode data transfer is controlled by the REPEAT/$\overline{\text{REPEAT}}$ and ADDRESS COMPUTER pushbuttons. When the REPEAT/$\overline{\text{REPEAT}}$ pushbutton is in the $\overline{\text{REPEAT}}$ position data transfer is accomplished every time the ADDRESS COMPUTER pushbutton is pressed. When a load operation is selected the data information is loaded into the central processor memory and then the memory load is automatically verified.

2-248. When the REPEAT/$\overline{\text{REPEAT}}$ pushbutton is in the REPEAT position data transfer is accomplished continuously. Load and verify operations are alternately performed as long as the REPEAT mode is maintained.

2-249. The timing for the transfer of data address and data information between the memory loader and the central processor is the same as in the AUTO mode. The compares performed are also the same as in the AUTO mode. The contents of the display registers are cleared when the COMPTR DISPLAY RESET pushbutton is pressed.

2-250. DATA DISPLAY.

2-251. The data display function is selected in the MANUAL mode under control of the ML/DD pushbutton. When this function is selected central processor data associated with a data address or instruction address can be monitored. The data display function is divided into two operations as follows:

1. Data selection.

2. Data storage.

2-252. DATA SELECTION. The data selection operation is initiated as follows:

1. When the central processor is placed in the single step mode of operation.

2. Each time the program is advanced one instruction during the single step mode of operation.

3. When an address compare occurs.

2-253. The single step and advance features are discussed under the central processor. An address compare occurs when an instruction or data address manually selected with switches corresponds with the central processor memory address selected.

2-254. Address Compare. Information generated by the INSTRUCTION ADDRESS or DATA ADDRESS pushbuttons is loaded into the tape reader register. The instruction address and data address positions of the tape reader register are displayed by corresponding COMMAND lamps. These positions are cleared when the COMMAND DISPLAY RESET pushbutton is actuated. Pressing an INSTRUCTION ADDRESS or DATA ADDRESS pushbutton complements the value stored in the corresponding position of the tape reader register.

2-255. The data address and instruction address bit values stored in the tape reader register are then compared with the current central processor data address or instruction address bit values. An address compare occurs on an instruction address when the ADDRESS COMPARE pushbutton is in the INS position. When this pushbutton is in the DATA position an address compare occurs on the data address.

2-256. An address compare occurs everytime the tape reader register and central processor address bit values correspond when the MODE CONTROL switch is in the DISPLAY-REPEAT position. When this switch is in the DISPLAY SINGLE position an address compare occurs the first time the tape reader register and central processor address bit values correspond after the COMPTR DISPLAY RESET pushbutton is actuated.

2-257. DATA STORAGE. Current central processor sector, syllable, and module bit values appearing on the TRS or HOPTL lines are gated into the sector-syllable-module buffer register (SSMBR). TRS information is gated into the SSMBR for a HOP instruction. HOPTL information is gated into the SSMBR for any other instruction. When the data selection operation is initated the contents of the SSMBR are then parallel transferred into the sector-syllable-module display register.

2-258. Current central processor OP code and address bit values appearing on the OP1 through OP4 and A1 through A9 lines are parallel transferred into the address shift register. The address bit values (A1 through A8) are transferred at A-11 time; the OP code (OP1 through OP4) and operand address (OA1 through OA9) bit values are transferred at B-12 time. The address bit values and the OP code and operand address bit values are then parallel transferred into the instruction address display and instruction display registers respectively when the data selection operation is initiated.

2-259. The initiation of the data selection operation also serially gates TRS or AI3 information selected by the DISPLAY SELECT switch into the data display shift register. AI3-IA information appears in positions 1 through 8. All other information appears in positions SIGN and 1 through 25.

2-260. The contents of the display registers are displayed by the corresponding COMPUTER lamps. When the LVDCME forces the PTC into the single step mode of operation the display registers are cleared. This ensures that the data display is blanket until the program is advanced. The display registers are also cleared when the COMPTR DISPLAY RESET pushbutton is actuated.

2-261. MEMORY LOADER/DATA DISPLAY CIRCUIT DESCRIPTIONS.

2-262. TAPE READER TIMING AND CONTROL CIRCUITS. The tape reader timing and control circuits provide the necessary signals to control the tape reader and to load information into the tape reader register. The breakdown of the tape reader timing and control circuits is shown on figure 2-40.

2-263. Tape Reader Start, Stop Control Logic. Automatic and manual control of the tape reader is accomplished by the tape reader start, stop control logic (see figure 10-28, sheets 49 and 50). The tape is transported in the reverse direction when the DRIVE LEFT signal is a "0" and in the forward direction when the DRIVE RIGHT signal is a "0". When both DRIVE LEFT and DRIVE RIGHT signals are "1's" the tape is stopped.

2-264. DRIVE LEFT and DRIVE RIGHT are two outputs of the run tratch. The three states of this tratch are as follows:

| State | RUN | DRIVE LEFT | DRIVE RIGHT |
|---|---|---|---|
| 1 | "0" | "1" | "1" |
| 2 | "1" | "0" | "1" |
| 3 | "1" | "1" | "0" |

The run tratch is forced to its first state by any one of the following: a STOP signal; a sequence error (SEQ ERR 2 RST INH) while the tape reader is in the FORWARD AUTO mode; or a tape reader clock pulse error (TRCP ERR). The run tratch is forced to its second and third states by R and F START signals respectively. When the PTC is in the SELF CHECK mode and the FREE RUN READER pushbutton is in the FREE RUN READER position the run tratch logic is bypassed. DRIVE RIGHT is now forced to a "0" if the FORWARD mode is selected.

2-265. The STOP signal is the set output of a latch (stop latch) which is set as follows:

1. By pressing the STOP pushbutton.

2. By a tape address of 11111 when the tape reader is in the AUTO REVERSE mode.

3. By an EOP signal which is generated by a tape address of 00001 when the tape reader is in the AUTO FORWARD mode or by a FREE RUN SS signal.

4. By the first sequence bit sensed when the tape reader is in the MANUAL mode and the SKIP FIRST latch is reset.

5. By an error stop reader signal (ERR NOT INV) when the tape reader is in the AUTO FORWARD mode and a sequence bit is sensed (SAM ERRS).

The stop latch is reset by an error reset signal or at TRCP4 time. When the direction of tape flow is changed, the SKIP FIRST latch is set by the first and reset by the second sequence bit sensed. This insures that the tape will advance one word before the stop latch is set. The error stop reader signal is normally generated by a parity, tape, or compare error.

2-266. The R START signal is generated as follows:

1. By pressing the MANUAL ADVANCE TAPE pushbutton when the tape reader is in the MANUAL REVERSE mode.

2. By pressing the START pushbutton when the AUTO REVERSE, and ML modes are selected and KWAIN NOT A is a "1".

3. By an automatic reverse start signal (AUTO R START) generated by an EOP.

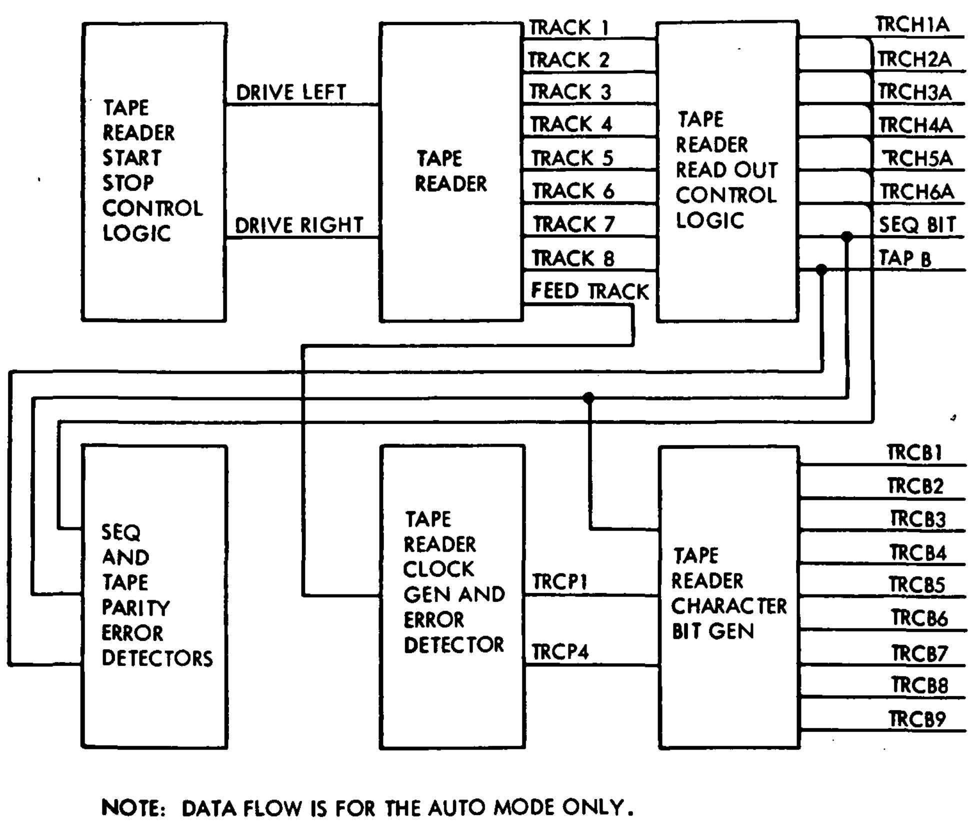



Figure 2-40. Tape Reader Timing and Control Circuits

The F START signal is generated as follows:

1. By pressing the MANUAL ADVANCE TAPE pushbutton when the tape reader is in the MANUAL FORWARD mode.

2. By pressing the START pushbutton when the AUTO FORWARD, and ML modes are selected KWAIN NOT A IS a "1", and the error latches are all reset.

When the tape reader is in the FREE RUN SS mode the R and F START levels are forced to "0's".

2-267. A KWAIN signal is generated (KWAIN NOT A IS A "0") as follows:

1. During the time prior to the sensing of the first sequence bit when PTC power is turned on.

2. During the time prior to the sensing of the first sequence bit after a sequence error 2 is generated.

3. If the control latches in the tape reader character bit generator stabilize in the wrong configuration when the tape reader stops.

2-268. Tape Reader Clock Generator. The tape reader clock generator generates four timing pulses (TRCP1, TRCP2, TRCP3, and TRCP4) which are used throughout the tape reader control circuitry. (See figure 10-28, sheet 46.) The tape reader clock generator is triggered as follows:

1. By the tape sprocket holes, when the tape reader is running. (See figure 2-41 for timing.)

2. By pressing any one of the INSTRUCTION ADDRESS, DATA ADDRESS, DATA, or TAPE ADDRESS pushbuttons when the tape reader is stopped and in the MANUAL mode.

3. By a 500 CPS multivibrator oscillator when the PTC is in the SELF CHECK and FREE RUN SS modes.

2-269. Tape Reader Clock Pulse Error Detector. Tape reader, clock pulse errors are stored in a latch which provides outputs TRCP ERR and TRCP ERR NOT (see figure 10-28, sheet 46.) A tape reader clock pulse error is generated as follows:

1. If a missing tape reader clock pulse is detected.

2. If an overlap occurs between adjacent tape reader clock pulses.

3. When an INSTRUCTION ADDRESS SECTOR IS1 through IS4 pushbutton is pressed and the tape reader is in the FREE RUN SS mode.

4. If the delay between tape reader clock pulse "1's" exceeds 30 MS when the tape reader is in the AUTO mode and running.

5. For the duration of the time an INSTRUCTION ADDRESS, DATA ADDRESS, DATA, or TAPE ADDRESS pushbutton is pressed when the tape reader is stopped in the MANUAL mode, and the PTC is not in the FREE RUN SS mode.

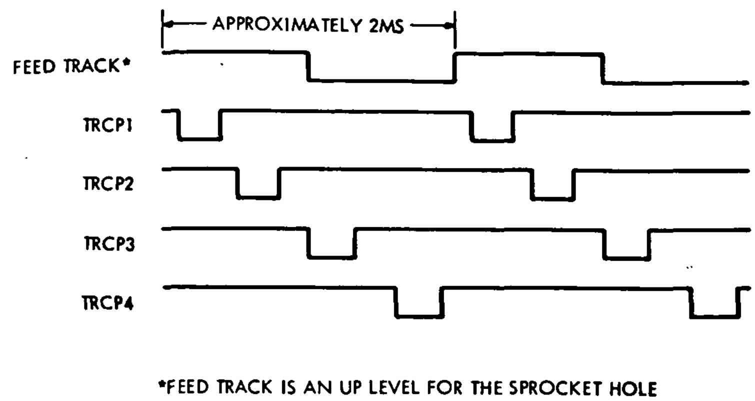



Figure 2-41. Tape Reader Clock Pulse Timing

2-270. Tape Reader Character Bit Generator. The tape reader character bit generator generates nine bits (TRCB1 through TRCB9). (See figure 10-28, sheet 47.) These nine bits identify a specific tape character of a tape reader word. The tape reader character bits are generated automatically or manually with switches.

2-271. Automatic generation of the tape reader character bits occurs when the tape reader is in the AUTO FORWARD mode, or the PTC is in the FREE RUN SS mode. The configuration of 11 control latches determines the tape reader character bit timing. (See figure 2-42.) The outputs of these control latches are applied to AND circuits to product the tape reader character bits. Automatic generation of TRCB9 is alos accomplished whenever a sequence bit is sensed and the tape reader is not in either the FREE RUN SS, or the AUTO FORWARD mode.

2-272. Tape reader character bits are generated manually by the DATA ADDRESS, DATA, or TAPE ADDRESS pushbuttons when the tape reader is stopped and in the MANUAL mode. The tape reader character bit affected will correspond to the tape character containing the information that the pushbutton is simulating. Each latch is set for the duration of the time that one of the group of pushbuttons feeding it is pressed. TRCB9 is forced to a "0" when the ADV CTR/SEL ADR pushbutton is in the ADV CTR position.

2-273. Tape Reader Read Out Control Logic. The tape reader read out control logic converts inputs from the tape reader, or from switches to eight output signals (TRCH1A through TRCH6A, SEQ BIT, and TAP B). (See figure 10-28, sheet 48.)

2-274. In the AUTO mode, tape reader information is sent to the tape reader read out control logic on eight lines (TRACK 1 through TRACK 8). These lines correspond to the eight tape channels. The inverses of TRACK 1 through TRACK 6 are sampled at TRCP1 time to determine the logic values of TRCH1A through TRCH6A, respectively. The inverses of TRACK 7 and TRACK 8 respectively determine the logic values of SEQ BIT and TAP B. The SEQ BIT and TAP B signals are forced to "0's" when the tape reader is not running.

2-275. In the MANUAL mode, pressing a DATA ADDRESS, DATA, or TAPE ADDRESS pushbutton will set one of six latches (LACH 1 through LACH 6) which correspond to tape channels 1 through 6. The set outputs of these latches are ANDed with the outputs of a control latch (MANCH latch) to determine the logic values of TRCH1A through TRCH6A. The MANCH latch is set when the tape reader register position that corresponds to the pushbutton pressed contains a "0".

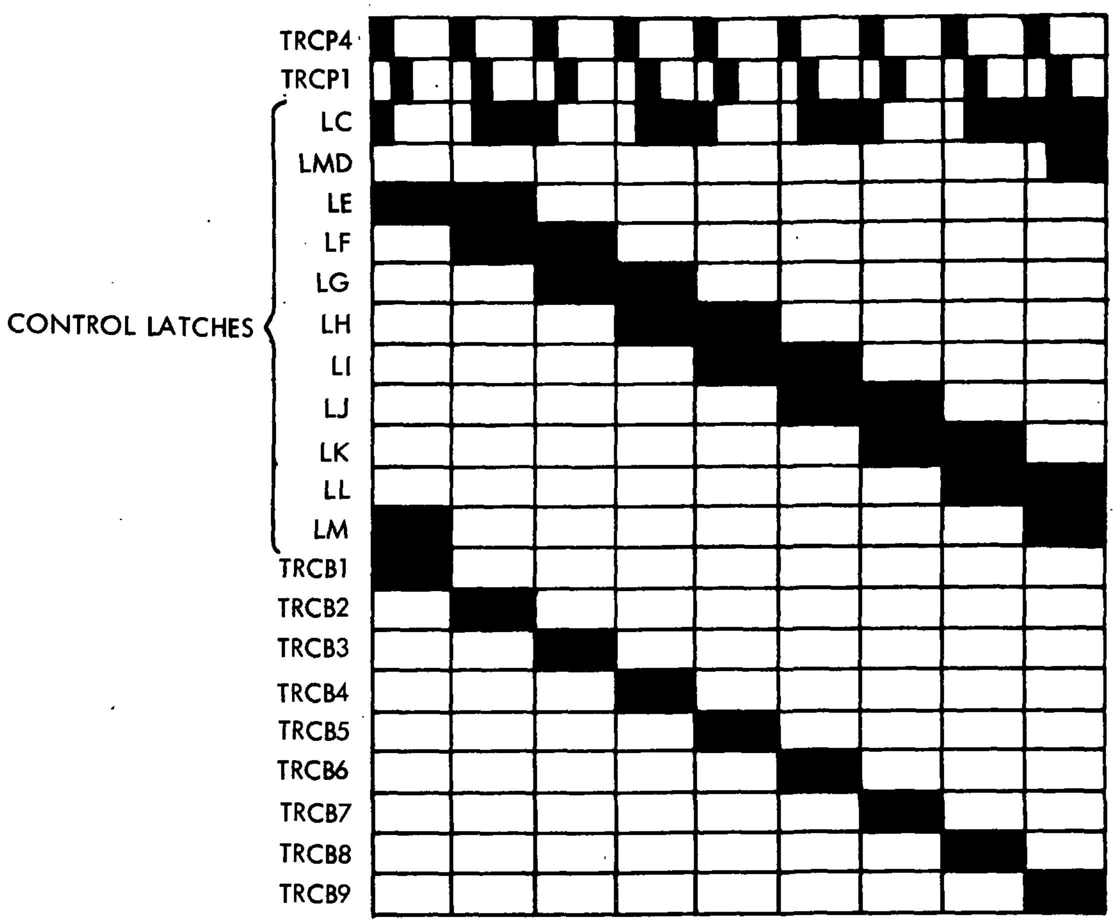



Figure 2-42. Tape Reader Character Bit Generator Timing

2-276. Sequence Error Detectors. Two sequence errors (SE1 and SE2) are generated if an error occurs when the tape reader is running forward. (See figure 10-28, sheet 49.) SE1 and SE2 are the set outputs of two latches which are set by SEQ BIT and TRCB9 NOT or SEQ BIT NOT and TRCB9 signals.

2-277. Tape Parity Error Detector. The tape parity error detector performs an odd parity check on each tape character when the tape reader is in the AUTO mode and running forward. (See figure 10-28, sheet 48.) A tape parity error is generated if an even number of "1" bits are detected. Tape parity errors are stored in a latch which produces an output TPE ERR NOT.

2-278. MODE SELECTION CIRCUITS. The mode selection circuits generate eight signals (AUTO, MAN A, DD A, DD NOT A, ML A, ML NOT A, FWD A, and RVS A) which control the mode of operation of the Memory Loader/Data Display and tape reader. (See figure 10-28, sheet 49 and 50.) The configuration of these signals can only be changed when the tape reader is stopped.

2-279. Auto and MAN A are the outputs of a latch, which is alternately set or reset when the AUTO/MANUAL pushbutton is actuated. DD A and ML A are the outputs of another latch which is alternately set or reset when the ML/DD pushbutton is pressed and the MANUAL mode is selected. When the AUTO mode is selected DD A is forced to a "0". The ML mode is forced when PTC DC power is sequenced on or off.

2-280. FWD A and RVS A are the outputs of binary counter which is complemented everytime the FORWARD/REVERSE pushbutton is actuated. The FORWARD mode is forced until the first sequence bit is sensed after PTC power is sequenced on. The REVERSE mode is forced when an AUTO R START signal is generated.

2-281. TAPE READER REGISTER. The tape reader register is a 63 position latch register that stores input information to the Memory Loader/Data Display. (See figure 10-28, sheets 51 through 58.) The contents of the tape reader register are displayed by corresponding COMMAND display and TAPE ADDRESS indicator lamps. The tape reader register is cleared except for the tape address positions by pressing the COMMAND DISPLAY RESET pushbutton.

2-282. Tape information or information generated by the DATA ADDRESS, DATA or TAPE ADDRESS pushbuttons is stored in 49 positions of the tape reader register. A specific bit of information is identified by sampling the tape reader channel containing this bit at the corresponding tape reader character bit time. The logic value of this bit is then stored in a latch. Additional control of the latch which stores the logic value of the OP3 bit is provided by two signals (STROP3 and RTOP3). This latch is set by a STROP3 signal and reset by a RTOP3 signal.

2-283. The remaining 14 positions of the tape reader register are used to store the instruction address information. The logic value of two control signals (LAST A and LARE A) determine whether a "1" or "0" is stored in these positions. The latch assigned to the INSTRUCTION ADDRESS pushbutton pressed will set if LAST A is a "1" and reset if LARE A is a "1". LAST A and LARE A are respectively identical to the set and reset outputs or a latch (LACH 7) when the tape reader is in the MANUAL mode. This latch is set when the tape reader register position that corresponds to the pushbutton pressed contains a "0".

2-284. TAPE READER REGISTER PARITY DETECTOR. The tape reader register parity detector generates a parity bit (SERIALIZER PARITY BIT) when the data address, instruction address, and data stored in the tape reader register contains an even number of "1's". (See figure 10-28, sheet 60.) Figure 2-43 shows the tape reader register parity detector which consists of four binary counters and a parity bit generator.

2-285. The configuration of the four binary counters (identified as "A", "B", "C", and "D" for this discussion) is determined by the number of "1's" contained in the information feeding them. In the AUTO mode the configuration of "B" is not changed. "A" which is set at the beginning of each tape word is complemented at tape reader character bit times 1, 2, 3, and 4 if the part of the data address located in these tape characters contain an odd number of "1's". "C" and "D" are respectively set by the presence or cleared by the absence of tape SYL 0 and SYL 1 parity bits.

2-286. In the MANUAL mode the binary counters are initially set when the COMMAND DISPLAY RESET pushbutton is pressed. Each counter is then complemented everytime one of the group of pushbuttons feeding it is pressed. "A" is also complemented everytime a CHANGE TROP3 signal is generated.

2-287. The outputs of the four binary counters are applied to a parity bit generator which produces outputs SER PB and SER PB NOT. SER PB and SER PB NOT are forced to a "1" and a "0" respectively when none, two or four of the binary counters are set. Any other condition will force SER PB and SER PB NOT respectively to a "0" and a "1".

2-288. TAPE READER SERIALIZER. The tape reader serializer receives parallel information from the tape reader register and transforms this information into serial data on three lines. (See figure 10-28, sheet 59.) Data sector and module information appears on the DSMSO line, instruction information appears on the INSSO line, and data informations appears on the DTSO line.

2-289. The tape reader register data is gated through the serializer by bit gates. Figure 2-44 shows the order in which bits are transferred on the three serializer output lines.

2-290. The serializer alos provides two additional output lines (2BDDTSO and 2BDDTSO NOT). These signals are the outputs of a three-state shift register which is fed by DTSO and DTSO NOT.

2-291. SERIAL PARITY ERROR DETECTOR. A serial parity error is generated if the number of "1's" contained in the information appearing on the serializer outputs differs from the number of "1's" contained in the information feeding the tape reader register. (See figure 10-28, sheet 61.) Figure 2-45 is a block diagram of the serial parity error detector.

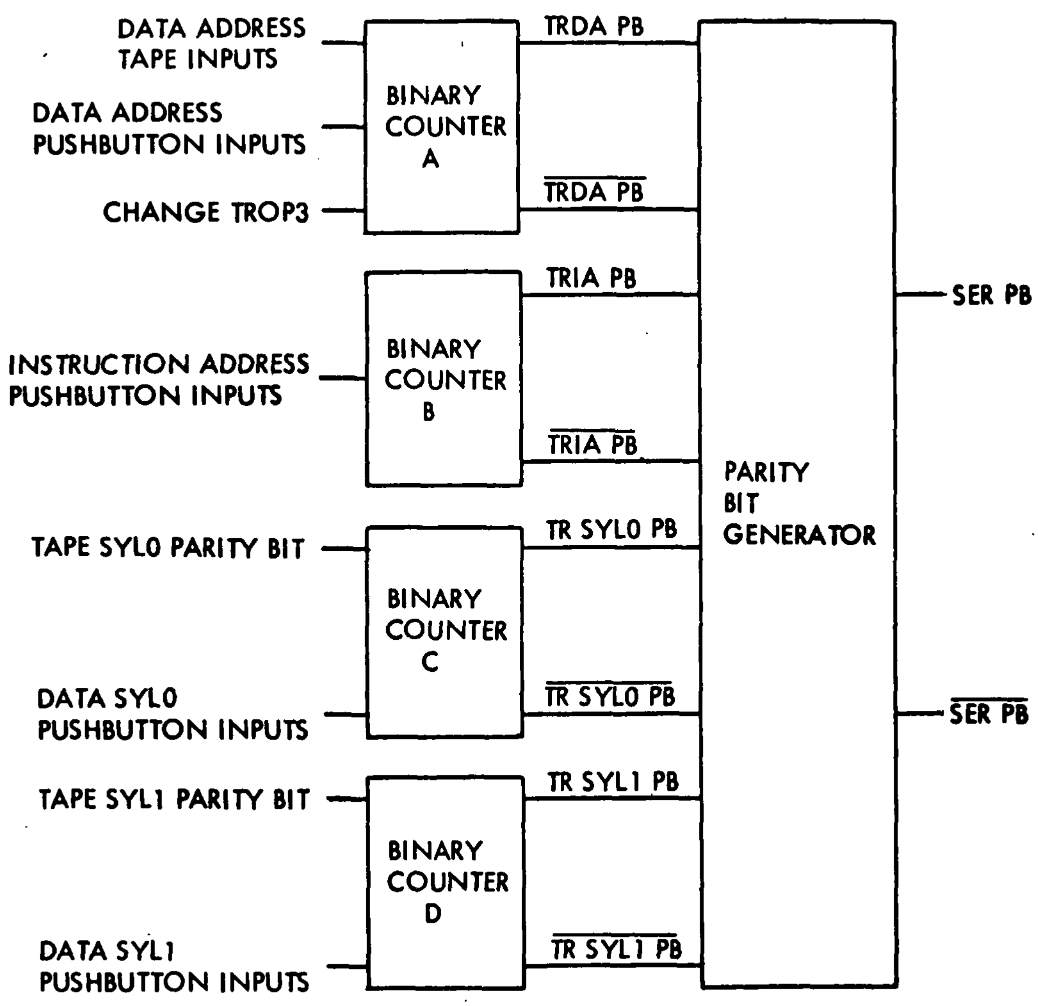



Figure 2-43. Tape Reader Register Parity Detector

| | DSMSO | | | INSSO | | | DTSO | | |
|---|---|---|---|---|---|---|---|---|---|
| | PHA | PHB | PHC | PHA | PHB | PHC | PHA | PHB | PHC |
| BG1 | | | | TROA3 | TROA3 | TROA3 | | TRB25 | TRB11 |
| BG2 | | | | TROA4 | TROA4 | TROA4 | | TRB24 | TRB10 |
| BG3 | | | | TROA5 | TROA5 | TROA5 | | TRB23 | TRB9 |
| BG4 | | | | TROA6 | TROA6 | TROA6 | | TRB22 | TRB8 |
| BG5 | | | | TROA7 | TROA7 | TROA7 | | TRB21 | TRB7 |
| BG6 | | | | TROA8 | TROA8 | TROA8 | | TRB20 | TRB6 |
| BG7 | TRDM1 | TRDM1 | TRDM1 | | | | | TRB19 | TRB5 |
| BG8 | | | | TROP1 | TROP1 | TROP1 | | TRB18 | TRB4 |
| BG9 | | | | TROP2 | TROP2 | TROP2 | | TRB17 | TRB3 |
| BG10 | TRDS1 | TRDS1 | TRDS1 | TROP3 | TROP3 | TROP3 | | TRB16 | TRB2 |
| BG11 | TRDS2 | TRDS2 | TRDS2 | TROP4 | TROP4 | TROP4 | | TRB15 | TRB1 |
| BG12 | TRDS3 | TRDS3 | TRDS3 | TROA9 | TROA9 | TROA9 | | TRB14 | TRBSIGN |
| BG13 | TRDS4 | TRDS4 | TRDS4 | TROA1 | TROA1 | TROA1 | | TRB13 | |
| BG14 | | | | TROA2 | TROA2 | TROA2 | | TRB12 | |

Figure 2-44. Tape Reader Serializer Outputs

2-292. Two binary counters (identified as "A" and "B" for this discussion) are used to count the number of "1's" appearing on the serializer outputs. These counters, which are cleared at 10 time of the preceding cycle 2 time are complemented every bit time whenever their inputs are "1's". Thus at A-6 time of cycle 2 both counters are set when an even number of "1's" appear on the serializer outputs except for two conditions:

1. A tape address of 00101 will cause "A" to be cleared.

2. A TRIA PB NOT will cause "B" to be cleared.

2-293. The outputs of the binary counters are compared and two signals (identified as Y and Y NOT for this discussion) which should correspond to SER PB and SER PB NOT are generated. These signals are applied to an exclusive OR comparator and if they do not correspond at A-6 time of cycle 2 a latch is set indicating a serial parity error.

2-294. DATA TRANSFER CONTROL. The data transfer control circuits control the flow of information between the memory loader and the central processor. The data transfer control circuits consists of the cycle generator, the DIN control circuit, and the manual mode control circuits. (See figure 10-28, sheet 61.)

2-295. Cycle Generator. The cycle generator provides additional timing gates for the memory load and memory verification operations. Figure 2-46 shows the cycle generator which consists of a three-stage shift register, a shift control circuit, and a decoding matrix.

2-296. The shift control circuit provides two shift control gates (ODD and EVEN) that occur during alternate A times. Another output from the shift control circuit (STCYC) permits the shift register to step. The shift register provides outputs C1, C1 NOT, C2, C2 NOT, C3, and C3 NOT. These outputs are applied to a matrix which produces the cycle gates as follows:

CYC1 = C1 and C2 NOT

CYC2 = C2 and C3 NOT

CYC3 = C1 and C3

CYC4 = C1 NOT and C2

CYC5 = C2 NOT and C3

CYC0 = C1 NOT and C3 NOT

2-297. In the AUTO mode the cycle generator is started (if the error latches are all reset and a transfer inhibit signal is not generated) by the first ODD gate after a sequence bit is read by the tape reader. The cycle generator stops automatically after the last cycle gate (CYC0) is generated. CYC0 is maintained until the next sequence bit is read from the tape.

2-298. In the MANUAL mode the cycle generator is started by the SRPT NOT signal. When the memory loader is in the REPEAT mode the cycle generator continues to operate as long as this mode is maintained. When the memory loader is in $\overline{\text{REPEAT}}$, the cycle generator operates for a total of 12 cycles. The first six cycles are started by SPRT and the next cycles are started by STROP3, which is generated to enable automatic verification of manually loaded data.

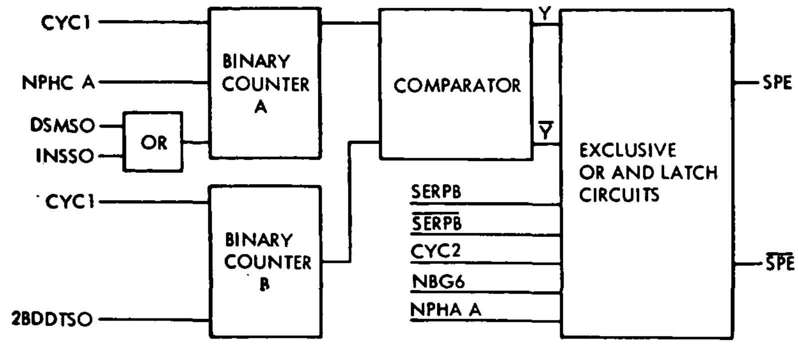
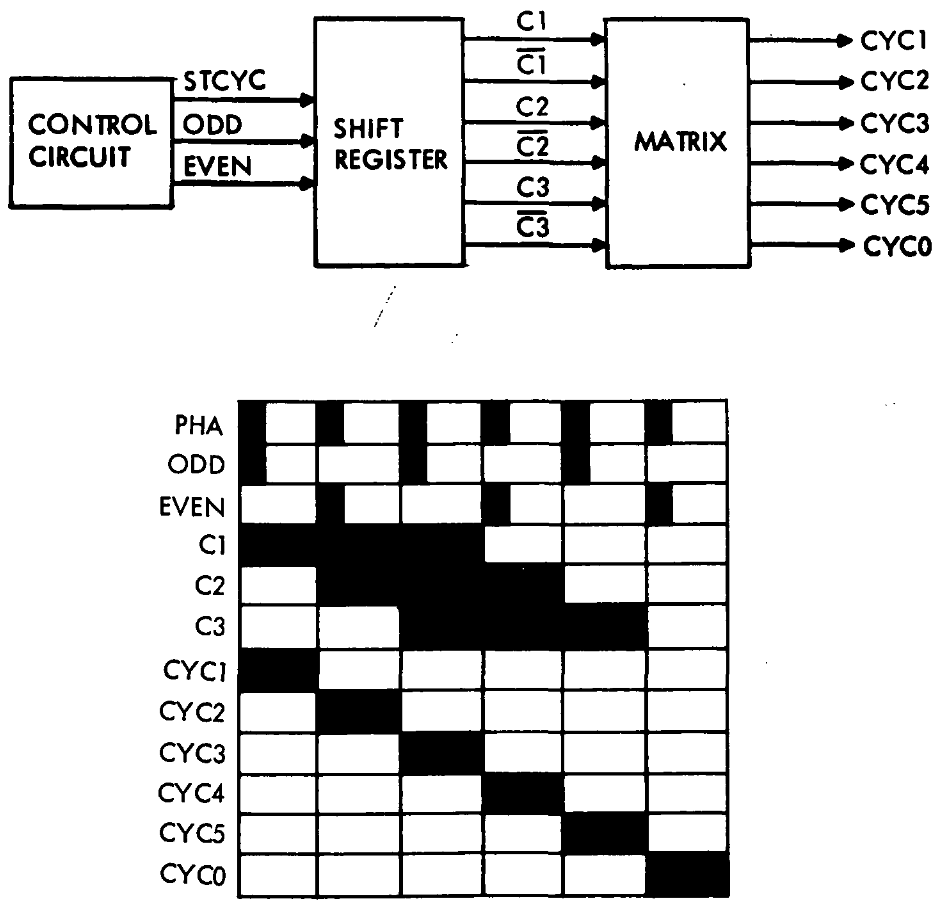



Figure 2-45. Serial Parity Error Detector




NOTE: RESTING STATE OF CYCLE GENERATOR IS CYC0 = "1"

Figure 2-46. Cycle Generator

2-299. DIN Control Circuit. The DIN control circuit organizes information appearing on the three serializer outputs and sends this information to the central processor on the DIN line. DSMSO information appears on the DIN line during B time of cycle 2. INSSO and DTSSO information appears on the DIN line when the TATC and TDTTC gates respectively are "1's". When the memory loader is in the $\overline{\text{REPEAT}}$ mode a serial parity error forces the DIN line to a "0".

2-300. The TATC gate is the output of a latch which is set from C-8 time of cycle 2 to A-8 time of cycle 3. The TDTTC gate is the output of a latch which is set from B-1 time cycle 3 to A-1 time cycle 4 except as follows:

1. When a verify command is generated (TROP3 NOT is a "0").

2. When a serial data compare error occurs (CETRS NOT is a "0") in the $\overline{\text{REPEAT}}$ mode.

2-301. Manual Mode Control Circuits. The manual mode control circuits generate seven signals (DTRPT, DTRPT NOT, SRPT NOT, CHANGE TROP3, STROP3, and RTOP3). These signals control the memory load and verification operations when the memory loader is in the MANUAL mode.

2-302. DTRPT and DTRPT NOT are the outputs of a binary counter which is complemented every time the REPEAT/$\overline{\text{REPEAT}}$ pushbutton is pressed. SRPT NOT is the reset output of a latch which is set in the $\overline{\text{REPEAT}}$ mode from C-10 time of cycle 0 to A-2 time of cycle 1 every time the ADDRESS COMPTR pushbutton is pressed if the error latches are all reset.

2-303. CHANGE TROP3, STROP3, and RTROP3 are the outputs of a tratch. The three configurations of this tratch are as follows:

| Configuration | CHANGE TROP3 | STROP3 | RTROP3 |
|---|---|---|---|
| 1 | "0" | "0" | "0" |
| 2 | "1" | "1" | "0" |
| 3 | "1" | "0" | "1" |

The first configuration is forced every 12 time. The tratch is forced to its second configuration at A-11 time of cycle 5 when the tape reader register contains a store command. The third configuration is forced only in the REPEAT mode at A-10 time of cycle 5 when the tape reader register contains a clear and add command.

2-304. TRANSFER CONTROL CIRCUIT. (See figure 10-28, sheet 49.) The transfer control circuit controls the transfer of information to the central processor. A transfer inhibit signal is generated (TRANS INH NOT is forced to a "0") as follows:

1. For the duration of tape reader character bit 9 when the verify only latch is set and the tape reader register does not contain a clear and add command.

2. By a tape address of 00010 when the verify only latch is set.

3. When the skip first latch is set.

4. Whenever the tape reader is not in the FORWARD AUTO mode.

The verify only latch is alternately set or reset when the VERIFY ONLY pushbutton is actuated.

2-305. ERROR TEST AND ERROR RESET CIRCUITS.

2-306. The error test and error reset circuits (See figure 10-28, sheets 48 and 49.) generate four signals (ERR TEST and ERR RST and their inverses). The parity, tape, and compare error latches are all set when ERR TEST is a "1" and are all reset when ERR RST is a "1".

2-307. ERR TEST and ERR TEST NOT are the outputs of a latch which is set when the ERROR DEVICES TEST pushbutton is pressed and the tape reader is stopped. ERR RST and ERR RST NOT are forced to a "1" and a "0" respectively as follows:

1. When the ERROR RESET pushbutton on MEMORY LOAD AND DATA DISPLAY panel is pressed and the tape reader is stopped.

2. At tape reader clock pulse 2 time in the invert error mode by a tape address of 00100.

2-308. SECTOR-SYLLABLE-MODULE BUFFER REGISTER. (See figure 10-28, sheet 64.) The sector-syllable-module buffer register (SSMBR) is an 11 position latch register that receives information on the NTRS or NHOPC1 lines. The contents of the SSMBR appear on 11 parallel outputs as shown on figure 2-47.

2-309. The SSMBR is loaded with information appearing on the NTRS line during a central processor HOP instruction or NHOPC1 line during any other instruction. The SSMBR is loaded from B-6 time to the following A-1 time. In the ML mode the SSMBR cannot be loaded when a CESSMBR or CESSMSC exists, or after B-9 time of cycle 4.

2-310. Instruction sector and syllable information is subsequently gated into the SSMBR from B-6 time through B-10 time. Data module and data sector information is subsequently gated into the SSMBR at C-7, 10, 11, 12, and 13 times. Instruction module information is gated in the SSMBR at A-1 time.

2-311. The SSMBR is cleared as follows:

1. Every B-3 time unless a CESSMSC or CESSMBR exists.

2. By a CD RST signal.

2-312. SECTOR-SYLLABLE-MODULE DISPLAY REGISTER. (See figure 10-28, sheet 64.) The sector-syllable-module display register (SSMDR) is an 11 position latch register that is loaded with information from the SSMBR. The contents of the SSMDR are displayed by corresponding COMPUTER display indicator lamps.

2-313. The SSMDR latches are all initially reset at B-1 time when an ADR COMP signal is generated. The SSMDR latches are then set when the corresponding SSMBR latches are set, at B-2 time by an ADR COMP signal.

2-314. ADDRESS BUFFER REGISTER. (See figure 10-28, sheet 65.) The address buffer register (ADRBR) is a 13 position latch register that receives parallel information on the NOP1 through NOP4 and NA1 through NA9 lines. The contents of the ADRBR appear on 13 parallel outputs. The instruction address is loaded into the ADRBR at A-11 time; the OP code and operand address are loaded into the ADRBR at B-12 time. The ADRBR cannot be loaded when the central processor is in single step or when a CD RST signal is generated.

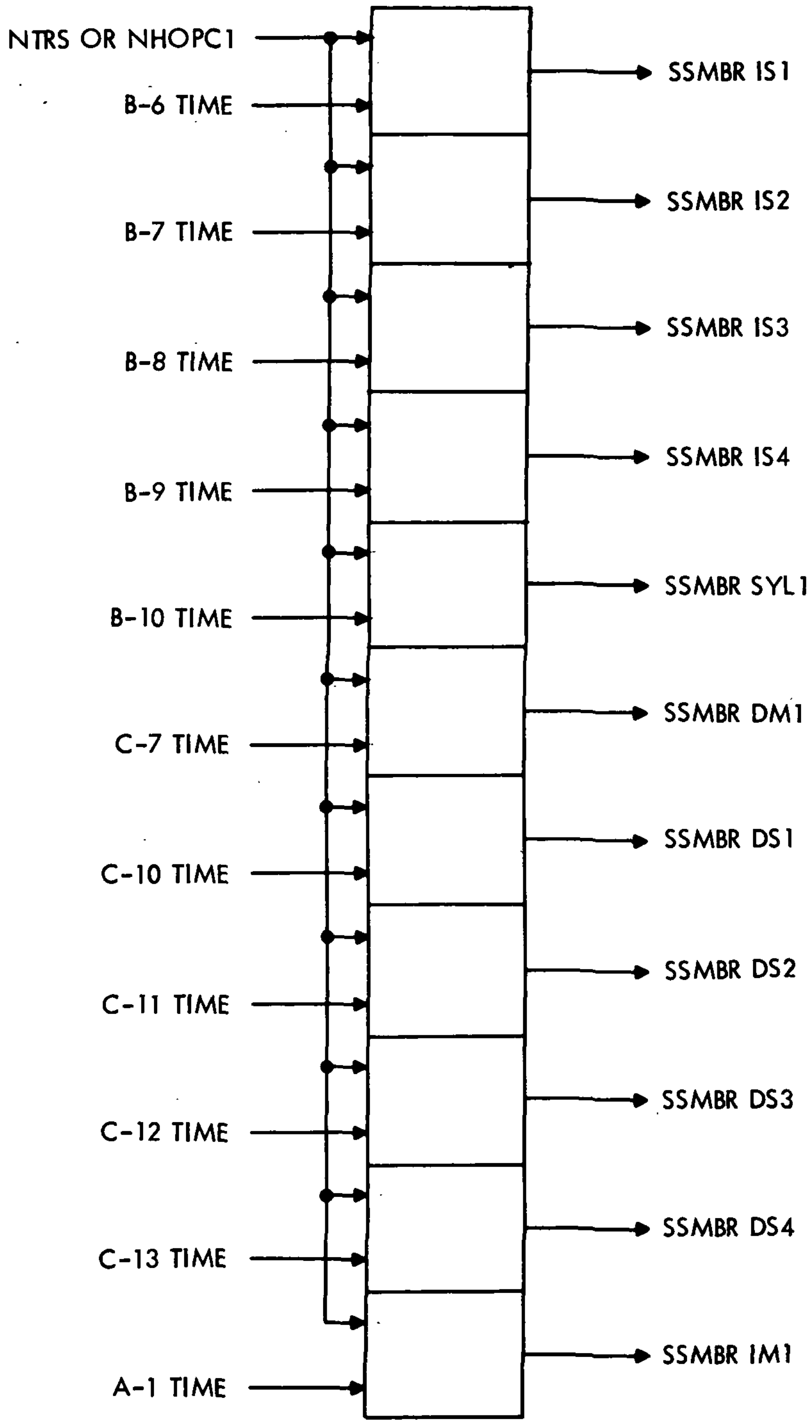



Figure 2-47. Sector-Syllable-Module Shift Register

2-315. INSTRUCTION ADDRESS DISPLAY REGISTER. (See figure 10-28, sheet 67.) The instruction address display register (IADR) is an eight position latch register that is loaded with the instruction address from the ADRBR. The contents of the IADR are displayed by the corresponding COMPUTER lamps.

2-316. The IADR latches which are all initially reset at B-1 time by an ADR COMP signal, are then set at B-2 time when the corresponding ADRBR latches are set. The IADR cannot be loaded during cycle 4 time in the ML mode and is cleared by a CD RST signal.

2-317. INSTRUCTION DISPLAY REGISTER. (See figure 10-28, sheet 67.) The instruction display register (INSDR) is a 13 position latch register that is loaded with the OP code and operand address from the ADRBR. The contents of the INSDR are displayed by the corresponding COMPUTER lamps.

2-318. The INSDR latches which are all initially reset at B-13 time by an ADR COMP signal are then set at B-14 time when the corresponding ADRBR latches are set. The INSDR like the IADR cannot be loaded during cycle 4 time in the ML mode and is cleared by a CD RST signal.

2-319. DATA DISPLAY SHIFT REGISTER. (See figure 10-28, sheet 68.) The data display shift register (DTDR) receives serial information on the NTRS and NAI3 lines. Information stored in the DTDR appears on 26 parallel outputs which are displayed by the corresponding COMPUTER lamps.

2-320. Data is loaded into the DTDR when shift clock pulses (DTDR CP1, 2, 3, and 4) are generated. The DTDR is then cleared by a CD RST signal. Figure 2-48 is a block diagram of the DTDR which consists of 35 latches connected in series.

2-321. In the ML mode NTRS or NAI3 data is gated into the DTDR by CTRS and CAI3 signals respectively. Whenever an error occurs new data cannot be entered into the DTDR until the error is reset.

2-322. In the DD mode NTRS or NAI3 information selected by the MODE CONTROL switch is gated into the DTDR when an ADR COMPARE signal is generated. AI3-IA information is shifted into positions SIGN and 1 through 7 from A-3 time to A-10 time. AI3-DATA and TRS data information is shifted in positions SIGN and 1 through 25 from B-5 time to the following A-2 time.

2-323. PARITY BIT INDICATORS. (See figure 10-28, sheet 69.) The parity bit indicator circuits generate three signals (INS BR PB, SYLO BR, and SYL1 BR) that indicate the value of the central processor instruction word and data word parity bits. The INS BR PB signal indicates the value of the instruction word parity bit. The SYLO BR and SYL1 BR signals indicate the value of the data word parity bits when the MODE control switch is in the TRS position.

2-324. INS BR PB, SYLO BR, and SYL1 BR are the outputs of three latches which are set by corresponding central processor parity bits as follows:

1. In the ML mode at A-5 time of cycle 4.

2. In the DD mode at the A-5 time following the generation of the ADR COMP signal.

The INS BR PB, SYLO BR, and SYL1 BR latches are reset as follows:

1. In the ML mode at A-4 time of cycle 4.

2. In the DD mode at the A-4 time following the generation of the ADR COMP signal.

3. By a CD reset signal.

2-325. The presence of instruction word and data word parity bits are detected and stored in three latches. These latches control the setting of the INS BR PB, SYLO BR, and SYL1 BR latches and are set by an MBR 14 signal as follows:

| Control Latch | Set Duration |
|---|---|
| INS BR PB | A-12 time to the following A-11 time. |
| SYLO BR | C-4 time to the following A-3 time during a central processor store cycle. |
| | B-4 time to the following A-3 time during a central processor read cycle. |
| SYL1 BR | A-4 time to the following A-3 time during a central processor store cycle. |
| | C-4 time to the following A-3 time during a central processor read cycle. |

2-326. INPUT/OUTPUT PROCESSOR.

2-327. The Input/Output Processor contains the circuits necessary to control the transfer of information into or out of the Central Processor. The Input/Output Processor contains control logic for the following:

1. Printer

2. Typewriter

3. Digital Data Plotter

4. Input Serializer

5. Discrete Output and Display Register

6. Program Control Mode Display Register

2-328. PRINTER LOGIC.

2-329. The printer control logic (figure 2-49) consists of: (1) a 26-bit parallel register; (2) a BCD and octal decoder; (3) a 12-state counter; (4) an asynchronous timer; (5) program control logic; and (6) an odd parity generator.

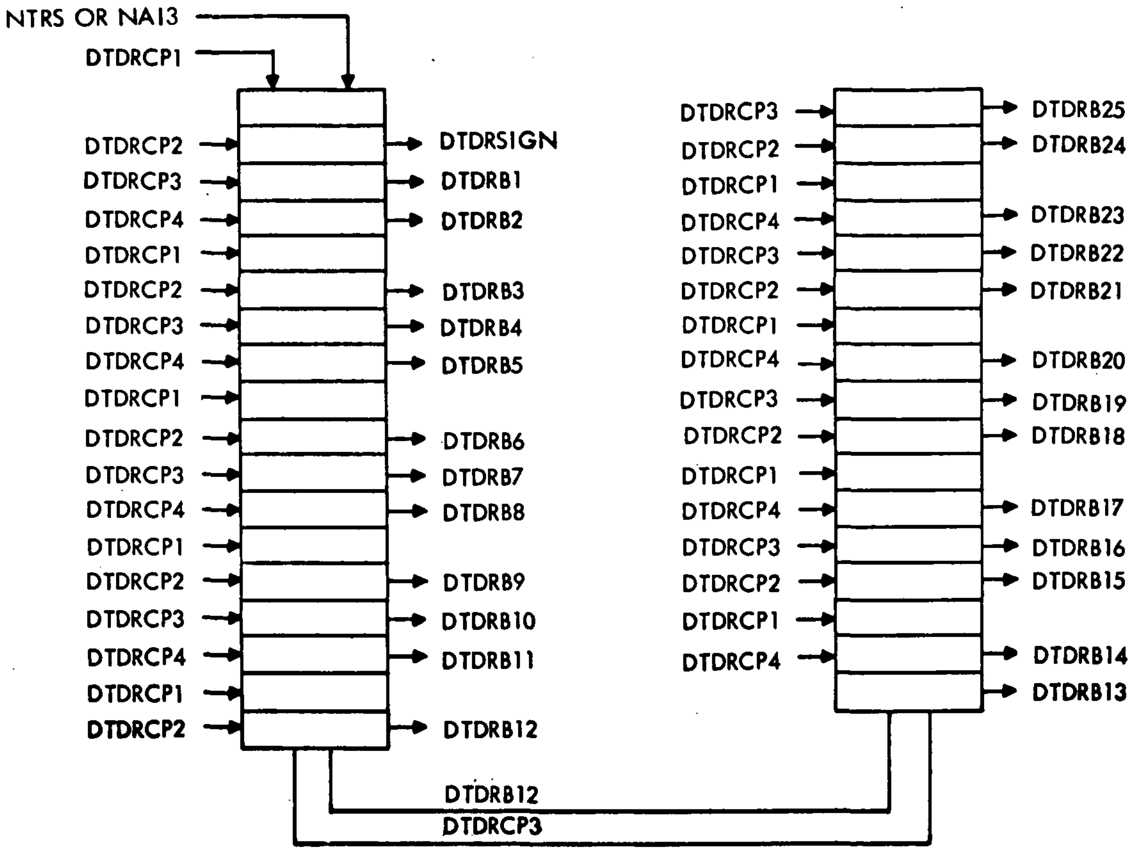



Figure 2-48. Data Display Shift Register

2-330. TWENTY-SIX BIT PARALLEL REGISTER. (See figure 10-28, sheet 42.) The 26-bit register provides storage for one complete processor data word. Data bits SIGN and 1 through 5 are gated into the register with a print-store or carriage gate (PRS + CARR GATE) at A-1-Z time. The gate is developed when either the print-store 774 NOT (PRS 774 NOT) latch or carriage control (CARR CTRL) latch is set. The PRS 774 NOT latch is set when any print-store instruction except 774 is programmed. This indicates that data line transfers to the printer are allowable. The CARR CTRL latch is set when a CIO 160 is programmed. This commands a control carriage skip operation in the printer. The number of skips is dictated by a decode of the first six data bits. Data bits SIGN and 1 through 25 are gated into the 26-bit register at A-1-Z time by means of a print-store gate (PRS GATE). The PRS GATE is developed when PRS 774 NOT latch is set. The 26-bit register is reset with a machine reset (MACH RST) or a printer reset (PRINT RST). The MACH RST level clears the 26-bit register when PTC power is cycled on or when the machine reset pushbutton on the PTC is pressed. The PRINT RST level causes the clearing of the 26-bit register and it occurs: (1) when the buffer register within the printer is loaded with 4, BCD characters; (2) when the buffer register within the printer is loaded with 12 octal characters; (3) when the buffer register within the printer is loaded with a carriage control instruction; or (4) when the processor is released for the following operation as dictated by the PROCESSOR RELEASE level fed back to the processor from the printer. The clearing of the 26-bit register initializes the register for the next instruction word.

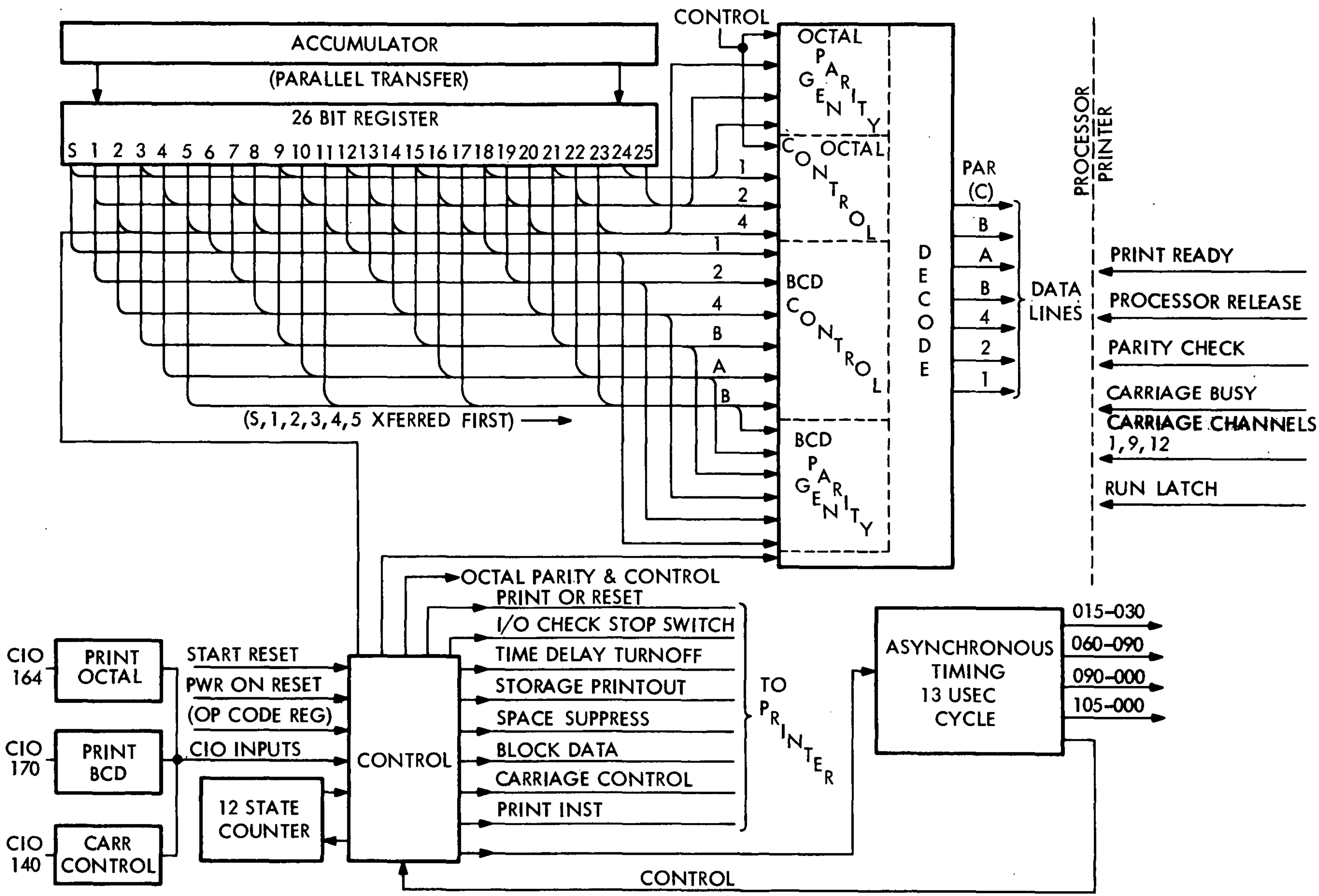



Figure 2-49. Printer Controls Block Diagram

2-331. DECODER. The data word is decoded and furnished to the printer parallel-by-bit (either 3 or 6 bits per character) and serial-by-character on seven data lines (figure 10-28, sheets 43 and 44) designated DATA 1, DATA 2, DATA 4, DATA 8, DATA A, and DATA B. (See figure 2-50 for printer character coding.) Another line furnished is DATA C which is an assigned parity bit (odd) for each character group transmitted. Data is transferred in 26-bit word groups in either octal (OCTAL) or binary coded decimal (BCD) modes. In the OCTAL mode, the 26-bit data word is serialized into eight 3-bit characters and one 2-bit character. Each character is transferred with its parity bit to the printer. After each 9 character data word is transferred an automatic three character spacing is instituted by holding all data lines to zero during counts 10, 11 and 12 of the 12-state counter, while providing a parity bit. The 12 character transfers are itemized by the 12-state counter and are completed within two instruction times. In the BCD mode, the 26-bit data word is divided into four 6-bit characters. Each character is transferred to the printer under regulation of the 12-state counter. The four character transfers require less than one instruction time.

2-332. TWELVE-STATE COUNTER. The 12-state counter (figure 10-28, sheet 45) which controls sorting bits into BCD and octal characters is controlled by 4 triggers which are aligned into a four position counter. The counter starts to cycle when the processors asynchronous timer reaches 015-030 time and adds a count each succeeding time the asynchronous timer goes to 015-030 time. The counts of the 4 triggers are decoded into twelve decimal counts (DEC 1 through DEC 12) thereby forming the 12-state counter. The triggers are reset, rendering a zero count by means of a machine reset or a control reset (CNT RST). The machine reset is explained in a previous paragraph and the CNT RST is developed the same as the PRINT RST in the 26-bit register. This also is explained in a previous paragraph.

2-333. ASYNCHRONOUS TIMER. The asynchronous timer is a delay type network which produces four sequential gates (015-030, 060-090, 090-000, and 105-000) occuring within 13 USEC, but not less than 11.1 USEC. Each cycle of the timing generator institutes a character transfer from the processor to the printer while also controlling functions within the printer.

2-334. The timing generator is started when either the printer is set to print in character position 1 (PRINT CHAR POS 1) due to PARITY CHECK level (indicating parity error in printers previous line of print) received from the printer or during a print instruction. In both cases the printer buffer must be initialized to receive data and no inhibit must be present to prevent starting the timing generator. The timing generator is inhibited: (1) during BCD made when the 12-state counter is at decimal 4 (DEC 4) time and the timing generator is presently at 090-000 time; (2) during octal mode when the 12-state counter is at decimal 12 (DEC 12) time and the timing generator is presently at 090-000 time; or (3) when an end of line of print is reached as indicated by the group mark-word mark latch being reset (GMWM LTCH) and the timing generator is presently at 090-000 time. The inhibits indicate that the last octal or BCD character of a word is being transferred and a new cycle is not ready to start or that the processor is not released to start a new cycle.

2-335. PROGRAM CONTROL. In order for the printer to perform its functions, it must be programmed to do so. The programming instructions for printer controls are as follows:

1. CIO 170 – This programmed instruction resets the BCD latch (BCD LTCH) and allows a BCD mode of operation. The BCD mode is inhibited when data is forced to the carriage control latches of the printer, or by the printer being ready to print or by a carriage instruction.

| Printer Character | SPACE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | = | ' | : | / | S | T | U | V | W | X | Y | Z | ≠ | . | ( |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Data Line | | | | | | | | | | | | | | | | | | | | | | | | | | |
| "C" | * | 0 | 0 | * | 0 | * | * | 0 | 0 | * | * | 0 | * | 0 | * | * | 0 | * | 0 | 0 | * | * | 0 | 0 | * | 0 |
| "B" | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| "A" | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| "8" | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| "4" | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| "2" | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
| "1" | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |

| Printer Character | b̸ | - | J | K | L | M | N | O | P | Q | R | ! | $ | * | + | A | B | C | D | E | F | G | H | I | ? | . | ) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Data Line | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| "C" | * | 0 | * | * | 0 | * | 0 | 0 | * | * | 0 | 0 | * | 0 | * | 0 | 0 | * | 0 | * | * | 0 | 0 | * | * | 0 | * |
| "B" | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| "A" | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| "8" | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| "4" | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| "2" | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
| "1" | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |

Figure 2-50. Printer Character Coding

2. CIO 164 — This programmed instruction sets the octal latch (OCTAL LTCH) and allows octal mode of operation. Octal mode is inhibited by the same inhibit conditions as in the BCD mode above. Sequential print-store operations cannot be programmed in the octal mode since it requires two instruction cycles to process all the octal characters in one word.

3. CIO 160 — The printer carriage is controlled by a CIO 160 and the decoded data bits shown in figure 2-51. Carriage control depends on a paper tape within the printer. If a hole is sensed in channel 12 of the carriage control tape an automatic skip to channel 1 will occur. This provides automatic page control for a standard format output on the printer paper without the use of a programmed CIO.

4. PRS 774 — The print-store 774 instruction sets the PRS 774 NOT latch, which causes blocking of the data lines to the printer and filling the remaining buffer positions with space characters. One line of print is thereby initiated.

5. PRS 775 — The print-store 775 instruction causes transfer of data from the accumulator into the printer buffer. A print cycle occurs if the buffer is filled.

6. PRS 000-773 — The print-store 000-773 instruction causes the transfer of data from the memory address specified to the accumulator and then to the printer buffer.

2-336. A non-programmed control is the printer ready level (PRNTR READY). PRNTR READY (figure 10-28, sheet 44) allows printer operation if bit 25 of the processors A switches is not sensed when the level is present. If the A switch is sensed ("0") a printer busy level is developed which prevents printer operation. The PRNTR READY level is present when the printer feeds back to the processor controls concurrent levels indicating readiness of the printer to perform another function.

2-337. PARITY CHECKING. The data line outputs (figure 10-28, sheet 44) are checked for correct parity (odd) by parity detector circuits. A typical parity detector is explained earlier in subsidiary circuit descriptions. If even parity is detected during character transfer, a "1" is added to the existing even parity thereby generating correct parity (odd). The generated bit is placed on the DATA C line and transferred to the printer along with all the data bits which make up the character.

2-338. Another parity check is made when data is transferred from the printer buffer to the printing mechanism whithin the printer. If an error is detected the printer is not stopped but a PARITY CHECK level is routed back to the Central Processor as a control to identify the error. The possible errors and means of identification are as follows: (See figure 10-28, sheet 44 for parity error controls.)

1. BCD error during buffer load or print is identified by a character "ƀ" printed in the first position of the next line of print providing the next line of print is BCD. The BCD printout is indented one print position from the normal place that a line of print is started.

2. BCD error during buffer load or print is identified by a character, "ƀ" printed in the first position after the first word of octal print (tenth position), providing the next line of print is octal.

3. Octal error during buffer load is identified by a character "-" printed in the second space after the word in which the error occured (eleventh position).

| To | CIO Code | Data Line | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 4 | 8 | A | B |
| <u>Immediate Skip</u> | | | | | | | |
| Channel 1 | 160 | X | | | | | |
| Channel 2 | 160 | | X | | | | |
| Channel 3 | 160 | X | X | | | | |
| Channel 4 | 160 | | | X | | | |
| Channel 5 | 160 | X | | X | | | |
| Channel 6 | 160 | | X | X | | | |
| Channel 7 | 160 | X | X | X | | | |
| Channel 8 | 160 | | | | X | | |
| Channel 9 | 160 | X | | | X | | |
| Channel 10 | 160 | | X | | X | | |
| Channel 11 | 160 | X | X | | X | | |
| Channel 12 | 160 | | | X | X | | |
| <u>Immediate Space</u> | | | | | | | |
| 1 Space | 160 | X | | | | | X |
| 2 Spaces | 160 | | X | | | | X |
| 3 Spaces | 160 | X | X | | | | X |
| <u>Skip After Print</u> | | | | | | | |
| Channel 1 | 160 | X | | | | X | X |
| Channel 2 | 160 | | X | | | X | X |
| Channel 3 | 160 | X | X | | | X | X |
| Channel 4 | 160 | | | X | | X | X |
| Channel 5 | 160 | X | | X | | X | X |
| Channel 6 | 160 | | X | X | | X | X |
| Channel 7 | 160 | X | X | X | | X | X |
| Channel 8 | 160 | | | | X | X | X |
| Channel 9 | 160 | X | | | X | X | X |
| Channel 10 | 160 | | X | | X | X | X |
| Channel 11 | 160 | X | X | | X | X | X |
| Channel 12 | 160 | | | X | X | X | X |
| <u>Space After Print</u> | | | | | | | |
| 1 Space | 160 | X | | | | X | |
| 2 Spaces | 160 | | X | | | X | |
| 3 Spaces | 160 | X | X | | | X | |
| Note: "X" represents a "1". | | | | | | | |

Figure 2-51. Printer Carriage Control Codes

4. Octal error during print, providing the next line of print is BCD, is identified by a character "ƀ" printed in the first position of the next line of print. The octal printout is indented one print position from the start of a line of print.

5. Octal error during print, provided the next line of print is octal, is identified by a character "ƀ" in the first position after the first word of octal print (tenth position).

2-339. TYPEWRITER LOGIC. (See block diagram figure 2-52 and figure 10-28, sheets 37 and 38.)

2-340. The typewriter control logic is activated by four CIO commands (CIO 120, 124, 130 and 134). The first three CIO's, in the order shown, control three print modes: (1) print (type) alpha numeric; (2) print (type) decimal; and (3) print (type) octal, respectively. CIO 134 performs the following control functions when the indicated accumulator bits are present:

| Accumulator Bit | Function |
|---|---|
| SIGN | Space |
| 1 | Select black ribbon |
| 2 | Select red ribbon |
| 3 | Set index |
| 4 | Provide carriage return |
| 5 | Set tab |

2-341. During the time that the 6 hi-order bits of the accumulator are being transferred to the 6 typewriter binary coded decimal (BCD) latches, a decoder latch is set (from B-1 through A-2 time) to provide mode selection and function control gates. These gates are; print alpha-numeric (PRINT ALPH NUM), print decimal (PRINT DEC), print octal (PRINT OCT) and PRINT CONTROLS. The PRINT ALPHA NUM or PRINT CONTROLS gate allows gating of 6-bits of accumulator information into the BCD latches to set up either one alpha-numeric character of type or one control function. Print decimal (PRINT DEC) allows gating of 4-bits of accumulator information into four BCD latches to set up one decimal coded character of type. Print octal (PRINT OCT) allows gating of 3-bits of accumulator information into three BCD latches to set up one octal coded character of type. (See figure 2-53 for decoded accumulator bits at the BCD latches.)

2-342. There are five control latches which provide gating levels for five specific typewriter control functions. The functions are as follows: (See timing charts figures 2-54 and 2-55 for control and print timing charts.)

1. Alpha-numeric spacing (ALP SPA) --- is a latch controlled level developed during PRINT ALPHA NUM mode, providing PRINT DEC mode is not selected.

2. PRINT DATA --- is a latch output gating level which occurs during any print mode.

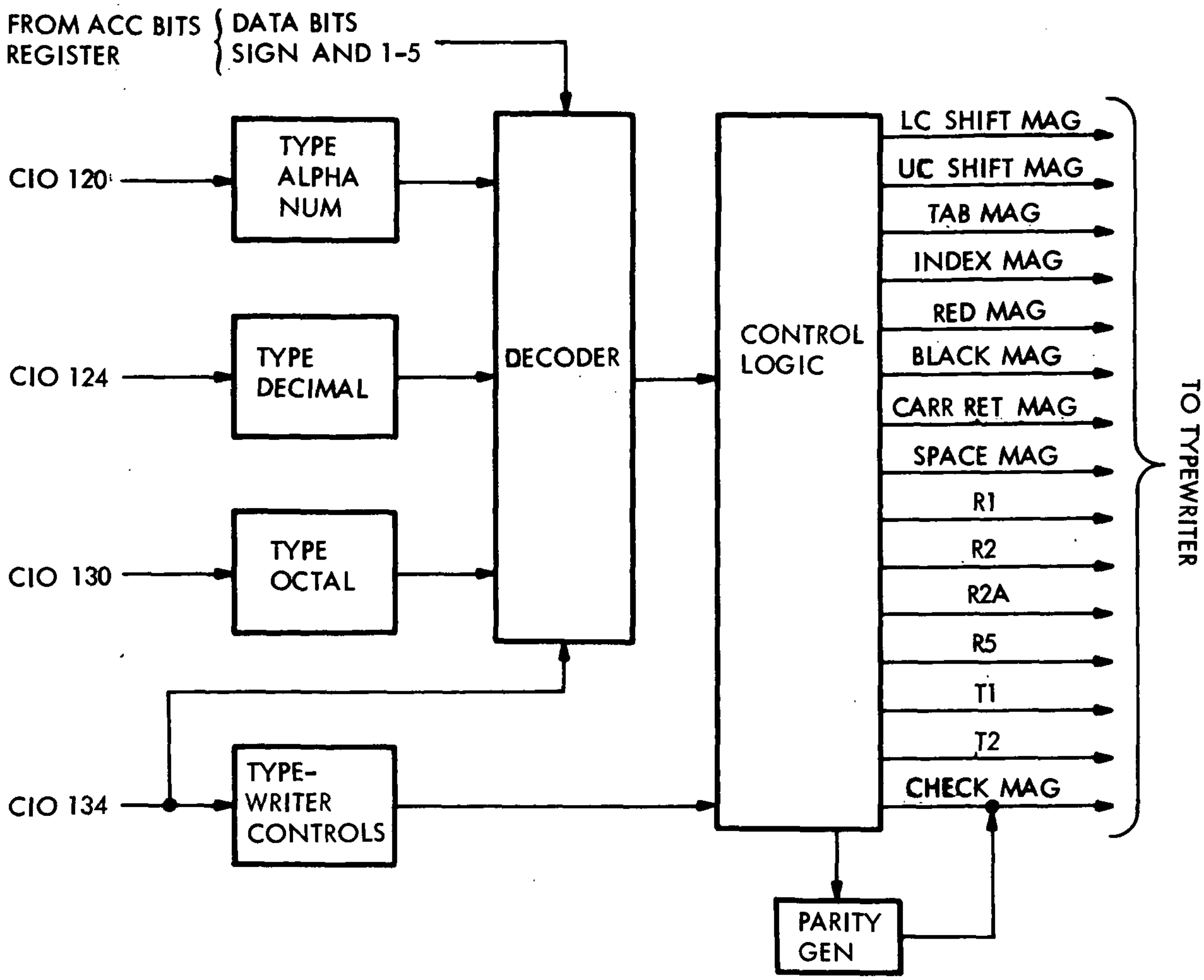



Figure 2-52. Typewriter Controls Block Diagram

3. Spacing and tilt selection level (GATE L) --- is developed during any print mode at A-3-Z time. This allows time for data to be gated out of the accumulator into data latches at A-1-Z time.

4. Typewriter controls gate (PRINT CONTROLS) --- is developed only during CIO 134.

5. Octal decode gate to print drivers --- is developed under control of the PRINT OCT mode and is used only to force zero in the octal mode when a condition of "no data present" prevails.

| Character Selected | Accumulator Bits | | | | | |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | SIGN |
| | BCD Code | | | | | |
| | 1 | 2 | 4 | 8 | A | B |
| A | X | | | | X | X |
| B | | X | | | X | X |
| C | X | X | | | X | X |
| D | | | X | | X | X |
| E | X | | X | | X | X |
| F | | X | X | | X | X |
| G | X | X | X | | X | X |
| H | | | | X | X | X |
| I | X | | | X | X | X |
| J | X | | | | | X |
| K | | X | | | | X |
| L | X | X | | | | X |
| M | | | X | | | X |
| N | X | | X | | | X |
| O | | X | X | | | X |
| P | X | X | X | | | X |
| Q | | | | X | | X |
| R | X | | | X | | X |
| S | | X | | | X | |
| T | X | X | | | X | |
| U | | | X | | X | |
| V | X | | X | | X | |

Figure 2-53. Typewriter Character Coding (Sheet 1 of 4)

| Character Selected | Accumulator Bits | | | | | |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | SIGN |
| | BCD Code | | | | | |
| | 1 | 2 | 4 | 8 | A | B |
| W | | X | X | | X | |
| X | X | X | X | | X | |
| Y | | | | X | X | |
| Z | X | | | X | X | |
| 1 | X | | | | | |
| 2 | | X | | | | |
| 3 | X | X | | | | |
| 4 | | | X | | | |
| 5 | X | | X | | | |
| 6 | | X | X | | | |
| 7 | X | X | X | | | |
| 8 | | | | X | | |
| 9 | X | | | X | | |
| 0 | | X | | X | | |
| ? | | X | | X | X | X |
| ¤ | | | X | X | X | X |
| [ | X | | X | X | X | X |
| ! | | X | | X | | X |
| * | | | X | X | | X |
| ] | X | | X | X | | X |
| ≠ | | X | | X | X | |
| % | | | X | X | X | |

Figure 2-53. Typewriter Character Coding (Sheet 2)

| Character Selected | Accumulator Bits | | | | | |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | SIGN |
| | BCD Code | | | | | |
| | 1 | 2 | 4 | 8 | A | B |
| | X | | X | X | X | |
| @ | | | X | X | | |
| : | X | | X | X | | |
| > | | X | X | X | | |
| ; | | X | X | X | | |
| √ | X | X | X | X | | |
| \ | | X | X | X | X | |
| < | | X | X | X | X | X |
| Δ | X | X | X | X | | X |
| ⊢⊣ | X | X | X | X | X | |
| ⌶ | X | X | X | X | X | X |
| - | | | | | | X |
| # | X | X | | X | | |
| ɋ | | | | | X | |
| & | | | | | X | X |
| $ | X | X | | X | | X |
| , | X | X | | X | X | |
| . | X | X | | X | X | X |
| / | X | | | | X | |
| Space | | | | | | |

Note: "X" indicates a "1" in the bit position.

Figure 2-53. Typewriter Character Coding (Sheet 3)

| Character Selected | Accumulator Bits | | |
|---|---|---|---|
| | 2 | 1 | SIGN |
| | OCTAL Code | | |
| | 1 | 2 | 4 |
| 1 | X | | |
| 2 | | X | |
| 3 | X | X | |
| 4 | | | X |
| 5 | X | | X |
| 6 | | X | X |
| 7 | X | X | X |
| 0 | | | |
| Note: "X" indicates a "1" in the bit position | | | |

Figure 2-53. Typewriter Character Coding (Sheet 4)

2-343. The five control latches and the six BCD latches are all reset at the same times, after a print cycle is completed NORMAL RESET and during a regular machine reset (STRT RESET).

2-344. TYPE CYCLE TIMING. The type cycle timing is determined by the case location (upper or lower case) of the previously typed character and is controlled by the case control latch. The lower case which contains capital letters is used normally since capital letters are the only letters available. Shifting to upper case allows use of special symbols. The case control latch is reset to lower case (LC LATCH) as follows:

1. When a lower case character is programmed and the typewriter is in upper case if printing is not inhibited by the presence of the BLOCK TILT AND ROTATE gate and a ready condition (TILT SELECT gate) is present. The BLOCK TILT AND ROTATE gate indicates that a CIO 134 is programmed and that the typewriter is busy, i.e., mechanically shifting case (SCC TRANSFER latch is set). The TILT SELECT gate is present when; (1) the typewriter is not busy (SCC TRANSFER latch reset); (2) the typewriter is waiting for a shift operation; and (3) the function control latches, GATE L and PRINT DATA, are set.

2. Approximately 64 MSEC after a machine reset (MACH RESET) is initiated if the typewriter is not busy (SCC TRANSFER latch is reset).

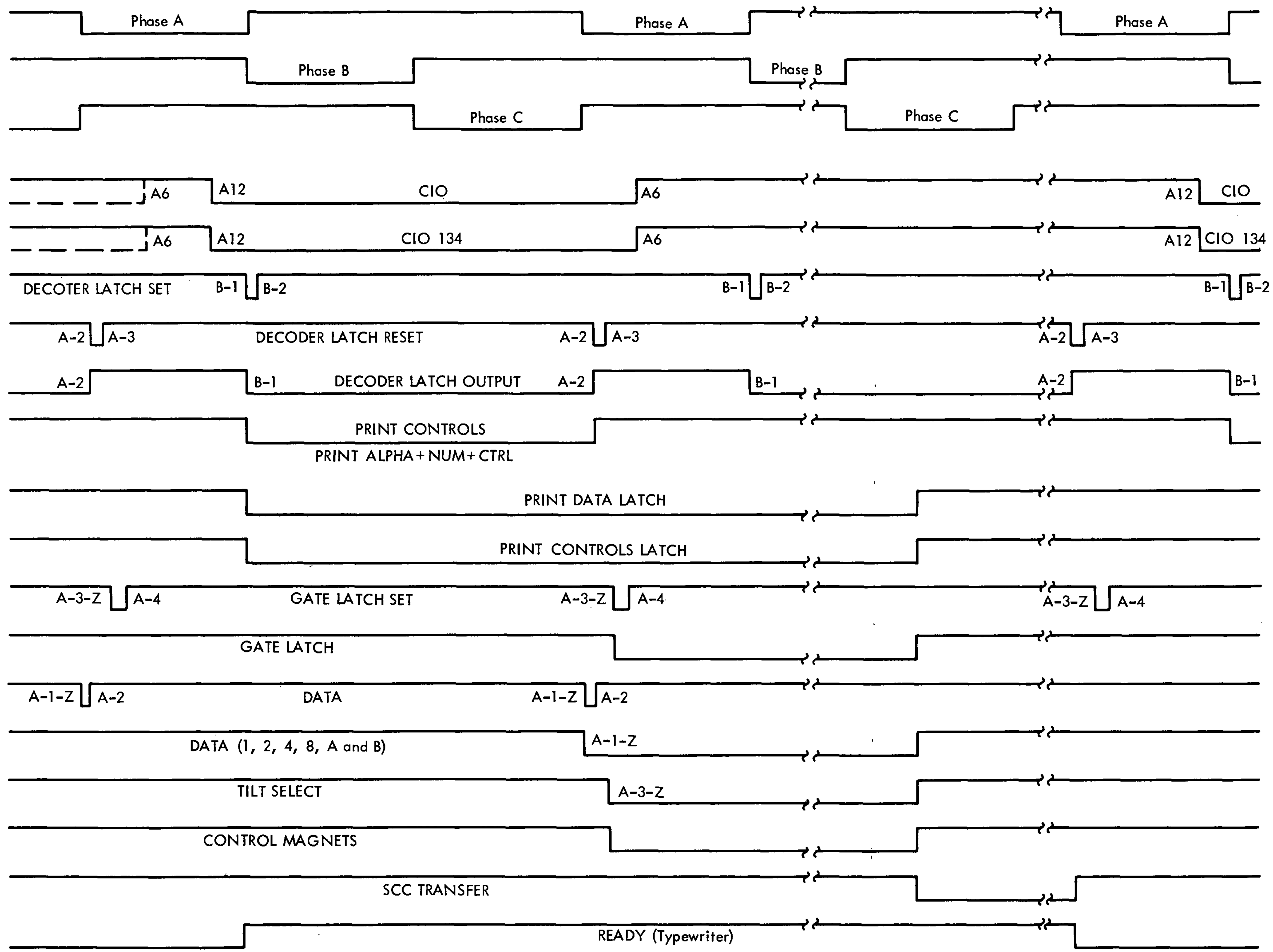



Figure 2-54. Typewriter Control, Timing Chart

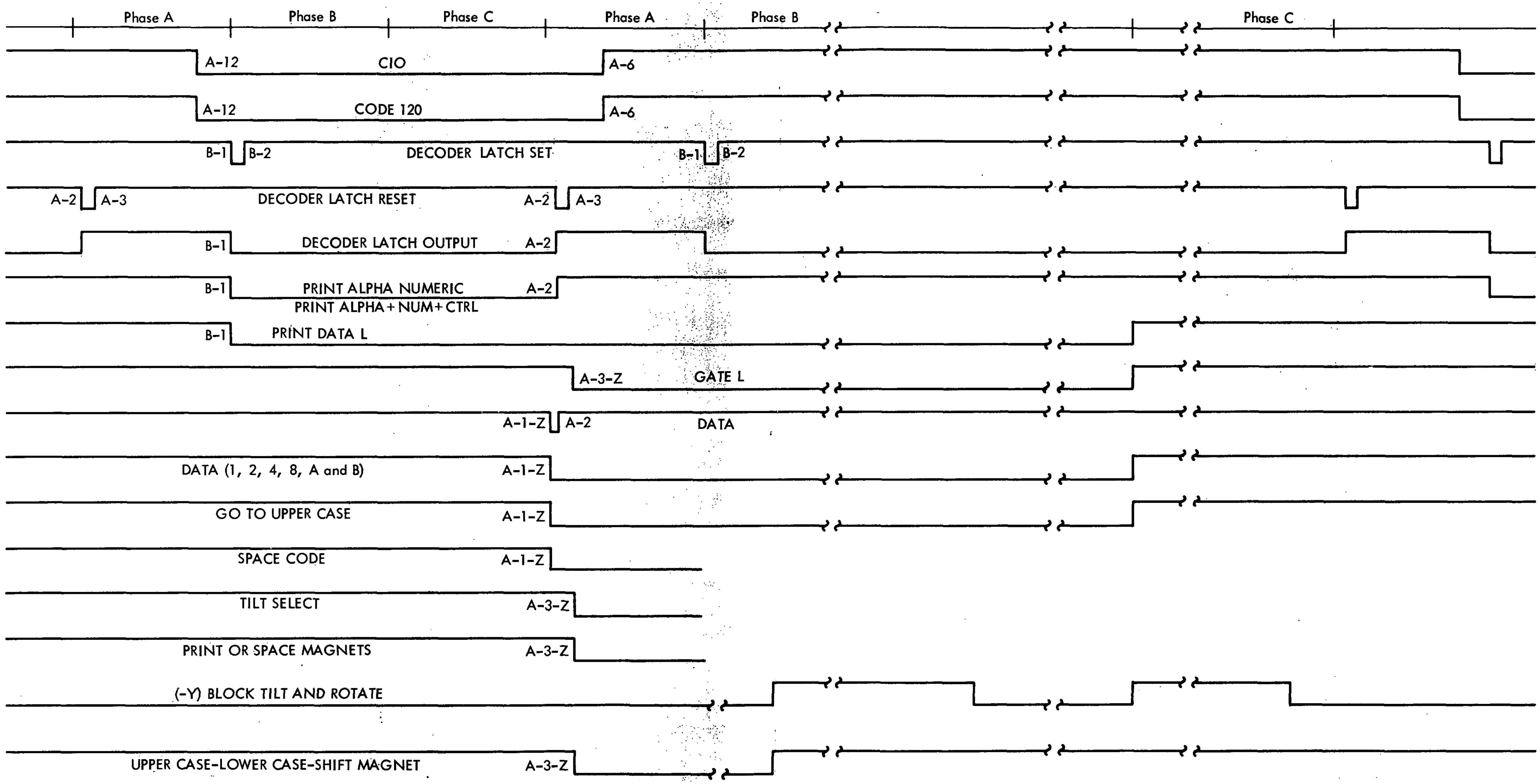



Figure 2-55. Typewriter Print, Timing Chart (Sheet 1 of 2)

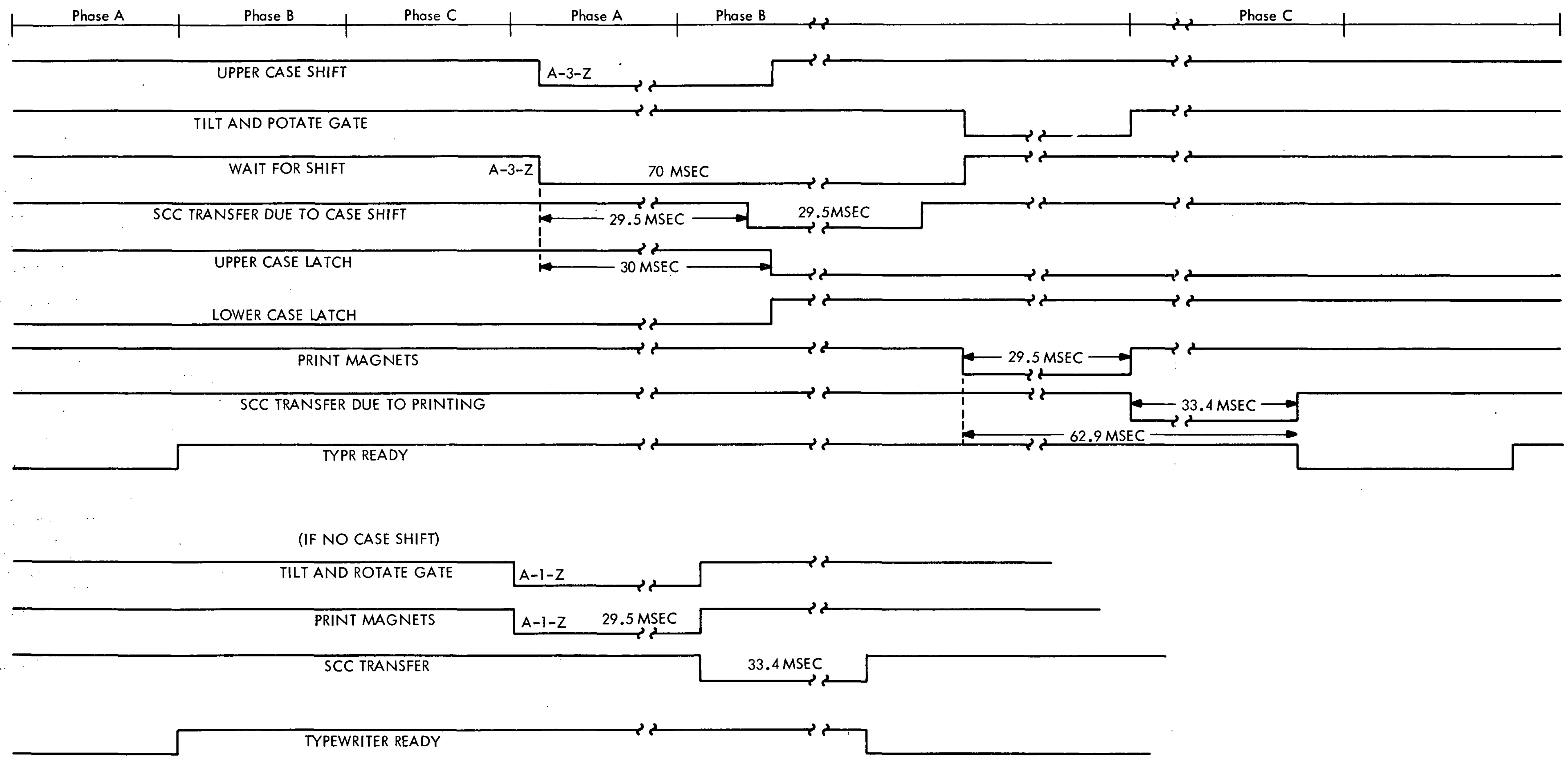



Figure 2-55. Typewriter Print, Timing Chart (Sheet 2)

2-345. The case control latch is set to upper case (UC LATCH) when; (1) an upper case character is programmed, and the typewriter is presently in lower case; (2) when printing is not inhibited by BLOCK TILT AND ROTATE gate; and (3) when the TILT SELECT gate is present.

2-346. The case control latch remains in its present state until programmed to change. Each time the status of the case control latch changes, the corresponding case control magnet in the typewriter is actuated and the type head positioned accordingly.

2-347. CONTROL FUNCTIONS. There are six typewriter control functions. (See figure 10-28, sheet 38.) Each control function is developed from two control gates (TILT SELECT and PRINT CONTROLS) and a BCD latch decode characteristic of that function. The concurrence of these three levels causes a typewriter magnet to pick and the programmed function to take place. One function, the carriage return function, is peculiar in that its magnet (CAR RET MAG) can also be picked in another way. It is picked when the READY level and the RIGHT MARGIN level occur at the same time. The READY level is present when; (1) the typewriter is not waiting for a shift (WAIT FOR SHIFT level is a "1"); (2) when the typewriter feedback circuits indicate completion of that last print cycle (SCC TRANSFER = "1"); and (3) the tab and carrier return interlock is cleared to allow a carriage return. The RIGHT MARGIN level is a feedback from the typewriter which indicates that the printing has reached the right extreme. The WAIT FOR SHIFT level is a "0" (delayed 70 MS) which allows going from upper case to lower case and conversely. The delayed WAIT FOR SHIFT level inhibits normal reset during case change.

2-348. The typewriter sends several cam operated and interlock feedback levels to the control logic. These levels are designated on figure 10-28, sheet 38 as a letter or a letter prefixed by a lozenger (⌑), and indicates functions status. The feedback levels set or reset three control latches whose outputs collectively relay to the control logic the present typewriter status, i.e., that the typewriter is either ready for another operation or is busy. The three control latches and their feedback controls are as follows:

1. The selectric common contacts transfer latch (SCC TRANSFER) is set when ground potential is routed through the normally open contacts of the print feedback cams resulting in feedback Z or ⌑ N indicating a print cycle is still underway. When the carriage return index is reached, the normally open carriage return index cam contacts produce feedback ⌑ B, causing the latch to set by routing ground to its set control. This indicates that the typewriter is busy. The SCC TRANSFER latch is reset when feedbacks ⌑ A and W are at ground potential. The normally closed cam operated contacts (which indicate that a print cycle is not in progress; that a case shift is not underway; and that space, backspace, tab, and carriage return operations are not in progress) allow routing ground back to the reset control of the SCC TRANSFER latch.

2. The tab and carriage return interlock latch (TAB AND CRTN INTLK) is set when feedback ⌑ C is at ground potential. The ground level is routed through the normally open tab interlock contacts and indicates that the typewriter is busy. The TAB AND CRTN INTLK latch is reset when feedback ⌑ Y is present. The feedback is ground level routed through the normally closed contacts and indicates that no tab or carriage return operation is under way.

3. The right margin latch (RIGHT MARGIN) is set when feedback ⌑ E is at ground potential. Ground is routed through the normally closed END OF LINE interlock contacts indicating that the end of the line is not yet reached and that the typewriter is

ready for another operation. When the end of the line is reached the interlock contacts cause ground to be routed through the normally open contacts. Feedback ¤ F resets the right margin latch which effectively prevents another operation until the print head returns to the left margin.

2-349. PRINT CONTROLS. The type head must be positioned for proper selection of the desired letter or symbol to be printed. This is done by selection of the correct combination of rotate print drivers R1, R2, R2A and RS and tilt print drivers T1 and T2. (See figure 2-56 for the selection and tilt rotate schedule of each letter or symbol on the typewriter keyboard.) The combination of print drivers selected is a result of the outputs of the BCD latches gated by the TILT AND ROTATE gate. (See figure 10-28, sheet 38.) The TILT AND ROTATE gate allows tilting and rotating of the type head and is made up of all the pre-required conditions for the tilt-rotate operation to take place. These conditions are as follows:

1. The typewriter must be in upper or lower case operation.

2. The presence of any print mode at A-3-Z time (PRINT DATA L and GATE L latches set).

3. The tilt-rotate operation is not blocked due to a function caused by CIO 134 or to the typewriter being busy (SCC TRANSFER latch set).

4. The typewriter is not waiting for a shift operation, i.e., no case change is in progress.

2-350. PARITY CHECKING. The outputs of the tilt and rotate drivers are checked for correct parity (odd) by the parity detector circuits. The parity detector used here (figure 10-28, sheet 38) is the same as the typical parity detector explained earlier in subsidiary circuit descriptions. If even parity is detected during the time the print driver gating level (TILT AND ROTATE GATE) is present, the check magnet is picked in the typewriter and a check bit is developed. A "1" is therefore added to the existing even parity thereby generating correct parity (odd).

| BCD Keyboard | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Upper Case | Lower Case | T 2 | Check Bit | T 1 | R2 A | R 1 | R 2 | R 5 | TLT | ROT |
| Upper case is blank except as indicated. | A | | X | | X | X | X | X | 3 | -5 |
| | B | | X | | X | | X | | 3 | +1 |
| | C | | | | X | | X | X | 3 | -4 |
| | D | | X | | X | X | | | 3 | +2 |
| | E | | | | X | X | | X | 3 | -3 |
| | F | | | | X | | | | 3 | +3 |

Figure 2-56. Selection and Tilt-Rotate Schedule (Sheet 1 of 3)

| BCD Keyboard | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Upper Case | Lower Case | T 2 | Check Bit | T 1 | $R_2$ A | R 1 | R 2 | R 5 | TLT | ROT |
| ? | G | | X | | X | | | X | 3 | -2 |
| | H | | X | | | X | | X | 3 | -1 |
| | I | | | | | X | | | 3 | +4 |
| | J | | | X | X | X | X | X | 2 | -5 |
| | K | | | X | X | | X | | 2 | +1 |
| | L | | X | X | X | | X | X | 2 | -4 |
| | M | | | X | X | X | | | 2 | +2 |
| | N | | X | X | X | X | | X | 2 | -3 |
| | O | | X | X | X | | | | 2 | +3 |
| | P | | | X | X | | | X | 2 | -2 |
| * | Q | | | X | | X | | X | 2 | -1 |
| | R | | X | X | | X | | | 2 | +4 |
| | S | X | | | X | | X | | 1 | +1 |
| | T | X | X | | X | | X | X | 1 | -4 |
| | U | X | | | X | X | | | 1 | +2 |
| | V | X | X | | X | X | | X | 1 | -3 |
| | W | X | X | | X | | | | 1 | +3 |
| | X | X | | | X | | | X | 1 | -2 |
| % | Y | X | | | | X | | X | 1 | -1 |
| | Z | X | X | | | X | | | 1 | +4 |
| | 1 | X | X | X | X | X | X | X | 0 | -5 |
| | 2 | X | X | X | X | | X | | 0 | +1 |
| | 3 | X | | X | X | | X | X | 0 | -4 |
| | 4 | X | X | X | X | X | X | | 0 | +2 |

Figure 2-56. Selection and Tilt-Rotate Schedule (Sheet 2)

| BCD Keyboard | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Upper Case | Lower Case | T 2 | Check Bit | T 1 | R2 A | R 1 | R 2 | R 5 | TLT | ROT |
| | 5 | X | | X | X | X | | X | 0 | -3 |
| | 6 | X | | X | X | | | | 0 | + 3 |
| | 7 | X | X | X | X | | | X | 0 | -2 |
| | 8 | X | X | X | | X | | X | 0 | -1 |
| : | 9 | X | | X | | X | | | 0 | + 4 |
| | Ø | X | | X | | | | X | 0 | 0 |
| ; | - | | X | X | X | X | X | | 2 | 0 |
| | | X | X | X | | | | | 0 | + 5 |
| | | X | X | | X | X | X | | 1 | 0 |
| | | | | | X | X | X | | 3 | 0 |
| | $ | | | X | | | | | 2 | + 5 |
| | , | X | | | | | | | 1 | + 5 |
| | . | | X | | | | | | 3 | + 5 |
| | | X | | | X | X | X | X | 1 | -5 |
| Note: "X" indicates that typewriter solenoid is energized. | | | | | | | | | | |

Figure 2-56. Selection and Tilt-Rotate Schedule (Sheet 3)

## 2-351. DIGITAL DATA PLOTTER.

2-352. The digital data plotter is controlled by three commands, CIO 140, 144 and 150. (See block diagram, figure 2-57.) The CIO 140 and 144 commands control direction of plotting and the CIO 150 command raises or lowers the plotting pen.

2-353. A CIO 140 command drives the plotting paper in the forward or reverse direction for plotting along the X axis of the pen. A CIO 144 command drives the pen to the left or right for plotting along the Y axis of the pen. Plotting is performed in 0.01 inch steps at a rate of 300 steps per second. The plotter can be stepped a maximum or 1024 times (approximately 10 inches) along the X or Y axis of the pen by each X or Y command.

2-354. The direction of plotting is determined by the value of the SIGN bit contained in the central processor accumulator data word at the time an X or Y command is issued.

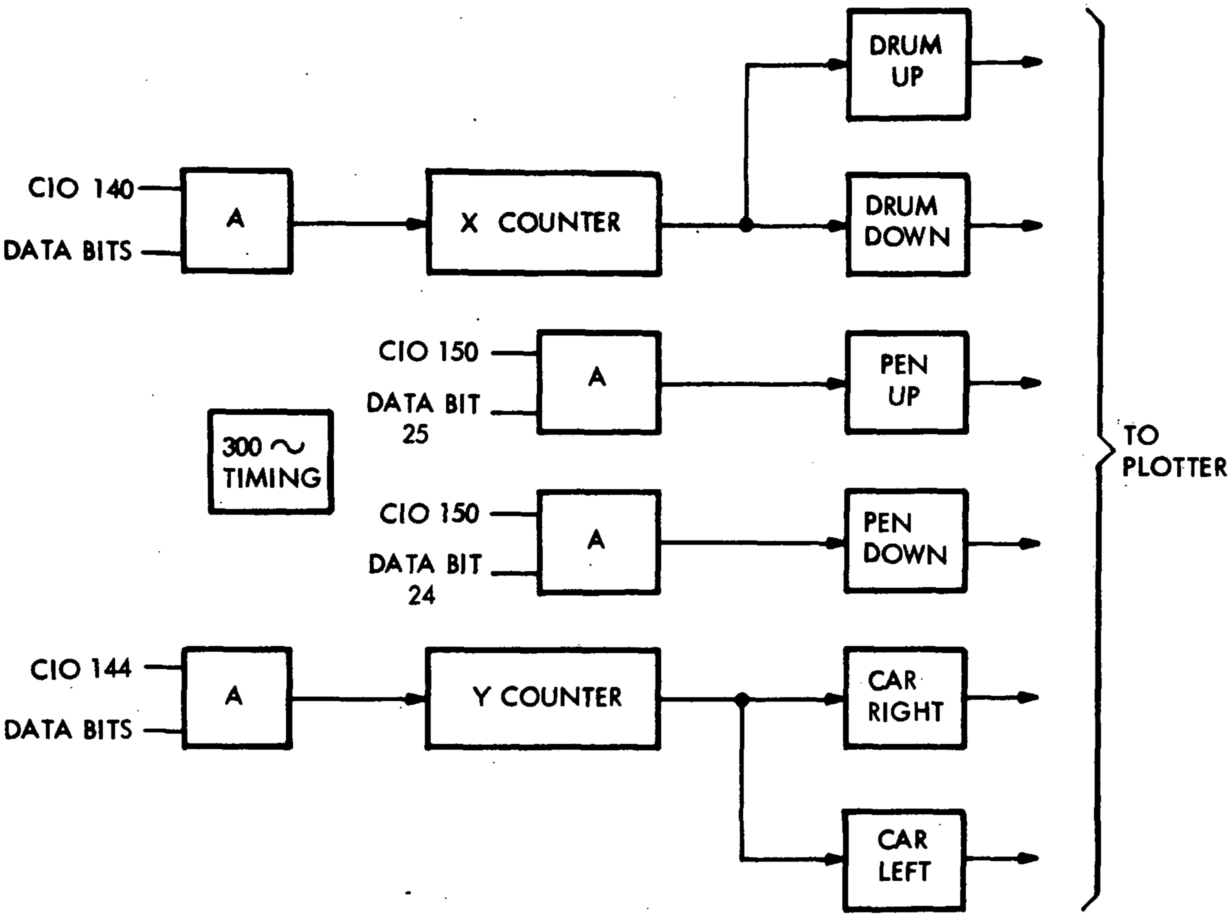



Figure 2-57. Plotter Block Diagram

(See figure 10-28, sheet 39.) A "0" value enables the plotting paper to be driven in the forward direction (DRUM DOWN PLOT) or enables the pen to be driven to the left (CARR LEFT PLOT). A "1" value enables the plotting paper to be driven in the reverse direction (DRUM UP PLOT) or enables the pen to be driven to the right (CARR RIGHT PLOT).

2-355. A plotting operation which consists of an X and/or a Y command allows the plotter to be stepped along the X and Y axes simultaneously. The number of plotting steps performed along each axis is determined by the binary count contained in data bit locations 16 through 25 of the central processor accumulator at the time a plotting operation is commanded. The number of plotting steps to be performed along the X and Y axes is loaded into two ten trigger counters (one counter for X and one counter for Y). (See figure 10-28, sheets 40 and 41.) The counters are stepped down by the 300 cycle per second counter under control of CIO 144. When both the X and Y counters reach the zero count, the plotting operation stops.

2-356. A CIO 150 command raises the pen (PEN UP) if the central processor accumulator data bit 25 value is a "1". The pen is lowered (PEN DOWN) when the central processor accumulator data bit 24 value is a "1". The position of the pen can be changed a maximum of ten times per second.

2-357. INPUT SERIALIZER.

2-358. The input serializer takes parallel information from the intercept latches, program register "B" switches, or program register "A" switches for the purpose of either exercising program control or for manually inserting data into the processor. (See block diagram, figure 2-58.) The interrupt latches are read into the serializer under control of a CIO 154; the program register "A" switches are read into the serializer under control of a CIO 214; and the program register "B" switches are read into the serializer under control of a CIO 220. The bits loaded into the serializer are serialized into the accumulator at the specific phase and bit gate times shown on figure 10-28, sheet 36.

2-359. The PTC program register "A" switches have dual usage of bits 17 through 25. Discrete inputs six through one are routed through the "0" side of "A" switch bits 17 through 22. The typewriter busy, plotter busy and printer busy signals are routed through the "0" side of "A" switch bits 23, 24 and 25, respectively.

2-360. DISCRETE OUTPUT AND DISPLAY REGISTER. (See block diagram, figure 2-59.)

2-361. The discrete output and display register is a six latch register (figure 10-28, sheet 7) whose latches are set by the six low order bits of the accumulator when a CIO 120 is programmed. Each latch output goes to a line driver and a lamp driver. Each line driver output effects the read-out of one of the six channels of LVDCME delay lines (in ASTEC configuration) when programmed to do so, whereas the indicators indicate latch status. The register can also be used similarly to the program control mode display register (as a programmers tool) to indicate that a program sequence (e.g., a pass count) has occurred.

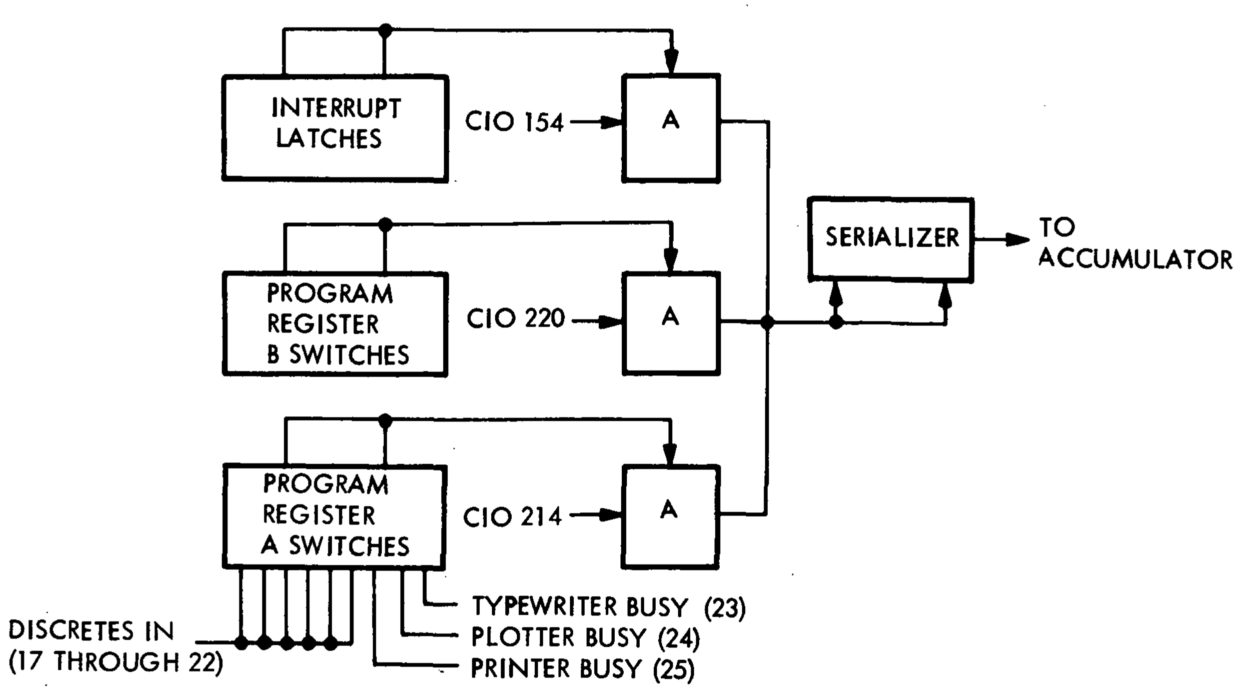



Figure 2-58. Input Serializer, Block Diagram

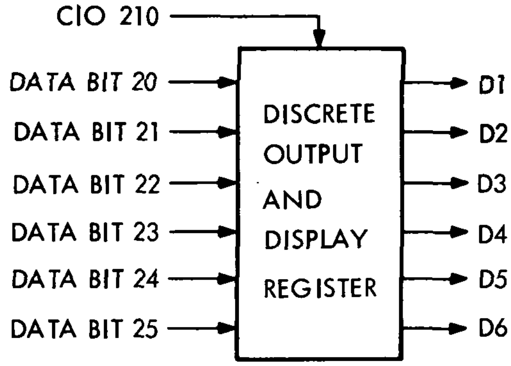



Figure 2-59. Discrete Output and Display Register, Block Diagram

2-362. PROGRAM CONTROL MODE DISPLAY REGISTER. (See block diagram, figure 2-60.)

2-363. The program control mode register is a six latch register (figure 10-28, sheet 7) used as a program tag for the programmers use only. The latches in the register are set by the six low order bits of the accumulator when a CIO 204 is programmed at A-1 time. As each latch is programmed to "set", a corresponding lamp is lit indicating a desired program sequence (e. g., a pass count) has occurred.

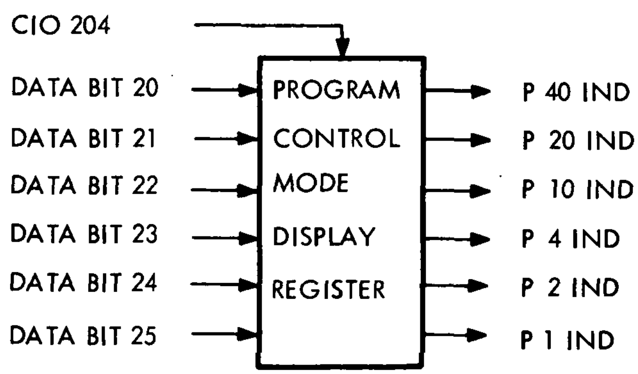



Figure 2-60. Program Control Mode, Block Diagram

SECTION III

INTERFACE AND CONTROLS

3-1. SCOPE.

3-2. This section describes the locations of all PTC interface connectors and references the drawings that identify the signal at each pin of these connectors. This section also describes the function of each control or indicator on the PTC control panels; drawings of the control panels are included in this section.

3-3. INTERFACE.

3-4. INTERFACE WITH LVDAME.

3-5. All of the PTC-LVDAME interface signals appear at pins of connectors 9009J1 through 9009J6 located on the left side feature strip of the 03 frame, shown on figure 3-1. The signals on the pins of these connectors are identified on figure 10-4, sheets 10, 13 through 18, 32, and 41.

3-6. INTERFACE WITH 1443 PRINTER.

3-7. All of the PTC-1443 Printer interface signals appear at the pins of connectors 01J3, 01J4, and 01J5 located on the left side of the 01 frame, shown on figure 3-2. The signals on the pins of these connectors are identified on figure 10-4, sheet 27.

NOTE

Connectors 01J6 through 01J12 shown on figure 3-2 are used for PTC self-check cables. The signals on the pins of these connectors are given on figure 10-4, sheets 20 through 24.

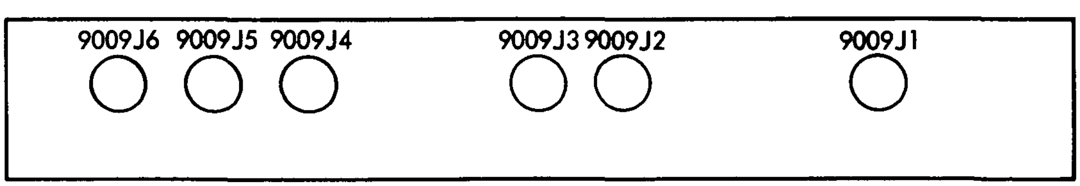



Figure 3-1. PTC-LVDAME Interface Panel

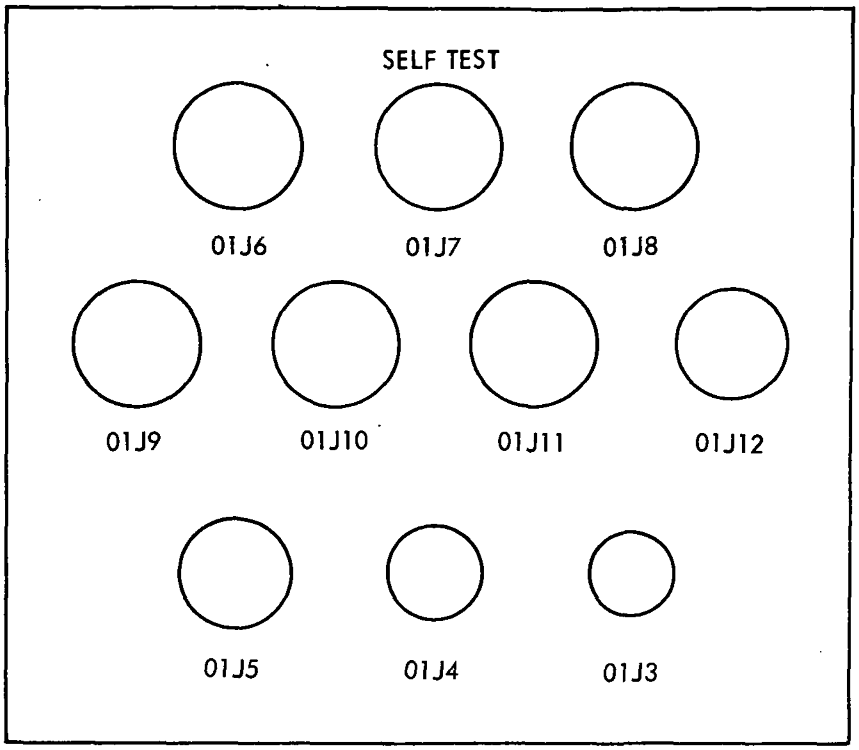



Figure 3-2. PTC-1443 Printer Interface Panel

3-8. INTERFACE WITH TYPEWRITER.

3-9. All of the PTC-Typewriter interface signals appear at the pins of plug 01P13, which connects to the 01J13 connector located on the rear of the typewriter. The signals on the pins of this plug are identified on figure 10-4, sheet 18.

3-10. <u>CONTROLS AND INDICATORS.</u>

3-11. The PTC operating controls and indicators are shown on figures 3-3 through 3-6; these controls and indicators are described in figure 3-7. The location of each control panel on the PTC is shown on figure 1-3.

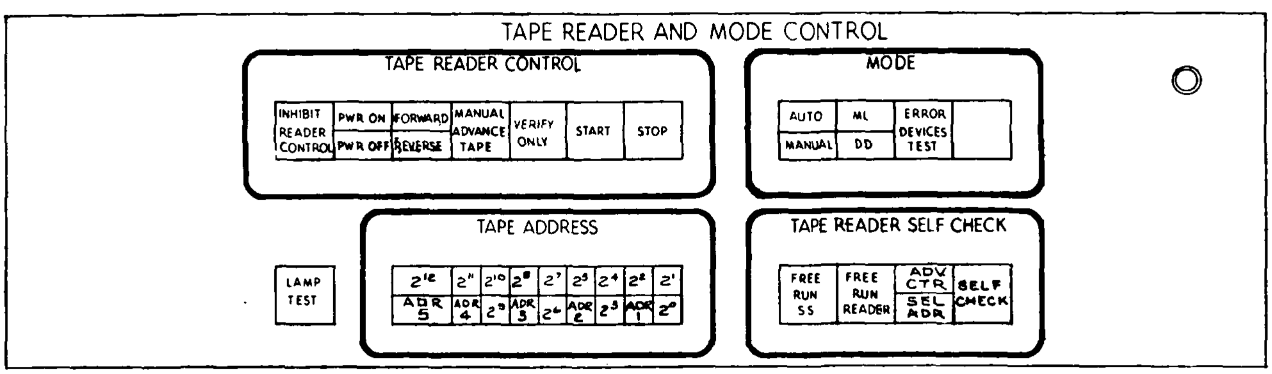



Figure 3-3. Tape Reader and Mode Control Panel

 (Text continued on page 3-23.)

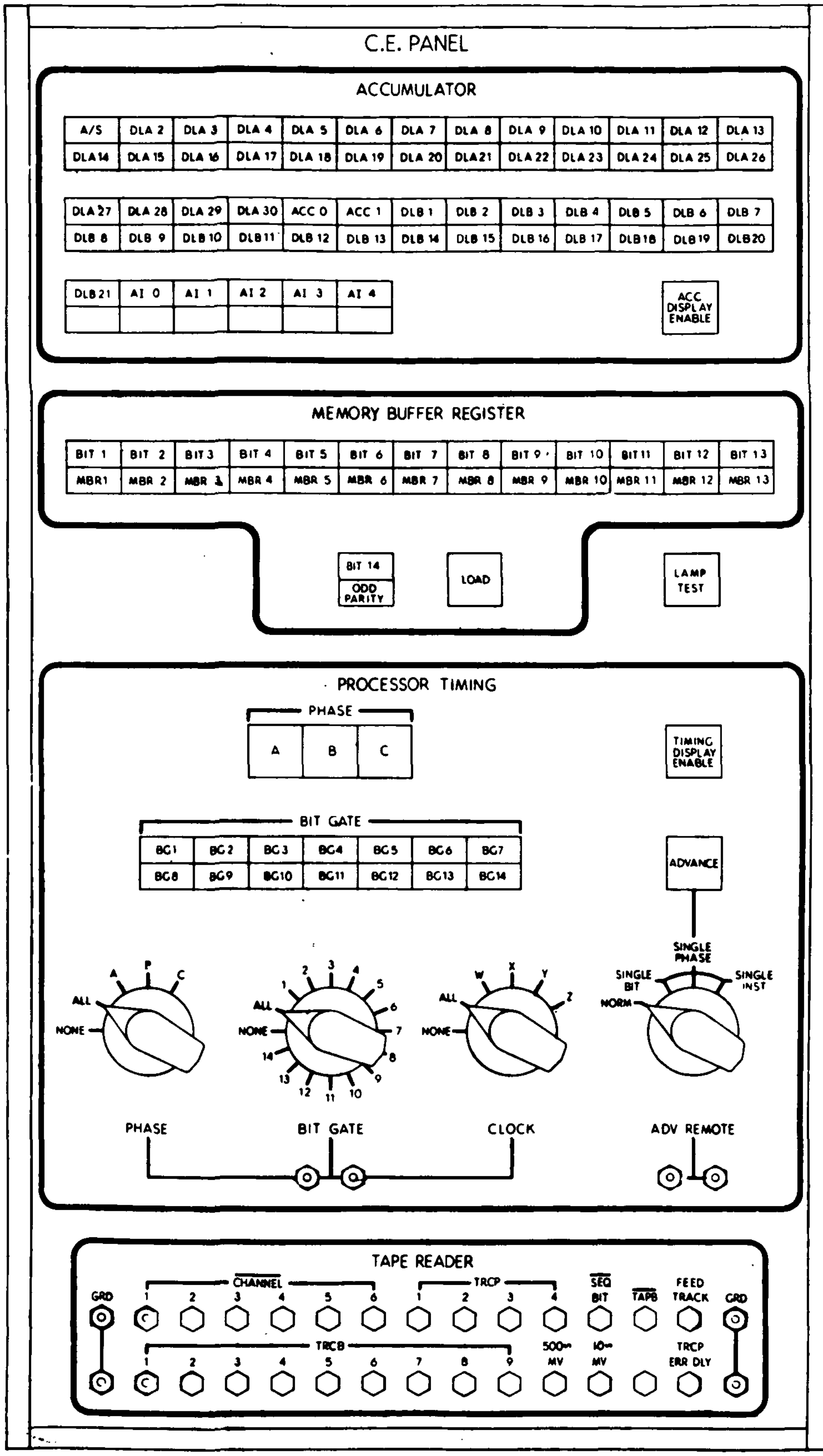



Figure 3-4. C. E. Panel

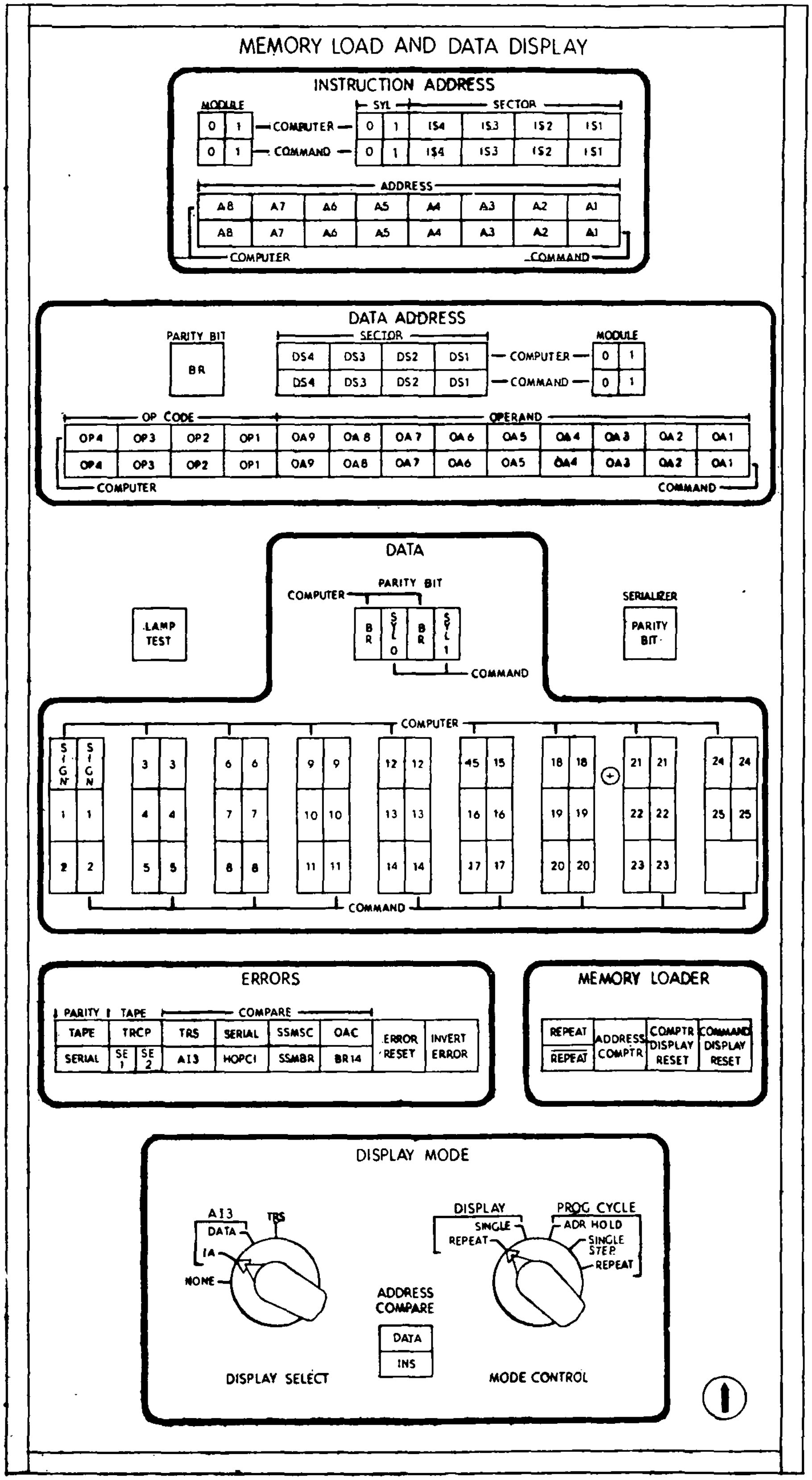



Figure 3-5. Memory Load and Data Display Panel

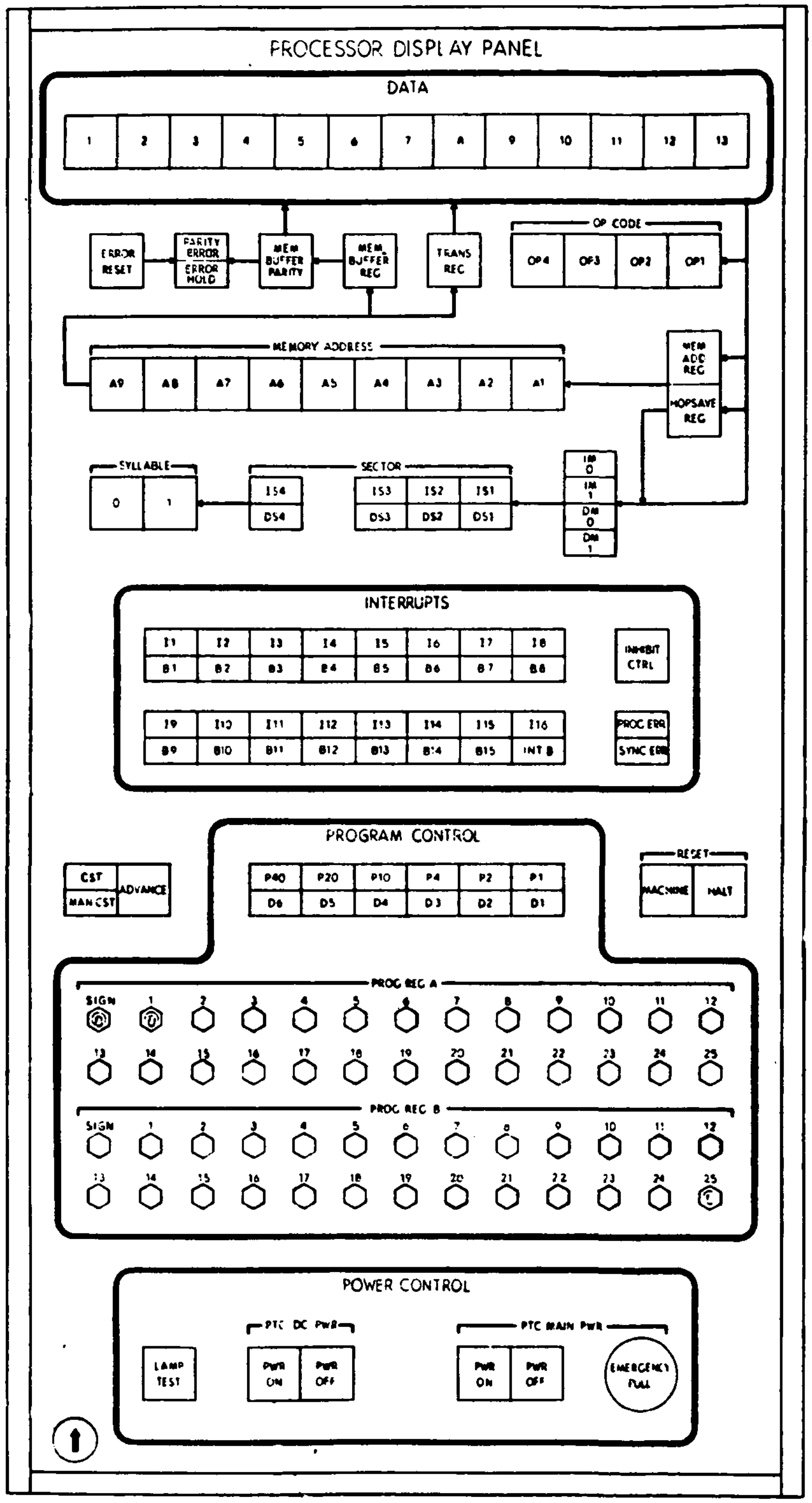



Figure 3-6. Processor Display Panel

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| TAPE READER AND MODE CONTROL (figure 3-3)<br><br>NOTE<br><br>All reference designations for parts on this panel must be prefixed by 03A1, the reference designation for this panel. | TAPE READER CONTROL | INHIBIT READER CONTROL | S20, DS20 | Alternate action pushbutton/lamp which turns off the tape spooler without turning off the tape reader. |
| | | PWR ON/PWR OFF | S19, DS19 | Alternate action pushbutton/lamp which controls application of main power to tape reader and spooler. |
| | | FORWARD/REVERSE | S18, DS18 | Alternate action pushbutton/lamp which controls tape direction. |
| | | MANUAL ADVANCE TAPE | S17, DS17 | Momentary action pushbutton/lamp which causes the tape to be manually advanced one tape word, in either the forward or reverse direction, as determined by the FORWARD/REVERSE switch. When lit, the lamp indicates that the tape must be advanced. |
| | | VERIFY ONLY | S16, DS16 | Alternate action pushbutton/lamp which inhibits the transfer of tape data to the central processor unit (DIN line) during a load operation or when a tape address of 00010 is programmed. |
| | | START | S15, DS15 | Momentary action pushbutton/lamp which starts the tape reader when the AUTO mode is selected. |
| | | STOP | S14, DS14 | Momemtary action pushbutton/lamp which stops the tape reader. |
| | MODE | AUTO/MANUAL | S3, DS3 | Alternate action pushbutton/lamp which allows the the operator to load the memory from the tape reader (AUTO) or from the MEMORY LOAD AND DATA DISPLAY panel (MANUAL). |

Figure 3-7. Controls and Indicators (Sheet 1 of 17)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| TAPE READER AND MODE CONTROL (figure 3-3) | MODE | ML/DD | S2, DS2 | Alternate action pushbutton/lamp. The ML position is used for memory loading or verifying. The DD position is used for displaying data from the Central Processor. |
| | | ERROR DEVICES TEST | S1, DS1 | Momemtary action pushbutton/lamp which sets the latches that control the ERROR lamps on the MEMORY LOAD AND DATA DISPLAY panel. This checks the output latch, the lamp driver, and the lamp. |
| | | Blank | | Not used. |
| | TAPE ADDRESS | ADR 1 through 5 | S4, DS4 through S8, DS8 | Alternate action pushbutton/lamps that indicate the address bits (of the tape format) of the tape word being read. These bits do not indicate actual tape addresses, but instead they initiate PTC functions. These pushbuttons can be used to manually insert address bits into the tape reader register when the SEL ADR portion of the SEL ADR/ADV CTR switch is lit. |
| | | $2^0$ through $2^{12}$ | S4, DS4 through S8, DS8 | Special action pushbutton/lamps that indicate the contents of the binary counter which counts the tape sequence bits in the AUTO mode when the tape reader is running forward. In the MANUAL mode the counter is controlled by the pushbuttons when the ADV CTR portion of the SEL ADR/ADV CTR switch is lit. (Refer to paragraph 3-22.) |
| | TAPE READER SELF CHECK | FREE RUN SS | S13, DS13 | Alternate action pushbutton/lamp that causes all single shots, counters, and delays to cycle continuously during self-check. |

**Figure 3-7. Controls and Indicators (Sheet 2)**

| Panel | Area | Control/Indicator | Ref Des. | Description and Function |
|---|---|---|---|---|
| TAPE READER AND MODE CONTROL (figure 3-3) | TAPE READER SELF CHECK | FREE RUN READER | S12, DS12 | Alternate action pushbutton/lamp that starts or stops the tape reader and tape spooler during self-check. (This switch by-passes the RUN tratch.) |
| | | SEL ADR/ADV CTR | S11, DS11 | Alternate action pushbutton/lamp that allows word counter ($2^0$ through $2^{12}$) to be manually advanced when ADV CTR is lit. SEL ADR allows manual selection of the tape address (ADR 1 through ADR 5). |
| | | SELF CHECK | S21, DS21 | Alternate action pushbutton/lamp that enables the PTC self-check circuits. |
| | None | LAMP TEST | S10 | Momentary action pushbutton used to check all indicator lamps on this panel. |
| C. E. PANEL (figure 3-4) NOTE All reference designations for parts on this panel must be prefixed by 03A4, the reference designation for this panel. | ACCUMULATOR | A/S and DLA 2 through DLA 26 (26 lamps); DLA 27 through 30, ACC 0, ACC 1, and DLB 1 through 20 (26 lamps); DLB 21 and AI 0 through 4 (6 lamps) | DS1 through DS26 and DS28 through DS33 | Indicator lamps that show the state of all latches in the Central Processor accumulator. |
| | | ACC DISPLAY ENABLE | S1, DS27 | Alternate action pushbutton/lamp that disables the ACCUMULATOR display if the Central Processor is not being checked. |
| | MEMORY BUFFER REGISTER | BIT 1 through BIT 13 (top row lamps) and MBR 1 through MBR 13 (bottom row lamps) | S2, DS34 through S14, DS46 | Alternate action pushbutton/lamps. The top row of lamps display data that has been loaded into the memory buffer register. The bottom row of lamps display data to be loaded into the memory buffer register. |

Figure 3-7. Controls and Indicators (Sheet 3)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| C. E. PANEL (figure 3-4) | MEMORY BUFFER REGISTER | BIT 14/ODD PARITY | S17, DS49 | Alternate action pushbutton/lamp that provides odd parity situation if MBR switches are in an even condition (ODD PARITY lamp lit). The BIT 14 lamp displays parity bit that has been loaded into the memory buffer register. |
| | ACCUMULATOR | LOAD | S16 | Momentary action pushbutton that transfers data from MEMORY BUFFER REGISTER switches (MBR 1 MBR 13) into the memory buffer register. The memory buffer register can be loaded only during single phase operation. |
| | PROCESSOR TIMING | PHASE - A, B, and C | DS51, DS52, DS53 | Indicator lamps that display the phase at which the processor timing stops. |
| | | BIT GATE - BG1 through BG14 | DS55 through DS61 | Indicator lamps that display the bit gate at which the processor timing stops. |
| | | TIMING DISPLAY ENABLE | S18, DS50 | Alternate action pushbutton/lamp that disables timing displays if processor timing is not being checked. |
| | | PHASE, BIT GATE, and CLOCK | S21, S22, S23, and TP3, TP4 | Rotary switches and test jacks (two) that provide the phase, bit gate, and clock pulse to be used externally for oscilloscope synchronization during trouble shooting. |
| | | NORM, SINGLE BIT, SINGLE PHASE, and SINGLE INST | S20 | Rotary switch which selects the mode of timing performance, as follows:<br><br>NORM: Normal timing operation.<br>SINGLE BIT: Timing stops at clock pulse Z. It can be advanced to the next clock pulse Z by the ADVANCE switch on either this or the PROCESSOR DISPLAY panel, or remotely via the ADV REMOTE jacks on this panel. |

**Figure 3-7. Controls and Indicators (Sheet 4)**

| Panel | Area | Control Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| C.E. PANEL (figure 3-4) | PROCESSOR TIMING | NORM, SINGLE BIT, SINGLE PHASE, and SINGLE INST (cont) | S20 | SINGLE PHASE: Timing stops at A-10-Z, B-2-Z, or C-1-Z time. The timing can be advanced through these successive steps by the ADVANCE switch on either this or the PROCESSOR DISPLAY panel, or remotely via the ADV REMOTE jacks on this panel.<br><br>SINGLE INST: Timing stops at A-10-Z time. The timing can be advanced to the next A-10-Z time (one cycle) by the ADVANCE switch on either this or the PROCESSOR DISPLAY panel, or remotely via the ADV REMOTE jacks on this panel. |
| | | ADVANCE | S19 | Momentary action pushbutton used to advance the timing as described for the NORM, SINGLE BIT, SINGLE PHASE, and SINGLE INST switches. This pushbutton/lamp is also used to control the Central Processor during a CST condition. |
| | | ADV REMOTE | TP1, TP2 | Jacks to which an external (remote) switch can be applied. The switch provides the same function as ADVANCE. |
| | TAPE READER | GRD, CHANNEL,TRCP, SEQ BIT, TAPB, FEED TRACK, GRD, TRCB, 500~MV, 10~MV, and TRCP ERR DLY | TP5 through TP34 | Test points that monitor various signals in the tape reader control logic. |
| | None | LAMP TEST | S15 | Momentary action pushbutton used to check all indicator lamps on this panel. |

Figure 3-7. Controls and Indicators (Sheet 5)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| MEMORY LOAD AND DATA DISPLAY (figure 3-5)<br><br>NOTE<br><br>All reference designations for parts on this panel must be prefixed by 02A1, the reference designation for this panel. | INSTRUCTION ADDRESS | MODULE - 0/1 | S6, DS6 | Alternate action pushbutton/lamp that controls the one-bit memory module selection code when reference to memory is made for an instruction. The lower (COMMAND) lamps indicate the module to be used for compare; the upper (COMPUTER) lamps indicate the actual Central Processor memory module compared on. |
| | | SYL - 0/1 | S5, DS5 | Alternate action pushbutton/lamp that selects either syllable 0 or syllable 1 for instruction word. The lower (COMMAND) lamps indicate commanded syllable to be used for compare; the upper (COMPUTER) lamps indicate the actual Central Processor memory syllable compared on. |
| | | SECTOR - IS 1 through IS 4 | S1, DS1 through S4, DS4 | Alternate action pushbutton/lamps that control the four-bit instruction sector address code. The lower (COMMAND) lamps indicate commanded sector address bits to be used for compare; the upper (COMPUTER) lamps indicate the actual Central Processor memory sector address bits compared on. |
| | | ADDRESS - A1 through A8 | S7, DS7 through S14, DS14 | Alternate action pushbutton/lamps that control the eight-bit instruction address code. The lower (COMMAND) lamps indicate commanded memory instruction address bits to be used for compare; the upper (COMPUTER) lamps indicate the actual Central Processor memory instruction address bits compared on. |

Figure 3-7. Controls and Indicators (Sheet 6)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| MEMORY LOAD AND DATA DISPLAY (figure 3-5) | DATA ADDRESS | PARITY BIT - BR | DS20 | Indicator lamp that indicates the presence of instruction word parity in the Central Processor memory buffer register. |
| | | SECTOR - DS1 through DS4 | S16, DS16 through S19, DS19 | Alternate action pushbutton/lamps that control the four-bit data sector address code. The lower (COMMAND) lamps indicate the commanded data sector address bits to be used for compare; the upper (COMPUTER) lamps indicate the actual Central Processor memory data sector address bits compared on. |
| | INSTRUCTION ADDRESS | MODULE - 0/1 | S15, DS15 | Alternate action pushbutton/lamp that controls the one-bit memory module selection code when reference is made to memory for data. The lower (COMMAND) lamps indicate the data memory module to be used for compare; the upper (COMPUTER) lamps indicate the actual Central Processor data memory module compared on. |
| | DATA ADDRESS | OP CODE - OP 1 through OP 4 | S29, DS30 through S32, DS33 | Alternate action pushbutton/lamps that control Central Processor operation code bits (ML mode only). The lower (COMMAND) lamps indicate the commanded operation code bits to be used for compare; the upper (COMPUTER) lamps indicate the actual Central Processor operation code bits compared on. |
| | | OPERAND - OA 1 through OA 9 | S20, DS21 through S28, DS29 | Alternate action pushbutton/lamps that control Central Processor operand address code bits. The lower (COMMAND) lamps indicate the commanded operand address code bits to be used for compare; the upper (COMPUTER) lamps indicate the actual Central Processor operand address code bits compared on. |

Figure 3-7. Controls and Indicators (Sheet 7)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| MEMORY LOAD AND DATA DISPLAY (figure 3-5) | None | LAMP TEST | S33 | Momentary action pushbutton used to check all indicator lamps on this panel. |
| | | SERIALIZER - PARITY BIT | DS34 | Indicator lamp that indicates odd parity in the tape reader register. |
| | DATA | PARITY BIT - BR | DS35, DS36 | Indicator lamps that indicate the presence of Central Processor buffer register data parity bits. |
| | | PARITY BIT - SYL 0 and SYL 1 | DS35, DS36 | Indicator lamps that indicate the presence of data word (COMMAND) parity bits in syllables 0 and 1. |
| | | SIGN through 25 | S34, DS38 through S59, DS63 | Alternate action pushbutton/lamps that control the bits of a data word to be loaded into the Central Processor. The lamps on the right half of the pushbuttons indicate the commanded bits; the lamps on the left display the actual Central Processor data bits. |
| | | Blank | | Not used. |
| | ERRORS | Refer to Description and Function column. | | Lamps that indicate errors as follows: |
| | | | | Section / Lamp / Type of Error |
| | | | DS75 | PARITY: TAPE – Tape parity; SERIAL – Serial parity |
| | | | DS74 | TAPE: TRCP – Tape reader clock pulse; SE 1 – Tape sequence; SE 2 – Tape sequence |

Figure 3-7. Controls and Indicators (Sheet 8)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| MEMORY LOAD AND DATA DISPLAY (figure 3-5) | ERRORS | Refer to Description and Function column. (cont) | | Section / Lamp / Type of Error |
| | | | DS73 | COMPARE: TRS — Transfer register serial output compare |
| | | | DS72 | COMPARE: SERIAL — Serial compare |
| | | | DS71 | COMPARE: SSMSC — Sector/syllable/module serial compare |
| | | | DS70 | COMPARE: OAC — Operand Address compare |
| | | | DS73 | COMPARE: AI3 — Accumulator data compare |
| | | | DS72 | COMPARE: HOPC1 — HOP constant compare |
| | | | DS71 | COMPARE: SSMBR — Sector/syllable/module buffer register compare |
| | | | DS70 | COMPARE: BR14 — Parity bit compare |
| | | ERROR RESET | S64 | Momentary action pushbutton that resets all indicators in the ERRORS area on this panel. |
| | | INVERT ERROR | DS68 | Indicator lamp that indicates the condition of the invert error latch. |
| | DISPLAY MODE | DISPLAY SELECT | S67 | Rotary switch that selects data for display as follows:<br>Position — Type of Data<br>NONE — None<br>AI3-IA — Instruction address<br>AI3-DATA — Accumulator data<br>TRS — Transfer register serial |

Figure 3-7. Controls and Indicators (Sheet 9)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| MEMORY LOAD AND DATA DISPLAY (figure 3-5) | DISPLAY MODE | ADDRESS COMPARE - DATA/INS | S65, DS76 | Alternate action pushbutton/lamp that selects either the operand (DATA ADDRESS) data or the INSTRUCTION ADDRESS data to be compared to the actual memory address data. |
| | MEMORY LOADER | REPEAT/$\overline{\text{REPEAT}}$ | S63, DS67 | Alternate action pushbutton/lamp that causes the selected memory location to be loaded and verified repeatedly (REPEAT) or just once ($\overline{\text{REPEAT}}$). (See ADDRESS COMPTR control.) |
| | | ADDRESS COMPTR | S62 | Momentary action pushbutton that causes the memory location to be loaded and verified just once when the $\overline{\text{REPEAT}}$ portion of the REPEAT/$\overline{\text{REPEAT}}$ switch is lit. |
| | | COMPTR DISPLAY RESET | S61 | Momentary action pushbutton that resets all Central Processor display latches, causing the lamps connected to the set outputs of these latches to be extinguished. The lamps connected to the reset sides of these latches will be lit. The 0 (COMPUTER) portions of MODULE - 0/1 and SYL - 0/1 in the INSTRUCTION ADDRESS area and MODULE 0/1 in the DATA ADDRESS area will be lit. |
| | | COMMAND DISPLAY RESET | S60 | Momentary action pushbutton that switches off all COMMAND switches. The indicator lamps connected to these switches will indicate the off condition. The 0 (COMMAND) portions of MODULE - 0/1 and SYL - 0/1 in the INSTRUCTION ADDRESS area and MODULE 0/1 in the DATA ADDRESS area will be lit. |

**Figure 3-7. Controls and Indicators (Sheet 10)**

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| MEMORY LOAD AND DATA DISPLAY (figure 3-5) | DISPLAY MODE | MODE CONTROL | S66 | Rotary switch that selects display mode of operation as follows:<br><br>Position — Type of Operation<br><br>DISPLAY - REPEAT — The Central Processor runs normally under program control. Each time the Central Processor address (either data address or instruction address, as determined by the ADDRESS COMPARE - DATA INS switch) coincides with that selected by the panel switches (DATA ADDRESS or INSTRUCTION ADDRESS switches), a new display of data is generated in the DATA lamps.<br><br>DISPLAY - SINGLE — The DATA lamps display data (selected by the DISPLAY SELECT switch) generated during the first operation cycle in which the Central Processor address (either data address or instruction address, as determined by the ADDRESS COMPARE - DATA/INS switch) coincides with that selected by the panel switches (DATA ADDRESS or INSTRUCTION ADDRESS). The Central Processor will continue to "free run", but no further displays will be generated until |

Figure 3-7. Controls and Indicators (Sheet 11)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function | |
|---|---|---|---|---|---|
| MEMORY LOAD AND DATA DISPLAY (figure 3-5) | DISPLAY MODE | MODE CONTROL (cont) | | Position | Type of Operation |
| | | | | | the COMPTR DISPLAY RESET switch is pressed. |
| | | | | PROG CYCLE - ADR HOLD | Upon address compare, the Central Processor is forced into a CST condition. When the ADVANCE switch on the C. E. PANEL or PROCESSOR DISPLAY PANEL is pressed, the Central Processor shall "free run" until another address compare occurs. |
| | | | | PROG CYCLE - SINGLE STEP | Upon address compare, a CST condition is forced upon the Central Processor. The current Central Processor address and data are displayed on the panel indicators. When the ADVANCE switch (on the C. E. PANEL or PROCESSOR DISPLAY PANEL) is pressed, the Central Processor performs the next instruction in the program, and then another CST condition is forced. |
| | | | | PROG CYCLE - REPEAT | Upon address compare, the Central Processor operation is halted, forcing instruction module 0 sector 0, syllable 0, and address $000_8$ to be |

Figure 3-7. Controls and Indicators (Sheet 12)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| MEMORY LOAD AND DATA DISPLAY (figure 3-5) | DISPLAY MODE | MODE CONTROL (cont) | | Position / Type of Operation: selected. The Central Processor then resumes operating until another address compare occurs. |
| PROCESSOR DISPLAY PANEL (figure 3-6) | DATA | 1 through 13 | DS1 through DS13 | Indicator lamps that display the contents of the transfer register or the memory buffer register. |
| NOTE | None | OP CODE - OP 1 through OP 4 | DS14 through DS17 | Indicator lamps that display the contents of the op code register. |
| All reference designations for parts on this panel must be prefixed by 02A2, the reference designation for this panel. | | MEM ADD REG | S5, DS23 | Alternate action pushbutton/lamp which causes the contents of the memory address register to be displayed. |
| | | HOPSAVE REG | S6, DS24 | Alternate action pushbutton/lamp which causes the contents of the HOPSAVE register to be displayed by the DATA lamps. NOTE: If the MEM ADD REG and the HOPSAVE REG lamps are both lit or both not lit, nothing will be displayed. |
| | | IM 0/IM 1 | DS34 | Indicator lamps (2) which indicate whether instruction module 0 or 1 is selected. |
| | | DM 0/DM 1 | DS35 | Indicator lamps (2) which indicate whether data module 0 or 1 is selected. |
| | | SECTOR - IS 1/DS 1 through IS 4/DS 4 | DS36 through DS39 | Indicator lamps which display the contents of the instruction sector register and the data sector register. |

Figure 3-7. Controls and Indicators (Sheet 13)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| PROCESSOR DISPLAY PANEL (figure 3-6) | None | SYLLABLE - 0, 1 | DS40, DS41 | Indicator lamps that indicate the module syllable from which an instruction is read. |
| | | MEMORY ADDRESS - A1 through A9 | DS25 through DS33 | Indicator lamps that display the contents of the memory address register. |
| | | TRANS REG | S1, DS18 | Alternate action pushbutton/lamp that allows the contents of the transfer register to be displayed by the DATA lamps. |
| | | MEM BUFFER REG | S2, DS19 | Alternate action pushbutton/lamp that allows the contents of the memory buffer register to be displayed by the DATA lamps.<br>NOTE: If the TRANS REG and the MEM BUFFER REG lamps are both lit or both not lit, nothing will be displayed. |
| | | MEM BUFFER PARITY | DS20 | Indicator lamp which displays the memory buffer parity bit. |
| | | PARITY ERROR/ERROR HOLD | S3, DS21 | Alternate action pushbutton/lamp. PARITY ERROR displays the parity error latch condition. ERROR HOLD will cause the machine to CST and display the address of the instruction on which follows the instruction having the error. |
| | | ERROR RESET | S4 | Momentary action pushbutton that resets the error latch. When in ERROR HOLD condition, this switch will not take the Central Processor out of CST; ADVANCE switches on this panel or C. E. PANEL will take machine out of CST. |

Figure 3-7. Controls and Indicators (Sheet 14)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| PROCESSOR DISPLAY PANEL (figure 3-6) | INTERRUPTS | I1/B1 through I15/B15 | S8, DS43 through S15, DS50 and S18, DS53 through S24, DS59 | Momentary action pushbutton/lamps. I1 through I15 are lamps that indicate the Interrupt that is stored in the Interrupt register. B1 through B15 are the lamps that indicate the interrupt inhibits. The pushbuttons are used to manually remove the inhibiting of the interrupts. |
| | | I16/INT B | S17, DS52 | Momentary action pushbutton/lamp that initiates the processing of Interrupt number 16. No provision is made to inhibit this interrupt. The INT B lamp is lit when the INT B latch is set. The INT B latch is set during the processing of an interrupt, this latch must be reset by CI0 110 before the processing of another interrupt is begun. |
| | | INHIBIT CTRL | S7, DS42 | Alternate action pushbutton/lamp that sets all inhibit latches and prevents Interrupt from being processed. If the INHIBIT CTRL is ON, the individual Interrupt pushbuttons can be used to reset the Inhibit latches allowing associated Interrupts to be recognized. If the INHIBIT CTRL is OFF, the Inhibit latches are under program control only. |
| | | PROGRAM ERROR/SYNC ERROR | S16, DS51 | Momentary action pushbutton/lamp. The PROGRAM ERROR portion becomes lit when the program detects an error; when the switch face is pressed, the program error indication circuit is reset and the lamp is extinguished. The SYNC ERROR portion becomes lit when the timing circuits are out of synchronization; this error indication circuit is reset (and the lamp extinguished) when the RESET - MACHINE switch is pressed. |

Figure 3-7. Controls and Indicators (Sheet 15)

| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| PROCESSOR DISPLAY PANEL (figure 3-6) | None | CST/MAN CST | S28, DS69 | Alternate action pushbutton/lamp. The push-button places the PTC in the CST (Computer Single Step) mode of operation. The MAN CST lamp is controlled by the pushbutton switch; the CST lamp indicates that the PTC is in the CST mode. When the ADVANCE switch is pressed, the Central Processor performs the next instruction in its program. |
| | | ADVANCE | | Momentary action pushbutton used to advance the timing as described for the timing mode switch (NORM, SINGLE BIT, SINGLE PHASE, SINGLE INST) on the C.E. PANEL panel. This pushbutton/lamp is also used to control the Central Processor operation during a CST condition. |
| | | RESET - MACHINE | | Momentary action pushbutton that resets the Central Processor control latches and causes operation to be resumed with instruction module 0, sector 0, syllable 0, and address $000_8$ selected. |
| | | RESET - HALT | S25 | Pushbutton that disables the RUN latch, forcing Central Processor operation to be resumed with instruction module 0, sector 0, syllable 0, and address $000_8$ selected. |
| | PROGRAM CONTROL | P1, P2, P4, P10, P20 and P40 | DS62 through DS67 | Indicator lamps which display the six low order bits of the data word from the accumulator upon command C10 204. |
| | | D1 through D6 | DS62 through DS67 | Indicator lamps which display the six discrete outputs from the PTC upon command C10 210. |

Figure 3-7. Controls and Indicators (Sheet 16)

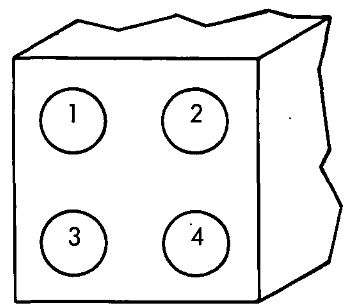
| Panel | Area | Control/Indicator | Ref. Des. | Description and Function |
|---|---|---|---|---|
| PROCESSOR DISPLAY PANEL (figure 3-6) | PROGRAM CONTROL | PROG REG A-SIGN and 1 through 25 and PROG REG B-SIGN and 1 through 25 | S29 through S80 | Toggle switches which provide a means of entering two data words (26 bits) into the Central Processor accumulator. Bits positions 17 through 22 (PROG REG A) can accept six externally generated discrete inputs. Bit position 23 (PROG REG A) is used to indicate that the typewriter is BUSY; bit position 24 (PROG REG A) is used to indicate that the plotter is BUSY, and bit position 25 (PROG REG A) is used to indicate that the printer is BUSY. If the discrete switches are OFF (down position), the discrete signal is entered ("0" or "1"). If the discrete switches are ON (up position), the discretes are overriden, and the positions always contain a "1". |
| | POWER CONTROL | LAMP TEST | S86 | Momentary action pushbutton which is used to check all indicator lamps on this panel. |
| | | PTC DC PWR - PWR ON | S85, DS72 | Momentary action pushbutton/lamp that starts the PTC DC power-on sequence and indicates when lit that sequencing is complete. |
| | | PTC DC PWR - PWR OFF | S84, DS71 | Momentary action pushbutton/lamp that starts the PTC DC power-off sequence and indicates when lit that sequencing is complete. |
| | | PTC MAIN PWR - POWER ON | S83, DS80 | Momentary action pushbutton/lamp that starts the PTC AC power-on sequence and indicates when lit that sequencing is complete. |
| | | PTC MAIN PWR - POWER OFF | S82, DS70 | Momentary action pushbutton/lamp that starts the PTC AC power-off sequence and indicates when lit that sequencing is complete. |
| | | PTC MAIN PWR - EMERGENCY PULL | S81 | Switch that removes (when pulled) all PTC power. |

Figure 3-7. Controls and Indicators (Sheet 17)

3-12. In addition to the controls and indicators described in figure 3-7, the Filter-Interlock Gate Assembly (01B5) at the rear of the PTC contains an elapsed time meter (9999.9 hour) and the circuit breakers for the PTC input power.

3-13. The controls and indicators on the commercial equipment in the PTC (plotter 01A1 and power supplies 03A6 through 03A11) are described in the commercial manuals for these units. (Refer to the list of related manuals in the front of this volume.)

3-14. Many of the PTC controls and indicators are pushbutton switches housed with four lamp bulbs that light under certain conditions. The four bulbs (1, 2, 3 and 4) are arranged as shown here:




3-15. These bulbs can be wired in many configurations; the following five configurations are used on the PTC.

1. Bulbs 1 and 3 constitute one indication.

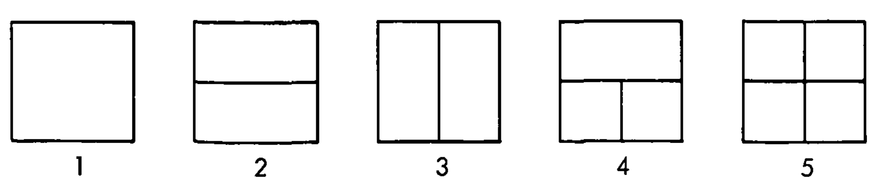
2. Bulb 1 or bulb 2 constitutes one indication; bulb 3 or bulb 4 constitutes a second indication.

3. Bulb 1 or bulb 4 constitutes one indication; bulb 2 or bulb 3 constitutes a second indication.

4. Bulb 1 or bulb 2 constitutes one indication; bulb 3 constitutes a second indication; and bulb 4 constitutes a third indication.

5. Each lamp constitutes a different indication.

3-16. These wiring configurations, listed in paragraph 3-15, correspond to the following patterns on the switch faces:



NOTE

Some indicator lamps are housed with pushbutton switches to which they are not electrically connected. The indications given by these lamps are explained in figure 3-7.

3-17. PUSHBUTTON SWITCH NOMENCLATURE. The nomenclature discussed in the following paragraphs is used in figure 3-7.

3-18. Momentary Action Pushbutton. A momentary action pushbutton is a momentary action pushbutton switch. The function controlled by the switch is a "1" only while the switch face (button) is being pressed.

3-19. Momentary Action Pushbutton/lamp. A momentary action pushbutton/lamp is a momentary action pushbutton switch housed with lamp bulbs. The function controlled by the switch is in the "1" state only while the bulbs within the switch assembly are lit. Normally the bulbs become lit when the switch face (button) is pressed (or soon afterward) and remain lit until another switch is pressed, forcing the bulbs of the first switch to be extinguished. For example, the PWR ON and PWR OFF switches shown here operate in this manner:

PWR ON

PWR OFF

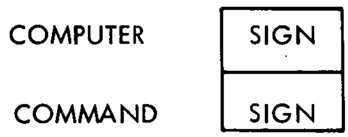
When power is off, PWR OFF is lit, and PWR ON is not lit. When PWR ON is pressed, PWR OFF becomes not lit and PWR ON becomes lit when the power-on sequencing is complete. When PWR OFF is pressed, PWR ON becomes not lit and PWR OFF becomes lit when power-off sequencing is complete.

3-20. As noted in paragraph 3-16, some of the bulbs housed in certain switch assemblies are not electrically connected to the switches in the assemblies. In some cases certain bulbs are independent of the state of the switch with which they are housed while the others in that housing are directly controlled by the switch. In other cases the bulbs become lit when errors occur, and the switch in that assembly is used to reset the error indication circuit that controls the bulbs; a momentary action switch is normally used for this purpose. These special switch configurations are described in figure 3-7.

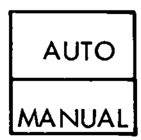
3-21. Alternate Action Pushbutton/lamp. An alternate action pushbutton/lamp is a DPDT pushbutton switch housed with lamp bulbs; the state of the switch is complemented by pressing the switch face. The lamp bulbs may be wired in one of the following ways:

1. Bulbs within the switch assembly are lit only when the function the switch controls is a "1". For example, the SELF CHECK alternate action pushbutton/lamp shown here is lit only while a self-check operation is in progress.

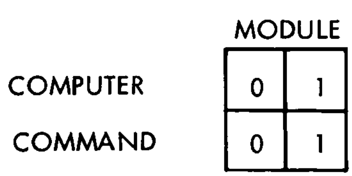

2. The type of indication discussed in item 1 can be restricted to one half of a switch face. For example, in the SIGN switch shown here, the lamps in the lower (COMMAND) portion function as described in item 1; the lamps in the upper (COMPUTER) portion indicate the SIGN output from the Central Processor ("1" if lit, "0" if not lit). The lamps in the upper portion are not electrically connected to the switch. (This type of operation was noted in paragraph 3-16.)




3. A bulb (or bulbs) is always lit to indicate the state of the function controlled by the switch. For example the AUTO portion of the AUTO/MANUAL alternate action pushbutton/lamp shown here is lit <u>only</u> when the automatic mode of operation is selected; when the AUTO portion is lit, the MANUAL portion is not lit, and vice versa.




4. The type of indication discussed in item 3 can be restricted to one half of a switch face. For example, in the MODULE-0/1 switch shown here, the lamp bulbs in the lower (COMMAND) portion function as described in item 3; the lamp bulbs in the upper (COMPUTER) portion indicate the module output from the Central Processor. The lamps in the upper portion are not electrically connected to the switch.




3-22. Special Action Pushbutton/lamp. A special action pushbutton/lamp is a momentary action pushbutton switch housed with lamp bulbs that light in a binary counting sequence. The face of each switch is partitioned into four sections as shown here.


No. 2 No. 1

(The shaded portions of these switch faces are not used in the binary counting sequence.)

3-23. When none of the lamps are lit, pressing switch No. 1 causes the $2^0$ portion to light, thus indicating the binary number 000 001. When switch No. 1 is pressed again, the $2^0$ portion becomes not lit and the $2^1$ portion becomes lit, thus indicating 000 010. When switch No. 1 has been pressed seven times, the $2^0$, $2^1$, and $2^2$ portions will be lit. Pressing switch No. 1 again forces the $2^3$ portion of switch No. 2 to become lit and the $2^0$, $2^1$, and $2^2$ portions of switch No. 1 to become not lit, thus indicating 001000.

3-24. Because each switch face represents three binary positions, the total indication on each switch face can be read as one position in an octal number. (Refer to the TAPE ADDRESS area of the TAPE READER AND MODE CONTROL panel in figure 3-7.)

SECTION IV

# TEST EQUIPMENT AND SPECIAL TOOLS

## 4-1. SCOPE.

4-2. This section contains the list of standard test equipment and the list and illustrations of the special tools recommended for maintenance of the PTC. The application of the standard test equipment is described in the calibration procedures in Section VII. The applications of the special tools are briefly described in this section; the applications of many of these tools are further described in the repair procedures in Section IX.

## 4-3. TEST EQUIPMENT.

4-4. STANDARD TEST EQUIPMENT.

4-5. Figure 4-1 is the list of standard test equipment recommended for maintenance of the PTC. This equipment is not supplied with the PTC. Equipment having the same range and accuracy as those listed in figure 4-1 may be substituted for the items listed.

4-6. SPECIAL TEST EQUIPMENT.

4-7. No special test equipment is required for maintenance of the PTC.

## 4-8. SPECIAL TOOLS.

4-9. The special tools recommended for maintenance of the PTC are listed in figure 4-2 and illustrated on figure 4-3. These tools are not supplied with the PTC. Equivalent tools may be substituted for the items listed.

| Name | Model or Type | Vendor |
|---|---|---|
| Oscilloscope | 585A | Tektronix, Inc. |
| Plug-in Unit | M | Tektronix, Inc. |
| Plug-in Adapter | 81 | Tektronix, Inc. |
| Differential Voltmeter AC/DC | 803-B | John Fluke Mfg. Co., Inc. |
| Digital Voltmeter | 456 | Kintel Division, Cohu Electronics, Inc. |
| AC Converter | 452 | Kintel Division, Cohu Electronics, Inc. |
| Digital Readout | 473A | Kintel Division, Cohu Electronics, Inc. |
| Milliammeter (0-15 ma) | 901 | Weston Instrument Division, Daystrom Inc. |
| Volt-Ohm-Ammeter | 630-A | Triplett Electrical Instrument Co. |
| Volt-Ohmmeter | 269 | Simpson Electric Co. |
| Capacitance Bridge | 650-A | General Radio Co. |

Figure 4-1. Recommended Standard Test Standard

| Name | Vendor Part No. | Application | Illustration Figure 4-3 |
|---|---|---|---|
| SMS Card Puller | IBM 6072429 | Facilitates insertion or removal of SMS cards. | Part A |
| SMS Card Contact Lubricant | IBM 6072430 | Insures low contact resistance and reduces wear of the gold-plated SMS card contact surfaces. | Part B |
| SMS Card Extender | IBM 6072431 | Allows access to the components and wiring of an SMS card while the card is connected into the system. | Part C |
| SMS Card Socket Terminal Extractor | IBM 6072432 | Used to remove SMS card socket terminals (contacts). | Part D |
| Soldering Handle | Hexacon P25 | Handle for soldering tip. | Part E |
| Soldering Tip | Hexacon HT248D | Used to remove or install SMS card socket terminals that are soldered to a printed circuit overlay or a voltage chain. | Part F |
| Hand Wire-Wrap Tool | IBM 6072438 | A manual, squeeze-type wire-wrap tool used to wire-wrap SMS card socket terminals. | Part G |
| Wrapping Bit-22 | Keller A-18632 | Used with hand wire-wrap tool to wrap AWG22 wire. | Part H |
| Wrapping Bit-20 | Keller A-18633 | Used with hand wire-wrap tool to wrap AWG20 wire. | |
| Wrapping Bit-24 | Keller A-26232 | Used with hand wire-wrap tool to wrap AWG24 wire. | |
| Wrapping Bit-26 | Keller A-27611 | Used with hand wire-wrap tool to wrap AWG26 wire. | |
| Sleeve - 26 | Keller A-17611-2 | Used with hand wire-wrap tool to wrap AWG24-26 wire. | Part I |
| Sleeve - 22, 24 | Keller A-18840 | Used with hand wire-wrap tool to wrap AWG22 wire. | |
| Sleeve - 20 | Keller A-18285 | Used with hand wire-wrap tool to wrap AWG20 wire. | |

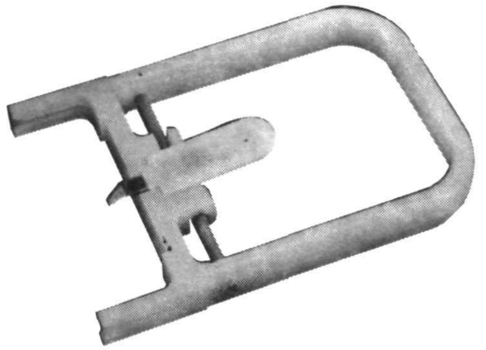
Figure 4-2. List of Recommended Special Tools (Sheet 1 of 3)

| Name | Vendor Part No. | Application | Illustration Figure 4-3 |
|---|---|---|---|
| Unwrap Tool | IBM 6072437 | Used to unwrap both right and left-hand wraps. | Part J |
| Crimping Tool Kit | Bendix 11-7295 | Used to crim size 12, 16 and 20 type connector contacts. | Part K |
| Insertion Tool | Bendix 11-6781-16 | Used to insert size 16 contacts in Bendix type connectors. | Part L |
| Insertion Tool | Bendix 11-8107-20 | Used to insert size 20 contacts in Bendix type connectors. | Part M |
| Contact Removing Tool Kit | Bendix 11-6900 | Used to remove size 16 and 20 contacts in Bendix type connectors. | Part N |
| Spanner Wrench | Bendix 11-3544 | Used on Bendix type connector spanner nuts. | Part O |
| Connector Pliers | Bendix 6147-1 | Used to hold knurled or serrated surfaces on Bendix type connectors. | Part P |
| Crimping Tool | AMP 59501 | Used to crimp AWG22-24 solid or stranded wire. | Part Q |
| Crimping Tool | Berg HT-3-20 | Used to crimp AWG20 solid or stranded wire to a slip-on terminal. | Part R |
| Crimping Tool | Berg HT-3-22 | Used to crimp AWG22 solid or stranded wire to a slip-on terminal. | |
| Crimping Tool | Berg HT-3-24 | Used to crimp AWG24 solid or stranded wire to a slip-on terminal. | |
| Attenuator Probe | Tektronix P-6017 | General purpose probe with nine-foot cable terminating at a UHF connector. | Part S |
| Current Probe | Tektronix P-6016 | Special purpose probe used when monitoring current characteristics. | Part T |

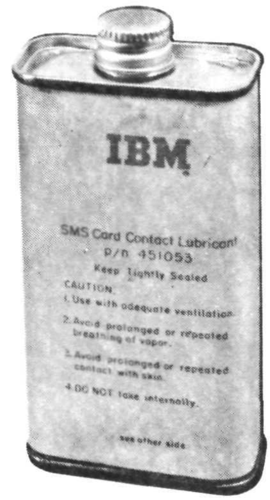
Figure 4-2. List of Recommended Special Tools (Sheet 2)

| Name | Vendor Part No. | Application | Illustration Figure 4-3 |
|---|---|---|---|
| Passive Termination | Tektronix 011-028 | Used with the current probe when monitoring current characteristics. | Part U |
| Switch Assembly Wrench | IBM 6900017 | Facilitates removal of switches from switch housings. | Part V |
| Switch Assembly Extractor | IBM 6900020 | Facilitates removal of screens and light modules from switch housings. | Part W |
| Tool Case | IBM 6445032 | Used for carrying tools. | Part X |
| Intercase | IBM 6445698 | Used for carrying tools. | Part Y |

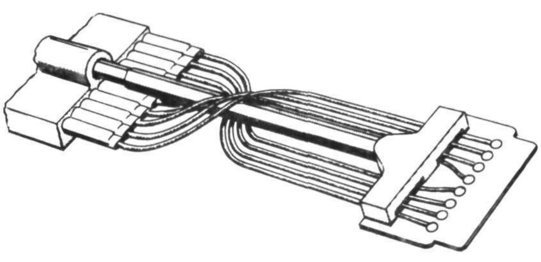
Figure 4-2. List of Recommended Special Tools (Sheet 3)



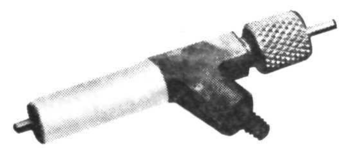
Part A. SMS Card Puller




Part B. SMS Card Contact Lubricant

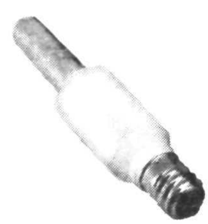


Part C. SMS Card Extender



Part D. SMS Card Socket Terminal Extractor

Part E. Soldering Handle



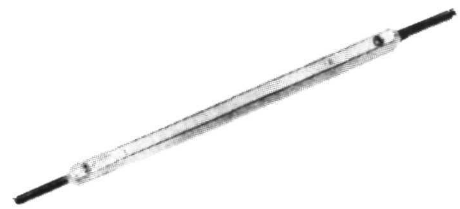
Part F. Soldering Tip

Figure 4-3. Recommended Special Tools (Sheet 1 of 4)

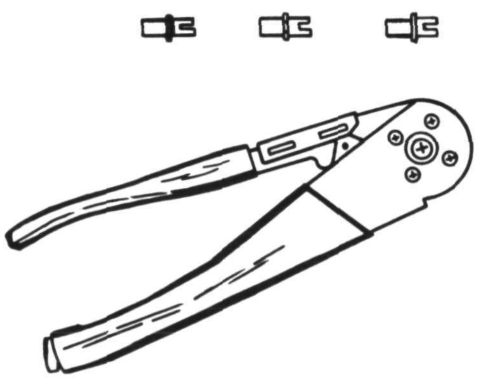
Part G. Hand Wire-Wrap Tool

Part H. Wrapping Bit (Typical)

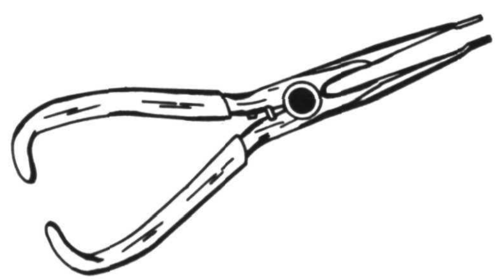
Part I. Sleeve (Typical



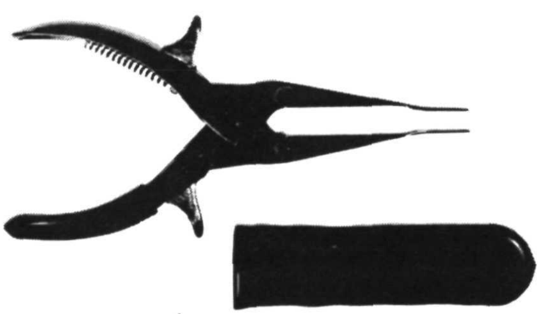
Part J. Unwrap Tool



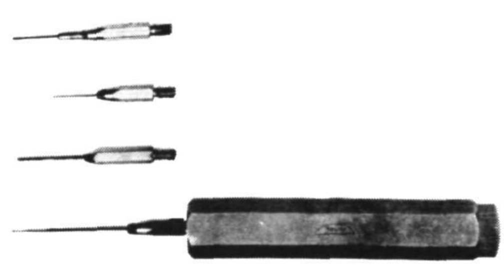
Part K. Crimping Tool Kit



Part L. Insertion Tool

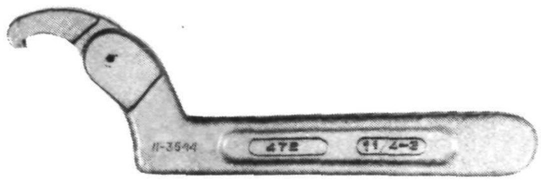


Part M. Insertion Tool

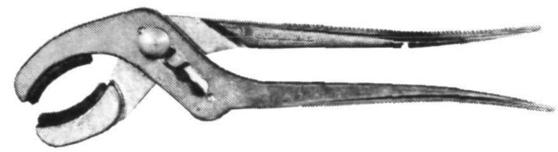


Part N. Contact Removing Tool Kit

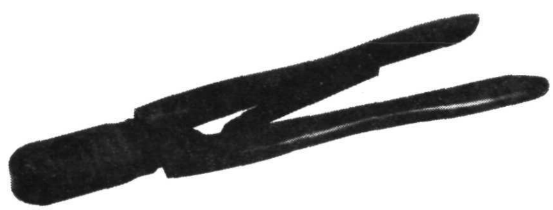
Figure 4-3. Recommended Special Tools (Sheet 2)



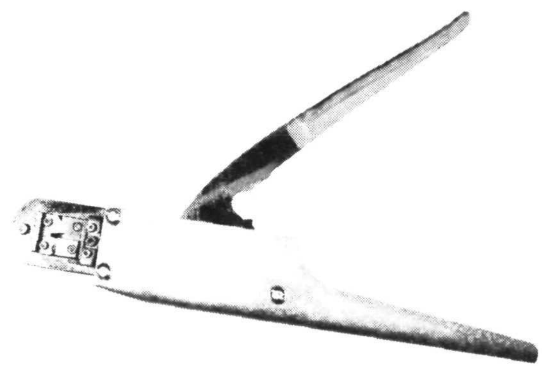
Part O.  Spanner Wrench



Part P.  Connector Pliers

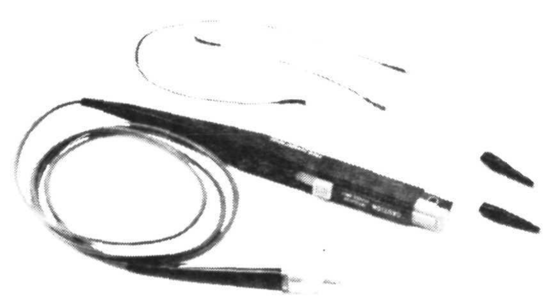


Part Q.  Crimping Tool



Part R.  Crimping Tool (Typical)

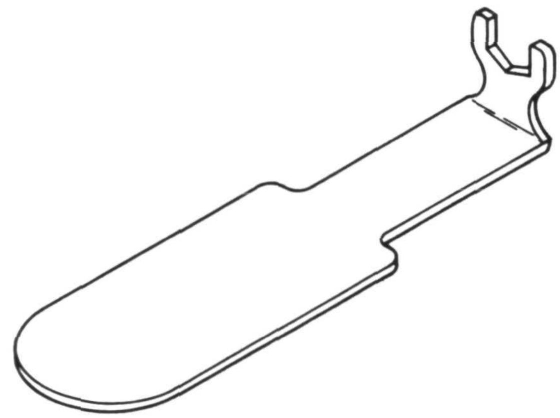
Part S.  Attenuator Probe



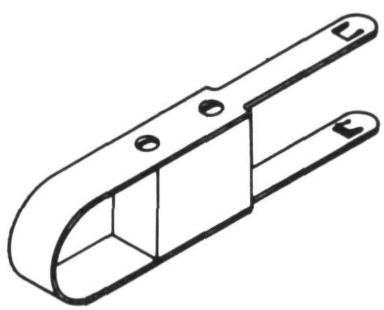
Part T.  Current Probe

Figure 4-3.  Recommended Special Tools (Sheet 3)

Part U. Passive Termination



Part V. Switch Assembly Wrench



Part W. Swtich Assembly Extractor

Part X. Tool Case

Part Y. Intercase

Figure 4-3. Recommended Special Tools (Sheet 4)

SECTION V

PREPARATION FOR USE, STORAGE, AND SHIPMENT

5-1. SCOPE.

5-2. This section describes the procedures for preparing the PTC for use, storage, and shipment.

5-3. PREPARATION FOR USE.

5-4. UNPACKING.

5-5. The PTC is not packed for shipment. No unpacking is necessary.

5-6. ASSEMBLY.

5-7. The PTC is assembled before shipment. No assembling is necessary.

5-8. INSPECTION.

5-9. The PTC should be inspected for evidence of damage caused by improper handling during shipment.

5-10. INSTALLATION.

5-11. Refer to Volume I for installation instructions.

5-12. TESTS.

5-13. Before using the PTC, perform all calibration checks as described in Section VII.

5-14. PREPARATION FOR STORAGE.

5-15. Prepare the PTC for storage as follows:

a. Close all hinged panels and card gates.

b. Install connector dust caps on all connectors.

c. Cover PTC with dust cover.

5-16. PREPARATION FOR SHIPMENT.

5-17. Prepare the PTC for shipment as described in paragraph 5-15.

SECTION VI

# PREVENTIVE MAINTENANCE

## 6-1. SCOPE.

6-2. This section describes the recommended inspection and preventive maintenance schedules for the PTC.

## 6-3. INSPECTION.

6-4. There is no recommended inspection schedule for the PTC. However, if exterior damage, or deterioration or discoloration of panel markings is noted during daily use of the PTC, repair the fault as described in Section IX.

**CAUTION**

Never allow an object to obstruct the air intake vents at the bottom of the PTC or the air exhaust vents on the top of the PTC. The air intake vents and air exhaust vents must be open to allow cooling of PTC circuit components.

## 6-5. PREVENTIVE MAINTENANCE.

6-6. Because the PTC uses SMS cards, preventive maintenance is held at a minimum. Figures 6-1 through 6-5 prescribe the preventive maintenance schedule for the PTC. These figures list the items to be maintained, the location of each item, the frequency at which each item should be inspected, and the method of inspection and maintenance. Refer to the List of Related Manuals in the front of this Volume for the commercial manuals referenced in figures 6-2 through 6-5.

ASSEMBLY PTC (690090) General
REFERENCE MANUAL

| Item | Location | Frequency | Observe | Clean | Lubricate | Note |
|---|---|---|---|---|---|---|
| Furnace Type Filters | Bottom of Frames 01, 02, and 03. | Monthly | Check for cleanliness. | | | Replace if necessary. |
| Fans | Top and bottom, and front and rear of Frames 01, 02, and 03. | Monthly | Check for any obvious faults such as noisy operation, wear, cleanliness, etc. | | | Clean or replace if necessary. |

Figure 6-1. PTC General Preventive Maintenance

ASSEMBLY Plotter Assembly 6900170 (Calif. Computer Products, Inc. Model 565)
REFERENCE MANUAL Instruction Manual for Digital Incremental Plotter, Model 565

| Item | Location | Frequency | Observe | Clean | Lubricate | Note |
|---|---|---|---|---|---|---|
| Operational Checkout | Refer to paragraph 4-13, page 17 of the reference manual. | Weekly | | | | If the plotter is used infrequently, this operational checkout should be performed. If the instrument is in frequent use, this checkout may be omitted since it should normally be performed at the start of each recording run. |
| Carriage Rods and Drum Surface | | As required | | Clean as required with a soft, dry cloth. If necessary, the cloth may be moistened with Freon 12 cleaning solvent (E. I. Dupont Nemours and Company, Inc.) to remove foreign matter. | | |
| Metal Plunger and Pen Assembly | See figure 5-3, page 23 of the reference manual. | | | Clean inside of the pen assembly plunger by pushing one corner of a soft, dry cloth through the center. If the plunger is clogged, it should be dipped in Freon 12 cleaning solvent and then wiped dry. | | CAUTION<br>Use care to avoid damage to the teflon insulation on the carriage drive cable. This cable supplies -24 volt power to the pen solenoid. |
| Ballpoint Pen | | See Note column. | | See Note column. | | The ballpoint pen accumulates ink at the tip. The pen should be removed and cleaned about every hour of operation. Pen life is approximately 5 to 7 hours. Pen replacement should be considered before critical drawings are made to reduce the possibility of smear. |

Figure 6-2. Plotter Assembly (01A1) Preventive Maintenance

ASSEMBLY Tape Reader 6901110 (Rheem Electronics Model RR1002-B-333)
REFERENCE MANUAL Rheem TRM-306E

| Item | Location | Frequency | Observe | Clean | Lubricate | Note |
|---|---|---|---|---|---|---|
| Photocell Block | Front panel (See figure 4-7, page 19, No. 10 of reference manual). | Semi-weekly | Check for cleanliness of the glass slide covering the aperture plate. | Use stiff bristle brush for general cleaning. Use a cotton swab and water, if necessary to remove foreign matter. | | |
| Focusing Lens | Front panel (See figure 4-3, page 13, of reference manual). | Semi-weekly | Check for cleanliness. | Use same materials as above for any necessary cleaning. | | |
| Jam and Drive Rollers | Front panel (See figure 4-1, page 12, of reference manual). | Semi-weekly | Check for wear or indentations on roller surfaces. | If necessary, clean by abrading surfaces with a soft eraser (Eraser Stik, A. W. Faber or equivalent). | | |
| Brake Shoes | Front panel (See figure 4-7, page 19, No. 4, of reference manual). | Semi-monthly | Check for accumulation of foreign matter that might tend to reduce braking force. | Clean with stiff bristle brush. | | |
| Power Supply Voltages | See figures 4-5 and 4-6, pages 17 and 18, of reference manual for location of components and terminals listed under the "observe" column. | Monthly | With the same voltmeter, check and record all voltages listed below. Use the same voltmeter for each monthly test. A change in voltage may be indicative of a gradual component failure. A period of about 30 minutes should be allowed for warm up before the readings are taken. All voltage readings should be ±5%. | | | |

| Voltage | From | To |
|---|---|---|
| -56V | C1, -terminal | TP1 |
| -10V | F3, terminal 2 | TP1 |
| +4V | C1, +terminal | TP1 |

Figure 6-3. Tape Reader Assembly (03A2) Preventive Maintenance (Sheet 1 of 2)

ASSEMBLY Tape Reader 6901110 (Rheem Electronics Model RR1002-B-333)
REFERENCE MANUAL Rheem TRM-306E

| Item | Location | Frequency | Observe | Clean | Lubricate | Note |
|---|---|---|---|---|---|---|
| Belt | See figure 4-6, page 18, No. 2, of reference manual. | Monthly | Check for wear or fraying of the belt which might cause slippage or an eventual break. | | | Replace if necessary. |
| Lamp | See figure 4-3, page 13, of reference manual. | *18 Months | | | | Replace lamp and go through necessary adjustments and calibration as outlined in Sections 4.2.2, page 11, and 4.2.3, page 14, of reference manual. |
| Symmetry of Track Output | See figure 4-5, page 17, of reference manual for location of test points listed under the "Note" column. | When lamp above is replaced or a tape material changes. | | | | Check the output of test points 1 and 2 for 45% "on time" (refer to Section 4.2.3 for Symmetry Adjustment in reference manual). |

*This frequency is good *only* if the estimated reader on-time per week is $\leq$ 10 hours. If the reader on-time per week (t) is estimated to be $>$ 10 hours, use the following formula to establish a different frequency:

$$\text{frequency (in weeks)} = \frac{4{,}060}{t + 42}$$

Figure 6-3. Tape Reader Assembly (03A2) Preventive Maintenance (Sheet 2)

ASSEMBLY Tape Spooler 6901120 (Rheem Electronics Model RS500A)
REFERENCE MANUAL Rheem TSM-306A

| Item | Location | Frequency | Observe | Clean | Lubricate | Note |
|---|---|---|---|---|---|---|
| Fawick Brake | | Monthly | See "Note" column first. Then inspect the brake lining and replace when excessively worn. | See "Note" column first. Then clean the brake lining with a stiff bristle brush. | | Remove the collar from the rear of each motor shaft, and slide the brake disk off. |
| Relay K1 Voltage | See figure 4-2, page 15, of reference manual | Monthly | | | | Check the voltage across the coil of relay K1 in its operated state (refer to Section 4.2.3 on Relay Voltage Calibration in the reference manual). |
| Tension of the Tape Sensing Arm | See figure 4-5, page 18, No. 19, of reference manual. | Quarterly | | | | Check the force on the Tape Sensing Arm at the end of the arm (refer to Section 4.2.1, page 12, on Adjustment of Tape Sensing Arm Tension in reference manual). |
| Gear in Drive Motor, M1 | See figure 4-2, page 15, of reference manual. | Semi-Yearly | | | Apply one or two drops of 80 weight cling oil (Kerns Pacific Corp., 330 North Batavia Street, Orange, California, or equivalent) to each gear. | |
| Spring in Reel Retainer Housing | | Semi-Yearly | | | Place a small amount of light grade oil (Mobil Vacuoline Oil E, Socony Mobil Oil Co., or equivalent) between the chambered section of the knob and the two locking pins: A small amount of light grade oil is also required on the inside surface of the knob. | |

Figure 6-4. Tape Spooler Assembly (03A3) Preventive Maintenance

ASSEMBLY Trygon Power Supply (See below for applicable assembly numbers and models)
REFERENCE MANUAL Trygon Instruction and Maintenance Manual

| Item | Location | Frequency | Observe | Clean | *Lubricate* | Note |
|---|---|---|---|---|---|---|
| Fan Motor | | Monthly | | | Oil Motor shaft at tubes on each end of motor with a light oil (Mobil Vacuoline Oil E, Socony Mobil Co., or equivalent). | |

The above P. M. applies to the following assemblies:

1. 03A6 and 03A7 PTC, 6078151 (Trygon Model M36-5-0V)
2. 03A8 and 03A9 PTC, 6078408 (Trygon Model M15-10-0V)

Figure 6-5. Power Supplies (Trygon) Preventive Maintenance

## SECTION VII

## CALIBRATION

### 7-1. SCOPE.

7-2. This section contains the calibration and adjustment procedure for the PTC. This procedure is contained in figures 7-1 through 7-11. The calibration and adjustment procedure consists of (1) power checks and necessary adjustments, and (2) logic checks and necessary adjustments. The logic checks consists of manual and automatic (programmed) checks.

### 7-3. CALIBRATION INTERVAL.

7-4. The calibration procedure shall be performed monthly. The procedure may be performed at any time for trouble isolation.

7-5. The procedure is presented in such a manner that the entire procedure may be performed in the sequence given, or any one check may be performed by itself.

### 7-6. SPECIAL TEST EQUIPMENT REQUIRED FOR CALIBRATION.

7-7. The special test equipment specified in the procedure is listed in figure 4-1. The special test equipment shall be calibrated prior to use in accordance with the appropriate commercial manual. In addition to the special test equipment, test program tapes IBM part numbers 6001232, 6001236, and 6001247 are required.

### 7-8. GENERAL CALIBRATION PROCEDURES.

7-9. Prior to starting the procedure, the cables listed in figure 7-1 shall be connected as shown, and plug 01P13 shall be connected to jack 01J13. The NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch on the CE PANEL shall be set to the NORM position unless otherwise stated in the procedures.

7-10. If a failure occurs, as evidenced by indications other than the normal indications listed, refer to the applicable adjustments or to Trouble Isolation in Section VIII.

### 7-11. ABBREVIATIONS USED IN CALIBRATION PROCEDURES.

7-12. The following abbreviations are used in the PANEL column of the figures containing the procedure.

| Abbreviation | Definition |
|---|---|
| PD | PROCESSOR DISPLAY PANEL |
| TRMC | TAPE READER AND MODE CONTROL PANEL |
| MLDD | MEMORY LOAD AND DATA DISPLAY PANEL |
| CE | C E PANEL |
| NA | Not applicable |

7-13. POWER CHECKS AND ADJUSTMENTS.

7-14. The power checks and adjustments substantiate that the power distribution circuits are functioning properly and that the DC voltages are within required tolerances. The power checks and adjustments are listed sequentially in figure 7-2.

7-15. LOGIC ADJUSTMENTS AND CHECKS.

7-16. If the calibration is being started here, or if only one group of the logic checks is being performed and power is not on, perform the following steps:

1. Verify that all interlock switches are closed, the EMERGENCY PULL switch is reset (pushed-in), and that all circuit breakers located in end panel 01B are on.

2. Verify that all AC ON and ON switches on the Trygon power supplies and all circuit breakers for the SMS power supplies are at the ON position.

3. Press and release PTC MAIN PWR—PWR ON pushbutton/lamp (PROCESSOR DISPLAY PANEL), and allow 15 minutes minimum for power supply warm-up. Note that PTC MAIN PWR—PWR ON lamp lights; PTC MAIN PWR—PWR OFF lamp goes out; and PTC DC PWR—PWR ON lamp lights.

4. Press and release PTC DC PWR—PWR ON pushbutton/lamp. Note that PTC DC PWR—PWR ON lamp lights after a noticeable delay and PTC DC PWR—PWR OFF lamp goes out.

7-17. TIMING ADJUSTMENTS.

7-18. The timing adjustments listed in figure 7-3 substantiate that the single shots and variable delays contained in the PTC are adjusted properly. Timing durations shall be measured at the 50 percent amplitude level for all waveshapes. Timing durations of 2 MS or less shall be measured with the oscilloscope in the "A" DEL'D by "B" mode using the DELAY TIME MULTIPLIER dial.

7-19. The 1270 NSEC delay cards, which are variable from 320 to 1270 NSEC increments, are referenced for several adjustments. Desired delays are obtained by jumpering together various combinations of the pins on these cards. (See figure 7-4.)

7-20. TAPE READER CONTROLS AND PTC AND PRINTER TIMING CHECKS.

7-21. The tape reader controls, and PTC and printer timing Checks substantiate that the tape reader timing and control circuits, Phase/Bit Gate/Glock selection circuits, and printer timing circuits are functioning properly. These checks are listed sequentially in figure 7-5. The tape reader exercise tape referenced in step 3. 82 is a strip of paper tape five feet long. Holes are punched in each channel of the tape for every other tape character. Holes are punched in channels 1, 3, 5, and 7 for the first tape character and channels 2, 4, 6, and 8 for the next tape character, etc. The ends of the tape are then spliced together to form a continuous loop. This tape is supplied with the PTC.

7-22. MEMORY LOADER AUTOMATIC CHECKS.

7-23. The memory loader automatic checks substantiate that the memory loader circuits and controls are functioning properly when in the AUTO mode. A special program used for subsequent checks is loaded into the central processor memory during these checks. The memory loader automatic checks are listed sequentially in figure 7-6.

7-24. MEMORY LOADER MANUAL CHECKS.

7-25. The memory loader manual checks substantiate that the controls and indicators of the memory loader circuits are functioning properly when in the MANUAL mode. These checks are listed sequentially in figure 7-7. The memory loader manual checks can not be performed unless the special program has been loaded into the central processor memory (steps 4.1 through 4.84 in figure 7-6).

7-26. DATA DISPLAY CHECKS.

7-27. The data display checks substantiate that the data display circuits, controls, and indicators are functioning properly. These checks are listed sequentially in figure 7-8. The data display checks can not be performed unless the special program has been loaded into the central processor memory (steps 4.1 through 4.84 in figure 7-6).

7-28. CENTRAL PROCESSOR MANUAL CHECKS.

7-29. The central processor manual checks substantiate that the controls and indicators on the CE PANEL and PROCESSOR DISPLAY PANEL are operational and that the halt and single step features are functioning properly. These checks are listed sequentially in figure 7-9. The central processor manual checks can not be performed unless the special program has been loaded into the central processor memory (steps 4.1 through 4.84 in figure 7-6).

7-30. CENTRAL PROCESSOR MEMORY AUTOMATIC CHECKS.

7-31. The memory automatic checks substantiate that all locations of the central processor memory can be exercised without error. These checks are listed sequentially in figure 7-10.

7-32. SELF-TEST PROGRAM CHECKS.

7-33. The self-test program checks substantiate that the central processor plotter, printer, typewriter, and interrupt logic are functioning properly. These checks are listed sequentially in figure 7-11.

7-34. If a malfunction occurs while running one of the test program routines, the PROGRAM ERROR lamp will light. Information pertaining to ten errors may be retained at any given time. The first nine errors detected are stored in nine blocks of five words each. The tenth block will contain data for the last error detected before the test was stopped. In addition the total error count and error count for the first pass are stored. The five data words and their symbolic names are as follows:

(1) VAR3 — The current value of the program pass counter.

(2) VAR1 — A HOP constant referencing an individual test or block of tests.

(3) ACCUM — The contents of the accumulator at the time the error was detected.

(4) VAR4 or V4 — A HOP constant referencing an individual test. Used when VAR1 refers to a block of tests.

(5) VAR5 or V5 — A data word defining an individual test. Used when a subroutine is performing several tests with a block of test data and test patterns.

A comparison is then made with the test program flow diagram and listings (figures 7-12, 7-13, 7-14, and 7-15).

7-35. Figure 7-12 is the test program flow diagram which illustrates the test program functions. The flow diagrams are made up of four types of symbols: the circle, the diamond, the rectangle and the oval. The circle denotes a connective or tie point in the flow diagram; the diamond denotes a decision block ; the rectangle denotes an operation being performed; and the oval denotes a reset operation. Symbolic codes are used throughout the flow diagrams to correlate the actual test program location with the flow diagram location.

7-36. The test program listing is divided into three parts as follows:

a. Test Program. (See figure 7-13.) The listing contains fifteen columns of test program data and information. (See figure 7-16 for column data definitions.)

b. Test Program Symbolic Table. (See figure 7-14.) The symbolic table contains a symbolic code which is located in the second column. The table also contains ten other columns which may contain a number (X, XX, X, XXX) which depicts an instruction module, instruction sector, syllable and a memory location respectively, representative of the symbol.

c. Memory Location Contents. (See figure 7-15.) This figure contains memory words (12 digits) which are counted octally from left to right. The first number in each row indexes the octal memory location of the memory words in that row. The last three digits of each memory word in the listing are not part of the word. The last digit designates the syllable usage of that word. Numbers 1, 2 and 3 designate syllables 0, 1 and both 0 and 1 respectively. The other two of the last three digits are not used.

7-37. After the detection of an error and the error information is stored, the program will perform the next test unless PROG REG A-14 toggle switch is set to ON. When this switch is set to ON, a HOP on VAR1 is performed and the program is re-entered at the beginning of the failed test. When PROG REG A-16 toggle switch is set to ON, the PTC will go into single step when an error is detected. Actuating the ADVANCE pushbutton once will cause VAR3 (associated with first error) to be displayed by the DATA area COMPUTER lamps on the MEMORY LOAD AND DATA DISPLAY panel if the DISPLAY SELECT switch is set to the AI3-DATA position. Actuating the ADVANCE pushbutton again will cause VAR1 to be displayed, etc.

7-38. Because of the dual use of VAR1 as a test identifier and a return HOP constant, several types of error information are required. The types and their method of implementation are described as follows (VAR3 and ACCUM are the same for all types):

Type 1 - Independent Test

A. (Test 1) TNZ to Error Routine
B. (Test 2)

VAR1 - Location of failed test (A)
VAR2 - Location of next test (B)
VAR4 - Not applicable
VAR5 - Not applicable

Type 1a - Same as Type 1 except that the test data is stored in VAR5.

Type 3 - Common Test Routine using address modification to obtain successive test data and test patterns.

A. Perform test with changing test data

B. Test results with changing test pattern

C. Increment addresses in A and B for next test

D. Reset registers, etc. for next test
GO TO A if not finished

VAR1 - Location D
VAR2 - Location C
VAR4 - Not applicable
VAR5 - Data used in A for failed test

Type 3a - Similar to Type 3 except that more than one test is performed in each loop. The location of the particular test being executed is stored in VAR4.

Type 4 - Used in PTC Interrupts Test Only

A. Test previous HOP on interrupt store location of A in VAR4. Force next interrupt and HOP to B.

B. CLA unique data word
TRA C

C. STO 777
Save Data Word
STO 777 in VAR5

D. Test Data Word

VAR1 - Location of beginning of Interrupts test (L12P1)
VAR2 - Next location following D
VAR4 - Location (A) of block of instructions preceding HOP
VAR5 - Location B + 2 (Shows where TRA to C originated)

7-39. The types of error information are used as follows:

| Symbolic Location of Test | Error Type |
|---|---|
| L5P2 – L5P2FF | None |
| L5P3 – L7P55 | 1 |
| L9P2 – L9P72 | 1 |
| L10P1 – L10P45 | 2 |
| L11P1 – L11P17 | 1 |
| L11P18 – L11P32 | 1 |
| L12P1 – L17P1 | 4 |
| L20P2 – L26P1 | 3a |
| L27P1 – L28P2 | 2 |
| L29P2 – L29P4 | 1 |
| L30P1 – L31P5 | 3 |
| L32P1 – L33P1 | 3 |

| Symbolic Location of Test | Error Type |
|---|---|
| L32P1 — L33P1 | 1a |
| L33P2 — | 3 |
| L33P3 | 1a |
| L34P1 — L34P3 | 3 |
| L35P1 | 1a |
| L35P2 — L38P3 | 3 |
| L38P4 — L39P1 | 1 |
| L39P2 — L39P3 | 2 |
| L39P4 — L42P2 | 1 |
| L45P2 — L45P3 | 2 |
| L47P1 | 1 |
| Routines 7 and 8 | None |
| JAC1 — JAK1 | 2 |
| JAA2 — JWE3 | 1 |
| JAG2 — JAH3 | 2 |
| JAC4 — JFF5 | 1 |
| JHB1 — JHE3 | 2 |
| JJB1 — JKB3 | None |
| JLB1 — JVJ5 | 2 |
| JXC1 — JXB2 | None |
| JYB1 — JYH1 | None |
| MAC1 — MAH1 | None |
| JXF2 — JZG4 | 1 |
| Routine 11 | 1 |
| Routine 12 | None |

| Cable Part Number | From | To |
|---|---|---|
| 6900912 | 9009J1 | 01J8 |
| 6900913 | 9009J2 | 01J9 |
| 6900914 | 9009J3 | 01J10 |
| 6900915 | 9009J4 | 01J11 |
| 6900916 | 9009J5 | 01J6 |
| 6900917 | 9009J6 | 01J7 |
| 6900168 | 01J5 | 01J12 |

Figure 7-1. Preliminary Cable Connection

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 1.1 through 1.40 substantiate that PTC main power can be sequenced on and off, and that the interlocks, EMERGENCY OFF switch, and blower fans are operational. | | |
| 1.1 | 01B5 | Connect primary power cable between AC power source and power receptacle 01B5J1. | | |
| 1.2 | 01B5 | Remove end panel 01B and verify all circuit breakers are set. | | |
| 1.3 | 01B5 | Record elapsed time indicator reading. | Reading | ______ |
| 1.4 | 01B | Install end panel 01B. | | |
| 1.5 | PD | Reset (push in) PTC MAIN PWR EMERGENCY PULL switch. | | |
| 1.6 | PD | Observe PTC MAIN PWR-PWR OFF lamp. | Lit | ______ |
| 1.7 | PD | Press and release PTC MAIN PWR PWR ON pushbutton lamp. | | |
| 1.8 | PD | Observe PTC MAIN PWR-PWR ON lamp. | Lit | ______ |
| 1.9 | 01B | Remove end panel 01B. | | |
| 1.10 | PD | Observe PTC MAIN PWR-PWR ON lamp. | Not lit | ______ |
| 1.11 | PD | Observe PTC MAIN PWR-PWR OFF lamp. | Lit | ______ |

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | PAGE | | PAGES | NUMBER |
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| | | | | | | | | | | | | | | | | | | | OF | | A- |

Figure 7-2. Power Checks (Sheet 1 of 15)

| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 1.12 | 01B | Install end panel 01B. | | |
| 1.13 | PD | Press and release PTC MAIN PWR-PWR ON pushbutton. | | |
| 1.14 | PD | Observe PTC MAIN PWR-PWR ON lamp. | Lit | ______ |
| 1.15 | 03A | Remove end panel 03A. | | |
| 1.16 | PD | Observe PTC MAIN PWR-PWR ON lamp. | Not lit | ______ |
| 1.17 | PD | Observe PTC MAIN PWR-PWR OFF lamp. | Lit | ______ |
| 1.18 | 03A | Install end panel 03A. | | |
| 1.19 | PD | Press and release PTC MAIN PWR-PWR ON pushbutton lamp. | | |
| 1.20 | PD | Observe PTC MAIN PWR-PWR ON lamp. | Not lit | ______ |
| 1.21 | 03A5 | Extend relay gate 03A5. | | |
| 1.22 | PD | Observe PTC MAIN PWR-PWR ON lamp. | Not lit | ______ |
| 1.23 | PD | Observe PTC MAIN PWR-PWR OFF lamp. | Lit | ______ |
| 1.24 | 03A5 | Close relay gate 03A5. | | |
| 1.25 | PD | Set (pull out) PTC MAIN PWR-EMERGENCY PULL switch. | | |
| 1.26 | PD | Observe PTC MAIN PWR-PWR OFF lamp. | Not lit | ______ |
| 1.27 | PD | Reset (push in) MAIN Power EMERGENCY OFF switch. | | |

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| | | | | | | | | | | | | | | | | | | | | | A- |

Figure 7-2. Power Checks (Sheet 2)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 1.28 | PD | Observe PTC MAIN PWR-PWR OFF lamp. | Lit | ______ |
| 1.29 | 03A6 thru 03A11 | Verify that all AC ON or ON switches on Trygon power supplies are ON. | | |
| 1.30 | PD | Press and release PTC MAIN PWR-PWR ON pushbutton/lamp. | | |
| 1.31 | PD | Observe PTC MAIN PWR-PWR ON lamp. | Lit | ______ |
| 1.32 | PD | Observe PTC MAIN PWR-PWR OFF lamp. | Not lit | ______ |
| 1.33 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ______ |
| 1.34 | NA | Observe all blower fans. | Operating | |
| 1.35 | 03A6 thru 03A11 | Observe POWER ON lamps on Trygon power supplies. | Lit | ______ |
| 1.36 | PD | Press and release PTC MAIN PWR PWR OFF pushbutton/lamp. | | |
| 1.37 | PD | Observe PTC MAIN PWR-PWR ON lamp. | Not lit | ______ |
| 1.38 | PD | Observe PTC MAIN PWR-PWR OFF lamp. | Lit | ______ |
| 1.39 | NA | Observe all blower fans. | Not operating | |
| 1.40 | 03A6 thru 03A11 | Observe POWER ON lamps on Trygon power supplies. | Not lit | ______ |

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Figure 7-2. Power Checks (Sheet 3)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 1.41 through 1.109 substantiate that PTC DC power can be sequenced on and off and that PTC DC power is automatically sequenced off by a loss of one of the DC voltages supplying the memory unit. | | |
| 1.41 | PD | Press and release PTC MAIN PWR-PWR ON pushbutton/lamp. | | |
| 1.42 | PD | Observe PTC MAIN PWR-PWR ON lamp. | Lit | ______ |
| 1.43 | PD | Observe PTC MAIN PWR-PWR OFF lamp. | Not lit | ______ |
| 1.44 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ______ |
| 1.45 | 03A6 thru 03A11 | Verify that CURRENT ADJUST and CURRENT VERNIER pots on Trygon power supplies are positioned fully clockwise. | | |
| 1.46 | PD | Press and release PTC DC PWR-PWR ON pushbutton/lamp. | | |
| 1.47 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ______ |
| 1.48 | PD | Observe PTC DC PWR-PWR ON lamp. | Lit (after noticeable delay) | |
| 1.49 | PD | Press and release PTC DC PWR-PWR OFF pushbutton/lamp. | | |

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Figure 7-2. Power Checks (Sheet 4)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 1.50 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ______ |
| 1.51 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ______ |
| 1.52 | 02A3 | Disconnect plugs 02P9, 02P10, 02P12, 02P13 and 02P14 from the memory unit. | | |
| 1.53 | PD | Press and release PTC DC PWR-PWR ON pushbutton/lamp. | | |
| 1.54 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ______ |
| 1.55 | PD | Observe PTC DC PWR-PWR ON lamp. | Lit | ______ |
| 1.56 | 01B8 | Set circuit breaker for +30 VDC fixed power supply to OFF. | | |
| 1.57 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ______ |
| 1.58 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ______ |
| 1.59 | 01B8 | Set circuit breaker for +30 VDC fixed power supply to ON. | | |
| 1.60 | PD | Observer PTC DC PWR-PWR OFF lamp. | Not lit | ______ |
| 1.61 | PD | Observer PTC DC PWR-PWR ON lamp. | Lit | ______ |
| 1.62 | 03A6 | Set power on switch on +30 VDC variable power supply to OFF. | | |

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Figure 7-2. Power Checks (Sheet 5)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 1.76 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ______ |
| 1.77 | 03A8 | Set power on switch on +12 VDC variable power supply to ON. | | |
| 1.78 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ______ |
| 1.79 | PD | Observe PTC DC PWR-PWR ON lamp. | Lit | ______ |
| 1.80 | 03A9 | Set power on switch on +12 VDC variable power supply to OFF. | | |
| 1.81 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ______ |
| 1.82 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ______ |
| 1.83 | 03A9 | Set power on switch on +12 VDC variable power supply to ON. | | |
| 1.84 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ______ |
| 1.85 | PD | Observe PTC DC PWR-PWR ON lamp. | Lit | ______ |
| 1.86 | 03A11 | Set power on switch on -12 VDC variable power supply to OFF. | | |
| 1.87 | PD | Observe PTC DC PWR-PWP OFF lamp. | Lit | ______ |
| 1.88 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ______ |

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Figure 7-2. Power Checks (Sheet 6)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 1.63 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ________ |
| 1.64 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ________ |
| 1.65 | 03A6 | Set power on switch on +30 VDC variable power supply to ON. | | |
| 1.66 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ________ |
| 1.67 | PD | Observe PTC DC PWR-PWR ON lamp. | Lit | ________ |
| 1.68 | 03A7 | Set power on switch on +30 VDC variable power supply to OFF. | | |
| 1.69 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ________ |
| 1.70 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ________ |
| 1.71 | 03A7 | Set power on switch on +30 VDC variable power supply to ON. | | |
| 1.72 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ________ |
| 1.73 | PD | Observe PTC DC PWR-PWR ON lamp. | Lit | ________ |
| 1.74 | 03A8 | Set power on switch on +12 VDC variable power supply to OFF. | | |
| 1.75 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ________ |

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Figure 7-2. Power Checks (Sheet 7)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 1.89 | 03A11 | Set power on switch on -12 VDC variable power supply to ON. | | |
| 1.90 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ______ |
| 1.91 | PD | Observe PTC DC PWP-PWR ON lamp. | Lit | ______ |
| 1.92 | 01B7 | Set circuit breaker for +12 VDC fixed power supply to OFF. | | |
| 1.93 | PD | Observe the PTC DC PWR-PWR OFF lamp. | Lit | ______ |
| 1.94 | PD | Observe the PTC DC PWR-PWR ON lamp. | Not lit | ______ |
| 1.95 | 01B7 | Set circuit breaker for +12 VDC fixed power supply to ON. | | |
| 1.96 | PD | Observe the PTC DC PWR-PWR OFF lamp. | Not lit | ______ |
| 1.97 | PD | Observe the PTC DC PWR-PWR ON lamp. | Lit | ______ |
| 1.98 | 01B7 | Set circuit breaker for -6 VDC fixed power supply to OFF. | | |
| 1.99 | PD | Observe the PTC DC PWR-PWR OFF lamp: | Not lit | ______ |
| 1.100 | PD | Observe the PTC DC PWR-PWP ON lamp. | Lit | ______ |
| 1.101 | NA | Observe that any display lamps lit are lit at half brillancy. | | |

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Figure 7-2. Power Checks (Sheet 8)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 1.102 | PD | Press and release PTC DC PWR-PW OFF pushbutton lamp. | | |
| 1.103 | PD | Observe the PTC DC PWR-PWR OFF lamp. | Lit | ________ |
| 1.104 | PD | Observe the PTC DC PWR-PWR ON lamp. | Not lit | ________ |
| 1.105 | PD | Press and release PTC DC PWR-PWR ON pushbutton/lamp. | | |
| 1.106 | PD | Observe the PTC DC PWR-PWR OFF lamp. | Lit | ________ |
| 1.107 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ________ |
| 1.108 | PD | Press and release PTC DC PWR-PWR OFF pushbutton/lamp. | | |
| 1.108.1 | 01B7 | Set circuit breaker for -6 VDC fixed power supply to on. | | |
| 1.109 | 02A3 | Connect plugs 02P9, 02P10, 02P12, 02P13, and 02P14 to jacks J1 through J5 respectively on the memory unit. | | |
| EXP | NA | Steps 1.110 through 1.136 substantiate that DC power is applied to and removed from the memory unit in the correct sequence. Allow 30 seconds to elapse after cycling power on before cycling power off one vice-verse. | | |

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Figure 7-2. Power Checks (Sheet 9)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 1.110 | 02A3 | Connect preamplifier channels A and B to memory unit test jacks 1 (+30 VDC) and 6 (-12 VDC) respectively. | | |
| 1.111 | PD | While observing oscilloscope press and release PTC DC PWR-PWR ON pushbutton/lamp. | | |
| 1.112 | 02A3 | Observe that +30 VDC is applied after -12 VDC. | 1.5 seconds minimum | ______ |
| 1.113 | PD | Observe PTC DC PWR-PWR ON lamp. | Lit | ______ |
| 1.114 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ______ |
| 1.115 | PD | While observing oscilloscope press and release PTC DC PWR-PWR OFF pushbutton/lamp. | | |
| 1.116 | 02A3 | Observe that +30 VDC is removed before -12 VDC. | 1.5 seconds minimum | ______ |
| 1.117 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ______ |
| 1.118 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ______ |
| 1.119 | 02A3 | Disconnect preamplifier from memory unit test jack 1 and connect to test jack 3 (+30 VDC). | | |
| 1.120 | PD | While observing oscilloscope press and release PTC DC PWR-PWR ON pushbutton/lamp. | | |

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Figure 7-2. Power Checks (Sheet 10)

INTERNATIONAL BUSINESS MACHINES—

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 1.121 | 02A3 | Observe that +30 VDC is applied after -12 VDC. | 1.5 seconds minimum | ______ |
| 1.122 | PD | Observe PTC DC PWR-PWR ON lamp. | Lit | ______ |
| 1.123 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ______ |
| 1.124 | PD | While observing oscilloscope press and release PTC DC PWR-PWR OFF pushbutton/lamp. | | |
| 1.125 | 02A3 | Observe that +30 VDC is removed before -12 VDC. | 1.5 seconds minimum | ______ |
| 1.126 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ______ |
| 1.127 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ______ |
| 1.128 | 02A3 | Disconnect preamplifier from memory unit test jack 3 and connect to test jack 2 (+30 VDC). | | |
| 1.129 | PD | While observing oscilloscope press and release PTC DC PWR-PWR ON pushbutton/lamp. | | |
| 1.130 | 02A3 | Observe that +30 VDC is applied after -12 VDC. | 1.5 seconds minimum | ______ |
| 1.131 | PD | Observe PTC DC PWR-PWR ON lamp. | Lit | ______ |
| 1.132 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ______ |

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Figure 7-2. Power Checks (Sheet 11)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 1.133 | PD | While observing oscilloscope press and release PTC DC PWR-PWR OFF pushbutton/lamp. | | |
| 1.134 | 02A3 | Observe that +30 VDC is removed before -12 VDC. | 1.5 seconds minimum | ______ |
| 1.135 | PD | Observe PTC DC PWR-PWR ON lamp. | Not lit | ______ |
| 1.136 | PD | Observe PTC DC PWR-PWR OFF lamp. | Lit | ______ |
| EXP | NA | Steps 1.137 through 1.150 substantiate that all panel lamps are operational. | | |
| 1.137 | 03A4 | Verify that CE panel is extended. | | |
| 1.138 | PD | Press and release PTC DC PWR-PWR ON pushbutton lamp. | | |
| 1.139 | PD | Observe PTC DC PWR-PWR ON lamp. | Lit | ______ |
| 1.140 | PD | Observe PTC DC PWR-PWR OFF lamp. | Not lit | ______ |
| 1.141 | CE | Observe ACC DISPLAY ENABLE and TIMING DISPLAY ENABLE lamps (press and release if not lit). | Lit | ______ |
| 1.142 | CE | Press and hold LAMP TEST pushbutton/lamp. | | |
| 1.143 | CE | Observe all lamps on CE panel. | Lit | ______ |

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Figure 7-2. Power Checks (Sheet 12)

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 1.144 | TRMC | Observe PWR OFF lamp (press and release if not lit). | Lit | ________ |
| 1.145 | TRMC | Press and hold LAMP TEST push-button/lamp. | | |
| 1.146 | TRMC | Observe all lamps on TRMC panel. | Lit | ________ |
| 1.147 | MLDD | Press and hold LAMP TEST push-button/lamp. | | |
| 1.148 | MLDD | Observe all lamps on MLDP panel. | Lit | ________ |
| 1.149 | PD | Press and hold LAMP TEST push-button/lamp. | | |
| 1.150 | PD | Observe all lamps on PD panel except PTC MAIN PWR-PWR OFF, PTC DC PWR-PWR OFF, and MAN CST. | Lit | ________ |
| EXP | NA | Steps 1.151 through 1.168 substantiate the PTC DC voltages are within required tolerances.<br><br>NOTE<br><br>Verify that 15 minutes have elapsed since power was turned on before taking the following voltage measurements. | | |
| 1.151 | 03A10 | Connect digital voltmeter between and G test jacks on -28 VDC Trygon power supply. Adjust VOLTAGE VERNIER and VOLTAGE ADJUST controls to obtain voltage indicated in Normal Indication column. | -32 ±0.5 VDC | |

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Figure 7-2. Power Checks (Sheet 13)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 1.152 | 03A3 | Connect digital voltmeter between the following test jacks on the memory unit. Adjust VOLTAGE VERNIER and VOLTAGE ADJUST controls of associated Trygon power supplies until the measured voltages are within ±2% of the corresponding voltages indicated on the Memory Characteristics Strobe Setting Tag. | | |
| 1.153 | 03A6 | Test jacks 1 and 9 (Ret.). (+30 VDC Trygon power supply.) | | |
| 1.154 | 03A7 | Test jacks 2 and 9 (Ret.). (+30 VDC Trygon power supply.) | | |
| 1.155 | 03A8 | Test jacks 7 and 9 (Ret.). (+12 VDC Trygon power supply.) | | |
| 1.156 | 03A9 | Test jacks 8 and 9 (Ret.). (+12 VDC Trygon power supply.) | | |
| 1.157 | 03A11 | Connect digital voltmeter between terminals 1 and 2 (Ret.) of hockey stick located in gate 01B3. Adjust VOLTAGE VERNIER and VOLTAGE ADJUST controls of -12 VDC Trygon power supply to obtain voltage indicated in Normal Indication column. | -11.9 ±0.5 VDC | |
| 1.158 | NA | Connect digital voltmeter between the following points. Adjust screwdriver adjust located between CB1 and CB2 of associated SMS power supplies to obtain voltages in Normal Indication column. | | |

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Figure 7-2. Power Checks (Sheet 14)

**INTERNATIONAL BUSINESS MACHINES—**

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 1.159 | 01B6 | Terminals 3 and 2 (Ret.) of hockey stick in gate 03B6. (-6 VDC SMS power supply.) | -6.08 ±.01 VDC | |
| 1.160 | 01B6 | Terminals 5 and 2 (Ret.) of hockey stick in gate 01B3. (+12 VDC SMS power supply). | +12.05 +.05 -.01 VDC | |
| 1.161 | 01B8 | Test jacks 3 and 9 (Ret.) on the memory unit. (+30 VDC SMS power supply.) | +30.0 ±.6 VDC | |
| 1.162 | NA | Using a digital voltmeter measure and record the voltages appearing between the following points. | | |
| 1.163 | 02A3 | Test jacks 4 and 9 (Ret.) on the memory unit. | +11.76 to +12.24 VDC | |
| 1.164 | 02A3 | Test jacks 5 and 9 (Ret.) on the memory unit. | -5.68 to -6.12 VDC | |
| 1.165 | 02A3 | Test jacks 6 and 9 (Ret.) on memory unit. | -11.76 to -12.24 VDC | |
| 1.166 | 03B8 | Terminals 1 and 2 (Ret.) of hockey stick in gate 03B8. | -11.76 to -12.24 VDC | |
| 1.167 | 03B8 | Terminals 3 and 2 (Ret.) of hockey stick in gate 03B8. | -5.88 to -6.12 VDC | |
| 1.168 | 03B8 | Terminals 5 and 2 (Ret.) of hockey stick in gate 03B8. | +11.76 to +12.24 VDC | |

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Figure 7-2. Power Checks (Sheet 15)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| EXP | NA | Steps 2.1 through 2.11 substantiate that the single shots which develop 500 CPS MV and 10 CPS MV signals are adjusted properly. | | |
| 2.1 | 01A | On the Plotter turn Power to OFF. | | |
| 2.2 | TRMC | Observe SELF CHECK lamp (press and release if not lit). | Lit | ________ |
| 2.3 | TRMC | Observe ML lamp (press and release if not lit). | Lit | ________ |
| 2.4 | TRMC | Observe FREE RUN SS lamp (press and release if not lit). | Lit | ________ |
| 2 5 | CE | Connect preamplifier channel A to 500 MV test jack | | |
| 2.6 | NA | Trigger oscilloscope internally. | | |
| 2.7 | 03B6 | Observe duration of negative going portion of waveshape (adjust potentiometer on card 03B6). | 1 ± .02 MS | ________ |
| 2.8 | 03B6 | Observe duration of positive going portion of waveshape (adjust potentiometer on card B14). | 1 ± .02 MS | ________ |
| 2.9 | CE | Connect preamplifier channel A to 10 MV test jack. | | |
| 2,10 | 03B6 | Observe duration of positive going portion of waveshape (adjust potentiometer on card B17). | 50 ± 3 MS | ________ |

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Fig 7-3, Sheet 1 (3)

Figure 7-3. Timing Adjustments (Sheet 1 of 16)

INTERNATIONAL BUSINESS MACHINES—

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 2.11 | 03B6 | Observe duration of negative going portion of waveshape (adjust potentiometer on card A18). | 50 ± 3 MS | ______ |
| EXP | NA | Steps 2.12 through 2.39 substantiate that the single shots and delays which develop clock sync timing and phase sync timing pulses are adjusted properly. | | |
| 2.12 | 03B4 | Connect preamplifier channel A to B26A. | | |
| 2.13 | 03B4 | Trigger oscilloscope externally on D15R. | | |
| 2.14 | NA | On the oscilloscope set the time Base to .2 usec/cm. and then using the variable time base knob place the leading edges of 2 consecutive W clocks (Positive going) 8 cm's apart at their 50% points (see Illustration A). | | |
| 2.15 | 03B4 | Connect preamplifier channel B to B26P. | | |
| 2.16 | NA | Observe the duration of T1 (see Illustration A) (1270 Nsec delay card A17). | 2 ± .1 cm | ______ |
| 2.17 | 03B4 | Disconnect preamplifier channel B from B26P and connect to B26D. | | |

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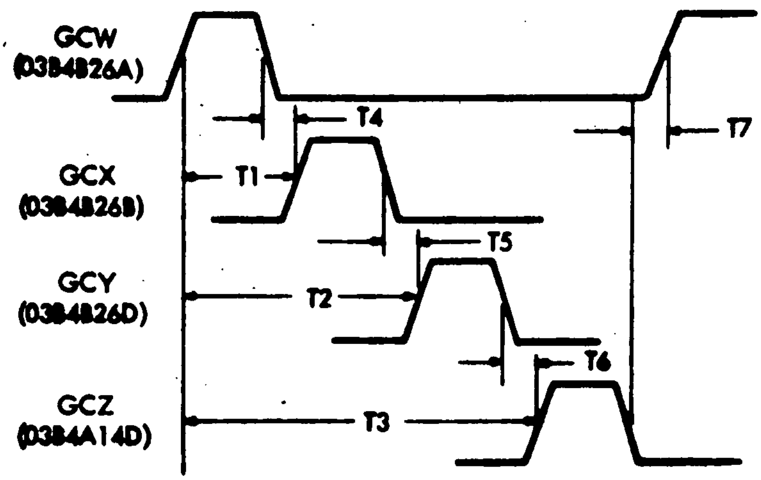
Figure 7-3. Timing Adjustments (Sheet 2)

| INTERNATIONAL BUSINESS MACHINES - | |
|---|---|
| UNIT NAME: | UNIT NO. |




WHERE: T4 = T5 = T6 = T7

Illustration A. PTC Clock Sync Timing

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Figure 7-3. Timing Adjustments (Sheet 3)

**INTERNATIONAL BUSINESS MACHINES—**

**UNIT NAME:** | **UNIT NO.**

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 2.18 | NA | Observe the duration of T2 (see Illustration A) (1270 Nsec delay card A19). | 4 ± .1 cm | ______ |
| 2.19 | 03B4 | Disconnect preamplifier channel B from B26D and connect to A14D. | | |
| 2.20 | NA | Observe the duration of T3 (see Illustration A) (1270 Nsec Delay card A18). | 6 ± .1 cm | ______ |
| 2.21 | NA | On oscilloscope set the variable time base knob fully clockwise. | - | |
| 2.22 | NA | Observe the duration of T7 (see Illustration A) (adjust potentiometer on card A26). | 70 ± 10 nsec | ______ |
| 2.23 | 03B4 | Disconnect preamplifier channel B from A14D and connect to B26P. | | |
| 2.24 | NA | Observe the duration of T4 (see Illustration A) (adjust potentiometer on card A24). | 70 ± 10 nsec | ______ |
| 2.25 | 03B4 | Disconnect preamplifier channel A from B26A and connect to B26D. | | |
| 2.26 | NA | Observe the duration of T5 (see Illustration A) (adjust potentiometer on card A25). | 70 ± 10 nsec | ______ |
| 2.27 | 03B4 | Disconnect preamplifier channel B from B26P and connect to A14D. | | |
| 2.28 | NA | Observe the duration of T6 (see Illustration A) (adjust potentiometer on card A20). | 70 ± 10 nsec | ______ |

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Figure 7-3. Timing Adjustments (Sheet 4)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 2.29 | | Disconnect preamplifier channel B. | | |
| 2.30 | 03B4 | Connect preamplifier channel A to D16B (trigger scope internally). | | |
| 2.31 | NA | Observe the duration of the negative going portion of the waveform. | .6 +.07, -.03 usec | ______ |
| 2.32 | 03B4 | Connect preamplifier channel A to D17B. | | |
| 2.33 | NA | Observe the duration of the negative going portion of the waveform. | .6 + .07 -.03 usec | ______ |
| 2.34 | 03B4 | Connect preamplifier channel A to E16B. | | |
| 2.35 | NA | Observe the duration of the negative going portion of the waveform. | .6 +.07 -.03 usec | ______ |
| 2.36 | 03B4 | Connect preamplifier channel A to F17B. | | |
| 2.37 | NA | Observe the duration of the negative portion of the waveform. | .6 +.07 -.03 usec | ______ |
| 2.38 | 03B4 | Connect preamplifier channel A to A21P. | | |
| 2.39 | 03B4 | Observe duration of negative going portion of waveshape (adjust potentiometer on card A21). | 400 $\pm$ 50 nsec | ______ |
| EXP | NA | Steps 2.40 through 2.43 substantiate that the single shots which develop MACH RST signal are adjusted properly. | | |

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Figure 7-3. Timing Adjustments (Sheet 5)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 2.40 | 03B4 | Connect preamplifier channel A to A22P | | |
| 2.41 | 03B4 | Observe duration of negative going portion of waveshape (adjust potentiometer on card A22). | 40 ± 3 MS | ______ |
| 2.42 | 03B4 | Connect preamplifier channel A to A23P | | |
| 2.43 | 03B4 | Observe duration of negative going portion of waveshape (adjust potentiometer on card A23). | 40 ± 3 MS | ______ |
| EXP | NA | Steps 2.44 through 2.61 substantiate that the single shots and delays which develop typewriter control signals are adjusted properly. | | |
| 2.44 | 01B1 | Connect preamplifier channel A to D12F and channel B to D12E. | | |
| 2.45 | CE | Trigger oscilloscope externally with 10 CPS MV signal (10MV test jack). | | |
| 2.46 | 01B1 | Observe that rise of pulse on channel B is delayed from rise of pulse on channel A (adjust potentiometer on card D12). | 20 ± 2 MS | ______ |
| 2.47 | 01B1 | Connect preamplifier channel A to D13F and channel B to D13E. | | |
| 2.48 | 01B1 | Observe that rise of pulse on channel B is delayed from rise of pulse on channel A (adjust potentiometer on card D13). | 20 ± 2 MS | ______ |

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Figure 7-3. Timing Adjustments (Sheet 6)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 2.49 | 01B1 | Connect preamplifier channel A to B07B. | | |
| 2.50 | NA | Trigger oscilloscope internally. | | |
| 2.51 | 01B1 | Observe duration of negative going portion of waveshape (adjust potentiometer on card B07). | 75 ± 5 MS | ______ |
| 2.52 | 01B1 | Connect preamplifier channel A to C10B. | | |
| 2.53 | 01B1 | Observe duration of negative going portion of waveshape (adjust potentiometer on card C10). | 50 ± 5 MS | ______ |
| 2.54 | 01B1 | Connect preamplifier channel A to D22F and channel B to D22E. | | |
| 2.55 | CE | Trigger oscilloscope externally with 10 CPS MV signal (10MV test jack). | | |
| 2.56 | 01B1 | Connect a jumper from B23R to B23 | | |
| 2.57 | 01B1 | Observe that rise of pulse on channel B is delayed from rise of pulse on channel A (adjust potentiometer on card D22). | 50 ± 5 MS | ______ |
| 2.58 | 01B1 | Connect preamplifier channel A to D23B. | | |
| 2.59 | NA | Trigger oscilloscope internally. | | |
| 2.60 | 01B1 | Observe duration of negative going portion of waveshape (adjust potentiometer on card D23). | 20 ± 2 usec | ______ |

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Figure 7-3. Timing Adjustments (Sheet 7)

| INTERNATIONAL BUSINESS MACHINES— | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 2.61 | 01B1 | Remove jumper from B23R to B23J | | |
| EXP | NA | Steps 2.62 through 2 72 substantiate that the single shots and delay which develop plotter control signals are adjusted properly. | | |
| 2 62 | 01B2 | Connect preamplifier channel A to A23B. | | |
| 2.63 | 01B2 | Connect a jumper between B13P to B13J | | |
| 2.64 | 01B2 | Observe duration of negative going portion of waveshape (adjust potentiometer on card A23). | 100 ± 5 MS | ______ |
| 2.65 | 01B2 | Remove jumper between B19P and B13J. | | |
| 2.66 | 01B2 | Connect preamplifier channel A to B18F and channel B to B18E | | |
| 2 67 | CE | Trigger oscilloscope externally with 10 CPS MV signal (10 MV test jack). | | |
| 2 68 | 01B2 | Observe that rise of pulse on channel B is delayed from rise of pulse on channel A (adjust potentiometer on card B18). | 3.6 ± .1MS | ______ |
| 2.69 | 01B2 | Connect preamplifier channel A to B14B. | | |
| 2.70 | NA | Trigger oscilloscope internally. | | |
| 2.71 | 01B2 | Observe duration of negative going portion of waveshape (adjust potentiometer on card B14). | 2.8 ± .1MS | ______ |

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Figure 7-3. Timing Adjustments (Sheet 8)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 2.72 | 01B2 | Observe duration of positive going portion of waveshape (adjust potentiometer on card B15). | .6 ± .05MS | ______ |
| EXP | NA | Steps 2.73 through 2.91 substantiate the single shots and delay which develop tape reader timing and control signals are adjusted properly. | | |
| 2.73 | 03B6 | Connect preamplifier channel A to A13B. | | |
| 2.74 | 03B6 | Observe duration of negative going portion of waveshape (adjust potentiometer on card A13). | 100 ± 2 usec | ______ |
| 2.75 | CE | Connect preamplifier channel A to TRCP1 test jack and channel B to TRCP2 test jack. | | |
| 2.76 | CE | Trigger oscilloscope externally with 500- MV signal (500- MV test jack). | | |
| 2.77 | 03B6 | Observe duration of T1 (see Illustration B (adjust potentiometer on card A14). | 250 ± 10 usec | ______ |
| 2.78 | 03B6 | Observe duration of T2 (see Illustration B (adjust potentiometer on card A15. | 350 ± 10 usec | ______ |
| 2.79 | 03B6 | Observe duration of T3 (see Illustration B (adjust potentiometer on card B15. | 250 ± 10 usec | ______ |
| 2.80 | CE | Connect preamplifier channel A to TRCP3 test jack and channel B to TRCP4 test jack. | | |

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Figure 7-3. Timing Adjustments (Sheet 9)

INTERNATIONAL BUSINESS MACHINES -

| UNIT NAME: | UNIT NO. |
|---|---|

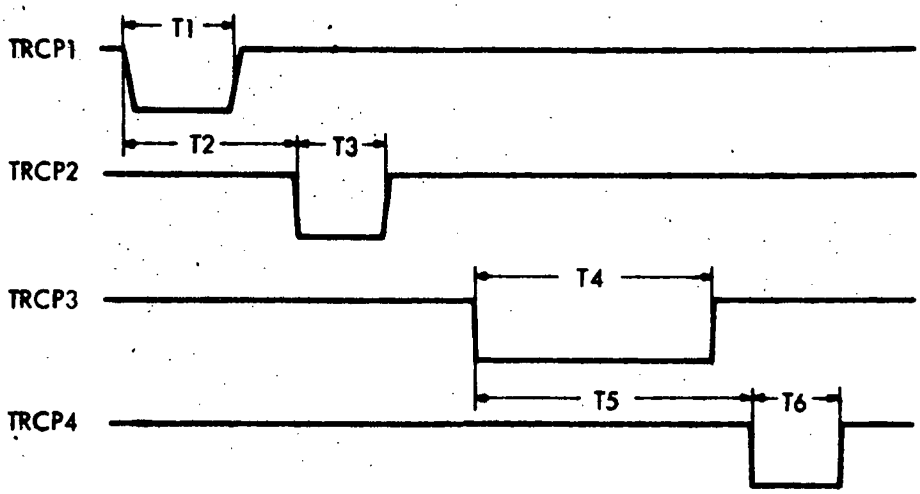


Illustration B. Tape Reader Clock Timing

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Figure 7-3. Timing Adjustments (Sheet 10)

**INTERNATIONAL BUSINESS MACHINES—**

**UNIT NAME:** | **UNIT NO.**

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 2.81 | 03B6 | Observe duration of T4 (see Illustration B (adjust potentiometer on card A16). | 500 ± 10 usec | ______ |
| 2.82 | 03B6 | Observe duration of T5 (see Illustration B (adjust potentiometer on card A17). | 600 ± 20 usec | ______ |
| 2.83 | 03B6 | Observe duration of T6 (see Illustration B (adjust potentiometer on card B16). | 200 ± 10 usec | ______ |
| 2.84 | 03B6 | Connect preamplifier channel A to B18F and channel B to B18E. | | |
| 2.85 | CE | Trigger oscilloscope externally with 10 CPS MV signal (10MV test jack). | | |
| 2.86 | 03B6 | Observe that rise of pulse on channel B is delayed from rise of pulse on channel A (adjust potentiometer on card B18). | 30 ± 2 MS | ______ |
| 2.87 | 03B6 | Connect preamplifier channel A to A19-B. | | |
| 2.88 | NA | Trigger oscilloscope internally. | | |
| 2.89 | 03B6 | Observe duration of negative going portion of waveshape (adjust potentiometer on card A19). | 6 ± .3 MS | ______ |
| 2.90 | 03B6 | Connect preamplifier channel A to A20B. | | |
| 2.91 | 03B6 | Observe duration of negative going portion of waveshape (adjust potentiometer on card A20). | .5 ± .1 MS | ______ |

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Figure 7-3. Timing Adjustments (Sheet 11)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 2.92 through 2.99 substantiate that the single shot which develops printer RST process signal is adjusted properly. | | |
| 2.92 | 01B3 | Connect preamplifier channel A to D05B. | | |
| 2.93 | 01B3 | Observe duration of negative going portion of waveshape (adjust potentiometer on card D05). | 1.42 ± .01 usec | ______ |
| 2.94 | 01B3 | Connect preamplifier channel A to F17B. | | |
| 2.95 | 01B3 | Observe duration of negative going portion of waveshape (adjust potentiometer on card F17). | .5 ± .1 usec | ______ |
| 2.96 | 01B3 | Connect scope channel A to F08B. | | |
| 2.97 | NA | Observe duration of the negative going portion of the waveshape (adjust potentiometer on card F08). | 5 ± .5 usec | ______ |
| 2.98 | 01B3 | Connect scope channel A to F07B. | | |
| 2.99 | NA | Observe duration of the negative going portion of waveshape (adjust potentiometer on card F07). | | |
| EXP | NA | Steps 2.100 through 2.102 substantiate that the single shot which develops interrupt INH CTRL signals is adjusted properly. | | |

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Figure 7-3. Timing Adjustments (Sheet 12)

**INTERNATIONAL BUSINESS MACHINES—**

**UNIT NAME:** | **UNIT NO.**

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 2.100 | PD | Observe INHIBIT control pushbutton/lamp (press and release if not lit). | Lit | ______ |
| 2.101 | 02B5 | Connect preamplifier channel A to A14B. | | |
| 2.102 | 02B5 | Observe duration of negative going portion of waveshape (adjust potentiometer on card A14). | 30 ± 2 MS | ______ |
| EXP | NA | Steps 2.103 through 2.131 substantiate that the single shots and delays which develop memory timing are adjusted properly. | | |
| 2.103 | 02B1 | Connect preamplifier channel A to E06Q (RD + WR A). | | |
| 2.104 | 02A4 | Connect preamplifier channel B to E19B (RD + WR DLY 0.75 A). | | |
| 2.105 | CE | Trigger oscilloscope externally on phase A bit gate 8 signal (PHASE/BIT GATE/CLOCK jack). | | |
| 2.106 | 02B1 | Observe duration of T1 (see Illustration C) (1270 NSEC delay card E25). | 780 + 30 NSEC | ______ |
| 2.107 | 02B1 | Connect preamplifier channel A to F14E (RD + WR B). | | |
| 2.108 | 02A4 | Connect preamplifier channel B to E19D (RD + WR DLY 0.75 B). | | |
| 2.109 | 02B1 | Observe duration of T1 (see Illustration C) (1270 NSEC delay card E22). | 780 + 30 NSEC | ______ |

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Figure 7-3. Timing Adjustments (Sheet 13)

INTERNATIONAL BUSINESS MACHINES -

| UNIT NAME: | UNIT NO. |
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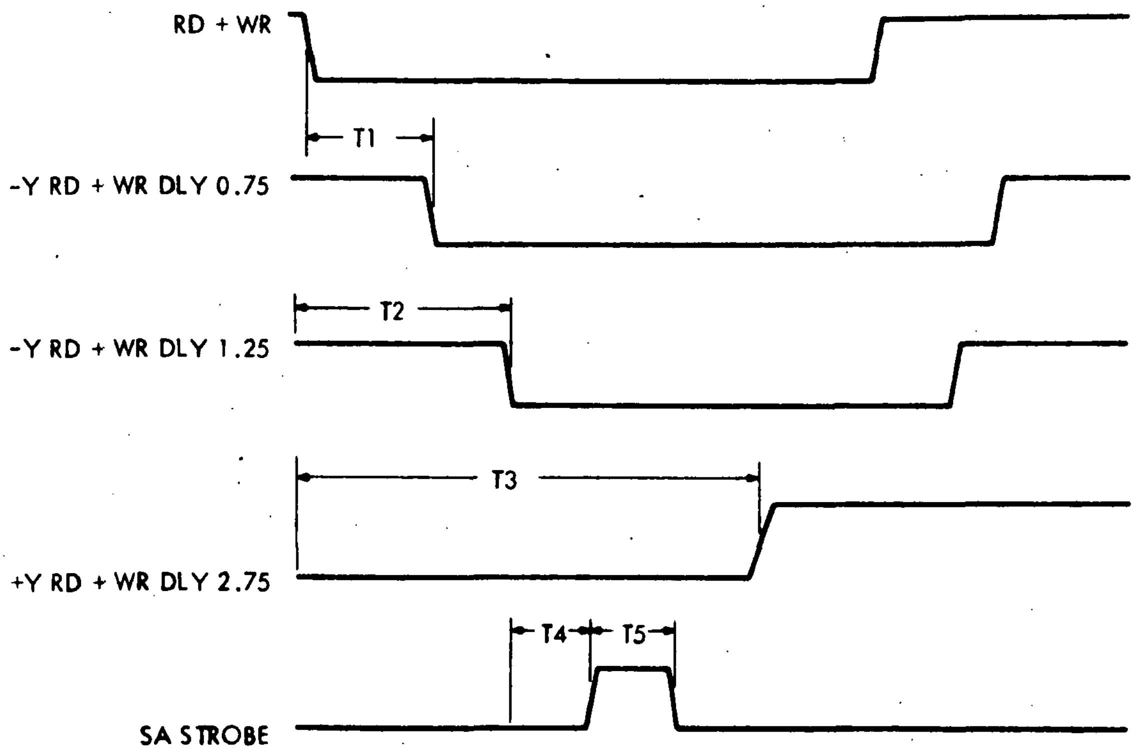


Illustration C. Memory Timing

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Figure 7-3. Timing Adjustments (Sheet 14)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 2.110 | 02B1 | Connect preamplifier channel A to E06Q (RD + WR A). | | |
| 2.111 | 02A4 | Connect preamplifier channel B to E18R (RD + WR DLY 1.25 A). | | |
| 2.112 | 02B1 | Observe duration of T2 (see Illustration C) (1270 NSEC delay card E23). | 1200 ± 30 NSEC | ______ |
| 2.113 | 02B1 | Connect preamplifier channel A to F14E (RD + WR B). | | |
| 2.114 | 02A4 | Connect preamplifier channel B to E18B (RD + WR DLY 1.25 B). | | |
| 2.115 | 02B1 | Observe duration of T2 (see Illustration C) (1270 NSEC delay card F23). | 1200 ± 30 NSEC | ______ |
| 2.116 | 02B1 | Connect preamplifier channel A to E06Q (RD + WR A). | | |
| 2.117 | 02A4 | Connect preamplifier channel B to E19A (RD + WR DLY 2.75 A). | | |
| 2.118 | 02B1 | Observe duration of T3 (see Illustration C) (1270 NSEC delay card E24). | 3000 ± 20 NSEC | ______ |
| 2.119 | 02B1 | Connect preamplifier channel A to F14E (RD + WR B). | | |
| 2.120 | 02A4 | Connect preamplifier channel B to E19E (RD + WR DLY 2.75 B). | | |
| 2.121 | 02B1 | Observe duration of T3 (see Illustration C) (1270 NSEC delay card F22). | 3000 ± 20 NSEC | ______ |

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Figure 7-3. Timing Adjustments (Sheet 15)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 2.122 | 02A4 | Connect preamplifier channel A to E18R (RD + WR DLY 1.25 A). | | |
| 2.123 | 02A6 | Connect preamplifier channel B to C19R (SA STROBE A). | | |
| 2.124 | 02B1 | Observe that duration of T4 (see Illustration C) is within ± 30 NSEC of A timing indicated on Memory Strobe Setting tag (1270 NSEC delay card C25). | | |
| 2.125 | 02B1 | Observe duration of T5 (see Illustration C) (1270 NSEC delay card D21). | 600 ± 50 NSEC | ______ |
| 2.126 | 02A4 | Connect preamplifier channel A to E18B (RD + WR DLY 1.25 B). | | |
| 2.127 | 02A6 | Connect preamplifier channel B to C10 R (SA STROBE B). | | |
| 2.128 | 02B1 | Observe that duration of T4 (see Illustration D) is within ± 30 NSEC of B timing indicated on Memory Strobe setting tag. (1270 NSEC delay card F24). | | |
| 2.129 | 02B1 | Observe duration of T5 (see Illustration C) (1270 NSEC delay card D25). | 600 ± 50 NSEC | ______ |
| 2.130 | TRMC | Press and release Free Run Single Shot pushbutton/lamp. | | |
| 2.131 | TRMC | Observe Free Run Single Shot lamp | Not lit | ______ |

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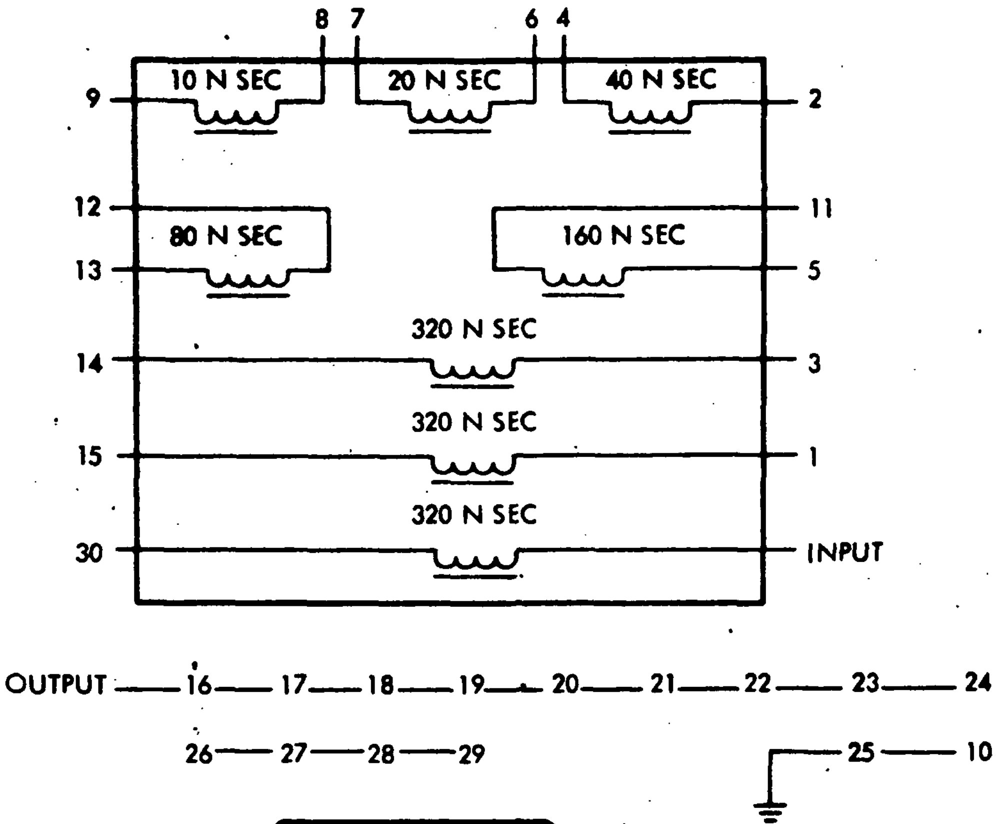
Figure 7-3. Timing Adjustments (Sheet 16)



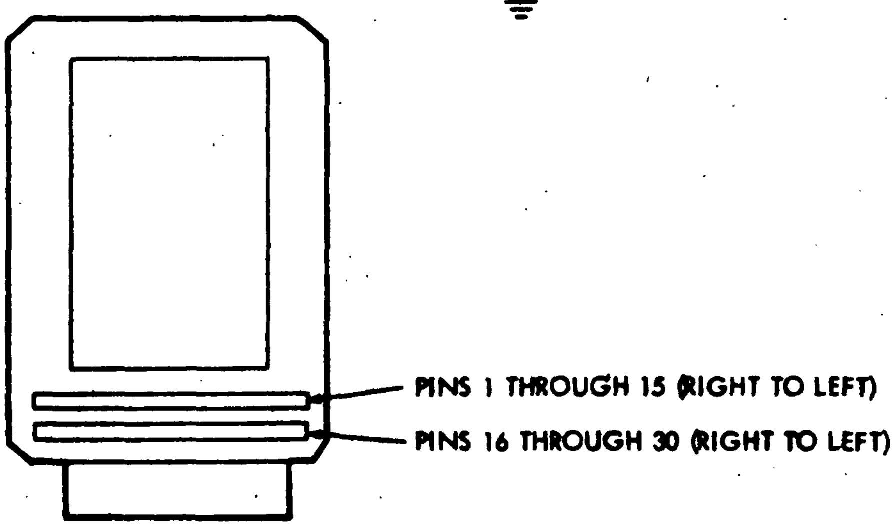




Figure 7-4. 1270 NSEC Delay Card

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 3.1 through 3.32 substantiate that the tape reader control circuits are functioning properly. | | |
| 3.1 | TRMC | Observe REVERSE lamp (press and release if lit). | Not lit | ______ |
| 3.2 | TRMC | Observe FORWARD lamp. | Lit | ______ |
| 3.3 | TRMC | Observe AUTO lamp (press and release if lit). | Not lit | ______ |
| 3.4 | TRMC | Observe MANUAL lamp. | Lit | ______ |
| 3.5 | TRMC | Observe DD lamp (press and release if not lit). | Lit | ______ |
| 3.6 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 3.7 | TRMC | Observe AUTO lamp | Lit | ______ |
| 3.8 | TRMC | Observe MANUAL lamp. | Not lit | ______ |
| 3.9 | TRMC | Observe ML lamp. | Lit | ______ |
| 3.10 | TRMC | Observe DD lamp. | Not lit | ______ |
| 3.11 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 3.12 | TRMC | Observe AUTO lamp. | Not lit | ______ |
| 3.13 | TRMC | Observe MANUAL lamp. | Lit | ______ |
| 3.14 | TRMC | Observe START lamp. | Not lit | ______ |
| 3.15 | TRMC | Observe STOP lamp. | Lit | ______ |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 1 of 14)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 3.16 | TRMC | Observe FREE RUN SS lamp (press and release if lit). | Not lit | ______ |
| 3.17 | TRMC | Observe FREE RUN READER lamp (press and release if lit). | Not lit | ______ |
| 3.18 | TRMC | Observe SELF CHECK lamp (press and release if not lit). | Lit | ______ |
| 3.19 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 3.20 | TRMC | Observe PWR ON lamp (press and release if not lit). | Lit | ______ |
| 3.21 | TRMC | Observe PWR OFF lamp. | Not lit | ______ |
| 3.22 | TRMC | Observe INHIBIT READER CONTROL lamp (press and release if lit). | Not lit | ______ |
| 3.23 | TRMC | Observe MANUAL ADVANCE TAPE lamp. | Lit | ______ |
| 3.24 | TRMC | Press and release MANUAL ADVANCE TAPE pushbutton/lamp. | | |
| 3.25 | TRMC | Observe STOP lamp. | Not lit | ______ |
| 3.26 | TRMC | Observe MANUAL ADVANCE TAPE lamp. | Not lit | ______ |
| 3.27 | TRMC | Press and release FREE RUN SS pushbutton/lamp. | | |
| 3.28 | TRMC | Observe FREE RUN SS lamp. | Lit | ______ |
| 3.29 | TRMC | Observe PWR ON lamp. | Not lit | ______ |
| 3.30 | TRMC | Observe PWR OFF lamp. | Lit | ______ |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 2)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 3.31 | TRMC | Observe MANUAL ADVANCE TAPE lamp. | Lit | ______ |
| 3.32 | TRMC | Observe STOP lamp. | Lit | ______ |
| EXP | NA | Steps 3.33 through 3.47 substantiate that the tape reader clock pulse error circuit is functioning properly. | | |
| 3.33 | MLDD | Observe TAPE-TRCP lamp (press and release ERROR RESET push-button if lit). | Not lit | ______ |
| 3.34 | MLDD | Press and release IS1 pushbutton lamp. | | |
| 3.35 | MLDD | Observe TAPE-TRCP lamp. | Lit | ______ |
| 3.36 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 3.37 | MLDD | Observe TAPE-TRCP lamp | Not lit | ______ |
| 3.38 | MLDD | Press and release IS2 pushbutton/ lamp. | | |
| 3.39 | MLDD | Observe TAPE-TRCP lamp | Lit | ______ |
| 3.40 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 3.41 | MLDD | Observe TAPE-TRCP lamp. | Not lit | ______ |
| 3.42 | MLDD | Press and release IS3 pushbutton/ lamp. | | |
| 3.43 | MLDD | Observe TAPE-TRCP lamp. | Lit | ______ |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 3)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 3.44 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 3.45 | MLDD | Observe TAPE-TRCP lamp | Not lit | ______ |
| 3.46 | MLDD | Press and release IS4 pushbutton/ lamp. | | |
| 3.47 | MLDD | Observe TAPE-TRCP lamp. | Lit | ______ |
| EXP | NA | Steps 3.48 through 3.64 substantiate that the tape reader character bits can be monitored at corresponding test jacks on CE panel. | | |
| 3.48 | CE | Connect preamplifier channels A and B to TRCB 1 and 2 test jacks respectively. | | |
| 3.49 | CE | Trigger oscilloscope externally on TCCB 1 signal (TRCB 1 test jack). | | |
| 3.50 | CE | Observe that fall of pulse on channel B is delayed from fall of pulse on channel A | 1.8 to 2.2 MS | ______ |
| 3.51 | CE | Disconnect preamplifier from TRCB 2 test jack and connect to TRCB 3. | | |
| 3.52 | CE | Observe that fall of pulse on channel B is delayed from fall of pulse on channel A. | 3.6 to 4.4 MS | ______ |
| 3.53 | CE | Disconnect preamplifier from TRCB 3 test jack and connect to TRCB 4 test jack. | | |
| 3.54 | CE | Observe that fall of pulse on channel B is delayed from fall of pulse on channel A. | 5.4 to 6.6 MS | ______ |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 4)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 3.55 | CE | Disconnect preamplifier from TRCB 4 test jack and connect to TRCB 5 test jack. | | |
| 3.56 | CE | Observe that fall of pulse on channel B is delayed from fall of pulse on channel A. | 7.2 to 8.8 MS | ______ |
| 3.57 | CE | Disconnect preamplifier from TRCB 5 test jack and connect to TRCB 6 test jack | | |
| 3.58 | CE | Observe that fall of pulse on channel B is delayed from fall of pulse on channel A. | 9.0 to 11.0 MS | ______ |
| 3 59 | CE | Disconnect preamplifier from TRCB 6 test jack and connect to TRCB 7 test jack. | | |
| 3.60 | CE | Observe that fall of pulse on channel B is delayed from fall of pulse on channel A. | 10.8 to 13.2 MS | ______ |
| 3.61 | CE | Disconnect preamplifier from TRCB 7 test jack and connect to TRCB 8 test jack. | | |
| 3.62 | CE | Observe that fall of pulse on channel B is delayed from fall of pulse on channel A. | 12.6 to 15.4 MS | ______ |
| 3.63 | CE | Disconnect preamplifier from TRCB 8 test jack and connect to TRCB 9 test jack. | | |
| 3.64 | CE | Observe that fall of pulse on channel B is delayed from fall of pulse on channel A. | 14.4 to 17.6 MS | ______ |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 5)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 3.65 through 3.111 substantiate that tape information read by the tape reader can be monitored at CHANNEL-1 through 6, SEQ BIT TAPB, and FEED TRACK test jacks on CE panel. | | |
| 3.65 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 3.66 | TRMC | Observe AUTO lamp. | Lit | ______ |
| 3.67 | TRMC | Observe MANUAL lamp. | Not lit | ______ |
| 3.68 | TRMC | Press and release FREE RUN SS pushbutton/lamp | | |
| 3.69 | TRMC | Observe FREE RUN SS lamp | Not lit | ______ |
| 3.70 | TRMC | Observe MANUAL ADVANCE TAPE lamp. | Not lit | ______ |
| 3.71 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 3.72 | TRMC | Observe PWR ON lamp. | Lit | ______ |
| 3.73 | TRMC | Observe PWR OFF lamp. | Not lit | ______ |
| 3.74 | TRMC | Observe START lamp. | Lit | ______ |
| 3.75 | MLDD | Observe TAPE TRCP lamp. | Not lit | ______ |
| 3.76 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 3.77 | TRMC | Observe START lamp. | Not lit | ______ |
| 3.78 | TRMC | Observe AUTO lamp. | Not lit | ______ |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 6)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 3.79 | TRMC | Observe MANUAL lamp. | Lit | ______ |
| 3.80 | NA | Remove plastic guard from tape spooler | | |
| 3.81 | NA | Lower tape guide on read step photocell assembly to its bottom stop (A on Illustration A). | | |
| 3.82 | NA | Thread tape reader exercise tape as shown on Illustration A. | | |
| 3.83 | NA | Check for proper alignment of the tape within the guides of the read station. | | |
| 3.84 | NA | Raise the tape guide. | | |
| 3.85 | NA | Replace plastic guard. | | |
| 3.86 | TRMC | Press and release FREE RUN READER pushbutton/lamp. | | |
| 3.87 | TRMC | Observe FREE RUN READER lamp. | Lit | ______ |
| 3.88 | NA | Observe that tape is continuously driven in the clockwise direction. | | |
| 3.89 | CE | Connect preamplifier channel A to FEED TRACK test jack | | |
| 3.90 | NA | Trigger oscilloscope internally | | |
| 3.91 | CE | Observe duration of square wave | 1 8 to 2.2 MS | ______ |
| 3.92 | CE | Connect preamplifier channel A to $\overline{\text{TAPB}}$ test jack. | | |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 7)

INTERNATIONAL BUSINESS MACHINES -

| UNIT NAME: | UNIT NO. |
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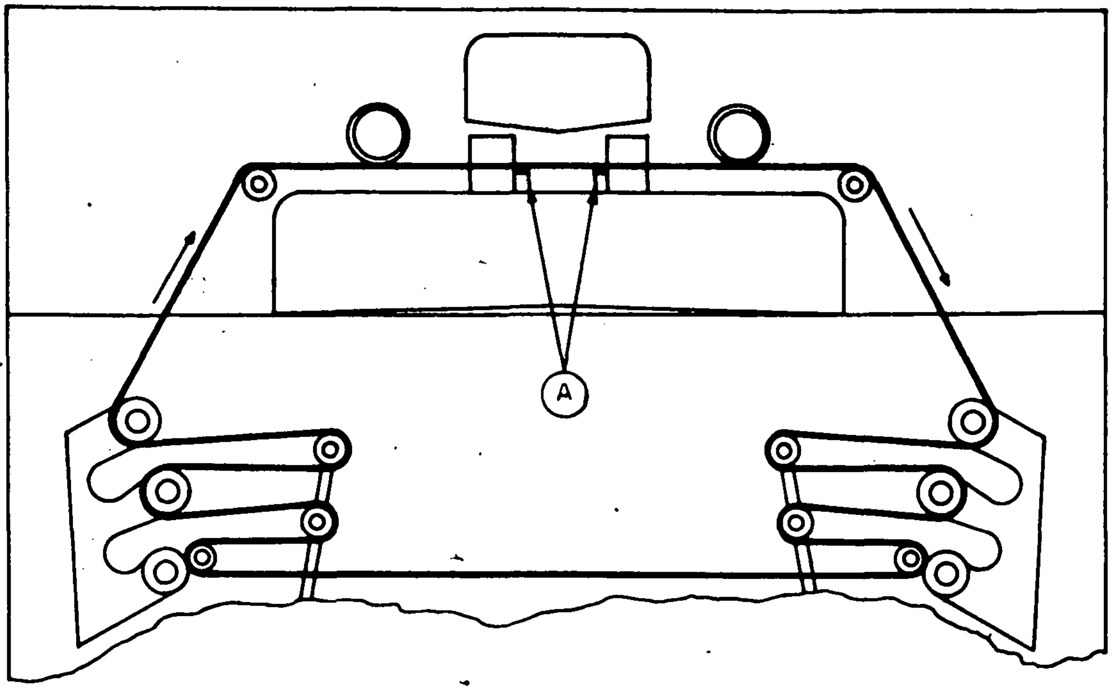


ILLUSTRATION A

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 8)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 3.93 | CE | Observe duration of positive going portion of waveshape. | 0.8 to 1.2 MS | ______ |
| 3.94 | CE | Connect preamplifier channel A to SEQ BIT test jack. | | |
| 3.95 | CE | Observe duration of positive going portion of waveshape. | 0.8 to 1.2 MS | ______ |
| 3.96 | CE | Connect preamplifier channel A to CHANNEL 1 test jack. | | |
| 3.97 | CE | Observe duration of positive going portion of waveshape. | 0.8 to 1.2 MS | ______ |
| 3.98 | CE | Connect preamplifier channel A to CHANNEL 2 test jack. | | |
| 3.99 | CE | Observe duration of positive going portion of waveshape. | 0 8 to 1 2 MS | ______ |
| 3.100 | CE | Connect preamplifier channel A to CHANNEL 3 test jack. | | |
| 3.101 | CE | Observe duration of positive going portion of waveshape. | 0.8 to 1.2 MS | ______ |
| 3.102 | CE | Connect preamplifier channel A to CHANNEL 4 test jack. | | |
| 3.103 | CE | Observe duration of positive going portion of waveshape. | 0.8 to 1.2 MS | ______ |
| 3.104 | CE | Connect preamplifier channel A to CHANNEL 5 test jack. | | |
| 3.105 | CE | Observe duration of positive going portion of waveshape | 0.8 to 1.2 MS | ______ |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 9)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 3.106 | CE | Connect preamplifier channel A to CHANNEL 6 test jack. | | |
| 3.107 | CE | Observe duration of positive going portion of waveshape. | 0.8 to 1.2 MS | ______ |
| 3.108 | CE | Press and release FREE RUN READER pushbutton/lamp. | | |
| 3.109 | CE | Observe FREE RUN READER pushbutton/lamp. | Not lit | ______ |
| 3.110 | NA | Observe that tape is stopped. | | |
| 3.111 | NA | Remove tape from tape spooler and reader. | | |
| EXP | NA | Steps 3.112 through 3.119 substantiate that timing pulses selected by the PHASE/BIT GATE/CLOCK switch appear at the PHASE/BIT GATE/CLOCK jack on CE panel. | | |
| 3.112 | CE | Connect preamplifier channel A to PHASE/BIT GATE/CLOCK jack. | | |
| 3.113 | NA | Trigger oscilloscope externally on phase A signal (02B2026L). | | |
| 3.114 | CE | Set BIT GATE and CLOCK switches to the ALL position. | | |
| 3.115 | CE | Observe that waveshapes for the A, B, and C positions of PHASE switch are as shown in Illustration B. | | ______ |
| 3.116 | CE | Set PHASE switch to the ALL position. | | |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 10)

INTERNATIONAL BUSINESS MACHINES -

| UNIT NAME: | UNIT NO. |
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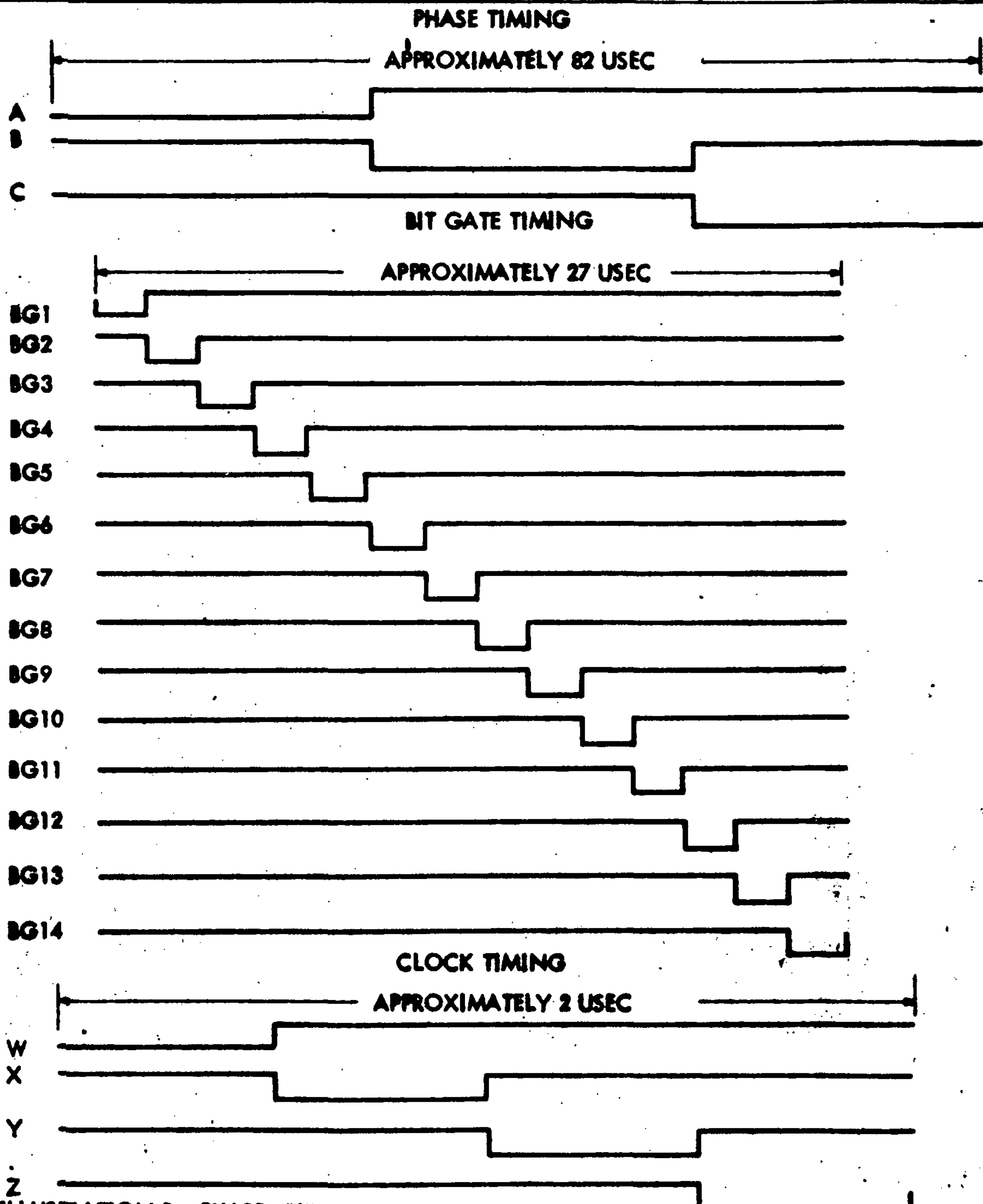


ILLUSTRATION B. PHASE, BIT GATE, AND CLOCK TIMING

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 11)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 3.117 | CE | Observe that waveshapes for the 1 through 14 positions of BIT GATE switch are as shown in Illustration B. | | ______ |
| 3.118 | CE | Set BIT GATE switch to the ALL position. | | |
| 3.119 | CE | Observe that waveshapes for the W, X, Y, and Z positions of CLOCK switch are as shown in Illustration B. | | ______ |
| EXP | NA | Steps 3.120 through 3.136 substantiate that the printer timing pulses are within tolerance. | | |
| 3.120 | TRMC | Press and release FREE RUN SS pushbutton/lamp. | | |
| 3.121 | TRMC | Observe FREE RUN SS lamp. | Lit | ______ |
| 3.122 | 01B3 | Connect a jumper between pins C13D and C13J. | | |
| 3.123 | 01B3 | Connect preamplifier channels A and B to C14L and F21E respectively. | | |
| 3.124 | 01B3 | Trigger oscilloscope externally on signal at 01B3D06A. | | |
| 3.125 | 01B3 | Observe duration of T1 (see Illustration C). | 8.70 to 10 20 USEC | ______ |
| 3.126 | 01B3 | Observe duration of T2 (see Illustration C). | 2.90 to 3.30 USEC | ______ |
| 3.127 | 01B3 | Disconnect preamplifier from F21E and connect to F21L. | | |
| 3.128 | 01B3 | Observe duration of T3 (see Illustration C). | 1.45 to 1.70 USEC | ______ |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 12)

INTERNATIONAL BUSINESS MACHINES -

| UNIT NAME: | UNIT NO. |
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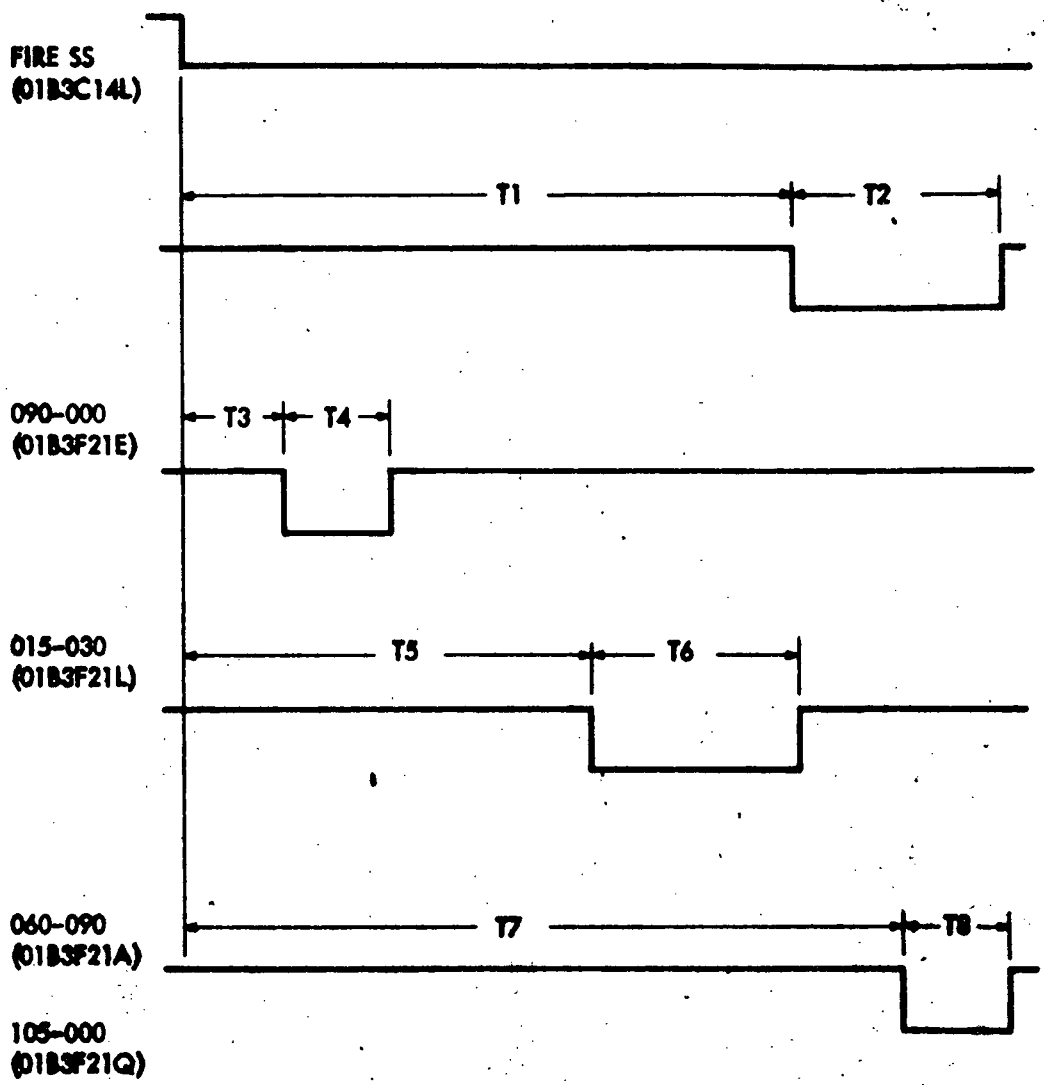


ILLUSTRATION C. PRINTER TIMING

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 13)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 3.129 | 01B3 | Observe duration of T4 (see Illustration C). | 1.40 to 1.45 USEC | ______ |
| 3.130 | 01B3 | Disconnect preamplifier from F21L and connect to F21A. | | |
| 3.131 | 01B3 | Observe duration of T5 (see Illustration C). | 5.80 to 6.80 USEC | ______ |
| 3.132 | 01B3 | Observe duration of T6 (see Illustration C). | 2.90 to 3.30 USEC | ______ |
| 3.133 | 01B3 | Disconnect preamplifier from F21A and connect to F21Q. | | |
| 3.134 | 01B3 | Observe duration of T7 (see Illustration C) | 10.15 to 11.90 USEC | ______ |
| 3.135 | 01B3 | Observe duration of T8 (see Illustration C). | 1.40 to 1.45 USEC | ______ |
| 3.136 | 01B3 | Remove jumper from pins C13D and C13J. | | |

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Figure 7-5. Tape Reader Controls and PTC and Printer Timing Checks (Sheet 14)

INTERNATIONAL BUSINESS MACHINES—

UNIT NAME: UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 4.1 through 4.21 substantiate that the TAPE READER CONTROL, MODE, TAPE ADDRESS, and TAPE READER SELF CHECK pushbutton/lamp are functioning properly and are in the correct configuration. | | |
| 4.1 | TRMC | Observe FREE RUN SS lamp (press and release if lit). | Not lit | ______ |
| 4.2 | TRMC | Observe FREE RUN READER lamp (press and release if lit). | Not lit | ______ |
| 4.3 | TRMC | Observe PWR OFF lamp (press and release if lit) | Not lit | ______ |
| 4.4 | TRMC | Observe PWR ON lamp | Lit | ______ |
| 4.5 | TRMC | Observe INHIBIT READER CONTROL lamp (press and release if not lit). | Lit | ______ |
| 4.6 | TRMC | Observe REVERSE lamp (press and release if lit). | Not lit | ______ |
| 4.7 | TRMC | Observe FORWARD lamp. | Lit | ______ |
| 4.8 | TRMC | Observe VERIFY ONLY lamp (press and release if lit). | Not lit | ______ |
| 4.9 | TRMC | Observe STOP lamp. | Lit | ______ |
| 4.10 | TRMC | Observe AUTO lamp (press and release if lit). | Not lit | ______ |
| 4.11 | TRMC | Observe MANUAL lamp. | Lit | ______ |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 1 of 14)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 4.12 | TRMC | Observe DD lamp (press and release if lit). | Not lit | ______ |
| 4.13 | TRMC | Observe ML lamp. | Lit | ______ |
| 4.14 | TRMC | Observe ADV CTR lamp (press and release if lit). | Not lit | ______ |
| 4.15 | TRMC | Observe SEL ADR lamp. | Lit | ______ |
| 4.16 | TRMC | Observe SELF CHECK lamp (press and release if not lit). | Lit | ______ |
| 4.17 | TRMC | Observe ADR 1 through ADR 5 lamps (press and release if lit). | Not lit | ______ |
| 4.18 | TRMC | Press and release ADV CTR/SEL ADR pushbutton/lamp. | | |
| 4.19 | TRMC | Observe ADV CTR lamp. | Not lit | ______ |
| 4.20 | TRMC | Observe SEL ADR lamp. | Not lit | ______ |
| 4.21 | TRMC | Observe tape word counter lamps ($2^0$ through $2^{12}$) (if any lamps are lit press and release as many times as necessary starting with lowest order lamp lit). | Not lit | ______ |
| EXP | NA | Steps 4.22 through 4.33 substantiate that the tape reader and display self test tape is correctly loaded on the tape spooler and reader. | | |
| 4.22 | NA | Remove plastic guard from tape spooler. | | |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 2)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 4.23 | NA | Lower tape guide on read step photocell assembly to its bottom stop (B on Illustration A). | | |
| 4.24 | NA | Place the reel containing self test tape part number 6001247 on left nub with edge of tape closest to sprocket holes next to panel. | | |
| 4.25 | NA | Thread tape as shown on Illustration A. | | |
| 4.26 | NA | Position the tape so that leader portion (sprocket holes only) following the punched title is under the photocell. | | |
| 4.27 | NA | Check for proper alignment of the tape within the guides of the read station. | | |
| 4.28 | NA | Raise the tape guide. | | |
| 4.29 | NA | Adjust tape tension by rotating both reels manually until the tension arms (A on Illustration A) are located at the approximate center of their swing. | | |
| 4.30 | NA | Replace plastic guard. | | |
| 4.31 | TRMC | Press and release MANUAL ADVANCE TAPE pushbutton/lamp. | | |
| 4.32 | NA | Observe that tape advances until the beginning of the punched area is reached. | | ______ |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 3)

INTERNATIONAL BUSINESS MACHINES -

| UNIT NAME: | UNIT NO. |
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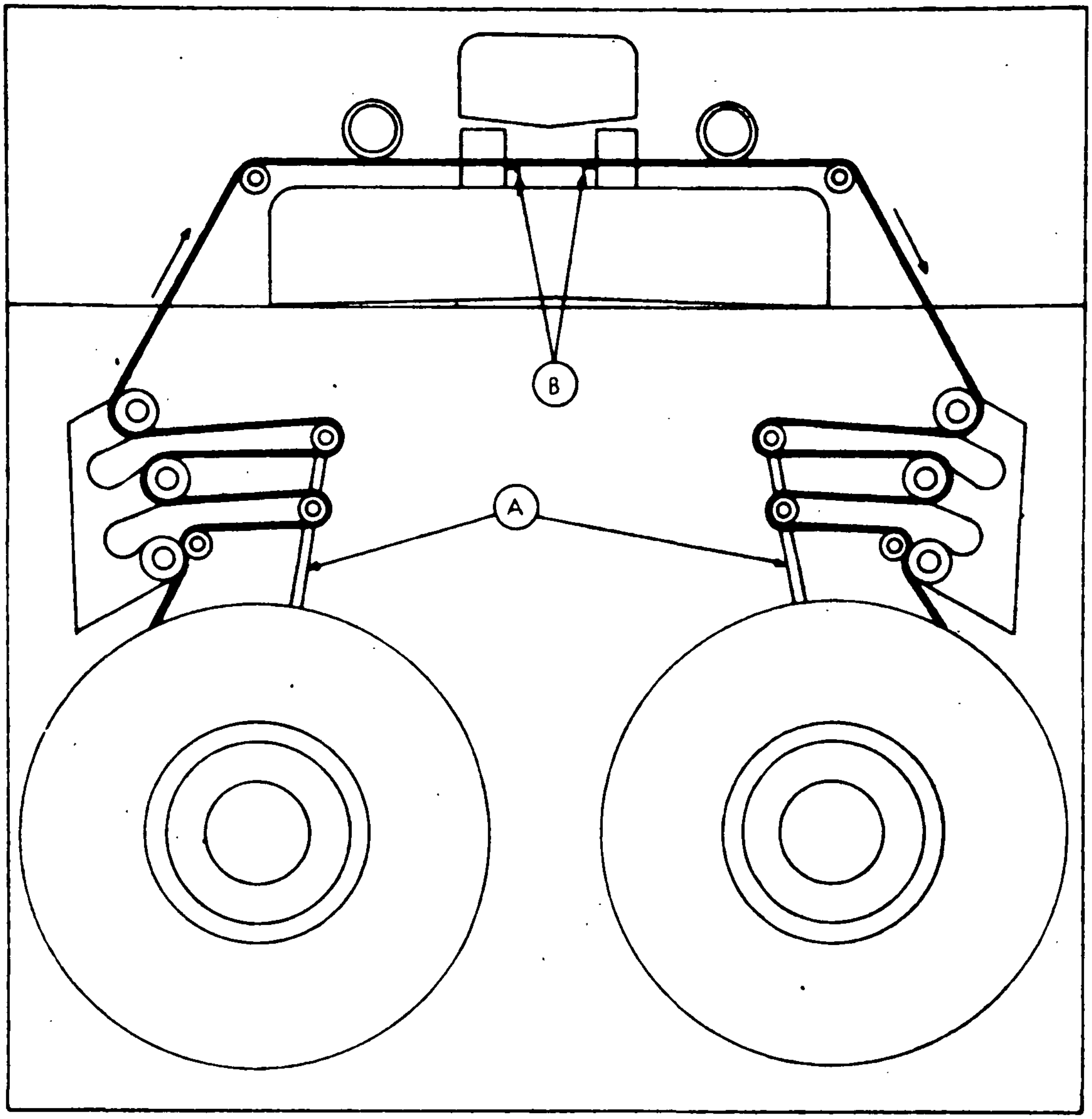


ILLUSTRATION A

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Figure 7-6. Memory Loader Automatic Checks (Sheet 4)

| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 4.33 | TRMC | Observe that tape word counter lamps indicate a count of one ($2^0$ only is lit). | | ______ |
| EXP | NA | Steps 4.34 through 4.46 substantiate that the error test, error reset, and invert error features are functioning properly. | | |
| 4.34 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 4.35 | TRMC | Observe AUTO lamp. | Lit | ______ |
| 4.36 | TRMC | Observe START lamp. | Lit | ______ |
| 4.37 | TRMC | Observe MANUAL lamp. | Not lit | ______ |
| 4.38 | TRMC | Press and release ERROR DEVICES TEST pushbutton/lamp. | | |
| 4.39 | MLDD | Observe PARITY, TAPE, and COMPARE ERRORS lamps. | Lit | ______ |
| 4.40 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 4.41 | MLDD | Observe PARITY, TAPE, and COMPARE ERRORS lamps. | Not lit | ______ |
| 4.42 | TRMC | Press and release START pushbutton/lamp. | | |
| 4.43 | NA | Observe that tape advances and stops. | | ______ |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 5)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 4.44 | TRMC | Observe that tape word counter lamps indicate a count of four ($2^2$ only is lit). | | ______ |
| 4.45 | MLDD | Observe INVERT ERROR lamp. | Lit | ______ |
| 4.46 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| EXP | NA | Steps 4.47 through 4.50 substantiate that parity error and tape error circuits are functioning properly. | | |
| 4.47 | TRMC | Press and release START pushbutton/lamp. | | |
| 4.48 | NA | Observe that tape advances and stops. | | ______ |
| 4.49 | MLDD | Observe TAPE-SE2 lamp. | Lit | ______ |
| 4.50 | TRMC | Observe that tape word counter lamps indicate a count of $32_8$ ($2^4$, $2^3$, $2^1$ only are lit). | | ______ |
| EXP | NA | Steps 4.51 through 4.84 substantiate that information can be correctly loaded into the central processor memory in the AUTO mode. | | |
| 4.51 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 4.52 | TRMC | Observe MANUAL lamp. | Lit | ______ |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 6)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 4.53 | TRMC | Observe AUTO lamp. | Not lit | ______ |
| 4.54 | TRMC | Observe START lamp. | Not lit | ______ |
| 4.55 | TRMC | Press and release MANUAL ADVANCE TAPE pushbutton/lamp. | | |
| 4.56 | NA | Observe that tape advances and stops. | | ______ |
| 4.57 | TRMC | Observe that tape word counter lamps indicate a count of $33_8$ ($2^4$, $2^3$, $2^1$, and $2^0$ only are lit). | | ______ |
| 4.58 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 4.59 | MLDD | Observe TAPE-SE2 ERRORS lamp. | Not lit | ______ |
| 4.60 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 4.61 | TRMC | Observe AUTO lamp. | Lit | ______ |
| 4.62 | TRMC | Observe START lamp. | Lit | ______ |
| 4.63 | TRMC | Observe MANUAL lamp. | Not lit | ______ |
| 4.64 | TRMC | Press and release START pushbutton/lamp. | | |
| 4.65 | NA | Observe that tape advances and stops. | | |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 7)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 4.66 | TRMC | Observe that tape word counter lamps indicate a count of $235_8$ ($2^7$, $2^4$, $2^3$, $2^2$, and $2^0$ only are lit). | | |
| 4.67 | MLDD | Observe TAPE-SE2 lamp. | Lit | ______ |
| 4.68 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 4.69 | TRMC | Observe MANUAL lamp. | Lit | ______ |
| 4.70 | TRMC | Observe AUTO lamp. | Not lit | ______ |
| 4.71 | TRMC | Observe START lamp. | Not lit | ______ |
| 4.72 | TRMC | Press and release MANUAL ADVANCE TAPE pushbutton/lamp. | | |
| 4.73 | NA | Observe that tape advances and stops. | | ______ |
| 4.74 | TRMC | Observe that tape word counter lamps indicate a count of $236_8$ ($2^7$, $2^4$, $2^3$, $2^2$, and $2^1$ only are lit). | | ______ |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 8)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 4.75 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 4.76 | MLDD | Observe TAPE-SE2 ERRORS lamp. | Not lit | ______ |
| 4.77 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 4.78 | TRMC | Observe AUTO lamp. | Lit | ______ |
| 4.79 | TRMC | Observe START lamp. | Lit | ______ |
| 4.80 | TRMC | Observe MANUAL lamp. | Not lit | ______ |
| 4.81 | TRMC | Press and release START pushbutton/lamp. | | |
| 4.82 | NA | Observe that tape advances and stops. | | ______ |
| 4.83 | TRMC | Observe that tape word counter lamps indicate a count of $437_8$ ($2^8$, $2^4$, $2^3$, $2^2$, $2^1$, and $2^0$ only are lit). | | ______ |
| 4.84 | MLDD | Observe TAPE-SE2 lamp. | Lit | ______ |
| EXP | NA | Steps 4.85 through 4.137 substantiate that the compare error circuits are functioning properly. | | |
| 4.85 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 4.86 | TRMC | Observe MANUAL lamp. | Lit | ______ |
| 4.87 | TRMC | Observe AUTO lamp. | Not lit | ______ |
| 4.88 | TRMC | Observe START lamp. | Not lit | ______ |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 9)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 4.89 | TRMC | Press and release MANUAL ADVANCE TAPE pushbutton/lamp. | | |
| 4.90 | NA | Observe that tape advances and stops. | | ______ |
| 4.91 | | Observe that tape word counter lamps indicate a count of $440_8$ ($2^8$ and $2^5$ only are lit). | | |
| 4.92 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 4.93 | MLDD | Observe TAPE-SE2 ERRORS lamp | Not lit | ______ |
| 4.94 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 4.95 | TRMC | Observe AUTO lamp. | Lit | ______ |
| 4.96 | TRMC | Observe START lamp. | Lit | ______ |
| 4.97 | TRMC | Observe MANUAL lamp. | Not lit | ______ |
| 4.98 | TRMC | Press and release START pushbutton/lamp. | | |
| 4.99 | NA | Observe that tape advances and stops. | | ______ |
| 4.100 | TRMC | Observe that tape word counter lamps indicate a count of $441_8$ ($2^8$, $2^5$, and $2^0$ only are lit). | | |
| 4.101 | MLDD | Observe COMPARE-TRS and SERIAL lamps. | Lit | ______ |
| 4.102 | MLDD | Press and release ERROR RESET pushbutton | | |
| 4.103 | MLDD | Observe COMPARE-TRS and SERIAL lamps. | Not lit | ______ |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 10)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 4 104 | TRMC | Press and release START push-button/lamp. | | |
| 4.105 | NA | Observe that tape advances and stops. | | |
| 4.106 | TRMC | Observe tape word counter lamps indicate a count of $612_8$ ($2^8$, $2^7$, $2^3$, and $2^1$ only are lit) | | |
| 4.107 | MLDD | Observe COMPARE-AI3, SERIAL, and BR14 lamps. | Lit | |
| 4.108 | MLDD | Press and release ERROR RESET pushbutton. | | |
| 4.109 | MLDD | Observe COMPARE-AI3, SERIAL, and BR14 lamps. | Not lit | |
| 4.110 | TRMC | Press and release START push-button/lamp. | | |
| 4.111 | NA | Observe that tape advances and stops. | | |
| 4.112 | TRMC | Observe that tape word counter lamps indicate a count of 613 ($2^8$, $2^7$, $2^3$, $2^1$, and $2^0$ only are lit). | | |
| 4.113 | MLDD | Observe COMPARE-AI3, SERIAL, and BR14 lamps. | Lit | |
| 4.114 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 4.115 | MLDD | Observe COMPARE-AI3, SERIAL, and BR14 lamps. | Not lit | |
| 4.116 | TRMC | Press and release START push-button/lamp. | | |
| 4.117 | NA | Observe that tape advances and stops. | | |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 11)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 4.118 | TRMC | Observe that tape word counter lamps indicate a count of $616_8$ $2^8$, $2^7$, $2^3$, $2^2$, and $2^1$ only are lit). | | ______ |
| 4.119 | MLDD | Observe COMPARE-HOPC1, SSMSC, and SSMBR lamps. | Lit | ______ |
| 4.120 | MLDD | Press and release ERROR RESET pushbutton. | | |
| 4.121 | MLDD | Observe COMPARE-HOPC1, SSMSC, and SSMBR lamps. | Not lit | ______ |
| 4.122 | TRMC | Press and release START push-button/lamp. | | |
| 4.123 | NA | Observe that tape advances and stops. | | ______ |
| 4.124 | TRMC | Observe that tape word counter lamps indicate a count of $643_8$ ($2^8$, $2^7$, $2^5$, $2^1$, and $2^0$ only are lit). | | ______ |
| 4.125 | MLDD | Observe COMPARE-TRS, SSMSC, and SSMBR lamps. | Lit | ______ |
| 4.126 | MLDD | Press and release ERROR RESET pushbutton. | | |
| 4.127 | MLDD | Observe COMPARE-TRS, SSMSC, and SSMBR lamps. | Not lit | ______ |
| 4.128 | TRMC | Press and release START push-button/lamp. | | |
| 4.129 | NA | Observe that tape advances and stops | | ______ |
| 4.130 | TRMC | Observe that tape word counter lamps indicate a count of $743_8$ ($2^8$, $2^7$, $2^6$, $2^5$, $2^1$, and $2^0$ only are lit). | | ______ |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 12)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 4.131 | MLDD | Observe COMPARE-OAC and SSMBR lamps. | Lit | ______ |
| 4.132 | MLDD | Press and release ERROR RESET pushbutton. | | |
| 4.133 | MLDD | Observe COMPARE-OAC and SSMBR lamps. | Not lit | ______ |
| 4.134 | TRMC | Press and release START push-button/lamp. | | |
| 4.135 | NA | Observe that tape advances and stops. | | ______ |
| 4.136 | TRMC | Observe that tape word counter lamps indicate a count of $744_8$ ($2^8$, $2^7$, $2^6$, $2^5$, and $2^2$ lamps). | | |
| 4.137 | TRMC | Observe TAPE-SE2 ERRORS lamp. | Lit | ______ |
| EXP | NA | Steps 4.138 through 4.158 substantiate that the verify only and automatic re-wind features are functioning properly. | | |
| 4.138 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 4.139 | TRMC | Observe MANUAL lamp. | Lit | ______ |
| 4.140 | TRMC | Observe AUTO lamp. | Not lit | ______ |
| 4.141 | TRMC | Observe START lamp. | Not lit | ______ |
| 4.142 | TRMC | Press and release MANUAL AD-VANCE TAPE pushbutton/lamp. | | |
| 4.143 | NA | Observe that tape advances and stops. | | ______ |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 13)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 4.144 | TRMC | Observe that tape word counter lamps indicate a count of $745_8$ ($2^8$, $2^7$, $2^6$, $2^5$, $2^2$, and $2^0$ only are lit). | | |
| 4.145 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 4.146 | MLDD | Observe TAPE-SE2 ERRORS lamp. | Not lit | ______ |
| 4.147 | TRMC | Press and release AUTO MANUAL pushbutton lamp. | | |
| 4.148 | TRMC | Observe AUTO lamp. | Lit | ______ |
| 4.149 | TRMC | Observe START lamp. | Lit | ______ |
| 4.150 | TRMC | Observe MANUAL lamp. | Not lit | ______ |
| 4.151 | TRMC | Press and release VERIFY ONLY pushbutton/lamp. | | |
| 4.152 | TRMC | Observe VERIFY ONLY lamp. | Lit | ______ |
| 4.153 | TRMC | Press and release START push-button/lamp. | | |
| 4.154 | NA | Observe that tape advances to the end of the punched area. Tape then rewinds back to the beginning of the punched area. | | ______ |
| 4.155 | TRMC | Observe that tape word counter lamps indicate a count of $754_8$ ($2^8$, $2^7$, $2^6$, $2^5$, $2^3$, and $2^2$ only are lit) | | |
| 4.156 | TRMC | Observe REVERSE lamp. | Lit | ______ |
| 4.157 | TRMC | Observe FORWARD lamp. | Not lit | ______ |
| 4.158 | MLDD | Observe PARITY, TAPE, and COM-PARE lamps. | Not lit | ______ |

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Figure 7-6. Memory Loader Automatic Checks (Sheet 14)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| EXP. | NA | Steps 5.1 through 5.20 substantiate that pushbutton/lamps and switches which affect the memory loader are in the correct configuration. | | |
| 5.1 | TRMC | Observe AUTO lamp (press and release if lit). | Not lit | ________ |
| 5.2 | TRMC | Observe MANUAL lamp. | Lit | ________ |
| 5.3 | TRMC | Observe DD lamp (press and release if lit). | Not lit | ________ |
| 5.4 | TRMC | Observe ML lamp. | Lit | ________ |
| 5.5 | TRMC | Observe FREE RUN SS lamp (press and release if lit). | Not lit | ________ |
| 5.6 | TRMC | Observe ADV CTR lamp (press and release if lit). | Not lit | ________ |
| 5.7 | TRMC | Observe SEL ADR lamp. | Lit | ________ |
| 5.8 | TRMC | Observe SELF CHECK lamp (press | Lit | ________ |
| 5.9 | TRMC | Observe ADR 1 through ADR 5 lamps (press and release if lit). | Not lit | ________ |
| 5.10 | MLDD | Observe PARITY, TAPE, and COMPARE lamps (press and release ERROR RESET pushbutton if lit). | Not lit | ________ |
| 5.11 | MLDD | Observe REPEAT lamp. | Not lit | ________ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 1 of 20)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.12 | MLDD | Observe REPEAT lamp. | Lit | ______ |
| 5.13 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 5.14 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps (INSTRUCTION ADDRESS area) | Lit | ______ |
| 5.15 | MLDD | Observe COMMAND and COMPUTER SYL-0 lamps (INSTRUCTION ADDRESS area). | Lit | ______ |
| 5.16 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps (DATA ADDRESS area). | Lit | ______ |
| 5.17 | MLDD | Observe COMMAND PARITY BIT-SYL 0 and SYL 1 lamps (DATA area). | Lit | ______ |
| 5.18 | MLDD | Observe all other COMMAND and COMPUTER lamps. | Not lit | ______ |
| 5.19 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |
| 5.20 | MLDD | Verify that DISPLAY SELECT switch is set to TRS. | | ______ |
| EXP. | NA | Steps 5.21 through 5.170 substantiate that different combinations of data bits can be manually loaded into the tape reader register, compared on correctly, and displayed.<br><br>NOTE<br><br>Each time an INSTRUCTION ADDRESS, DATA ADDRESS, | | |

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Figure 7-7. Memory Loader Manual Checks (Sheet 2)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| | | NOTE (cont.)<br><br>DATA, or TAPE ADDRESS pushbutton is pressed, the TAPE TRCP lamp (MLDD panel) lights and goes out when the pushbutton is released. | | |
| 5.21 | MLDD | Press and release OP4, OP3, OP2, OP1, OA3, SIGN and 1 through 12 pushbutton/lamps. | | |
| 5.22 | MLDD | Observe COMMAND-OP4, OP3, OP2, OP1, OA3, SIGN, and 1 through 12 lamps. | Lit | ______ |
| 5.23 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Lit | ______ |
| 5.24 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.25 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |
| 5.26 | MLDD | Press and release ADDRESS COMPTR pushbuttons. | | |
| 5.27 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA3, SIGN, and 1 through 12 lamps. | Lit | ______ |
| 5.28 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Lit | ______ |
| 5.29 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.30 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 3)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.31 | MLDD | Press and release SIGN and 1 through 12 pushbutton/lamps. | | |
| 5.32 | MLDD | Observe COMMAND-SIGN and 1 through 12 lamps. | Not lit | ______ |
| 5.33 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Lit | ______ |
| 5.34 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | ______ |
| 5.35 | MLDD | Press and release COMPTR DISPLAY RESET pushbuttons. | | |
| 5.36 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA3, SIGN, and 1 through 12 lamps. | Not lit | ______ |
| 5.37 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.38 | MLDD | Press and release OA1 and 13 through 25 pushbutton/lamps. | | |
| 5.39 | MLDD | Observe COMMAND-OA1 and 13 through 25 lamps. | Lit | ______ |
| 5.40 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.41 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Lit | ______ |
| 5.42 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | ______ |
| 5.43 | MLDD | Press and release ADDRESS COMPTR pushbuttons. | | |

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Figure 7-7. Memory Loader Manual Checks (Sheet 4)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.44 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA3, OA1, and 13 through 25 lamps. | Lit | ______ |
| 5.45 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.46 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Lit | ______ |
| 5.47 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 5.48 | MLDD | Press and release OA1 and 13 through 25 pushbutton/lamps. | | |
| 5.49 | MLDD | Observe COMMAND-OA1 and 13 through 25 lamps. | Not lit | ______ |
| 5.50 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Lit | ______ |
| 5.51 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | ______ |
| 5.52 | MLDD | Press and release COMPTR DISPLAY RESET pushbuttons. | | |
| 5.53 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA3, OA1, and 13 through 25 lamps. | Not lit | ______ |
| 5.54 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.55 | MLDD | Press and release OA2, SIGN, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 24 pushbutton/lamps. | | |

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Figure 7-7. Memory Loader Manual Checks (Sheet 5)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 5.56 | MLDD | Observe COMMAND-OA2, SIGN, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 24 lamps. | Lit | ______ |
| 5.57 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Lit | ______ |
| 5.58 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.59 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | ______ |
| 5.60 | MLDD | Press and release ADDRESS COMPTR pushbuttons. | | |
| 5.61 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA3, OA2, SIGN, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 24 lamps. | Lit | ______ |
| 5.62 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Lit | ______ |
| 5.63 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.64 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 5.65 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 5.66 | MLDD | Observe COMMAND and COMPUTER-OP4, OP3, OP2, OP1, OA3, OA2, SIGN, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 24 lamps. | Not lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 6)

INTERNATIONAL BUSINESS MACHINES-

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 5.67 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.68 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Lit | ______ |
| 5.69 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |
| 5.70 | MLDD | Press and release OP4, OP3, OP2, OP1, OA3, OA2, OA1, 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, and 25 pushbutton/lamps. | | |
| 5.71 | MLDD | Observe COMMAND-OP4, OP3, OP2, OP1, OA3, OA2, OA1, 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, and 25 lamps. | Lit | ______ |
| 5.72 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.73 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Lit | ______ |
| 5.74 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |
| 5.75 | MLDD | Press and release ADDRESS COMPTR pushbuttons. | | |
| 5.76 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA3, OA2, OA1, 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, and 25 lamps. | Lit | ______ |
| 5.77 | | (This step deleted.) | | |

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Figure 7-7. Memory Loader Manual Checks (Sheet 7)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.78 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Lit | ______ |
| 5.79 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 5.80 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 5.81 | MLDD | Observe COMMAND and COMPUTER-OP4, OP3, OP2, OP1, OA3, OA2, OA1, 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, and 25 lamps | Not lit | ______ |
| 5.82 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.83 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Lit | ______ |
| 5.84 | MLDD | Press and release OP4, OP3, OP2, OP1, OA4, SIGN, 1 through 5, and 19 through 25 pushbutton/lamps. | | |
| 5.85 | MLDD | Observe COMMAND-OP4, OP3, OP2, OP1, OA4, SIGN, 1 through 5, and 19 through 25 lamps. | Lit | ______ |
| 5.86 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.87 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Lit | ______ |
| 5.88 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |
| 5.89 | MLDD | Press and release ADDRESS COMPTR pushbuttons. | | |

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Figure 7-7. Memory Loader Manual Checks (Sheet 8)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.90 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA4, SIGN, 1 through 5, and 19 through 25 lamps. | Lit | ______ |
| 5.91 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.92 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area) | Lit | ______ |
| 5.93 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 5.94 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY pushbuttons. | | |
| 5.95 | MLDD | Observe COMMAND and COMPUTER OP4, OP3, OP2, OP1, OA4, SIGN, 1 through 5, and 19 through 25 lamps. | Not lit | ______ |
| 5.96 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Lit | ______ |
| 5.97 | MLDD | Observe COMPUTER PARITY BIT-SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.98 | MLDD | Press and release OP4, OP3, OP2, OP1, OA4, OA1, and 6 through 18 pushbutton/lamps. | | |
| 5.99 | MLDD | Observe COMMAND-OP4, OP3, OP2, OP1, OA4, OA1, and 6 through 18 lamps. | Lit | ______ |
| 5.100 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 9)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.101 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.102 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | ______ |
| 5.103 | MLDD | Press and release ADDRESS COMPTR pushbuttons. | | |
| 5.104 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA4, OA1, and 6 through 18 lamps. | Lit | ______ |
| 5.105 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Lit | ______ |
| 5.106 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area) | Not lit | ______ |
| 5.107 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 5.108 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 5.109 | MLDD | Observe COMMAND and COMPUTER-OP4, OP3, OP2, OP1, OA4, OA1, and 6 through 18 lamps. | Not lit | ______ |
| 5.110 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.111 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp. | Lit | ______ |
| 5.112 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 10)

INTERNATIONAL BUSINESS MACHINES-

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 5.113 | MLDD | Press and release OP4, OP3, OP2, OP1, OA4, OA2, SIGN, 1, 2, 6, 7, 8, 13, 14, 15, 19, 20, 21, and 22 pushbutton/lamps. | | |
| 5.114 | MLDD | Observe COMMAND-OP4, OP3, OP2, OP1, OA4, OA2, SIGN, 1, 2, 6, 7, 8, 13, 14, 15, 19, 20, 21, and 22 lamps. | Lit | ______ |
| 5.115 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.116 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Lit | ______ |
| 5.117 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | ______ |
| 5.118 | MLDD | Press and release ADDRESS COMPTR pushbuttons. | | |
| 5.119 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA4, OA2, SIGN, 1, 2, 6, 7, 8, 13, 14, 15, 19, 20, 21, and 22 lamps. | Lit | ______ |
| 5.120 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.121 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Lit | ______ |
| 5.122 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 5.123 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |

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Figure 7-7. Memory Loader Manual Checks (Sheet 11)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.124 | MLDD | Observe COMMAND and COMPUTER-OP4, OP3, OP2, OP1, OA4, OA2, SIGN, 1, 2, 6, 7, 8, 13, 14, 15, 19, 20, 21, and 22 lamps. | Not lit | ______ |
| 5.125 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Lit | ______ |
| 5.126 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.127 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |
| 5.128 | MLDD | Press and release OP4, OP3, OP2, OP1, OA4, OA2, OA1, 3, 4, 5, 9, 10 11, 12, 16, 17, 18, 23, 24, and 25 pushbutton/lamps. | | |
| 5.129 | MLDD | Observe COMMAND-OP4, OP3, OP2, OP1, OA4, OA2, OA1, 3, 4, 5, 9, 10, 11, 12, 16, 17, 18, 23, 24, and 25 lamps. | Lit | ______ |
| 5.130 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Lit | ______ |
| 5.131 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.132 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |
| 5.133 | MLDD | Press and release ADDRESS COMPTR pushbuttons. | | |
| 5.134 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA4, OA2, OA1, 3, 4, 5, 9, 10, 11, 12, 16, 17, 18, 23, 24, and 25 lamps. | Lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 12)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.135 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Lit | ______ |
| 5.136 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.137 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 5.138 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 5.139 | MLDD | Observe COMMAND and COMPUTER OP4, OP3, OP2, OP1, OA4, OA2, OA1, 3, 4, 5, 9, 10, 11, 12, 16, 17, 18, 23, 24, and 25 lamps. | Not lit | ______ |
| 5.140 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.141 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Lit | ______ |
| 5.142 | MLDD | Press and release OP4, OP3, OP2, OP1, OA4, OA3, SIGN, 1, 3, 6, 7, 9, 10, 13, 14, 16, 19, 20, and 23 pushbutton/lamps. | | |
| 5.143 | MLDD | Observe COMMAND-OP4, OP3, OP2, OP1, OA4, OA3, SIGN, 1, 3, 6, 7, 9, 10, 13, 14, 16, 19, 20, and 23 lamps. | Lit | ______ |
| 5.144 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Lit | ______ |
| 5.145 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Not lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 13)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.146 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | ______ |
| 5.147 | MLDD | Press and release ADDRESS COMPTR pushbuttons. | | |
| 5.148 | MLDD | Observe COMPUTER-OP4, OP3, OP2 OP1, OA4, OA3, SIGN, 1, 3, 6, 7, 9, 10, 13, 14, 16, 19, 20, and 23 lamps. | Lit | ______ |
| 5.149 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Lit | ______ |
| 5.150 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.151 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 5.152 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 5.153 | MLDD | Observe COMMAND and COMPUTER-OP4, OP3, OP2, OP1, OA4, OA3, SIGN, 1, 3, 6, 7, 9, 10, 13, 14, 16, 19, 20, and 23 lamps. | Not lit | ______ |
| 5.154 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.155 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Lit | ______ |
| 5.156 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 14)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.157 | MLDD | Press and release OP4, OP3, OP2, OP1, OA4, OA3, OA1, 2, 4, 5, 8, 11, 12, 15, 17, 18, 21, 22, 24, and 25 pushbutton/lamps. | | |
| 5.158 | MLDD | Observe COMMAND-OP4, OP3, OP2, OP1, OA4, OA3, OA1, 2, 4, 5, 8, 11, 12, 15, 17, 18, 21, 22, 24, and 25 lamps. | Lit | ______ |
| 5.159 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Not lit | ______ |
| 5 160 | MLDD | Observe COMMAND PARITY BIT-SYL 1 lamp (DATA area). | Lit | ______ |
| 5.161 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |
| 5.162 | MLDD | Press and release ADDRESS COMPTR pushbuttons. | | |
| 5.163 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA4, OA3, OA1, 2, 4, 5, 8, 11 12, 15, 17, 18, 21, 22, 24, and 25 lamps. | Lit | ______ |
| 5.164 | | (This step deleted.) | | |
| 5.165 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Lit | ______ |
| 5.166 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 5.167 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |

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Figure 7-7. Memory Loader Manual Checks (Sheet 15)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.168 | MLDD | Observe COMMAND and COMPUTER-OP4, OP3, OP2, OP1, OA4, OA3, OA1, 2, 4, 5, 8, 11, 12, 15, 17, 18, 21, 22, 24, and 25 lamps. | Not lit | ______ |
| 5.169 | MLDD | Observe COMMAND PARITY BIT-SYL 0 lamp (DATA area). | Lit | ______ |
| 5.170 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Not lit | ______ |
| EXP. | NA | Steps 5.171 through 5.193 demonstrate that an address in the central processor memory can be correctly loaded and verified and that the repeat feature of the memory loader is functioning properly. | | |
| 5.171 | MLDD | Press and release DS4, DS3, DS2, DS1, OP4, OP2, OP1, SIGN, and 1 through 25 pushbutton/lamps. | | |
| 5.172 | MLDD | Observe COMMAND-DS4, DS3, DS2, DS1, OP4, OP2, OP1, SIGN, and 1 through 25 lamps. | Lit | ______ |
| 5.173 | MLDD | Observe COMMAND PARITY BIT-SYL 0 and SYL 1 lamps (DATA area). | Not lit | ______ |
| 5.174 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | ______ |
| 5.175 | MLDD | Press and release REPEAT/$\overline{\text{REPEAT}}$ pushbutton/lamp. | | |
| 5.176 | MLDD | Observe REPEAT lamp. | Lit | ______ |
| 5.177 | MLDD | Observe $\overline{\text{REPEAT}}$ lamp. | Not lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 16)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 5.178 | MLDD | Observe COMPUTER-DS4, DS3, DS2, DS1, OP4, OP2, OP1, SIGN, and 1 through 25 lamps. | Lit | ______ |
| 5.179 | MLDD | Observe that COMPUTER-OP3 lamp is lit dimly. | | |
| 5.180 | MLDD | Observe COMMAND OP3 lamp. | Lit(dimly) | ______ |
| 5.181 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 0 lamp (DATA area). | Not lit | ______ |
| 5.182 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Not lit | ______ |
| 5.183 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | ______ |
| 5.184 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 5.185 | MLDD | Press and release REPEAT/$\overline{\text{REPEAT}}$ pushbutton/lamp. | | |
| 5.186 | MLDD | Observe REPEAT lamp. | Not lit | ______ |
| 5.187 | MLDD | Observe $\overline{\text{REPEAT}}$ lamp. | Lit | ______ |
| 5.188 | MLDD | Observe COMMAND-OP3 lamp (press and release if not lit). | Lit | ______ |
| 5.189 | MLDD | Press and release ADDRESS COMPTR pushbutton. | | |
| 5.190 | MLDD | Observe COMPUTER-DS4, DS3, DS2, DS1, OP4, OP3, OP2, OP1, SIGN, and 1 through 25 lamps. | Lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 17)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.191 | MLDD | Press and release COMPUTER DISPLAY RESET pushbuttons. | | |
| 5.192 | MLDD | Observe COMPUTER DS4, DS3, DS2, DS1, OP4, OP3, OP2, OP1, and 1 through 25 lamps. | Not lit | ______ |
| 5.193 | MLDD | Observe COMPUTER PARITY BIT-BR SYL 1 lamp (DATA area). | Not lit | ______ |
| EXP. | NA | Steps 5.194 through 5.223 demonstrate that different tape addresses can be manually loaded into the tape reader register and acted upon correctly. | | |
| 5.194 | TRMC | Press and release $2^{11}/2^{10}$/ADR $4/2^9$ pushbutton/lamp. | | |
| 5.195 | TRMC | Observe ADR 4 lamp. | Lit | ______ |
| 5.196 | MLDD | Observe INVERT ERROR pushbutton/lamp. | Lit | ______ |
| 5.197 | TRMC | Press and release SELF CHECK pushbutton/lamp. | | |
| 5.198 | TRMC | Observe SELF CHECK lamp. | Not lit | ______ |
| 5.199 | MLDD | Observe INVERT ERROR lamp. | Not lit | ______ |
| 5.200 | TRMC | Press and release SELF CHECK pushbutton/lamp. | | |
| 5.201 | TRMC | Observe SELF CHECK lamp. | Lit | ______ |
| 5.202 | TPMC | Press and release $2^{11}/2^{10}$/ADR $4/2^9$ pushbutton/lamp twice. | | |
| 5.203 | MLDD | Observe INVERT ERROR lamp. | Lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 18)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 5.204 | TRMC | Press and release $2^{11}/2^{10}$/ADR $4/2^{9}$ pushbutton/lamp. | | |
| 5.205 | TRMC | Observe ADR 4 lamp. | Not lit | ______ |
| 5.206 | MLDD | Observe INVERT ERROR lamp. | Lit | ______ |
| 5.207 | TRMC | Press and release $2^{8}/2^{7}$/ADR $3/2^{6}$ pushbutton/lamp. | | |
| 5.208 | TRMC | Observe ADR 3 lamp. | Lit | ______ |
| 5.209 | MLDD | Observe INVERT ERROR lamp. | Lit | ______ |
| 5.210 | TRMC | Press and release $2^{5}/2^{4}$/ADR $2/2^{3}$ pushbutton/lamp. | | |
| 5.211 | TRMC | Observe ADR 2 lamp. | Lit | ______ |
| 5.212 | MLDD | Observe INVERT ERROR lamp. | Lit | ______ |
| 5.213 | TRMC | Press and release $2^{2}/2^{1}$/ADR $1/2^{0}$ pushbutton/lamp. | | |
| 5.214 | TRMC | Observe ADR 1 lamp. | Lit | ______ |
| 5.215 | MLDD | Observe INVERT ERROR lamp. | Not lit | ______ |
| 5.216 | TRMC | Press and release $2^{12}$/ADR 5 push-button/lamp. | | |
| 5.217 | TRMC | Observe ADR 5 lamp. | Lit | ______ |
| 5.218 | TRMC | Press and release $2^{8}/2^{7}$/ADR $3/2^{6}$ pushbutton/lamp. | | |
| 5.219 | TRMC | Observe ADR 3 lamp. | Not lit | ______ |
| 5.220 | TRMC | Press and release $2^{2}/2^{1}$/ADR $1/2^{0}$ pushbutton/lamp. | | |

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Figure 7-7. Memory Loader Manual Checks (Sheet 19)

| INTERNATIONAL BUSINESS MACHINES- | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 5.221 | TRMC | Observe ADR 1 lamp. | Not lit | ______ |
| 5.222 | MLDD | Press and release ADDRESS COMPTR pushbutton/lamp. | | |
| 5.223 | MLDD | Observe COMPARE-BR14 lamp. | Lit | ______ |

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Figure 7-7. Memory Loader Manual Checks (Sheet 20)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 6.1 through 6.11 substantiate that pushbutton/lamps and switches which affect the data display are in the correct configuration. | | |
| 6.1 | TRMC | Observe AUTO lamp (press and release if lit). | Not lit | |
| 6.2 | TRMC | Observe MANUAL lamp. | Lit | |
| 6.3 | PD | Verify that PROG REG A-SIGN and 1 through 25 toggle switches are off (down). | | |
| 6.4 | TRMC | Observe FREE RUN SS lamp (press and release if lit). | Not lit | |
| 6.5 | TRMC | Observe SELF CHECK lamp (press and release if not lit). | Lit | |
| 6.6 | MLDD | Verify that DISPLAY SELECT switch is set to TRS. | | |
| 6.7 | MLDD | Verify that MODE CONTROL switch is set to DISPLAY-REPEAT. | | |
| 6.8 | PD | Press and release RESET-MACHINE pushbutton/lamp. | | |
| 6.9 | PD | Observe MAN CST lamp (press and release if lit). | Not lit | |
| 6.10 | TRMC | Observe ML lamp (press and release if lit). | Not lit | |
| 6.11 | TRMC | Observe DD lamp. | Lit | |

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Figure 7-8. Data Display Checks (Sheet 1 of 15)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 6.12 through 6.72 demonstrate that different combinations of instruction addresses can be manually loaded into the tape reader register, compared on correctly, and displayed. Ignore COMMAND and COMPUTER lamps not located in INSTRUCTION ADDRESS area. | | |
| 6.12 | MLDD | Observe ADDRESS COMPARE-DATA lamp (press and release if lit). | Not lit | |
| 6.13 | MLDD | Observe ADDRESS COMPARE-INS lamp. | Lit | |
| 6.14 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.15 | MLDD | Observe COMMAND and COMPUTER MODULE-0 and SYL-0 lamps. | Lit | |
| 6.16 | MLDD | Observe COMMAND and COMPUTER MODULE-1. SYL-1, IS1 through IS4, and A1 through A8 lamps. | Not lit | |
| 6.17 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.18 | MLDD | Press and release MODULE-0/1, SYL-0/1, IS4, IS3, IS2, IS1, and A8 pushbutton/lamps. | | |
| 6.19 | MLDD | Observe COMMAND and COMPUTER MODULE-1, SYL-1, IS4, IS3, IS2, IS1, and A8 lamps. | Lit | |

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Figure 7-8. Data Display Checks (Sheet 2)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.20 | MLDD | Observe COMMAND and COMPUTER MODULE-0 and SYL-0 lamps. | Not lit | |
| 6.21 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.22 | MLDD | Press and release MODULE-0/1, SYL- 0/1, IS4, IS3, IS2, IS1, and A8 pushbutton/lamps. | | |
| 6.23 | MLDD | Observe COMMAND and COMPUTER MODULE-1, SYL-1, IS4, IS3, IS2, IS1, and A8 lamps. | Not lit | |
| 6.24 | MLDD | Observe COMMAND and COMPUTER MODULE-0 and SYL-0 lamps. | Lit | |
| 6.25 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.26 | MLDD | Press and release A1 through A7 pushbutton/lamps. | | |
| 6.27 | MLDD | Observe COMMAND and COMPUTER-A1 through A7 lamps. | Lit | |
| 6.28 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.29 | MLDD | Press and release A1 through A7 pushbutton/lamps. | | |
| 6.30 | MLDD | Observe COMMAND and COMPUTER-A1 through A7 lamps. | Not lit | |
| 6.31 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |

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Figure 7-8. Data Display Checks (Sheet 3)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.32 | MLDD | Press and release MODULE-0/1, IS4, IS2, A8, A6, A4, and A2 pushbutton/lamps. | | |
| 6.33 | MLDD | Observe COMMAND and COMPUTER MODULE-1, IS4, IS2, A8, A6, A4, and A2 lamps. | Lit | |
| 6.34 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps. | Not lit | |
| 6.35 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.36 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.37 | MLDD | Observe COMMAND and COMPUTER MODULE-1, IS4, IS2, A8, A6, A4, and A2 lamps. | Not lit | |
| 6.38 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps. | Lit | |
| 6.39 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.40 | MLDD | Press and release SYL-0/1, IS3, IS1, A7, A5, A3, and A1 pushbutton/lamps. | | |
| 6.41 | MLDD | Observe COMMAND and COMPUTER SYL-1, IS3, IS1, A7, A5, A3, and A1 lamps. | Lit | |
| 6.42 | MLDD | Observe COMMAND and COMPUTER SYL-0 lamps. | Not lit | |
| 6.43 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |

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Figure 7-8. Data Display Checks (Sheet 4)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.44 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.75 | MLDD | Observe COMMAND and COMPUTER SYL-1, IS3, IS1, A7, A5, A3 and A1 lamps. | Not lit | |
| 6.76 | MLDD | Observe COMMAND and COMPUTER SYL-0 lamps. | Lit | |
| 6.47 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.48 | MLDD | Press and release MODULE-0/1, SYL-0/1, IS4, IS3, A3, A2, and A1 pushbutton/lamps. | | |
| 6.49 | MLDD | Observe COMMAND and COMPUTER MODULE-1, SYL-1, IS4, IS3, A3, A2, and A1 lamps. | Lit | |
| 6.50 | MLDD | Observe COMMAND and COMPUTER MODULE-0 and SYL-0 lamps. | Not lit | |
| 6.51 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.52 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.53 | MLDD | Observe COMMAND and COMPUTER MODULE-1, SYL-1, IS4, IS3, A3, A2, and A1 lamps. | Not lit | |
| 6.54 | MLDD | Observe COMMAND and COMPUTER MODULE-0 and SYL-0 lamps. | Lit | |
| 6.55 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |

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Figure 7-8. Data Display Checks (Sheet 5)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 6.56 | MLDD | Press and release IS2, IS1, and A4 through A8 pushbutton/lamps. | | |
| 6.57 | MLDD | Observe COMMAND and COMPUTER IS2, IS1, and A4 through A8 lamps. | Lit | |
| 6.58 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.59 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.60 | MLDD | Observe COMMAND and COMPUTER IS2, IS1, and A4 through A8 lamps. | Not lit | |
| 6.61 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.62 | MLDD | Press and release MODULE-0/1, SYL-0/1, IS2, IS1, A7, A6, and A3 pushbutton/lamps. | | |
| 6.63 | MLDD | Observe COMMAND and COMPUTER MODULE-1, SYL-1, IS2, IS1, A7, A6, and A3 lamps. | Lit | |
| 6.64 | MLDD | Observe COMMAND and COMPUTER MODULE-0 and SYL-0 lamps. | Not lit | |
| 6.65 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.66 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.67 | MLDD | Observe COMMAND and COMPUTER MODULE-1, SYL-1, IS2, IS1, A7, A6, and A3 lamps. | Not lit | |

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Figure 7-8. Data Display Checks (Sheet 6)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.68 | MLDD | Observe COMMAND and COMPUTER MODULE-0 and SYL-0 lamps. | Lit | |
| 6.69 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.70 | MLDD | Press and release IS4, IS3, A8, A5, A4, A2, and A1 pushbutton/lamps. | | |
| 6.71 | MLDD | Observe COMMAND and COMPUTER-IS4, IS3, A8, A5, A4, A2 and A1 lamps. | Lit | |
| 6.72 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| EXP | NA | Steps 6.73 through 6.131 demonstrate that different combinations of data addresses can be manually loaded into the tape reader register, compared on correctly, and displayed. Ignore COMMAND and COMPUTER lamps not located in DATA ADDRESS area. | | |
| 6.73 | MLDD | Press and release ADDRESS COMPARE-DATA/INS pushbutton/lamp. | | |
| 6.74 | MLDD | Observe ADDRESS COMPARE-DATA lamp. | Lit | |
| 6.75 | MLDD | Observe ADDRESS COMPARE-INS lamp. | Not lit | |
| 6.76 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.77 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps. | Lit | |

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Figure 7-8. Data Display Checks (Sheet 7)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.78 | MLDD | Observe COMMAND and COMPUTER-DS1 through DS4, MODULE-1, and OA1 through OA9 lamps. | Not lit | |
| 6.79 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.80 | MLDD | Press and release DS4, DS3, DS2, DS1, MODULE-0/1, OA9, and OA8 pushbutton/lamps. | | |
| 6.81 | MLDD | Observe COMMAND and COMPUTER-DS4, DS3, DS2, DS1, MODULE-1, OA9, and OA8 lamps. | Lit | |
| 6.82 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps. | Not lit | |
| 6.82.1 | MLDD | Observe PARITY-BIT-BR lamp. | Lit | |
| 6.83 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.84 | MLDD | Press and release DS4, DS3, DS2, DS1, MODULE-0/1, OA9, and OA8 pushbutton/lamps. | | |
| 6.85 | MLDD | Observe COMMAND and COMPUTER-DS4, DS3, DS2, DS1, MODULE-1, OA9, and OA8 lamps. | Not lit | |
| 6.86 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps. | Lit | |
| 6.86.1 | MLDD | Observe PARITY BIT-BR lamp. | Lit | |
| 6.87 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.88 | MLDD | Press and release OA1 through OA7 pushbutton/lamps. | | |

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Figure 7-8. Data Display Checks (Sheet 8)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.89 | MLDD | Observer COMMAND and COMPUTER-OA1 through OA7 pushbutton/lamps. | Lit | |
| 6.89.1 | MLDD | Observe PARITY BIT-BR lamp. | Not lit | |
| 6.90 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.91 | MLDD | Press and release OA1 through OA7 pushbutton/lamps. | | |
| 6.92 | MLDD | Observe COMMAND and COMPUTER-OA1 through OA7 lamps. | Not lit | |
| 6.93 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.94 | MLDD | Press and release DS4, DS2, MODULE-0/1, OA8, OA6, OA4, and OA2 pushbutton/lamps. | | |
| 6.95 | MLDD | Observe COMMAND and COMPUTER-DS4, DS2, MODULE-1, OA8, OA6, OA4, and OA2 lamps. | Lit | |
| 6.96 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps. | Not lit | |
| 6.96.1 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.97 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.98 | MLDD | Observe COMMAND and COMPUTER-DS4, DS2, MODULE-1, OA8, OA6, OA4, and OA2 lamps. | Not lit | |
| 6.99 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps. | Lit | |
| 6.100 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |

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Figure 7-8. Data Display Checks (Sheet 9)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.101 | MLDD | Press and release DS3, DS1, OA9, OA7, OA5, OA3, and OA1 pushbutton/lamps. | | |
| 6.102 | MLDD | Observe COMMAND and COMPUTER-DS3, DS1, OA9, OA7, OA5, OA3, and OA1 lamps. | Lit | |
| 6.103 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.104 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.105 | MLDD | Observe COMMAND and COMPUTER-DS3, DS1, OA9, OA7, OA5, OA3, and OA1 lamps. | Not lit | |
| 6.106 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.107 | MLDD | Press and release DS1 through DS4 and OA1 through OA3 pushbutton/lamps. | | |
| 6.108 | MLDD | Observe COMMAND and COMPUTER-DS1 through DS4 and OA1 through OA3 pushbutton/lamps. | Lit | |
| 6.109 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.110 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.111 | MLDD | Observe COMMAND and COMPUTER-DS1 through DS4 and OA1 through OA3 lamps. | Not lit | |

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Figure 7-8. Data Display Checks (Sheet 10)

INTERNATIONAL BUSINESS MACHINES-

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.112 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.113 | MLDD | Press and release MODULE-0/1 and OA4 through OA9 pushbutton/ lamps. | | |
| 6.114 | MLDD | Observe COMMAND and COMPUTER MODULE-1 and OA4 through OA9 lamps. | Lit | |
| 6.115 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamp. | Not lit | |
| 6.116 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.117 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.118 | MLDD | Observe COMMAND and COMPUTER MODULE-1 and OA4 through OA9 lamps. | Not lit | |
| 6.119 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps. | Lit | |
| 6.120 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.121 | MLDD | Press and release DS4, DS3, MODULE-0/1, OA9, OA7, OA6, and OA3 pushbutton/lamps. | | |
| 6.122 | MLDD | Observe COMMAND and COMPUTER DS4, DS3, MODULE-1, OA9, OA7, OA6, and OA3 lamps. | Lit | |

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Figure 7-8. Data Display Checks (Sheet 11)

**INTERNATIONAL BUSINESS MACHINES–**

**UNIT NAME:** | **UNIT NO.**

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.123 | MLDD | Observe COMMAND and COMPUTER MODULE-0 lamps. | Not lit | |
| 6.123 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.125 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 6.126 | MLDD | Observe COMMAND and COMPUTER-DS4, DS3, MODULE-1, OA9, OA7, OA6, and OA3 lamps. | Not lit | |
| 6.127 | MLDD | Observe COMMAND and COMPUTER-MODULE-0 lamps. | Lit | |
| 6.128 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.129 | MLDD | Press and release DS2, DS1, OA8, OA5, OA4, OA2, and OA1 pushbutton/lamps. | | |
| 6.130 | MLDD | Observe COMMAND and COMPUTER DS2, DS1, OA8, OA5, OA4, OA2, and OA1 lamps. | Lit | |
| 6.131 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| EXP | NA | Steps 6.132 through 6.142 demonstrate that the DISPLAY-SINGLE and DISPLAY-REPEAT features of the data display are functioning properly. | | |
| 6.132 | MLDD | Set MODE CONTROL switch to DISPLAY-SINGLE. | | |

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Figure 7-8. Data Display Checks (Sheet 12)

INTERNATIONAL BUSINESS MACHINES

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.133 | MLDD | Press and release COMMAND DISPLAY RESET pushbutton/lamp. | | |
| 6.134 | MLDD | Observe COMMAND-DS2, DS1, OA8, OA5, OA4, OA2, and OA1 lamps. | Not lit | |
| 6.135 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Lit | |
| 6.136 | MLDD | Press and release OA4, OA3, OA2, and COMPTR DISPLAY RESET pushbutton/lamps in succession. | | |
| 6.137 | MLDD | Observe COMMAND-OA4, OA3, and OA2 lamps. | Lit | |
| 6.138 | MLDD | Observe SERIALIZER-PARITY BIT lamp. | Not lit | |
| 6.139 | MLDD | Set PROG REG A-1 toggle switch to on (up). | | |
| 6.140 | MLDD | Observe COMPUTER-OP4, OP3, OP2, OP1, OA4, OA3, OA2, and 25 lamps. | Lit | |
| 6.141 | MLDD | Set MODE CONTROL switch to DISPLAY-REPEAT. | | |
| 6.142 | MLDD | Observe that DATA area COMPUTER lamps indicate an advancing binary count. | | |
| EXP | NA | Steps 6.143 through 6.163 demonstrate that the central processor can be placed in PROG CYCLE-ADR HOLD, SINGLE STEP, and REPEAT modes of operation by a data display address compare. | | |

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Figure 7-8. Data Display Checks (Sheet 13)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.143 | MLDD | Set DISPLAY SELECT switch to AI3-DATA. | | |
| 6.144 | MLDD | Set MODE CONTROL switch to PROG CYCLE-ADR HOLD. | | |
| 6.145 | MLDD | Observe that binary count indicated on DATA area COMPUTER lamps stops advancing. | | |
| 6.146 | PD | Press and release ADVANCE push-button several times. | | |
| 6.147 | MLDD | Observe that binary count indicated on DATA area COMPUTER lamps advances every second time the ADVANCE pushbutton/lamp is actuated. | | |
| 6.148 | MLDD | Press and release ADDRESS COM-PARE-DATA/INS pushbutton/lamp. | | |
| 6.149 | MLDD | Observe ADDRESS COMPARE-DATA lamp. | Not lit | |
| 6.150 | MLDD | Observe ADDRESS COMPARE-INS lamp. | Lit | |
| 6.151 | MLDD | Press and release A5, A4, A3, and A1 pushbutton/lamps. | | |
| 6.152 | MLDD | Set MODE CONTROL switch to PROG CYCLE-REPEAT. | | |
| 6.153 | PD | Press and release RESET-MA-CHINE pushbutton. | | |

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Figure 7-8. Data Display Checks (Sheet 14)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 6.154 | MLDD | Observe that DATA area COMPUTER lamps indicate an advancing binary count. | | |
| 6.155 | MLDD | Press and release A1 pushbutton/lamp. | | |
| 6.156 | MLDD | Observe that binary count indicated on DATA area COMPUTER lamps stops advancing. | | |
| 6.157 | MLDD | Press and release COMMAND DISPLAY RESET pushbutton. | | |
| 6.158 | MLDD | Set DISPLAY SELECT switch to AI3-IA and MODE CONTROL switch to PROG CYCLE-SINGLE STEP. | | |
| 6.159 | MLDD | Observe COMPUTER-8 lamp. | Lit | |
| 6.160 | MLDD | Observe COMPUTER-A1 through A8 and 1 through 7 lamps. | Not lit | |
| 6.161 | MLDD | Press and release ADVANCE pushbutton. | | |
| 6.162 | MLDD | Observe COMPUTER-A1 and 7 lamps. | Lit | |
| 6.163 | MLDD | Observe COMPUTER-A2 through A8, 1 through 6, and 8 lamp. | Not lit | |

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Figure 7-8. Data Display Checks (Sheet 15)

| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| EXP | NA | Steps 7.1 through 7.12 substantiate that pushbutton/lamps and switches which affect central processor operation are in the correct configuration. | | |
| 7.1 | TRMC | Observe AUTO lamp (press and release if lit). | Not lit | |
| 7.2 | TRMC | Observe MANUAL lamp. | Lit | |
| 7.3 | PD | Verify that PROG REG A-SIGN and 125 toggle switches are off (down). | | |
| 7.4 | TRMC | Observe FREE RUN SS lamp (press and release if lit). | Not lit | |
| 7.5 | TRMC | Observe SELF CHECK lamp (press and release if not lit). | Lit | |
| 7.6 | TRMC | Observe ML lamp (press and release if lit). | Not lit | |
| 7.7 | TRMC | Observe DD lamp. | Lit | |
| 7.8 | PD | Observe MAN CST lamp (press and release if lit). | | |
| 7.9 | MLDD | Observe ADDRESS COMPARE-DATA lamp (press and release if lit). | Not lit | |
| 7.10 | MLDD | Observe ADDRESS COMPARE-INS lamp. | Lit | |
| 7.11 | MLDD | Set MODE CONTROL switch to PROG CYCLE-ADR HOLD. | | |
| 7.12 | MLDD | Press and release COMMAND DISPLAY RESET pushbuttons. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 1 of 56)

| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| EXP | NA | Steps 7.13 through 7.87 demonstrate that the single instruction advance feature is functioning properly and that the MEMORY ADDRESS SYLLABLE, SECTOR, IM, and DM lamps on PD panel display correct information. | | |
| 7.13 | MLDD | Press and release A5 and A4 pushbutton/lamps. | | |
| 7.14 | MLDD | Observe COMMAND-A5 and A4 lamps. | Lit | |
| 7.15 | PD | Press and release RESET-MACHINE pushbuttons. | | |
| 7.16 | MLDD | Observe COMPUTER-MODULE-0, SYL-0, A5 and A4 lamps. | Lit | |
| 7.17 | PD | Observe HOPSAVE REG lamp (press and release if lit). | Not lit | |
| 7.18 | PD | Observe MEM ADD REG lamp (press and release if not lit). | Lit | |
| 7.19 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE INST. | | |
| 7.20 | CE | Press and release ADVANCE pushbuttons. | | |
| 7.21 | PD | Observe A5, A4, A1, SYLLABLE-0, IM0, and DM0 lamps. | Lit | |
| 7.22 | PD | Observe A2, A3, A6 through A9, SYLLABLE-1, IS1 through IS4, DS1 through DS4, IM1, and DM1 lamps. | Not lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 2)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 7.23 | PD | Press and release ADVANCE pushbuttons. | | |
| 7.24 | PD | Observe A1 through A7, SYLLABLE-0, DS2, DS1, IM0, and DM0 lamps. | Lit | |
| 7.25 | PD | Observe A9, A8, SYLLABLE-1, IS1 through IS4, DS4, DS3, IM1, and DM1 lamps. | Not lit | |
| 7.26 | PD | Press and release MEM ADD REG pushbutton/lamp. | | |
| 7.27 | PD | Observe A1 through A7, SYLLABLE-0, DS2, DS1, IM0, DM0, and MEM ADD REG lamps. | Not lit | |
| 7.28 | PD | Press and release HOPSAVE REG pushbutton/lamp. | | |
| 7.29 | PD | Observe A5, A4, A2, SYLLABLE-0, IM0, DM0, and HOPSAVE REG lamps. | Lit | |
| 7.30 | PD | Observe A6 through A9, A3, A1, SYLLABLE-1, IS1 through IS4, DS1 through DS4, IM1, and DM1 lamps. | Not lit | |
| 7.31 | PD | Press and release ADVANCE pushbuttons. | | |
| 7.32 | PD | Observe A8, SYLLABLE-0, DS2, DS1, IM0, and DM0 lamps. | Lit | |
| 7.33 | PD | Observe A1 through A7, A9, IS1 through IS4, DS4, DS3, IM1, and DM1 lamps. | Not lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 3)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.34 | PD | Press and release MEM ADD REG pushbutton/lamp. | | |
| 7.35 | PD | Observe A8, SYLLABLE-0, DS2, DS1, IM0, and DM0. | Not lit | |
| 7.36 | PD | Press and release HOP SAVE REG pushbutton/lamp. | | |
| 7.37 | PD | Observe A4 through A8, SYLLABLE-0, IS2, IS1, DS3, DS1, IM0, DM0, and MEM ADD REG lamps. | Lit | |
| 7.38 | PD | Observe A1 through A3, SYLLABLE-1, IS4, IS3, DS4, DS2, IM1, and DM1 lamps. | Not lit | |
| 7.39 | PD | Press and release ADVANCE pushbuttons. | | |
| 7.40 | PD | Observe A7, A5, A3, A1, SYLLABLE-1, IS3, IS1, DS1 through DS4, IM0, and DM0 lamps. | Lit | |
| 7.41 | PD | Observe A9, A8, A6, A4, A2, SYLLABLE-0, IS4, IS2, IM1, and DM1 lamps. | Not lit | |
| 7.42 | PD | Press and release MEM ADD REG pushbutton/lamp. | | |
| 7.43 | PD | Press and release HOPSAVE REG pushbutton/lamp. | | |
| 7.44 | PD | Observe A1, A4 through A8, SYLLABLE-0, IS2, IS1, DS3, DS1, IM0, DM0, and HOPSAVE REG lamps. | Lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 4)

**INTERNATIONAL BUSINESS MACHINES–**

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 7.45 | PD | Observe A9, A3, A2, A1, SYLLABLE-1, IS4, IS3, DS4, DS2, IM1, and DM1 lamps. | Not lit | |
| 7.46 | PD | Press and release ADVANCE pushbuttons. | | |
| 7.47 | PD | Observe A7, A5, A3, A2, SYLLABLE-1, IS3, IS1, DS1 through DS4, IM0, and DM0 lamps. | Lit | |
| 7.48 | PD | Observe A9, A8, A6, A4, A1, SYLLABLE-0, IS4, IS2, IM1, and DM1 lamps. | Not lit | |
| 7.49 | PD | Press and release HOPSAVE REG pushbutton/lamps. | | |
| 7.50 | PD | Press and release MEM ADD REG pushbutton/lamp. | | |
| 7.51 | PD | Observe A8, A5, A4, A2, A1, SYLLABLE-0, IS4, IS3, IM0, DM1, and MEM ADD REG lamps. | Lit | |
| 7.52 | PD | Observe A9, A7, A6, A3, SYLLABLE-1, IS2, IS1, DS1 through DS4, IM1, and DM0 lamps. | Not lit | |
| 7.53 | PD | Press and release ADVANCE pushbuttons. | | |
| 7.54 | PD | Observe A7, A6, A3, SYLLABLE-1, IS2, IS1, DS4, DS2, IM1, and DM1 lamps. | Lit | |
| 7.55 | PD | Observe A9, A8, A5, A4, A2, A1, SYLLABLE-0, IS4, IS3, DS3, DS1, IM0, and DM0 lamps. | Not lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 5)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.56 | PD | Press and release MEM ADD REG pushbutton/lamp. | | |
| 7.57 | PD | Press and release HOPSAVE REG pushbutton/lamp. | | |
| 7.58 | PD | Observe A8, A5, A4, A3, SYL-LABLE-0, IS4, IS3, IM0, DM1, and HOPSAVE REG lamps. | Lit | |
| 7.59 | PD | Observe A9, A7, A6, A2, A1, SYL-LABLE-1, IS2, IS1, DS1 through DS4, IM1, and DM0 lamps. | Not lit | |
| 7.60 | PD | Press and release ADVANCE push-buttons. | | |
| 7.61 | PD | Observe A7, A6, A3, A1, SYL-LABLE-1, IS2, IS1, DS4, DS2, IM1, and DM1 lamps. | Lit | |
| 7.62 | PD | Observe A9, A8, A5, A4, A2, A1, SYLLABLE-1, IS2, IS1, DS4, DS2, IM0, and DM0 lamps. | Not lit | |
| 7.63 | PD | Press and release HOPSAVE REG pushbutton/lamp. | | |
| 7.64 | PD | Press and release MEM ADD REG pushbutton/lamp. | | |
| 7.65 | PD | Observe A7, A6, A3, A1, SYL-LABLE-1, IS2, IS1, DS4, DS2, IM1, DM1, and MEM ADD REG lamps. | Lit | |
| 7.66 | PD | Observe A9, A8, A5, A4, A2, SYL-LABLE-0, IS2, IS1, DS4, DS2, IM0, and DM0 lamps. | Not lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 6)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 7.67 | PD | Press and release ADVANCE pushbuttons. | | |
| 7.68 | PD | Observe A8, A6, A4, A2, SYLLABLE-0, IS4, IS2, DS4, DS3, IM1, and DM0 lamps. | Lit | |
| 7.69 | PD | Observe A9, A7, A5, A3, A1, SYLLABLE-1, IS3, IS1, DS2, DS1, IM0, and IM1 lamps. | Not lit | |
| 7.70 | PD | Press and release MEM ADD REG pushbutton/lamp. | | |
| 7.71 | PD | Press and release HOPSAVE REG pushbutton/lamp. | | |
| 7.72 | PD | Observe A7, A6, A3, A2, SYLLABLE-1, IS2, IS1, DS4, DS2, IM1, DM1, and HOPSAVE REG lamps. | Lit | |
| 7.73 | PD | Observe A9, A8, A5, A4, A1, SYLLABLE-0, IS4, IS3, DS3, DS1, IM0, and DM0 lamps. | Not lit | |
| 7.74 | PD | Press and release ADVANCE pushbuttons. | | |
| 7.75 | PD | Observe A8, A6, A4, A2, A1, SYLLABLE-0, IS4, IS2, DS4, DS3, IM1, and DM1 lamps. | Lit | |
| 7.76 | PD | Observe A9, A7, A5, A3, SYLLABLE-1, IS3, IS1, DS2, DS1, IM0, and DM0 lamps. | Not lit | |
| 7.77 | PD | Press and release HOPSAVE REG pushbutton/lamp. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 7)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.78 | PD | Press and release MEM ADD REG pushbutton/lamp. | | |
| 7.79 | PD | Observe A3, A2, A1, SYLLABLE-1, IS3, IS4, DS1 through DS4, DM1 and MEM ADD REG lamps. | Lit | |
| 7.80 | PD | Observe A4 through A9, SYLLABLE-0, IS1, IS2, IM1, and DM0 lamps. | Not lit | |
| 7.81 | PD | Press and release ADVANCE push-button/lamp. | | |
| 7.82 | PD | Observe A8, SYLLABLE-1, IS1 through IS4, IM1, and DM0 lamps. | Lit | |
| 7.83 | PD | Observe A9, A1 through A7, SYL-LABLE-0, DS1 through DS4, IM0, and DM1 lamps. | Not lit | |
| 7.84 | PD | Press and release MEM ADD REG pushbutton/lamp. | | |
| 7.85 | PD | Press and release HOPSAVE REG pushbutton/lamp. | | |
| 7.86 | PD | Observe A4, SYLLABLE-1, IS4, IS3, DS1 through DS4, IM1, DM1, and HOPSAVE REG lamps. | Lit | |
| 7.87 | PD | Observe A5 through A9, A3, A2, A1, SYLLABLE-0, IS2, IS1, IM0, and DM0 lamps. | Not lit | |
| EXP | NA | Steps 7.88 through 7.158 demonstrate that the single phase advance feature is functioning properly and that the ACCUMULATOR and MEMORY BUFFER, REGISTER lamps on CE panel display correct information. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 8)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 7.88 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE PHASE. | | |
| 7.89 | CE | Observe ACC DISPLAY ENABLE lamp (press and release if not lit). | Lit | |
| 7.90 | CE | Observe MEM BUFFER REG lamp (press and release if not lit). | Lit | |
| 7.91 | PD | Observe TRANS REC lamp (press and release if lit). | Not lit | |
| 7.92 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.93 | CE | Observe BIT 14 lamp. | Lit | |
| 7.94 | CE | Observe BIT 1 through BIT 13 lamps. | Not lit | |
| 7.95 | PD | Observe DATA-1 through 13 lamps. | Not lit | |
| 7.96 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.97 | CE | Observe BIT 1 through BIT 13 lamps. | Lit | |
| 7.98 | CE | Observe BIT 14 lamp. | Not lit | |
| 7.99 | CE | Press and release ADVANCE push-button/lamp twice. | | |
| 7.100 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 1 of Table 1. | | |

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | PAGE | OF | PAGES | NUMBER |
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Figure 7-9. Central Processor Manual Checks (Sheet 9)

INTERNATIONAL BUSINESS MACHINES -

UNIT NAME: | UNIT NO.

ACCUMULATOR LAMPS

| TEST | A/S | DLA 2 | DLA 3 | DLA 4 | DLA 5 | DLA 6 | DLA 7 | DLA 8 | DLA 9 | DLA 10 | DLA 11 | DLA 12 | DLA 13 | DLA 14 | DLA 15 | DLA 16 | DLA 17 | DLA 18 | DLA 19 | DLA 20 | DLA 21 | DLA 22 | DLA 23 | DLA 24 | DLA 25 | DLA 26 | DLA 27 | DLA 28 | DLA 29 | DLA 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | O | O | O | O | O | O | O | O | O | X | X | | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 2 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | O | O | O | O | O | O | O | O | O | O | O | X | | |
| 3 | O | O | O | O | O | O | O | O | O | X | X | | | | | | X | | | | | | | | | | | | | |
| 4 | X | | | X | | X | X | | X | | | X | | X | X | | O | O | O | O | O | O | O | O | O | O | O | X | | |
| 5 | O | O | O | O | O | O | O | O | O | X | X | | | | | | X | | | X | X | | | X | | X | X | | X | |
| 6 | | X | X | | X | | | X | | X | X | | X | | | X | O | O | O | O | O | O | O | O | O | O | O | X | | |
| 7 | O | O | O | O | O | O | O | O | O | X | X | | | | | | X | X | X | | | X | X | | X | | | X | | X |
| 8 | | | | | | | | X | X | X | X | X | X | X | X | X | O | O | O | O | O | O | O | O | O | O | O | X | | |
| 9 | O | O | O | O | O | O | O | O | O | X | X | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 10 | X | X | X | X | X | X | X | | | | | | | | | | O | O | O | O | O | O | O | O | O | O | O | X | | |
| 11 | O | O | O | O | O | O | O | O | O | X | X | | | | | X | | | | | | | | | | | | | X | X |
| 12 | X | X | X | | | | | X | X | X | X | X | | | | | O | O | O | O | O | O | O | O | O | O | O | X | | |
| 13 | O | O | O | O | O | O | O | O | O | X | X | | | | | X | | | | X | X | X | X | X | | | | | X | X |
| 14 | | | | X | X | X | X | | | | | | X | X | X | X | O | O | O | O | O | O | O | O | O | O | O | X | | |
| 15 | O | O | O | O | O | O | O | O | O | X | X | | | | | X | | X | X | | | | | | X | X | X | X | | |
| 16 | X | | | X | | | | X | X | | | | X | | | | O | O | O | O | O | O | O | O | O | O | O | X | | |
| 17 | O | O | O | O | O | O | O | O | O | X | X | | | | | X | | X | X | X | X | X | X | | X | | | | X | X |
| 18 | | X | X | | X | X | X | | | X | X | X | | X | X | X | O | O | O | O | O | O | O | O | O | O | O | X | | |
| 19 | O | O | O | O | O | O | O | O | O | X | X | | | | | X | X | | | | | | | X | | X | X | X | | |
| 20 | | | | | | | | | | | | | | | | | O | O | O | O | O | O | O | O | O | O | O | | | |

ACCUMULATOR LAMPS (continued)

| TEST | ACC 0 | ACC 1 | DLB 1 | DLB 2 | DLB 3 | DLB 4 | DLB 5 | DLB 6 | DLB 7 | DLB 8 | DLB 9 | DLB 10 | DLB 11 | DLB 12 | DLB 13 | DLB 14 | DLB 15 | DLB 16 | DLB 17 | DLB 18 | DLB 19 | DLB 20 | DLB 21 | AI 0 | AI 1 | AI 2 | AI 3 | AI 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | X | X | X | X | X | X | X | X | | | | | | | | | | | | | | | | | | | O | O |
| 2 | | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 3 | | | | | | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | O | O |
| 4 | | | | | X | X | | | | | | | | | | | | | | | | | | | | | X | |
| 5 | | X | X | | X | X | | X | | | X | | X | X | | X | | | X | | X | X | | X | X | | O | O |
| 6 | | | | | X | X | | X | X | X | | X | | | X | | X | X | | X | | | X | | | X | | |
| 7 | X | | | X | | | X | | X | X | | X | | | X | | X | X | | X | | | X | | | X | O | O |
| 8 | | | | | X | X | X | | | | X | | X | X | | X | | | X | | X | X | | X | X | | X | |
| 9 | | | | | | | | | | | | | | | | | X | X | X | X | X | X | X | X | X | X | O | O |
| 10 | | | | | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | | | | | | | |
| 11 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | | | | | | O | O |
| 12 | | | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | X | X | X | X | X | |
| 13 | X | X | | | | | | | X | X | X | X | | | | | X | X | X | X | X | X | | | | | O | O |
| 14 | | | | X | | | | X | X | X | X | X | | | | | X | X | X | X | | | | | | | X | |
| 15 | | | | X | X | X | X | X | | | | | X | X | X | X | | | | | | | X | X | X | X | O | O |
| 16 | | | | X | | | X | | | | | | X | X | X | X | | | | | X | X | X | X | X | X | | |
| 17 | X | | | X | X | X | | | X | X | X | | X | X | | | X | X | X | | | | X | | | | O | O |
| 18 | | | | X | | | X | X | X | X | X | | X | X | | | X | X | X | | X | X | X | | | | X | |
| 19 | | X | X | | | | X | X | | | | X | | | X | X | | | | X | X | X | | X | X | X | O | O |
| 20 | | | | | | | | | | | | X | | | X | X | | | | X | | | | X | X | X | | |

MEMORY BUFFER REGISTER LAMPS / DATA LAMPS ON PD PANEL

| TEST | BIT 1 | BIT 2 | BIT 3 | BIT 4 | BIT 5 | BIT 6 | BIT 7 | BIT 8 | BIT 9 | BIT 10 | BIT 11 | BIT 12 | BIT 13 | BIT 14 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | MEM BUFFER PARITY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 2 | | | | | | | | | | | | | | X | | | | | | | | | | | | | | X |
| 3 | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X |
| 4 | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | |
| 5 | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | |
| 6 | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X | | X |
| 7 | | | | | | | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | |
| 8 | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | | | X |
| 9 | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | | | | | | | | X |
| 10 | | | | | | | X | X | X | X | X | X | X | | | | | | | | X | X | X | X | X | X | X | |
| 11 | X | X | X | | | | X | X | X | X | | | | | X | X | X | | | | X | X | X | X | | | | |
| 12 | X | X | X | | | | X | X | X | | | | | X | X | X | X | | | | X | X | X | | | | | X |
| 13 | | | | X | X | X | | | | | X | X | X | X | | | | X | X | X | | | | | X | X | X | X |
| 14 | | | | X | X | X | | | | X | X | X | X | | | | | X | X | X | | | | X | X | X | X | |
| 15 | X | X | | X | | | X | X | | | X | | | X | X | X | | X | | | X | X | | | X | | | X |
| 16 | X | X | | X | | | X | X | | X | X | | | | X | X | | X | | | X | X | | X | X | | | |
| 17 | | | X | | X | X | | | X | X | | X | X | | X | | X | | X | X | | | X | X | | X | X | |
| 18 | | | X | | X | X | | | X | X | | X | | X | | | X | | X | X | | | X | | | X | | X |
| 19 | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| 20 | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |

Note: An X denotes a lamp is lit. A O denotes a "don't care" condition. The absence of a symbol indicates a lamp is out.

Table 1. Accumulator and Memory Buffer Register Lamp Status

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | PAGE | OF | PAGES | NUMBER |
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| | | | | | | | | | | | | | | | | | | | | | A- |

Figure 7-9. Central Processor Manual Checks (Sheet 10)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 7.101 | PD | Observe that the status of the DATA lamps is as shown for test 1 of Table 1. | | |
| 7.102 | CE | Press and release ADVANCE push-button. | | |
| 7.103 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 2 of Table 1. | | |
| 7.104 | PD | Observe that the status of the DATA lamps is as shown for test 2 of Table 1. | | |
| 7.105 | CE | Press and release ADVANCE push-button twice. | | |
| 7.106 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 3 of Table 1. | | |
| 7.107 | PD | Observe that the status of the DATA lamps is as shown for test 3 of Table 1. | | |
| 7.108 | CE | Press and release ADVANCE push-button. | | |
| 7.109 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 4 of Table 1. | | |
| 7.110 | PD | Observe that the status of the DATA lamps is as shown for test 4 of Table 1. | | |

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | PAGE | | PAGES | NUMBER |
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| | | | | | | | | | | | | | | | | | | | OF | | A- |

Figure 7-9. Central Processor Manual Checks (Sheet 11)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 7.111 | CE | Press and release ADVANCE push-button twice. | | |
| 7.112 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 5 of Table 1. | | |
| 7.113 | PD | Observe that the status of the DATA lamps is as shown for test 5 of Table 1. | | |
| 7.114 | CE | Press and release ADVANCE pusb-button. | | |
| 7.115 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 6 of Table 1. | | |
| 7.116 | PD | Observe that the status of the DATA lamps is as shown for test 6 of Table 1. | | |
| 7.117 | CE | Press and release ADVANCE push-button twice. | | |
| 7.118 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 7 of Table 1. | | |
| 7.119 | PD | Observe that the status of the DATA lamps is as shown for test 7 of Table 1. | | |
| 7.120 | CE | Press and release ADVANCE push-button. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 12)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
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| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.121 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 8 of Table 1. | | |
| 7.122 | PD | Observe that the status of the DATA lamps is as shown for test 8 of Table 1. | | |
| 7.123 | CE | Press and release ADVANCE push-button twice. | | |
| 7.124 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 9 of Table 1. | | |
| 7.125 | PD | Observe that the status of the DATA lamps is as shown for test 9 of Table 1. | | |
| 7.126 | CE | Press and release ADVANCE push-button. | | |
| 7.127 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 10 of Table 1. | | |
| 7.128 | PD | Observe that the status of the DATA lamps is as shown for test 10 of Table 1. | | |
| 7.129 | CE | Press and release ADVANCE push-button twice. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 13)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.130 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 11 of Table 1. | | |
| 7.131 | PD | Observe that the status of the DATA lamps is as shown for test 11 of Table 1. | | |
| 7.132 | CE | Press and release ADVANCE push-button. | | |
| 7.133 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 12 of Table 1. | | |
| 7.134 | PD | Observe that the status of the DATA lamps is as shown for test 12 of Table 1. | | |
| 7.135 | CE | Press and release ADVANCE push-button twice. | | |
| 7.136 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 13 of Table 1. | | |
| 7.137 | PD | Observe that the status of the DATA lamps is as shown for test 13 of Table 1. | | |
| 7.138 | CE | Press and release ADVANCE push-button. | | |
| 7.139 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 14 of Table 1. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 14)

| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 7.140 | PD | Observe that the status of the DATA lamps is as shown for test 14 of Table 1. | | |
| 7.141 | CE | Press and release ADVANCE push-button twice. | | |
| 7.142 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 15 of Table 1. | | |
| 7.143 | PD | Observe that the status of the DATA lamps is as shown for test 15 of Table 1. | | |
| 7.144 | CE | Press and release ADVANCE push-button. | | |
| 7.145 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 16 of Table 1. | | |
| 7.146 | PD | Observe that the status of the DATA lamps is as shown for test 16 of Table 1. | | |
| 7.147 | CE | Press and release ADVANCE push-button twice. | | |
| 7.148 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 17 of Table 1. | | |
| 7.149 | PD | Observe that the status of the DATA lamps is as shown for test 17 of Table 1. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 15)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.150 | CE | Press and release ADVANCE push-button. | | |
| 7.151 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 18 of Table 1. | | |
| 7.152 | PD | Observe that the status of the DATA lamps is as shown for test 18 of Table 1. | | |
| 7.153 | CE | Press and release ADVANCE push-button twice. | | |
| 7.154 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 19 of Table 1. | | |
| 7.155 | PD | Observe that the status of the DATA lamps is as shown for test 19 of Table 1. | | |
| 7.156 | CE | Press and release ADVANCE push-button. | | |
| 7.157 | CE | Observe that the status of the ACCUMULATOR and MEMORY BUFFER REGISTER lamps is as shown for test 20 of Table 1. | | |
| 7.158 | PD | Observe that the status of the DATA lamps is as shown for test 20 of Table 1. | | |
| EXP | NA | Steps 7.159 through 7.207 substantiate that the PHASE and BIT GATE lamps on CE panel display correct information and that the single bit advance feature is functioning properly. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 16)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 7.159 | CE | Observe TIMING DISPLAY ENABLE lamp (press and release if not lit). | Lit | |
| 7.160 | CE | Press and release ADVANCE push-button. | | |
| 7.161 | CE | Observe PHASE-A and BG10 lamps. | Lit | |
| 7.162 | CE | Observe PHASE-B and C, BG1 through BG9, and BG11 through BG14 lamps. | Not lit | |
| 7.163 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.164 | CE | Observe PHASE-B and BG2 lamps. | Lit | |
| 7.165 | CE | Observe PHASE-A and B, BG1, and BG2 through BG14 lamps. | Not lit | |
| 7.166 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.167 | CE | Observe PHASE-C and BG1 lamps. | Lit | |
| 7.168 | CE | Observe PHASE-A and B and BG2 through BG14 lamps. | Not lit | |
| 7.169 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE BIT. | | |
| 7.170 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.171 | CE | Observe BG2 lamp. | Lit | |
| 7.172 | CE | Observe BG1 and BG3 through BG14 lamps. | Not lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 17)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.173 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.174 | CE | Observe BG3 lamp. | Lit | |
| 7.175 | CE | Observe BG1, BG2, and BG4 through BG14 lamps. | Not lit | |
| 7.176 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.177 | CE | Observe BG4 lamp. | Lit | |
| 7.178 | CE | Observe BG1, BG2, BG3, and BG5 through BG14 lamps. | Not lit | |
| 7.179 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.180 | CE | Observe BG5 lamp. | Lit | |
| 7.181 | CE | Observe BG1 through BG4 and BG6 through BG14 lamps. | Not lit | |
| 7.182 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.183 | CE | Observe BG6 lamp. | Lit | |
| 7.184 | CE | Observe BG1 through BG5 and BG7 through BG14 lamps. | Not lit | |
| 7.185 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.186 | CE | Observe BG7 lamp. | Lit | |
| 7.187 | CE | Press and release ADVANCE push-button/lamp. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 18)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 7.188 | CE | Observe BG8 lamp. | Lit | |
| 7.189 | CE | Observe BG1 through BG7 and BG9 through BG14 lamps. | Not lit | |
| 7.190 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.191 | CE | Observe BG9 lamp. | Lit | |
| 7.192 | CE | Observe BG1 through BG8 and BG10 through BG14 lamps. | Not lit | |
| 7.193 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.194 | CE | Observe BG10 lamp. | Lit | |
| 7.195 | CE | Observe BG1 through BG9 and BG11 through BG14 lamps. | Not lit | |
| 7.196 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.197 | CE | Observe BG11 lamp. | Lit | |
| 7.198 | CE | Observe BG1 through BG10, BG12, BG13, and BG14 lamps. | Not lit | |
| 7.199 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.200 | CE | Observe BG12 lamp. | Lit | |
| 7.201 | CE | Observe BG1 through BG11, BG13, and BG14 lamps. | Not lit | |
| 7.202 | CE | Press and release ADVANCE push-button/lamp. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 19)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 7.203 | CE | Observe BG13 lamp. | Lit | |
| 7.204 | CE | Observe BG1 through BG12 and BG14 lamps. | Not lit | |
| 7.205 | CE | Press and release ADVANCE pushbutton/lamp. | | |
| 7.206 | CE | Observe PHASE-C and BG14 lamps. | Lit | |
| 7.207 | CE | Observe PHASE-A and B and BG1 through BG13 lamps. | Not lit | |
| EXP | NA | Steps 7.208 through 7.246 demonstrate that the OP CODE lamps on PD panel display correct information. | | |
| 7.208 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to NORM. | | |
| 7.209 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 7.210 | MLDD | Press and release MODULE-0/1, IS4, IS2, A8, A6, A4, and A2 pushbutton/lamps (INSTRUCTION ADDRESS area). | | |
| 7.211 | PD | Press and release ADVANCE pushbutton/lamp. | | |
| 7.212 | MLDD | Observe COMMAND and COMPUTER -MODULE-1, SYL-0, IS4, IS2, A8, A6, A4, and A2 lamps. (INSTRUCTION ADDRESS area.) | Lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 20)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.213 | MLDD | Observe COMMAND and COMPUTER-MODULE-0, SYL-1, IS2, IS1, A7, A5, A3, and A1 lamps. (INSTRUCTION ADDRESS area.) | Not lit | |
| 7.214 | MLDD | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE INST. | | |
| 7.215 | PD | Press and release ADVANCE pushbutton. | | |
| 7.216 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE PHASE. | | |
| 7.217 | CE | Press and release ADVANCE pushbutton three times. | | |
| 7.218 | PD | Observe OP1 through OP4 lamps. | Lit | |
| 7.219 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to NORM. | | |
| 7.220 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbuttons. | | |
| 7.221 | MLDD | Press and release MODULE-0/1, SYL-0/1, IS4, IS3, IS2, IS1, A8 A4, and A3 pushbutton/lamps. (INSTRUCTION ADDRESS area.) | | |
| 7.222 | CE | Press and release ADVANCE pushbutton. | | |
| 7.223 | MLDD | Observe COMMAND and COMPUTER-MODULE-1, SYL-1, IS4, IS3, IS2, IS1, A8, A4, and A3 lamps. (INSTRUCTION ADDRESS area.) | Lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 21)

| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 7.224 | MLDD | Observe COMMAND and COMPUTER-MODULE-0, SYL-0, A7, A6, A5, A2, and A1 lamps. (INSTRUCTION ADDRESS area.) | Not lit | |
| 7.225 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE INST. | | |
| 7.226 | PD | Press and release ADVANCE pushbuttons. | | |
| 7.227 | PD | Observe OP1 and OP3 lamps. | Lit | |
| 7.228 | PD | Observe OP2 and OP4 lamps. | Not lit | |
| 7.229 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to NORM. | | |
| 7.230 | PD | Set PROG REG A- SIGN toggle switch to on (up). | | |
| 7.231 | MLDD | Press and release COMMAND DISPLAY RESET and COMPTR DISPLAY RESET pushbutton. | | |
| 7.232 | MLDD | Press and release A6, A3, A2, and A1 pushbutton/lamps. | | |
| 7.233 | PD | Press and release ADVANCE pushbuttons. | | |
| 7.234 | MLDD | Observe COMMAND and COMPUTER-MODULE-0, SYL-0, A6, A3, A2, and A1 lamps. (INSTRUCTION ADDRESS area.) | Lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 22)

| INTERNATIONAL BUSINESS MACHINES— | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 7.235 | MLDD | Observe COMMAND and COMPUTER-MODULE-1, SYL-1, A6, A3, A2, and A1 lamps. | Not lit | |
| 7.236 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE INST. | | |
| 7.237 | CE | Press and release ADVANCE pushbutton. | | |
| 7.238 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE PHASE. | | |
| 7.239 | PD | Observe OP1 through OP3 lamps. | Lit | |
| 7.240 | PD | Observe OP4 lamp. | Not lit | |
| 7.241 | PD | Press and release ADVANCE pushbutton three times. | | |
| 7.242 | PD | Observe OP1, OP2, and OP4 lamps. | Lit | |
| 7.243 | PD | Observe OP3 lamp. | Not lit | |
| 7.244 | PD | Press and release ADVANCE pushbutton/lamp three times. | | |
| 7.245 | PD | Observe OP2 and OP3 lamps. | Lit | |
| 7.246 | PD | Observe OP1 and OP4 lamps. | Not lit | |
| EXP | NA | Steps 7.247 through 7.323 substantiate that the manual machine reset and halt reset features are functioning properly. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 23)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.247 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to NORM. | | |
| 7.247.1 | TRMC | Press and release ML/DD push-button/lamp. | | |
| 7.248 | TRMC | Observe ML lamp. | Lit | |
| 7.249 | TRMC | Observe DD lamp. | Not lit | |
| 7.250 | MLDD | Set MODE control switch to DIS-PLAY-REPEAT. | | |
| 7.251 | MLDD | Press and release COMMAND DIS-PLAY RESET and COMPTR DIS-PLAY RESET pushbutton/lamp. | | |
| 7.252 | MLDD | Press and release OP4, OP2, OP1, OA4, OA3, OA2, and OA1 push-button/lamps. | | |
| 7.253 | PD | Press and release RESET-MA-CHINE pushbutton/lamp. | | |
| 7.254 | MLDD | Press and release REPEAT/$\overline{\text{REPEAT}}$ pushbutton/lamp. | | |
| 7.255 | MLDD | Observe REPEAT lamp. | Lit | |
| 7.256 | MLDD | Observe $\overline{\text{REPEAT}}$ lamp. | Not lit | |
| 7.257 | MLDD | Observe COMMAND and COM-PUTER-MODULE-0 OP4, OP3, OP2, OP1, OA4, OA3, OA2, and OA1 lamps (DATA ADDRESS area). | Lit | |
| 7.258 | MLDD | Observe COMMAND and COMPU-TER-DS1 through DS4, MODULE-1, and OA5 through OA9 lamps. (DATA ADDRESS area.) | Not lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 24)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.259 | PD | Set PROG REG A-SIGN toggle switch to off. | | |
| 7.260 | MLDD | Press and release REPEAT/$\overline{\text{REPEAT}}$ pushbutton/lamp. | | |
| 7.261 | MLDD | Observe REPEAT lamp. | Lit | |
| 7.262 | MLDD | Observe $\overline{\text{REPEAT}}$ lamp. | Not lit | |
| 7.263 | TRMC | Press and release ML/DD pushbutton/lamp. | | |
| 7.264 | TRMC | Observe ML lamp. | Not lit | |
| 7.265 | TRMC | Observe DD lamp. | Lit | |
| 7.266 | MLDD | Verify that DISPLAY SELECT switch is set to AI3-DATA. | | |
| 7.267 | MLDD | Press and release ADDRESS COMPARE-DATA/INS pushbutton/lamp. | | |
| 7.268 | MLDD | Observe ADDRESS COMPARE-DATA lamp. | Lit | |
| 7.269 | MLDD | Observe ADDRESS COMPARE-INS lamp. | Not lit | |
| 7.270 | MLDD | Press and release OA4, OA3, and OA2 pushbutton/lamps. | | |
| 7.271 | PD | Set PROG REG A-SIGN toggle switch to on. | | |
| 7.272 | MLDD | Observe COMMAND and COMPUTER-MODULE-0, OA4, OA3, and OA2 lamps (DATA ADDRESS area). | Lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 25)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.273 | MLDD | Observe COMMAND and COMPUTER-DS4, DS3, DS2, DS1, MODULE-1, OA6 through OA9, and OA1 lamps. (DATA ADDRESS area.) | Not lit | |
| 7.274 | MLDD | Observe COMPUTER-25 lamp. | Lit | |
| 7.275 | MLDD | Observe COMPUTER-SIGN and 2 through 24 lamps. | Not lit | |
| 7.276 | PD | Observe that P40 lamp is flashing. | | |
| 7.277 | PD | Press and release RESET-MACHINE pushbutton/lamp. | | |
| 7.278 | MLDD | Observe COMPUTER-24 lamp. | Lit | |
| 7.279 | MLDD | Observe COMPUTER-SIGN, 1 through 23, and 25 lamps. | Not lit | |
| 7.280 | PD | Observe P40 lamp. | Flashing | |
| 7.281 | PD | Press and release RESET-MACHINE pushbutton/lamp. | | |
| 7.282 | MLDD | Observe COMPUTER-24 and 25 lamps. | Lit | |
| 7.283 | MLDD | Observe COMPUTER-SIGN and 1 through 23 lamps. | Not lit | |
| 7.284 | PD | Observe P40 lamp. | Flashing | |
| 7.285 | PD | Press and hold RESET-HALT pushbutton/lamp. | | |
| 7.286 | PD | Observe P40 lamp. | Not flashing | |

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Figure 7-9. Central Processor Manual Checks (Sheet 26)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.287 | MLDD | Observe COMPUTER-24 and 25 lamps. | Lit | |
| 7.288 | MLDD | Observe COMPUTER-SIGN and 1 through 23 lamps. | Not lit | |
| 7.289 | PD | Release RESET-HALT pushbutton/lamp. | | |
| 7.290 | MLDD | Observe COMPUTER-23 lamp. | Lit | |
| 7.291 | MLDD | Observe COMPUTER-SIGN, 1 through 22, 24, and 25 lamps. | Not lit | |
| 7.292 | PD | Observe P40 lamp. | Flashing | |
| 7.293 | MLDD | Press and release ADDRESS COMPARE-DATA/INS pushbutton/lamp. | | |
| 7.294 | MLDD | Observe ADDRESS COMPARE-DATA lamp. | Not lit | |
| 7.295 | MLDD | Observe ADDRESS COMPARE-INS lamp. | Lit | |
| 7.296 | MLDD | Press and release A6, A3, A2, and A1 pushbutton/lamps. | | |
| 7.297 | MLDD | Observe COMMAND and COMPUTER-MODULE-0, SYL-0, A6, A3, A2, and A1 lamps (INSTRUCTION ADDRESS area). | | |
| 7.298 | MLDD | Observe COMMAND and COMPUTER-MODULE-1, SYL-1, A8, A7, A5, A4, and A1 lamps (INSTRUCTION ADDRESS area). | | |
| 7.299 | MLDD | Set MODE CONTROL switch to PROG CYCLE-ADR HOLD. | | |

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INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 7.300 | PD | Observe P40 lamp. | Not flashing | |
| 7.301 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE INST. | | |
| 7.302 | PD | Press and release MEM ADD REG pushbutton/lamp. | | |
| 7.303 | PD | Observe MEM ADD REG lamp. | Lit | |
| 7.304 | PD | Press and release HOPSAVE REG pushbutton/lamp. | | |
| 7.305 | PD | Observe HOPSAVE REG lamp. | Not lit | |
| 7.306 | PD | Press and release ADVANCE pushbutton twice. | | |
| 7.307 | PD | Observe A6, A4, and A1 lamps. | Lit | |
| 7.308 | PD | Observe A9, A8, A7, A5, A3, and A2 lamps. | Not lit | |
| 7.309 | MLDD | Set MODE CONTROL switch to DISPLAY-REPEAT. | | |
| 7.310 | MLDD | Press and release ADDRESS COMPARE-DATA/INS pushbutton/lamp. | | |
| 7.311 | MLDD | Observe ADDRESS COMPARE-DATA lamp. | Lit | |
| 7.312 | MLDD | Observe ADDRESS COMPARE-INS lamp. | Not lit | |
| 7.313 | MLDD | Press and release OA4, OA3, and OA2 pushbutton/lamps. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 28)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.314 | PD | Press and release RESET-HALT pushbutton/lamp. | | |
| 7.315 | PD | Observe A6, A4, and A1 lamps. | Lit | |
| 7.316 | PD | Observe A9, A8, A7, A5, A3, and A2 lamps. | Not lit | |
| 7.317 | PD | Press and release RESET-MACHINE pushbutton/lamp. | | |
| 7.318 | PD | Observe A6, A4, and A1 lamps. | Not lit | |
| 7.319 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to NORM. | | |
| 7.320 | CE | Press and release ADVANCE push-button/lamp. | | |
| 7.321 | MLDD | Observe COMPUTER-23, and 25 lamps. | Lit | |
| 7.322 | MLDD | Observe COMPUTER-SIGN and 1 through 22, and 24 lamps. | Not lit | |
| 7.323 | PD | Observe P40 lamp. | Flashing | |
| EXP | NA | Steps 7.324 through 7.455 substantiate that data can be correctly entered in the central processor with the PROG REG A and B toggle switches and that P1 through P40 lamps display correct information. | | |
| 7.324 | PD | Set PROG REG A-2, 7, and 12 toggle switches to on (up). | | |
| 7.325 | PD | Verify that all other PROG REG-A and B toggle switches are off (down). | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 29)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.326 | PD | Press and release RESET-MACHINE pushbutton/lamp. | | |
| 7.327 | MLDD | Press and release COMMAND DISPLAY RESET pushbutton/lamp. | | |
| 7.328 | MLDD | Press and release ADDRESS COMPARE-DATA/INS lamp. | | |
| 7.329 | MLDD | Observe ADDRESS COMPARE-DATA lamp. | Not lit | |
| 7.330 | MLDD | Observe ADDRESS COMPARE-INS lamp. | Lit | |
| 7.331 | MLDD | Press and release A6, A5, A4, and A3 pushbutton/lamps. | | |
| 7.332 | MLDD | Observe COMMAND and COMPUTER-A6, A5, A4, and A3 lamps. | Lit | |
| 7.333 | MLDD | Observe COMMAND and COMPUTER-A8, A7, A2, and A1 lamps. | Not lit | |
| 7.334 | PD | Set PROG REG B-25, toggle switch to on (up). | | |
| 7.335 | MLDD | Observe COMPUTER-25 lamp. | Lit | |
| 7.336 | PD | Observe P1 lamp. | Lit | |
| 7.337 | PD | Observe P2, P4, P10, P20 and P40 lamps. | Not lit | |
| 7.338 | PD | Set PROG REG B-25 toggle switch to off and PROG REG B-24 toggle switch to on. | | |
| 7.339 | MLDD | Observe COMPUTER-24 lamp. | Lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 30)

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.340 | PD | Observe P2 lamp. | Lit | |
| 7.341 | PD | Observe P1, P4, P10, P20, and P40 lamps. | Not lit | |
| 7.342 | PD | Set PROG REG B-24 toggle switch to off and PROG REG B-23 toggle switch to on. | | |
| 7.343 | MLDD | Observe COMPUTER-23 lamp. | Lit | |
| 7.344 | PD | Observe P4 lamp. | Lit | |
| 7.345 | PD | Observe P1, P2, P10, P20, and P40 lamps. | Not lit | |
| 7.346 | PD | Set PROG REG B-23 toggle switch to off and PROG REG B-22 toggle switch to on. | | |
| 7.347 | MLDD | Observe COMPUTER-22 lamp. | Lit | |
| 7.348 | PD | Observe P10 lamp. | Lit | |
| 7.349 | PD | Observe P1, P2, P4, P20, and P40 lamps. | Not lit | |
| 7.350 | PD | Set PROG REG B-22 toggle switch to off and PROG REG B-21 toggle switch to on. | | |
| 7.351 | MLDD | Observe COMPUTER-21 lamp. | Lit | |
| 7.352 | PD | Observe P20 lamp. | Lit | |
| 7.353 | PD | Observe P1, P2, P4, P10, and P40 lamps. | Not lit | |
| 7.354 | PD | Set PROG REG B-21 toggle switch to off and PROG REG B-20 toggle switch to on. | | |



Figure 7-9. Central Processor Manual Checks (Sheet 31)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 7.355 | MLDD | Observe COMPUTER-20 lamp. | Lit | |
| 7.356 | PD | Observe P40 lamp. | Lit | |
| 7.357 | PD | Observe P1, P2, P4, P10, and P20 lamps. | Not lit | |
| 7.358 | PD | Set PROG REG B-20 toggle switch to off and PRO REG B-19 toggle switch to on. | | |
| 7.359 | MLDD | Observe COMPUTER-19 lamp. | Lit | |
| 7.360 | PD | Observe P1 through P40 lamps. | Not lit | |
| 7.361 | PD | Set PROG REG B-19 toggle switch to off and PROG REG B-18 toggle switch to on. | | |
| 7.362 | MLDD | Observe COMPUTER-18 lamp. | Lit | |
| 7.363 | PD | Set PROG REG B-18 toggle switch to off and PROG REG B-17 toggle switch to on. | | |
| 7.364 | MLDD | Observe COMPUTER-17 lamp. | Lit | |
| 7.365 | PD | Set PROG REG B-17 toggle switch to off and PROG REG B-16 toggle switch to on. | | |
| 7.366 | MLDD | Observe COMPUTER-16 lamp. | Lit | |
| 7.367 | PD | Set PROG REG B-16 toggle switch to off and PROG REG B-15 toggle switch to on. | | |
| 7.368 | MLDD | Observe COMPUTER-15 lamp. | Lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 32)

INTERNATIONAL BUSINESS MACHINES—

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.369 | PD | Set PROG REG B-15 toggle switch to off and PROG REG B-14 toggle switch to on. | | |
| 7.370 | MLDD | Observe COMPUTER-14 lamp. | Lit | |
| 7.371 | PD | Set PROG REG B-14 toggle switch to off and PROG REG B-13 toggle switch to on. | | |
| 7.372 | MLDD | Observe COMPUTER-13 lamp. | Lit | |
| 7.373 | PD | Set PROG REG B-13 toggle switch to off and PROG REG B-12 toggle switch to on. | | |
| 7.374 | MLDD | Observe COMPUTER-12 lamp. | Lit | |
| 7.375 | PD | Set PROG REG B-12 toggle switch to off and PROG REG B-11 toggle switch to on. | | |
| 7.376 | MLDD | Observe COMPUTER-11 lamp. | Lit | |
| 7.377 | PD | Set PROG REG B-11 toggle switch to off and PROG REG B-10 toggle switch to on. | | |
| 7.378 | MLDD | Observe COMPUTER-10 lamp. | Lit | |
| 7.379 | PD | Set PROG REG B-10 toggle switch to off and PROG REG B-9 toggle switch to on. | | |
| 7.380 | MLDD | Observe COMPUTER-9 lamp. | Lit | |
| 7.381 | PD | Set PROG REG B-9 toggle switch to off and PROG REG B-8 toggle switch to on. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 33)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 7.382 | MLDD | Observe COMPUTER-8 lamp. | Lit | |
| 7.383 | PD | Set PROG REG B-8 toggle switch to off and PROG REG B-7 toggle switch to on. | | |
| 7.384 | MLDD | Observe COMPUTER-7 lamp. | Lit | |
| 7.385 | PD | Set PROG REG B-7 toggle switch to off and PROG REG B-6 toggle switch to on. | | |
| 7.386 | MLDD | Observe COMPUTER-6 lamp. | Lit | |
| 7.387 | PD | Set PROG REG B-6 toggle switch to off and PROG REG-5 toggle switch to on. | | |
| 7.388 | MLDD | Observe COMPUTER-5 lamp. | Lit | |
| 7.389 | PD | Set PROG REG B-5 toggle switch to off and PROG REG B-4 toggle switch to on. | | |
| 7.390 | MLDD | Observe COMPUTER-4 lamp. | Lit | |
| 7.391 | PD | Set PROG REG B-4 toggle switch to off and PROG REG B-3 toggle switch to on. | | |
| 7.392 | MLDD | Observe COMPUTER-3 lamp. | Lit | |
| 7.393 | PD | Set PROG REG B-3 toggle switch to off and PROG REG B-2 toggle switch to on. | | |
| 7.394 | MLDD | Observe COMPUTER-2 lamp. | Lit | |
| 7.395 | PD | Set PROG REG B-2 toggle switch to off and PROG REG B-1 toggle switch to on. | | |

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INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.396 | MLDD | Observe COMPUTER-1 lamp. | Lit | |
| 7.397 | PD | Set PROG REG B-1 toggle switch to off and PROG REG B-SIGN toggle switch to on. | | |
| 7.398 | MLDD | Observe COMPUTER-SIGN lamp. | Lit | |
| 7.399 | PD | Set PROG REG B-SIGN toggle switch to off. | | |
| 7.400 | MLDD | Observe COMPUTER-SIGN lamp. | Not lit | |
| 7.401 | MLDD | Press and release COMMAND DISPLAY RESET pushbutton/lamp. | | |
| 7.402 | PD | Set PROG REG A-2, 7, and 12 toggle switches to off. | | |
| 7.403 | PD | Set PROG REG A-25 toggle switch to on. | | |
| 7.404 | MLDD | Observe COMPUTER-25 lamp. | Lit | |
| 7.405 | PD | Set PROG REG A-25 toggle switch to off and PROG REG A-24 toggle switch to on. | | |
| 7.406 | MLDD | Observe COMPUTER-24 lamp. | Lit | |
| 7.407 | PD | Set PROG REG A-24 toggle switch to off and PROG REG A-23 toggle switch to on. | | |
| 7.408 | MLDD | Observe COMPUTER-23 lamp. | Lit | |
| 7.409 | PD | Set PROG REG A-23 toggle switch to off and PROG REG A-22 toggle switch to on. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 35)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.410 | MLDD | Observe COMPUTER-22 lamp. | Lit | |
| 7.411 | PD | Set PROG REG A-22 toggle switch to off and PROG REG A-21 toggle switch to on. | | |
| 7.412 | MLDD | Observe COMPUTER-21 lamp. | Lit | |
| 7.413 | PD | Set PROG REG A-21 toggle switch to off and PROG REG A-20 toggle switch to on. | | |
| 7.414 | MLDD | Observe COMPUTER-20 lamp. | Lit | |
| 7.415 | PD | Set PROG REG A-20 toggle switch to off and PROG REG A-19 toggle switch to on. | | |
| 7.416 | MLDD | Observe COMPUTER-19 lamp. | Lit | |
| 7.417 | PD | Set PROG REG A-19 toggle switch to off and PROG REG A-18 toggle switch to on. | | |
| 7.418 | MLDD | Observe COMPUTER-18 lamp. | Lit | |
| 7.419 | PD | Set PROG REG A-18 toggle switch to off and PROG REG A-17 toggle switch to on. | | |
| 7.420 | MLDD | Observe COMPUTER-17 lamp. | Lit | |
| 7.421 | PD | Set PROG REG A-17 toggle switch to off and PROG REG A-16 toggle switch to on. | | |
| 7.422 | MLDD | Observe COMPUTER-16 lamp. | Lit | |
| 7.423 | PD | Set PROG REG A-16 toggle switch to off and PROG REG A-15 toggle switch to on. | | |

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INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 7.424 | MLDD | Observe COMPUTER-15 lamp. | Lit | |
| 7.425 | PD | Set PROG REG A-15 toggle switch to off and PROG REG A-14 toggle switch to on. | | |
| 7.426 | MLDD | Observe COMPUTER-14 lamp. | Lit | |
| 7.427 | PD | Set PROG REG A-14 toggle switch to off and PROG REG A-13 toggle switch to on. | | |
| 7.428 | MLDD | Observe COMPUTER-13 lamp. | Lit | |
| 7.429 | PD | Set PROG REG A-13 toggle switch to off and PROG REG A-12 toggle switch to on. | | |
| 7.430 | MLDD | Observe COMPUTER-12 lamp. | Lit | |
| 7.431 | PD | Set PROG REG A-12 toggle switch to off and PROG REG A-11 toggle switch to on. | | |
| 7.432 | MLDD | Observe COMPUTER-11 lamp. | Lit | |
| 7.433 | PD | Set PROG REG A-11 toggle switch to off and PROG REG A-10 toggle switch to on. | | |
| 7.434 | MLDD | Observe COMPUTER-10 lamp. | Lit | |
| 7.435 | PD | Set PROG REG A-10 toggle switch to off and PROG REG A-9 toggle switch to on. | | |
| 7.436 | MLDD | Observe COMPUTER-9 lamp. | Lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 37)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 7.437 | PD | Set PROG REG A-9 toggle switch to off and PROG REG A-8 toggle switch to on. | | |
| 7.438 | PD | Observe COMPUTER-AA lamp. | Lit | |
| 7.439 | PD | Set PROG REG A-8 toggle switch to off and PROG REG A-7 toggle switch to on. | | |
| 7.440 | MLDD | Observe COMPUTER-7 lamp. | Lit | |
| 7.441 | PD | Set PROG REG A-7 toggle switch to off and PROG REG A-6 toggle switch to on. | | |
| 7.442 | MLDD | Observe COMPUTER-6 lamp. | Lit | |
| 7.443 | PD | Set PROG REG A-6 toggle switch to off and PROG REG A-5 toggle switch to on. | | |
| 7.444 | MLDD | Observe COMPUTER-5 lamp. | Lit | |
| 7.445 | PD | Set PROG REG A-5 toggle switch to off and PROG REG A-4 toggle switch to on. | | |
| 7.446 | MLDD | Observe COMPUTER-4 lamp. | Lit | |
| 7.447 | PD | Set PROG REG A-4 toggle switch to off and then set PROG REG A-3 toggle switch to on. | | |
| 7.448 | MLDD | Observe COMPUTER-3 lamp. | Lit | |
| 7.449 | PD | Set PROG REG A-3 toggle switch to off and PROG REG A-2 toggle switch to on. | | |
| 7.450 | MLDD | Observe COMPUTER-2 lamp. | Lit | |

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Figure 7-9. Central Processor Manual Checks (Sheet 38)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.451 | PD | Set PROG REG A-2 toggle switch to off and PROG REG A-1 toggle switch to on. | | |
| 7.452 | MLDD | Observe COMPUTER-1 lamp. | Lit | ______ |
| 7.453 | PD | Set PROG REG A-1 toggle switch to off and PROG REG A-SIGN toggle switch to on. | | |
| 7.454 | MLDD | Observe COMPUTER-SIGN lamp. | Lit | ______ |
| 7.455 | PD | Observe P40 lamp. | Flashing | ______ |
| EXP | NA | Steps 7.456 through 7.480 substantiate that data can be manually loaded into the central processor memory with the MEMORY BUFFER REGISTER pushbuttons. | | |
| 7.456 | MLDD | Press and release A6 and A4, pushbutton/lamps. | | |
| 7.457 | MLDD | Set MODE CONTROL switch to PROG CYCLE-ADR HOLD. | | |
| 7.458 | MLDD | Observe COMMAND and COMPUTER-A6, A4, and A1 lamps. | Lit | ______ |
| 7.459 | MLDD | Observe COMMAND and COMPUTER-A8, A7, A5, A3, and A2 lamps. | Not lit | ______ |
| 7.460 | PD | Observe PARITY ERROR lamp (if lit press and release ERROR RESET pushbutton/lamp). | Not lit | ______ |
| 7.461 | PD | Observe ERROR HOLD lamp (press and release if lit). | Not lit | ______ |

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Figure 7-9. Central Processor Manual Checks (Sheet 39)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.462 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE INST. | | |
| 7.463 | CE | Press and release ADVANCE pushbutton. | | |
| 7.464 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE PHASE. | | |
| 7.465 | CE | Press and release ADVANCE pushbutton. | | |
| 7.466 | CE | Observe MBR 1 through MBR 13 and ODD PARITY lamps (press and release if lit). | Not lit | ______ |
| 7.467 | CE | Press and release BIT 4/MBR 4 and BIT 14/ODD PARITY pushbutton/lamps. | | |
| 7.468 | CE | Observe MBR 2 and ODD PARITY lamps. | Lit | ______ |
| 7.469 | CE | Press and release LOAD pushbutton. | | |
| 7.470 | CE | Observe BIT 4 and BIT 14 lamps. | Lit | ______ |
| 7.471 | CE | Press and release ADVANCE pushbutton twice. | | |
| 7.472 | CE | Press and release BIT 2/MBR 2, BIT 10/MBR 10, BIT 11/MBR 11, BIT 12/MBR 12 and BIT 14/MBR 14 pushbutton lamps. | | |
| 7.473 | CE | Observe MBR 2, MBR 4, MBR 10, MBR 11, and MBR 12 lamps. | Lit | ______ |

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| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 7.474 | CE | Press and release LOAD pushbutton/ lamp. | | |
| 7.475 | CE | Observe BIT 2, BIT 4, BIT 10, BIT 11, BIT 12, and BIT 14 lamps. | Lit | ______ |
| 7.476 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to NORM. | | |
| 7.477 | MLDD | Set MODE CONTROL switch to DISPLAY-REPEAT. | | |
| 7.478 | CE | Press and release ADVANCE push-button. | | |
| 7.479 | PD | Observe P20 lamp. | Flashing | ______ |
| 7.480 | PD | Observe P40 lamp. | Not flashing | ______ |
| EXP | NA | Steps 7.481 through 7.539 demonstrate that the error hold feature and remote advance feature are functioning properly. | | |
| 7.481 | PD | Press and release PARITY ERROR/ ERROR HOLD pushbutton/lamp. | | |
| 7.482 | PD | Observe ERROR HOLD lamp. | Lit | ______ |
| 7.483 | PD | Observe P20 lamp. | Not flashing | ______ |
| 7.484 | MLDD | Observe COMPUTER-MODULE-0, SYL-0, A6, A4, A2, and A1 lamps. | Lit | ______ |
| 7.485 | MLDD | Observe COMPUTER-MODULE-1, SYL-1, IS1 through IS4, A8, A7, A5 and A3 lamps. | Not lit | ______ |

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INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.486 | CE | Connect the remote advance switch to ADV REMOTE jacks. | | |
| 7.487 | CE | Actuate the remote advance switch. | | |
| 7.488 | MLDD | Observe COMPUTER-MODULE-0, SYL-0, A6, A4, and A3 lamps. | Lit | ______ |
| 7.489 | MLDD | Observe COMPUTER-MODULE-1, SYL-1, DS1 through DS4, A8, A7, A2, and A1 lamps. | Not lit | ______ |
| 7.490 | MLDD | Press and release A6, A4, and A1 pushbutton/lamps. | | |
| 7.491 | MLDD | Observe COMMAND-A6, A4, and A1 lamps. | Lit | ______ |
| 7.492 | MLDD | Set MODE CONTROL switch to PROG CYCLE-ADR HOLD. | | |
| 7.493 | PD | Press and release ERROR RESET pushbutton/lamp. | | |
| 7.494 | PD | Observe PARITY ERROR lamp. | Not lit | ______ |
| 7.495 | CE | Actuate the remote advance switch. | | |
| 7.496 | MLDD | Observe COMPUTER-MODULE-0, SYL-0, A6, A4 and A1 lamps. | Lit | ______ |
| 7.497 | MLDD | Observe COMPUTER-MODULE-1, SYL-1, A8, A7, A5, A3, and A2 lamps. | Not lit | ______ |
| 7.498 | PD | Observe PARITY ERROR lamp. | Not lit | ______ |
| 7.499 | MLDD | Press and release A2 and A1 push-button/lamps. | | |

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INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.500 | CE | Actuate the remote advance switch. | | |
| 7.501 | MLDD | Observe COMPUTER-MODULE-0, SYL-0, A6, A4, and A2 lamps. | Lit | ______ |
| 7.502 | MLDD | Observe COMPUTER-MODULE-1, SYL-1, A8, A7, A5, A3, and A1 lamps. | Not lit | ______ |
| 7.503 | PD | Observe PARITY ERROR lamp. | Lit | ______ |
| 7.504 | MLDD | Press and release A2 pushbutton/ lamp. | | |
| 7.505 | PD | Press and release ERROR RESET pushbutton/lamp. | | |
| 7.506 | PD | Observe PARITY ERROR lamp. | Not lit | ______ |
| 7.507 | CE | Actuate the remote advance switch. | | |
| 7.508 | MLDD | Observe COMPUTER-MODULE-0, SYL-0, A6, and A4 lamps. | Lit | ______ |
| 7.509 | MLDD | Observe COMPUTER-MODULE-1, SYL-1, A8, A7, A5, A3, A2, and A1 lamps. | Not lit | ______ |
| 7.510 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE INST. | | |
| 7.511 | CE | Actuate the remote advance switch. | | |
| 7.512 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to SINGLE PHASE. | | |
| 7.513 | CE | Actuate the remote advance switch. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 43)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 7.514 | PD | Observe PARITY ERROR lamp. | Lit | ______ |
| 7.515 | CE | Observe BIT 4 and BIT 14 lamps. | Lit | ______ |
| 7.516 | CE | Observe BIT 1, BIT 2, BIT 3, and BIT 5 through BIT 13 lamps. | Not lit | ______ |
| 7.517 | CE | Press and release BIT 2/MBR 2, BIT 10/MBR 10, BIT 11/MBR 11, and BIT 12/MBR 12 lamps. | | |
| 7.518 | CE | Observe MBR 4 lamp. | Lit | ______ |
| 7.519 | CE | Observe MBR 1, MBR 2, MBR 3, MBR 5 through MBR 13, and ODD PARITY lamps. | Not lit | ______ |
| 7.520 | CE | Press and release LOAD pushbutton/lamp. | | |
| 7.521 | CE | Observe BIT 4 lamp. | Lit | ______ |
| 7.522 | CE | Observe BIT 1, BIT 2, BIT 3, and BIT 4 through BIT 14 lamps. | Not lit | ______ |
| 7.523 | CE | Actuate the remote advance switch twice. | | |
| 7.524 | CE | Observe BIT 2, BIT 4, BIT 10, BIT 11 and BIT 12 lamps. | Lit | ______ |
| 7.525 | CE | Observe BIT 1, BIT 3, BIT 5 through BIT 9, BIT 13 and BIT 14 lamps. | Not lit | ______ |
| 7.526 | CE | Press and release BIT 2/MBR 2, BIT 10/MBR 10, BIT 11/MBR 11, BIT 12/MBR 12, and BIT 14/MBR 14 pushbutton/lamps. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 44)

| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 7.527 | CE | Observe MBR 2, MBR 4, MBR 10, MBR 11, MBR 12, and ODD PARITY lamps. | Lit | ______ |
| 7.528 | CE | Observe MBR 1, MBR 3, MBR 5 through MBR 9, and MBR 13 lamps. | Not lit | ______ |
| 7.529 | CE | Press and release LOAD pushbutton/lamp. | | |
| 7.530 | CE | Observe BIT 2, BIT 4, BIT 10, BIT 11, BIT 12, and BIT 14 lamps. | Lit | ______ |
| 7.531 | CE | Observe BIT 1, BIT 3, BIT 5 through BIT 9, and BIT 13 lamps. | Not lit | ______ |
| 7.532 | CE | Set NORM/SINGLE BIT/SINGLE PHASE/SINGLE INST switch to NORM. | | |
| 7.533 | MLDD | Set MODE CONTROL switch to DISPLAY-REPEAT. | | |
| 7.534 | PD | Press and release ERROR RESET pushbutton/lamp. | | |
| 7.535 | PD | Observe PARITY ERROR lamp. | Not lit | ______ |
| 7.536 | CE | Actuate the remote advance switch. | | |
| 7.537 | MLDD | Observe COMPUTER-MODULE-0, SYL-0, A6, A4, A2, and A1 lamps. | Lit | ______ |
| 7.538 | MLDD | Observe COMPUTER-MODULE-1, SYL-1, A8, A7, A5, and A3 lamps. | Not lit | ______ |
| 7.539 | PD | Observe PARITY ERROR lamp. | Lit | ______ |

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Figure 7-9. Central Processor Manual Checks (Sheet 45)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 7.539 through 7.549 substantiate that the PTC can be manually placed into a single step condition. | | |
| 7.540 | PD | Press and release PARITY ERROR/ ERROR HOLD pushbutton/lamp. | | |
| 7.541 | PD | Observe ERROR HOLD lamp. | Not lit | ______ |
| 7.542 | PD | Press and release RESET-MACHINE pushbutton/lamp. | | |
| 7.543 | PD | Observe P20 lamp. | Flashing | ______ |
| 7.544 | PD | Press and release CST/MAN CST pushbutton/lamp. | | |
| 7.545 | PD | Observe CST and MAN CST lamps. | Lit | ______ |
| 7.546 | PD | Observe P20 lamp. | Not flashing | ______ |
| 7.547 | PD | Press and release CST/MAN CST pushbutton/lamp. | | |
| 7.548 | PD | Observe CST and MAN CST lamps. | Not lit | ______ |
| 7.549 | PD | Observe P20 lamp. | Flashing | ______ |
| | NA | Steps 7.550 through 7.564 substantiate that the PTC can be placed into a CST condition under external control (ACNCST). | | |
| 7.550 | MLDD | Press and release ADDRESS COMPARE-DATA/INS lamp. | | |
| 7.551 | MLDD | Observe ADDRESS COMPARE-DATA lamp. | Lit | ______ |

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Figure 7-9. Central Processor Manual Checks (Sheet 46)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.552 | MLDD | Press and release COMMAND DISPLAY RESET pushbutton/lamp. | | |
| 7.553 | MLDD | Press and release OA4, OA3, and OA2 pushbutton/lamps. | | |
| 7.554 | PD | Set PROG REG A-SIGN toggle switch to off. | | |
| 7.555 | PD | Set PROG REG A-1 toggle switch to on. | | |
| 7.556 | MLDD | Observe COMMAND and COMPUTER-MODULE 0, OA4, OA3, and OA2 lamps. | Lit | ______ |
| 7.557 | MLDD | Observe COMMAND and COMPUTER-DS1 through DS4, MODULE 1, OA5 through OA9, and OA1 lamps. | Not lit | ______ |
| 7.558 | MLDD | Observe that binary count indicated on DATA area COMPUTER lamps is incrementing. | | ______ |
| 7.559 | TRMC | Observe SEL ADR lamp (press and release if lit). | Not lit | ______ |
| 7.560 | TRMC | Observe ADR 3 and ADR 4 lamps (press and release if not lit). | Lit | ______ |
| 7.561 | TRMC | Observe ADR 1, ADR 2, and ADR 5 lamps. | Not lit | ______ |
| 7.562 | PD | Observe CST lamp. | Lit | ______ |
| 7.563 | MLDD | Observe MODULE-0 and SYL-0 (INSTRUCTION ADDRESS area) and MODULE-0 (DATA ADDRESS area) COMPUTER lamps. | Lit | ______ |

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Figure 7-9. Central Processor Manual Checks (Sheet 47)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| 7.564 | MLDD | Observe all other COMPUTER lamps. | Not lit | ________ |
| EXP | NA | Steps 7.565 through 7.568 substantiate that the PTC recognizes and stores an interrupt while in a single step condition. | | |
| 7.565 | PD | Press and release I16 pushbutton lamp. | | |
| 7.566 | PD | Observe I16 andINT B lamps | Lit | ________ |
| 7.567 | MLDD | Observe COMPUTER-A7 and A1 lamps. | Lit | ________ |
| 7.568 | MLDD | Observe COMPUTER-A8 and A2 through A6 lamps. | Not lit | ________ |
| | NA | Steps 7.569 through 7.578 substantiate that the PTC can be advanced under external control (ACGACISS) while in a CST condition | | |
| 7.569 | TRMC | Press and release $2^{11}/2^{10}$/ADR4/$2^9$ pushbutton/lamp. | | |
| 7.570 | TRMC | Observe ADR4 lamp. | Not lit | ________ |
| 7.571 | TRMC | Press and release $2^{12}$/ADR5 pushbutton/lamp | | |
| 7.572 | TRMC | Observe ADR5 lamp. | Lit | ________ |
| 7.573 | MLDD | Observe COMPUTER-A7 and A2 lamps. | Lit | ________ |

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Figure 7-9. Central Processor Manual Checks (Sheet 48)

| INTERNATIONAL BUSINESS MACHINES— | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 7.574 | MLDD | Observe COMPUTER-A8, A6, A5, A4, A3, and A1 lamps. | Not lit | ______ |
| 7.575 | PD | Observe I16 lamp. | Not lit | ______ |
| 7.576 | TRMC | Press and release $2^{12}$/ADR5 pushbutton/lamp twice. | | |
| 7.577 | MLDD | Observe COMPUTER-A7, A2, and A1 lamps. | Lit | ______ |
| 7.578 | MLDD | Observe COMPUTER-A8, A6, A5, A4, and A3 lamps. | Not lit | ______ |
| EXP | NA | Steps 7.579 through 7.586 substantiate that the PTC can not be advanced under external control while the PROG CYCLE-ADR HOLD or SINGLE STEP modes are selected. | | |
| 7.579 | MLDD | Set MODE CONTROL switch to PROG CYCLE-ADR HOLD. | | |
| 7.580 | TRMC | Press and release $2^{12}$/ADR5 pushbutton/lamp twice. | | |
| 7.581 | MLDD | Observe COMPUTER-A7, A2, and A1 lamps. | Lit | ______ |
| 7.582 | MLDD | Observe COMPUTER-A8, A6, A5, A4, and A3 lamps. | Not lit | ______ |
| 7.583 | MLDD | Set MODE CONTROL switch to PROG CYCLE - SINGLE STEP. | | |
| 7.584 | TRMC | Press and release $2^{12}$/ADR5 pushbutton/lamp twice. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 49)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.585 | MLDD | Observe COMPUTER-A7, A2, and A1 lamps. | Lit | ______ |
| 7.586 | MLDD | Observe COMPUTER-A8, A6, A5 and A3 lamps. | Not lit | ______ |
| EXP | NA | Steps 7.587 through 7.593 substantiate the PTC can be placed into a single step condition by a CIO $114_8$ command. | | |
| 7.587 | MLDD | Set MODE CONTROL switch to DISPLAY-REPEAT. | | |
| 7.588 | TRMC | Press and release $2^{11}/2^{10}$/ADR4/$2^9$, $2^5/2^4$/ADR2/$2^3$ and $2^2/2^4$ ADR1/$2^0$ pushbutton/lamp. | | |
| 7.589 | TRMC | Observe ADR5, ADR4, ADR2, and ADR1 lamps. | Lit | ______ |
| 7.590 | TRMC | Press and release $2^8/2^9$/ADR3/$2^6$ pushbutton lamp. | | |
| 7.591 | TRMC | Observe ADR3 lamp. | Not lit | ______ |
| 7.592 | MLDD | Observe COMPUTER-A7 and A4 lamps. | Lit | ______ |
| 7.593 | MLDD | Observe COMPUTER-A8, A6, A5, A3, A2, and A1 lamps. | Not lit | ______ |
| | | Steps 7.594 through 7.656 substantiate that the circuit which generates the PTC CST signal is functioning properly. | | |

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Figure 7-9. Central Processor Manual Checks (Sheet 50)

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.594 | PD | Observe I15 lamp. | Lit | ______ |
| 7.595 | TRMC | Press and release $2^5/2^4$/ADR2/$2^3$ and $2^2/2^1$/ADR1/$2^0$ pubhbutton lamps. | | |
| 7.596 | TRMC | Press and release $2^{12}$/ADR5 pushbutton/lamp. | | |
| 7.597 | TRMC | Observe ADR5, ADR2, and ADR1 lamps. | Not lit | ______ |
| 7.598 | TRMC | Press and release $2^{11}/2^{10}$/ADR4/ $2^9$ pushbutton/lamp. | | |
| 7.599 | TRMC | Observe ADR4 lamp. | Not lit | ______ |
| 7.600 | TRMC | Press and release $2^{12}$/ADR5 pushbutton/lamp. | | |
| 7.601 | TRMC | Observe ADR5 lamp. | Lit | ______ |
| 7.602 | MLDD | Observe COMPUTER-A7, A4, and A1 lamps. | Lit | ______ |
| 7.603 | MLDD | Observe COMPUTER-A8, A6, A5, A3, and A1 lamps. | Not lit. | ______ |
| 7.604 | PD | Observe I15 lamp. | Not lit | ______ |
| 7.605 | PD | Press and release CST/MAN CST pushbutton/lamp | | |
| 7.606 | PD | Observe CST and MAN CST lamps. | Lit | ______ |
| 7.607 | TRMC | Press $2^{12}$/ADR5 pushbutton/lamp twice. | | |



Figure 7-9. Central Processor Manual Checks (Sheet 51)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.608 | MLDD | Observe COMPUTER-A7, A4, and A2 lamps. | Lit | ______ |
| 7.609 | MLDD | Observe COMPUTER-A8, A6, A5, A3, and A1 lamps. | Not lit | ______ |
| 7.610 | PD | Observe I15 lamp. | Lit | ______ |
| 7.611 | PD | Press and release CST/MAN CST lamp. | | |
| 7.612 | MLDD | Observe COMPUTER-A7, A4, A2, and A1 lamps. | Lit | ______ |
| 7.613 | MLDD | Observe COMPUTER-A8, A6, A5, A3, and A1 lamps. | Not lit | ______ |
| 7.614 | PD | Observe I15 lamp. | Not lit | ______ |
| 7.615 | MLDD | Set MODE CONTROL switch to PROG CYCLE-SINGLE STEP | | |
| 7.616 | MLDD | Press and release ADDRESS COMPARE - DATA/INS pushbutton/lamp. | | |
| 7.617 | MLDD | Observe ADDRESS COMPARE-INS lamp. | Lit | ______ |
| 7.618 | MLDD | Press and release A7, A4 and A3 pushbutton/lamps. | | |
| 7.619 | PD | Press and release ADVANCE pushbutton. | | |
| 7.620 | MLDD | Observe COMMAND and COMPUTER A7, A4, and A3 lamps. | Lit | ______ |

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Figure 7-9. Central Processor Manual Checks (Sheet 52)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.621 | MLDD | Observe COMMAND and COMPUTER A8, A6, A5, A2, and A1 lamps. | Not lit | ______ |
| 7.622 | PD | Observe I15 lamp. | Lit | ______ |
| 7.623 | PD | Observe INT B lamp. | Lit | ______ |
| 7.624 | MLDD | Set MODE CONTROL switch to DISPLAY-REPEAT. | | |
| 7.625 | PD | Press and release $2^{12}$/ADR5 pushbutton/lamp twice. | | |
| 7.626 | MLDD | Observe COMPUTER-A7, A4, A3, and A1 lamps. | Lit | ______ |
| 7.627 | MLDD | Observe COMPUTER-A8, A6, A5, and A2 lamps. | Not lit | ______ |
| 7.628 | MLDD | Observe I15 lamp. | Lit | ______ |
| 7.629 | TRMC | Press and release $2^{11}/2^{10}$/ADR4/$2^9$ $2^5/2^4$/ADR2/$2^3$ and $2^2/{}^12^1$/ADR1/$2^0$ pushbutton/lamps. | | |
| 7.630 | TRMC | Observe ADR4, ADR2, and ADR1 lamps. | Lit | ______ |
| 7.631 | TRMC | Press and release $2^8/2^7$/ADR3/$2^6$ pushbutton lamp. | | |
| 7.632 | TRMC | Observe ADR3 lamp. | Not lit | ______ |
| 7.633 | PD | Observe CST lamp. | Not lit | ______ |
| 7.634 | PD | Observe PARITY ERROR lamp (if lit press and release ERROR RESET) | Not lit | ______ |

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Figure 7-9. Central Processor Manual Checks (Sheet 53)

INTERNATIONAL BUSINESS MACHINES–

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.635 | PD | Press and release PARITY ERROR/ ERROR HOLD pushbutton lamp. | | |
| 7.636 | PD | Observe ERROR HOLD lamp. | Lit | ______ |
| 7.637 | PD | Set PROG REG A-SIGN toggle switch to on. | Lit | ______ |
| 7.638 | MLDD | Observe COMPUTER A6, A4, and A2 lamps. | Lit | ______ |
| 7.639 | MLDD | Observe COMPUTER A8, A7, A5, A3, and A1 lamps. | Lit | ______ |
| 7.640 | PD | Observe PARITY ERROR, CST, and I15 lamps. | Not lit | ______ |
| 7.641 | TRMC | Press and release $2^{11}/2^{10}$/ADR4/$2^{9}$ pushbutton/lamp. | | |
| 7.642 | TRMC | Observe ADR4 lamp. | Not lit | ______ |
| 7.643 | TRMC | Press and release $2^{12}$/ADR5, $2^{5}/2^{4}$/ ADR2/$2^{3}$, and $2^{2}/2^{1}$/ADR1/$2^{0}$ lamp. | | |
| 7.644 | TRMC | Observe ADR5, ADR2, and ADR1 lamps. | Not lit | ______ |
| 7.645 | PD | Press and release ERROR HOLD pushbutton/lamp. | | |
| 7.646 | PD | Observe ERROR HOLD lamp. | Not lit | ______ |
| 7.647 | PD | Press and release ADVANCE pushbutton. | | |
| 7.648 | PD | Observe P20 lamp. | Flashing | ______ |

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Figure 7-9. Central Processor Manual Checks (Sheet 54)

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 7.649 | PD | Set PROG REG A-SIGN toggle switch to off. | | |
| 7.650 | PD | Set PROG REG A-5,7, and 9 and PROG REG B-3 toggle switches to on. | | |
| 7.651 | PD | Press and release RESET-MACHINE pushbutton. | | |
| 7.652 | PD | Set PROG REG A-3 toggle switch to on and then back to off. | | |
| 7.653 | PD | Set PROG REG A-5, 7, and 9 and PROG REG B-3 toggle switches to off. | | |
| 7.654 | PD | Set PROG REG A-6 toggle switch to on. | | |
| 7.655 | PD | Set PROG REG A-3 toggle switch to on and then back to off. | | |
| 7.656 | PD | Observe I15 lamp. | Not lit | ______ |
| EXP | NA | Steps 7.657 through 7 substantiate that the syne error circuit is functioning properly. | | |
| 7.657 | TRMC | Press and release $2^{11}/2^{10}$/ADR4/$2^9$, $2^5/2^4$/ADR2/$2^3$, and $2^2/2^1$/ADR1/$2^0$ pushbutton/lamps. | | |
| 7.658 | TRMC | Observe ADR4, ADR2, and ADR1 lamps. | Lit | ______ |
| 7.659 | PD | Observe SYNC ERROR lamp | Lit | ______ |



Figure 7-9. Central Processor Manual Checks (Sheet 55)

| INTERNATIONAL BUSINESS MACHINES— | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 7.660 | TRMC | Press and release $2^{11}/2^{10}$/ADR4/$2^9$, $2^5/2^4$/ADR2/$2^3$, and $2^2/2^1$/ADR1/$2^0$ pushbutton/lamps. | | |
| 7.661 | TRMC | Observe ADR4, ADR2, and ADR1 lamps. | Not lit | ______ |
| 7.662 | PD | Press and release RESET-MACHINE pushbutton/lamp. | | |
| 7.663 | PD | Observe SYNC ERROR lamp. | Not lit | ______ |

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Figure 7-9. Central Processor Manual Checks (Sheet 56)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 8.1 through 8.33 substantiate that the test program for memory module 1 is loaded correctly into the central processor memory. | | |
| 8.1 | TRMC | Observe FREE RUN SS lamp (press and release if lit). | Not lit | ______ |
| 8.2 | TRMC | Observe FREE RUN READER lamp (press and release if lit). | Not lit | ______ |
| 8.3 | TRMC | Observe PWR ON lamp (press and release if not lit). | Lit | ______ |
| 8.4 | TRMC | Observe INHIBIT READER lamp (press and release if lit). | Not lit | ______ |
| 8.5 | TRMC | Observe FORWARD lamp (press and release if not lit). | Lit | ______ |
| 8.6 | TRMC | Observe REVERSE lamp. | Not lit | ______ |
| 8.7 | TRMC | Observe VERIFY ONLY lamp (press and release if lit). | Not lit | ______ |
| 8.8 | TRMC | Observe AUTO lamp (press and release if lit). | Not lit | ______ |
| 8.9 | TRMC | Observe MANUAL lamp. | Lit | ______ |
| 8.10 | TRMC | Observe ML lamp (press and release if not lit). | Lit | ______ |
| 8.11 | TRMC | Observe DD lamp. | Not lit | ______ |
| 8.12 | TRMC | Observe SEL ADR lamp (press and release if not lit). | Lit | ______ |

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Figure 7-10. Central Processor Memory Automatic Checks (Sheet 1 of 8)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 8.13 | TRMC | Observe ADR 1 through ADR 5 lamps (press and release if lit). | Not lit | ______ |
| 8.14 | TRMC | Observe SELF CHECK lamp (press and release if not lit). | Lit | ______ |
| 8.15 | NA | Remove plastic guard from tape spooler. | | |
| 8.16 | NA | Lower tape guide on read step photocell assembly to its bottom stop (B on illustration A). | | |
| 8.17 | NA | Place the reel containing self test tape part number 6001232 on left hub with edge of tape closest to sprocket holes next to panel. | | |
| 8.18 | NA | Thread tape as shown on illustration A. | | |
| 8.19 | NA | Position the tape so that leader portion (sprocket holes only) following the punched title is under the photocell. | | |
| 8.20 | NA | Check for proper alignment of the tape within the guides of the read station. | | |
| 8.21 | NA | Raise the tape guide one stop. Note that the guide has three discernible stops. | | |
| 8.22 | NA | Adjust tape tension by rotating both reels manually until the tension arms (A on illustration A) are located at the approximate center of their swing. | | |

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Figure 7-10. Central Processor Memory Automatic Checks (Sheet 2)

INTERNATIONAL BUSINESS MACHINES -

| UNIT NAME: | UNIT NO. |
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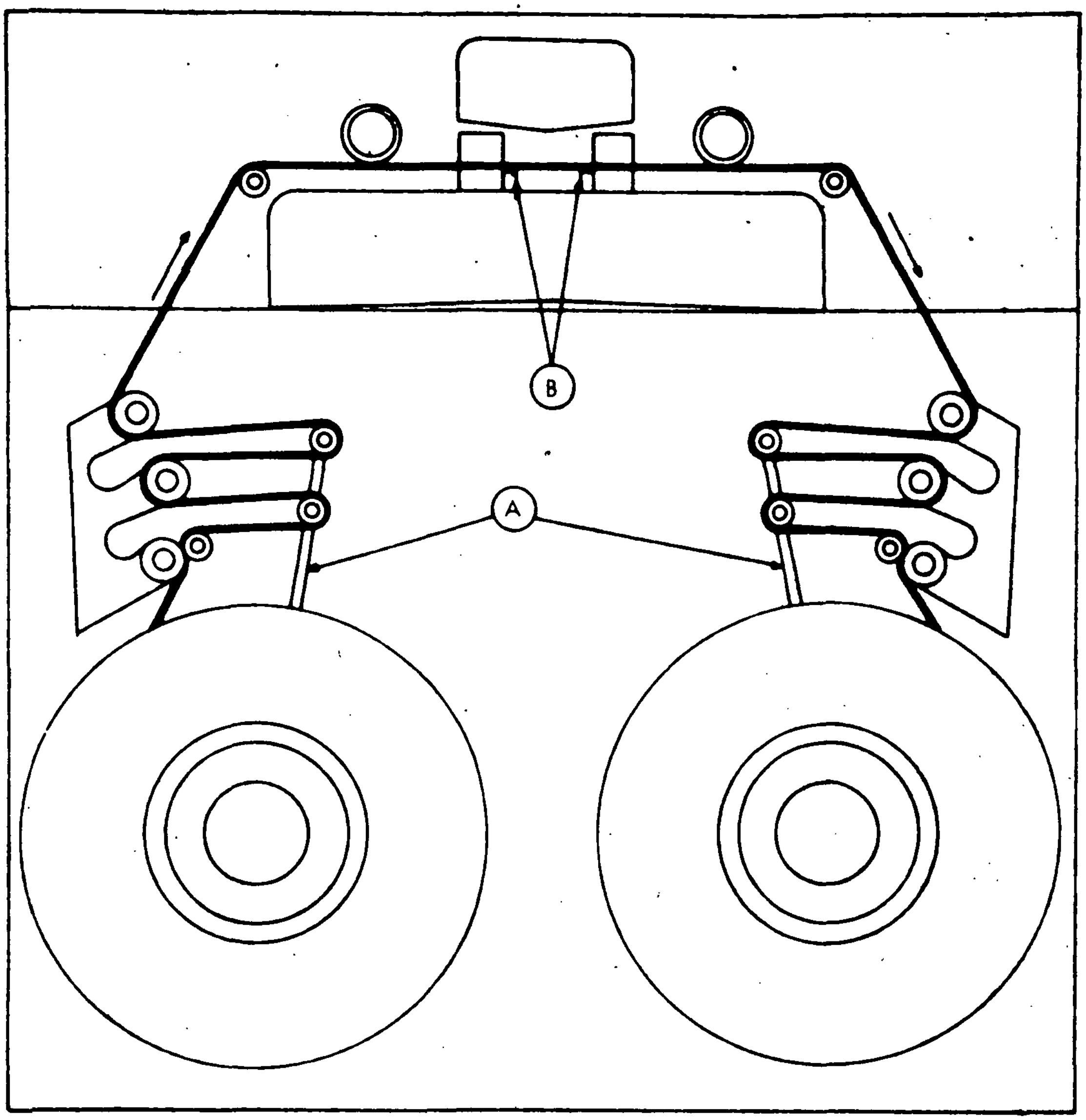


ILLUSTRATION A

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | PAGE | OF | PAGES | NUMBER |
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Figure 7-10. Central Processor Memory Automatic Checks (Sheet 3)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 8.23 | NA | Replace plastic guard. | | |
| 8.24 | TRMC | Press and release MANUAL ADVANCE TAPE pushbutton/lamp. | | |
| 8.25 | NA | Observe that tape advances until the beginning of the punched area is reached. | | |
| 8.26 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 8.27 | TRMC | Observe AUTO lamp | Lit | ______ |
| 8.28 | TRMC | Observe MANUAL lamp. | Not lit | ______ |
| 8.29 | MLDD | Press and release ERROR RESET pushbutton/lamp. | | |
| 8.30 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| 8.31 | MLDD | Press and release START pushbutton/ lamp. | | |
| 8.32 | NA | Observe that tape advances until the end of the punched area is reached. | | |
| 8.33 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ______ |
| EXP | NA | Steps 8.34 through 8.49 substantiate that information can be wrote into all locations in memory module 1 and then read out correctly. | | |
| 8.34 | MLDD | Verify that MODE CONTROL switch is set to DISPLAY-REPEAT. | | |

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Figure 7-10. Central Processor Memory Automatic Checks (Sheet 4)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 8.35 | PD | Observe PARITY ERROR lamp (press and release error reset if lit). | Not lit | ______ |
| 8.36 | PD | Observe ERROR HOLD lamp (press and release if lit). | Not lit | ______ |
| 8.37 | PD | Observe MAN CST lamp (press and release if lit). | Not lit | ______ |
| 8.38 | PD | Observe INHIBIT CTRL lamp (press and release if lit). | Not lit | ______ |
| 8.39 | PD | Observe PROGRAM ERROR lamp (press and release if lit). | Not lit | ______ |
| 8.40 | PD | Verify that all PROG REG A and PROG REG B toggle switches are off (down). | | |
| 8.41 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 8.42 | TRMC | Press and release ML/DD push-button/lamp. | | |
| 8.43 | TRMC | Observe ML/lamp. | Not lit | ______ |
| 8.44 | MLDD | Observe DD lamp. | Lit | ______ |
| 8.45 | PD | Set PROG REG A-5 toggle switch to on (up). | | |
| 8.46 | PD | Set PROG REG A-16 toggle switch to on (up). | | |
| 8.47 | PD | Observe that binary count indicated on P1, P2, and P4 lamps is incremented approximately once per minute. | | |

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Figure 7-10. Central Processor Memory Automatic Checks (Sheet 5)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 8.48 | PD | When P1, P2 and P4 lamps indicate a count of five (P1 and P4 only, are lit) set PROG REG A-5 and 16 toggle switches to off. | | |
| 8.49 | PD | Observe PROGRAM ERROR lamp. | Not lit | ____ |
| EXP | NA | Steps 8.50 through 8.61 substantiate that the test program for memory module 0 is loaded correctly into the central processor memory. | | |
| 8.50 | TRMC | Press and release ML/DD push-button lamp. | | |
| 8.51 | TRMC | Observe ML lamp. | Lit | ____ |
| 8.52 | TRMC | Observe DD lamp. | Not lit | ____ |
| 8.53 | TRMC | Press and release MANUAL ADVANCE TAPE pushbutton/lamp. | | |
| 8.54 | NA | Observe that tape advances until the beginning of the second punched area of the tape is reached. | | |
| 8.55 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 8.56 | TRMC | Observe AUTO lamp. | Lit | ____ |
| 8.57 | TRMC | Observe MANUAL lamp | Not lit | ____ |
| 8.58 | MLDD | Observe PARITY, TAPE, and COMPARE lamps (if any are lit, press and release ERROR RESET push-button). | Not lit | ____ |

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Figure 7-10. Central Processor Memory Automatic Checks (Sheet 6)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 8.59 | TRMC | Press and release START push-button/lamp. | | |
| 8.60 | NA | Observe that tape advances until the end of the punched area is reached. Tape then rewinds back to the beginning of the first punched area of the tape. | | |
| 8.61 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | ____ |
| EXP | NA | Steps 8.61 through 8.70 substantiate that information can be wrote into all locations in memory module 0 and then read out correctly. | | |
| 8.62 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 8.63 | TRMC | Press and read ML/DD pushbutton lamp. | | |
| 8.64 | TRMC | Observe ML lamp. | Not lit | ____ |
| 8.65 | TRMC | Observe DD lamp. | Lit | ____ |
| 8.66 | PD | Set PROG REG A-5 toggle switch to on. | | |
| 8.67 | PD | Set PROG REG A-16 toggle switch to on. | | |
| 8.68 | PD | Observe that the binary count indicated on P1, P2, and P4 lamps is incremented approximately once per minute. | | |

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Figure 7-10. Central Processor Memory Automatic Checks (Sheet 7)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 8.69 | PD | When P1, P2, and P4 lamps indicate a count of five (P1 and P4 only are lit) set PROG REG A-5 and 16 toggle switches to off. | | |
| 8.70 | PD | Observe PROGRAM ERROR lamp. | Not lit | ______ |

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Figure 7-10. Central Processor Memory Automatic Checks (Sheet 8)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| EXP | NA | Steps 9.1 through 9.28 substantiate that the self test program is loaded correctly into the central processor memory. | | |
| 9.1 | TRMC | Observe FORWARD lamp (press and release if not lit). | Lit | |
| 9.2 | TRMC | Observe REVERSE lamp. | Not lit | |
| 9.3 | TRMC | Observe VERIFY ONLY lamp (press and release if lit). | Not lit | |
| 9.4 | TRMC | Observe AUTO lamp (press and release if lit). | Not lit | |
| 9.5 | TRMC | Observe MANUAL lamp. | Lit | |
| 9.6 | TRMC | Observe ML lamp (press and release if not lit). | Lit | |
| 9.7 | TRMC | Observe DD lamp. | Not lit | |
| 9.8 | TRMC | Observe SEL ADR lamp (press and release if not lit). | Lit | |
| 9.9 | TRMC | Observe ADR 1 through ADR 5 lamps (press and release if lit). | Not lit | |
| 9.9.1 | | Verify the plotter is turned on. | | |
| 9.10 | NA | Remove plastic guard from tape spooler. | | |
| 9.11 | NA | Lower tape guide on read step photocell assembly to its bottom stop (B on illustration A). | | |

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Figure 7-11. Self-Test Program Checks (Sheet 1 of 22)

INTERNATIONAL BUSINESS MACHINES -

| UNIT NAME: | UNIT NO. |
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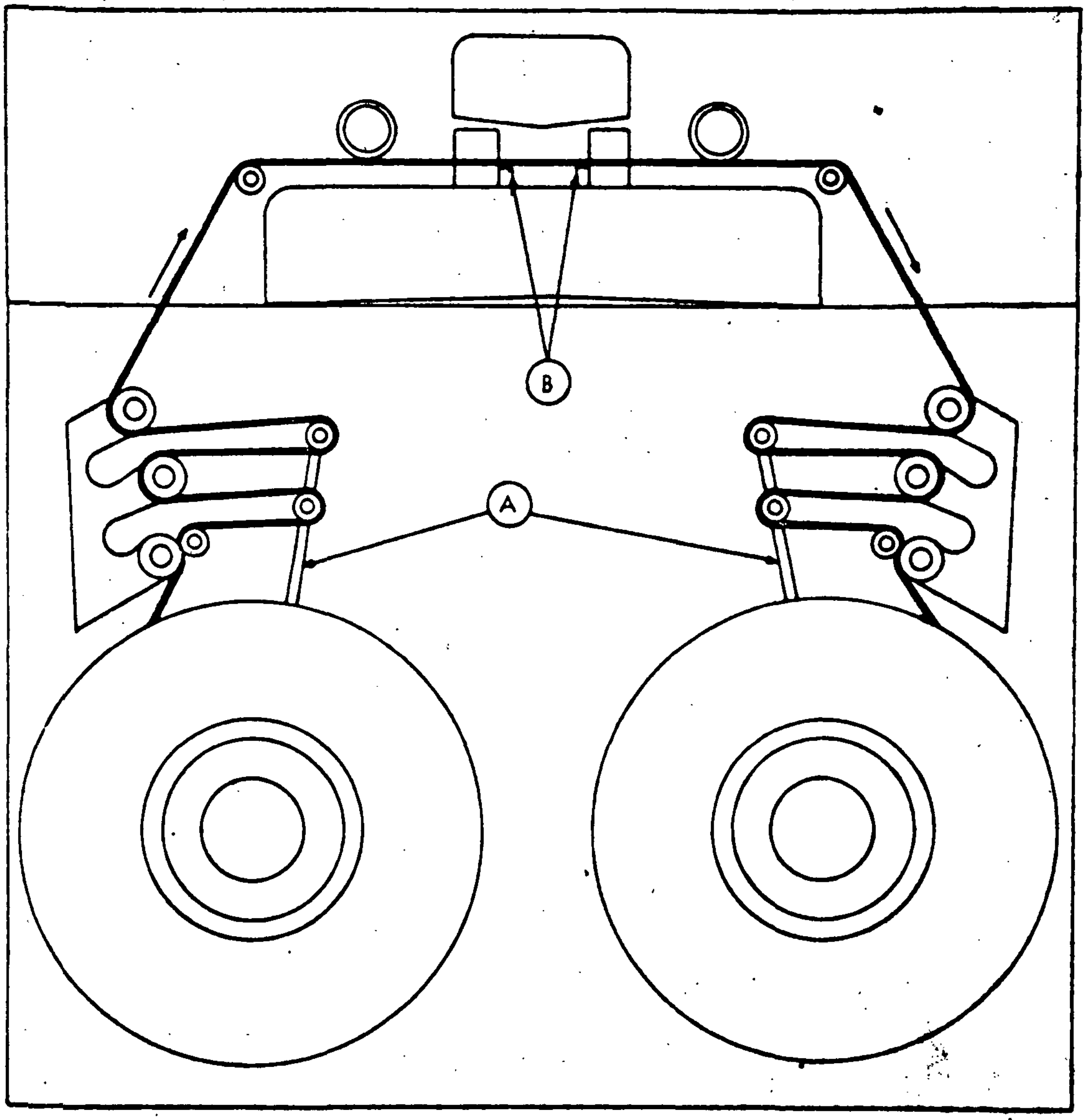


ILLUSTRATION A

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Figure 7-11. Self-Test Program Checks (Sheet 2)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9 12 | NA | Place the reel containing self test tape part number 6001236 on left nub with edge of tape closest to sprocket holes next to panel. | | |
| 9.13 | NA | Thread tape as shown on Illustration A. | | |
| 9.14 | NA | Position the tape so that leader portion (sprocket holes only) following the punched title is under the photocell. | | |
| 9.15 | NA | Check for proper alignment of the tape within the guides of the read station. | | |
| 9.16 | NA | Raise the tape guide one stop. | | |
| 9.17 | NA | Adjust tape tension by rotating both reels manually until the tension arms (A on Illustration A) are located at the approximate center of their swing. | | |
| 9.18 | NA | Replace plastic guard. | | |
| 9 19 | TRMC | Press and release MANUAL ADVANCE TAPE pushbutton/ lamp. | | |
| 9.20 | NA | Observe that tape advances until the beginning of the punched area is reached. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 3)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.21 | TRMC | Press and release AUTO/ MANUAL pushbutton/ lamp. | | |
| 9.22 | TRMC | Observe AUTO lamp. | Lit | |
| 9.23 | TRMC | Observe MANUAL lamp. | Not lit | |
| 9.24 | MLDD | Press and release ERROR RESET pushbutton/ lamp. | | |
| 9.25 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | |
| 9.26 | MLDD | Press and release START pushbutton/ lamp. | | |
| 9.27 | NA | Observe that tape advances until the end of the punched area is reached. Tape then rewinds back to the beginning of the punched area. | | |
| 9.28 | MLDD | Observe PARITY, TAPE, and COMPARE lamps. | Not lit | |
| EXP | NA | Steps 9.29 through 9.44 substantiate the test program control loop is cycling and that error storage is cleared. | | |
| 9.29 | MLDD | Verify that MODE CONTROL switch is set to DISPLAY-REPEAT. | | |
| 9.30 | PD | Observe PARITY ERROR lamp (press and release error reset if lit). | Not lit | |

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Figure 7-11. Self-Test Program Checks (Sheet 4)

| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 9.31 | PD | Observe ERROR HOLD lamp (press and release if lit). | Not lit | |
| 9.32 | PD | Observe MAN CST lamp (press and release if lit). | Not lit | |
| 9.33 | PD | Observe INHIBIT CTRL lamp (press and release if lit). | Not lit | |
| 9.34 | PD | Observe PROGRAM ERROR lamp (press and release if lit). | Not lit | |
| 9.35 | PD | Verify that all PROG REG A and PROG REG B toggle switches are off (down). | | |
| 9.35.1 | TRMC | Press and release AUTO/MANUAL pushbutton/lamp. | | |
| 9.36 | TRMC | Press and release ML/DD pushbutton/lamp. | | |
| 9.37 | TRMC | Observe ML/lamp. | Not lit | |
| 9.38 | MLDD | Observe DD lamp. | Lit | |
| 9.39 | PD | Set PROG REG A-SIGN toggle switch to on (up). | | |
| 9.40 | PD | Press and release RESET-MACHINE pushbutton/lamp. | | |
| 9.41 | PD | Set PROG REG A-SIGN toggle switch to off. | | |
| 9.42 | PD | Observe D1 through D6 lamps. | Not lit | |
| 9.43 | PD | Observe that binary count indicated on P1 through P40 lamps is incrementing. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 5)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.44 | PD | Observe PROGRAM ERROR lamp. | Not lit | |
| EXP | NA | Steps 9.45 through 9.47 substantiate that routine 1 of the test program can be run without errors. This routine checks HOP and transfer operations. | | |
| 9.45 | PD | Set PROG REG A-1 toggle switch to on. | | |
| 9.46 | PD | Observe that binary count indicated on P1 through P40 lamps is incrementing. | | |
| 9.47 | PD | Observe PROGRAM ERROR lamp. | Not lit | |
| EXP | NA | Steps 9.48 through 9.51 substantiate that routine 2 of the test program can be run without errors. This routine checks the central processor internal operations. | | |
| 9.48 | PD | Set PROG REG A-1 toggle switch to off. | | |
| 9.49 | PD | Set PROG REG A-2 toggle switch to on. | | |
| 9.50 | PD | Observe that binary count indicated on P1 through P40 lamps is incrementing. | | |
| 9.51 | PD | Observe PROGRAM ERROR lamp. | Not lit | |

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Figure 7-11. Self-Test Program Checks (Sheet 6)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| EXP | NA | Steps 9.52 through 9.55 substantiate that routine 3 of the test program can be run without errors. This routine tests CIO and PIO addressing, discrete outputs, discrete inputs, accumulator interface lines, and interrupt logic. | | |
| 9.52 | PD | Set PROG REG B-1 and PROG REG A-3 toggle switches to on. | | |
| 9.53 | PD | Set PROG REG A-2 toggle switch to off. | | |
| 9.54 | PD | Observe that binary count indicated on P1 through P40 lamps is incrementing. | | |
| 9.55 | PD | Observe PROGRAM ERROR lamp. | Not lit | |
| EXP | NA | Steps 9.56 through 9.59 substantiate that routine 4 of the test program can be run without errors. This routine checks the typewriter control logic. | | |
| 9.56 | PD | Set PROG REG A-3 and PROG REG B-1 toggle switches to off. | | |
| 9 57 | PD | Set PROG REG A-4 toggle switch to on. | | |
| 9.58 | PD | Observe that binary count indicated on P1 through P40 lamps is incrementing. | | |
| 9.59 | PD | Observe PROGRAM ERROR lamp. | Not lit | |

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Figure 7-11. Self-Test Program Checks (Sheet 7)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| Step | Panel | Operation | Normal Indication | Data |
| EXP | NA | Steps 9.60 through 9.63 substantiate that routine 5 of the test program can be run without errors. This routine checks the printer control logic. | | |
| 9.60 | PD | Set PROG REG A-4 toggle switch to off. | | |
| 9.61 | PD | Set PROG REG A-5 toggle switch to on. | | |
| 9.62 | PD | Observe that binary count indicated on P1 through P40 lamps is incrementing. | | |
| 9.63 | PD | Observe PORGRAM ERROR lamp. | Not lit | |
| EXP | NA | Steps 9.64 through 9.68 substantiate that routine 6 of the test program can be run without errors. This routine checks the plotter control logic. | | |
| 9.64 | PD | Set PROG REG A-5 toggle switch to off. | | |
| 9.65 | PD | Set PROG REG A-6 toggle switch to on and then back to off. | | |
| 9.66 | | (This step deleted.) | | |
| 9.67 | PD | Observe PROGRAM ERROR lamp. | Not lit | |

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Figure 7-11. Self-Test Program Checks (Sheet 8)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.68 | NA | Observe that pattern plotted is as shown on Illustration B. | | |
| 9.69 | | (This step deleted.) | | |
| EXP | NA | Steps 9.70 through 9.96 substantiate that D1 through D6 lamps display correct information. | | |
| 9.70 | MLDD | Observe ADDRESS COMPARE-INS lamp (press and release if not lit). | Lit | |
| 9.71 | MLDD | Press and release INSTRUCTION ADDRESS pushbuttons as necessary to select the instruction-module, syllable, sector, and address listed directly after cal point 1 of routine 3 in the test program listing. | | |
| 9.72 | MLDD | Set MODE CONTROL switch to PROG CYCLE-ADR HOLD. | | |
| 9.73 | PD | Set PROG REG B-1 toggle switch to on. | | |
| 9.74 | PD | Set PROG REG A-3 toggle switch to on. | | |
| 9.75 | PD | Observe D1 lamp. | Lit | |
| 9.76 | PD | Observe D2 through D6 lamps. | Not lit | |
| 9.77 | MLDD | Press and release INSTRUCTION ADDRESS pushbuttons as necessary to select instuction-module syllable, sector, and address listed directly after Cal. Point 2 of routine 3 in the test program listing. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 9)

| INTERNATIONAL BUSINESS MACHINES - | |
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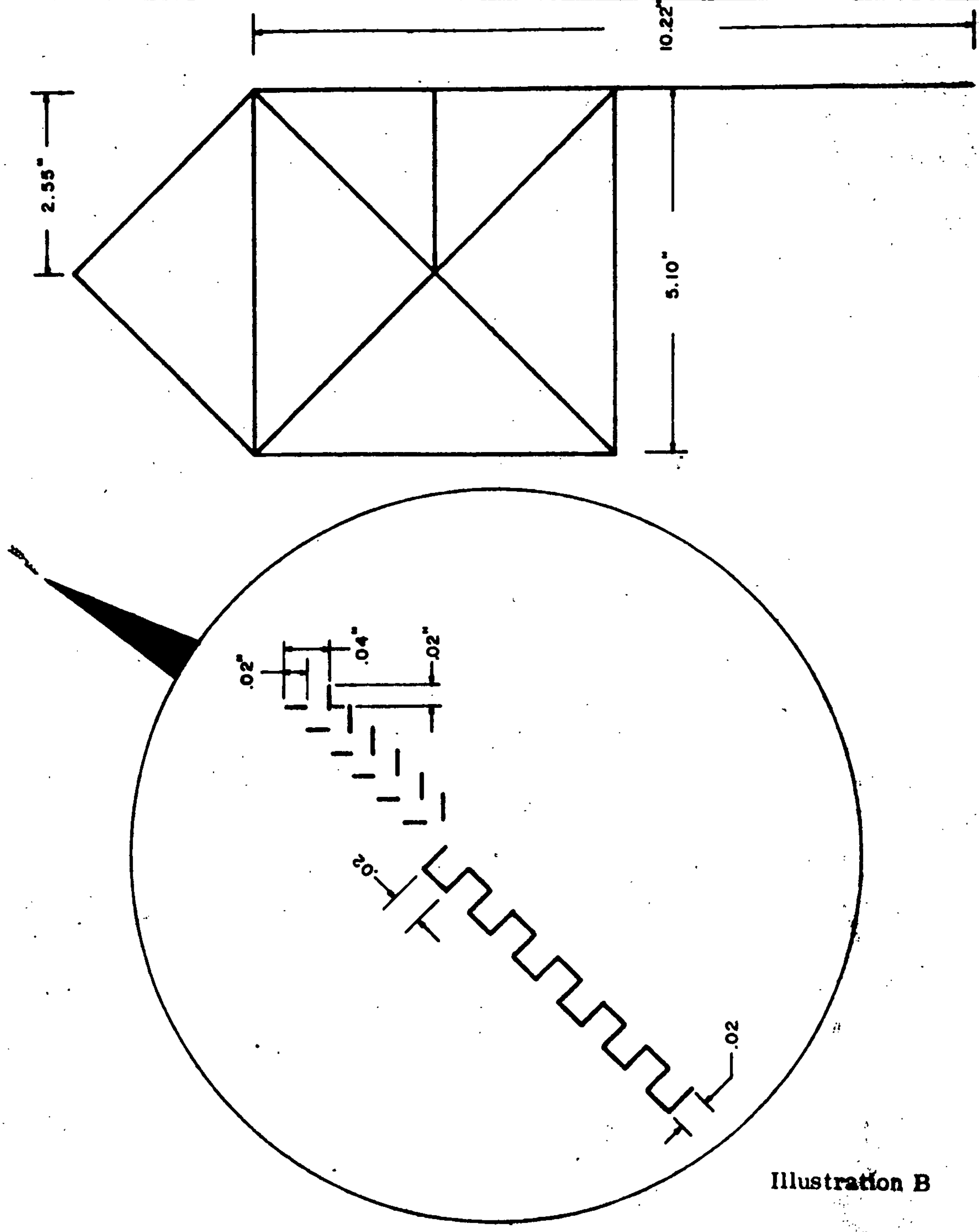


Illustration B

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Figure 7-11. Self-Test Program Checks (Sheet 10)

INTERNATIONAL BUSINESS MACHINES—

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.78 | PD | Press and release ADVANCE pushbutton. | | |
| 9.79 | PD | Observe D2 lamp. | Lit | |
| 9.80 | PD | Observe D1, D3, D4, D5 and D6 lamps. | Not lit | |
| 9.81 | MLDD | Press and release INSTRUCTION ADDRESS pushbutton as necessary to select insturction-module, syllable, sector, and address listed directly after Cal Point 3 of routine 3 in the test program listing. | | |
| 9.82 | PD | Press and release ADVANCE pushbutton. | | |
| 9.83 | PD | Observe D3 lamp. | Lit | |
| 9.84 | PD | Observe D1, D2, D4, D5 and D6 lamps. | Not lit | |
| 9.85 | MLDD | Press and release INSTRUCTION ADDRESS pushbuttons as necessary to select instruction-module, syllable, sector, and address listed directly after Cal Point 4 of routine 3 in the test program listing. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 11)

| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 9.86 | PD | Press and release ADVANCE pushbutton. | | |
| 9.87 | PD | Observe D4 lamp. | Lit | |
| 9.88 | PD | Observe D1, D2, D3, D5, and D6 lamps. | Not lit | |
| 9.89 | MLDD | Press and release INSTRUCTION ADDRESS pushbuttons as necessary to select instruction-module, syllable, sector, and address listed directly after Cal Point 5 of routine 3 in the test program listing. | | |
| 9.90 | PD | Press and release ADVANCE pushbutton. | | |
| 9.91 | PD | Observe D5 lamp. | Lit | |
| 9.92 | PD | Observe D1, D2, D3, D4 and D6 lamps. | Not lit | |
| 9.93 | MLDD | Press and release INSTRUCTION ADDRESS pushbuttons as necessary to select instruction-module, syllable, sector, and address listed directly after Cal Point 6 of routine 3, in the test program listing. | | |
| 9.94 | PD | Press and release ADVANCE pushbutton. | | |
| 9.95 | PD | Observe D6 lamp. | Lit | |
| 9.96 | PD | Observe D1, D2, D3, D4 and D5 lamps. | Not lit | |

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Figure 7-11. Self-Test Program Checks (Sheet 12)

| INTERNATIONAL BUSINESS MACHINES— | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| EXP | NA | Steps 9.97 through 9.199 substantiate the manual interrupt controls are functioning properly. Ignore PROGRAM ERROR lamp. | | |
| 9.97 | | Press and release INHIBIT CONTROL pushbutton/lamp. | | |
| 9.98 | | Observe INHIBIT CONTROL and B1 through B15 lamps. | Lit | |
| 9.99 | | Press and release INSTRUCTION ADDRESS pushbuttons as necessary to select instruction-module, syllable, sector, and address listed directly after Cal Point 7 of routine 3 in the test program listing. | | |
| 9.100 | | Press and release ADVANCE pushbutton. | | |
| 9.101 | | Observe I1 through I15 lamps. | Lit | |
| 9.102 | | Observe HOPSAVE REG lamp (press and release if not lit). | Lit | |
| 9.103 | PD | Observe MEM ADD REG lamp (press and release if lit). | Not lit | |
| 9.104 | PD | Observe that the instruction and data-module syllable, sector, and address listed directly after Cal Point 8 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, IM, and DM lamps. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 13)

| INTERNATIONAL BUSINESS MACHINES– | | | | |
|---|---|---|---|---|
| UNIT NAME: | | | UNIT NO. | |
| Step | Panel | Operation | Normal Indication | Data |
| 9.105 | PD | Press and release I1/B1 pushbutton/lamp. | | |
| 9.106 | PD | Observe B1 lamp. | Not lit | |
| 9.107 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 9 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |
| 9.108 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.109 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.110 | PD | Press and release ADVANCE pushbutton. | | |
| 9.111 | PD | Press and release I2/B2 pushbutton/lamp. | | |
| 9.112 | PD | Observe B2 lamp. | Not lit | |
| 9.113 | PD | Observe that instruction and data-module, syllable,sector, and address listed directly after Cal Point 10 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |
| 9.114 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.115 | PD | Observe B1 through B15 lamps. | Lit | |

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Figure 7-11. Self-Test Program Checks (Sheet 14)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.116 | PD | Press and release ADVANCE pushbutton. | | |
| 9.117 | PD | Press and release I3/B3 pushbutton/lamp. | | |
| 9.118 | PD | Observe B3 lamp. | Not lit | |
| 9.119 | MLDD | Observe that instruction-module, syllable, sector, and address listed directly after Cal Point 11 of routine 3 in the test program listing are displayed by the INSTRUCTION ADDRESS COMPUTER lamps. | | |
| 9.120 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.121 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.122 | PD | Press and release ADVANCE pushbutton. | | |
| 9.123 | PD | Press and release I4/B4 pushbutton/lamp. | | |
| 9.124 | PD | Observe B4 lamp. | Not lit | |
| 9.125 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 12 of of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |
| 9.126 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 15)

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.127 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.128 | PD | Press and release ADVANCE pushbutton. | | |
| 9.129 | PD | Press and release I5/B5 pushbutton/lamp. | | |
| 9.130 | PD | Observe B5 lamp. | Not lit | |
| 9.131 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 13 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |
| 9.132 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.133 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.134 | PD | Press and release ADVANCE pushbutton. | | |
| 9.135 | PD | Press and release I6/B6 pushbutton/lamp. | | |
| 9.136 | PD | Observe B6 lamp. | Not lit | |
| 9.137 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 14 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM and IM lamps. | | |



Figure 7-11. Self-Test Program Checks (Sheet 16)

INTERNATIONAL BUSINESS MACHINES—

UNIT NAME: UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.138 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.139 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.140 | PD | Press and release ADVANCE pushbutton. | | |
| 9.141 | PD | Press and release I7/B7 pushbutton/lamp. | | |
| 9.142 | PD | Observe B7 lamp. | Not lit | |
| 9.143 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 15 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |
| 9.144 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.145 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.146 | PD | Press and release ADVANCE pushbutton. | | |
| 9.147 | PD | Press and release I8/B8 pushbutton/lamp. | | |
| 9.148 | PD | Observe B8 lamp. | Not lit | |
| 9.149 | PD | Observe that instruction and data-moduel, syllable, sector, and address listed directly after Cal Point 16 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 17)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.150 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.151 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.152 | PD | Press and release ADVANCE pushbutton. | | |
| 9.153 | PD | Press and release I9/B9 pushbutton/lamp. | | |
| 9.154 | PD | Observe B9 lamp. | Not lit | |
| 9.155 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 17 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |
| 9.156 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.157 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.158 | PD | Press and release ADVANCE pushbutton. | | |
| 9.159 | PD | Press and release I10/B10 pushbutton/lamp. | | |
| 9.160 | PD | Observe B10 lamp. | Not lit | |
| 9.161 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 18 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 18)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.162 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.163 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.164 | PD | Press and release ADVANCE pushbutton. | | |
| 9.165 | PD | Press and release I11/B11 pushbutton/lamp. | | |
| 9.166 | PD | Observe B11 lamp. | Not lit | |
| 9.167 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 19 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |
| 9.168 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.169 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.170 | PD | Press and release ADVANCE pushbutton. | | |
| 9.171 | PD | Press and release I12/B12 pushbutton/lamp. | | |
| 9.172 | PD | Observe B12 lamp. | Not lit | |
| 9.173 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 20 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 19)

INTERNATIONAL BUSINESS MACHINES—

| UNIT NAME: | UNIT NO. |
|---|---|

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.174 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.175 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.176 | PD | Press and release ADVANCE push-button. | | |
| 9.177 | PD | Press and release I13/B13 push-button/lamp. | | |
| 9.178 | PD | Observe B13 lamp. | Not lit | |
| 9.179 | PD | Observe that instruction and data-module, syllable, sector, and address listed for Cal Point 21 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |
| 9.180 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.181 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.182 | PD | Press and release ADVANCE push-button. | | |
| 9.183 | PD | Press and release I14/B14 push-button/lamp. | | |
| 9.184 | PD | Observe B14 lamp. | Not lit | |
| 9.185 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 22 of routine 3 in the test program listing are displayed by the MEMORY AD-DRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 20)

INTERNATIONAL BUSINESS MACHINES—

UNIT NAME: | UNIT NO.

| Step | Panel | Operation | Normal Indication | Data |
|---|---|---|---|---|
| 9.186 | PD | Press and release INHIBIT CTRL pushbutton/lamp twice. | | |
| 9.187 | PD | Observe B1 through B15 lamps. | Lit | |
| 9.188 | PD | Press and release ADVANCE pushbutton. | | |
| 9.189 | PD | Press and release I15/B15 pushbutton/lamp. | | |
| 9.190 | PD | Observe B15 lamp. | Not lit | |
| 9.191 | PD | Observe that instruction and data-module, syllable, sector, and address listed directly after Cal Point 23 of routine 3 in the test program listing are displayed by the MEMORY ADDRESS, SYLLABLE, SECTOR, DM, and IM lamps. | | |
| 9.192 | PD | Press and release INSTRUCTION ADDRESS pushbuttons as necessary to select instruction-module, syllable, sector, and address listed directly after Cal Point 24 of routine 3 in the test program listing. | | |
| 9.193 | PD | Press and release INHIBIT CTRL pushbutton/lamp. | | |
| 9.194 | PD | Observe INHIBIT CTRL lamp. | Not lit | |
| 9.195 | PD | Press and release ADVANCE pushbutton. | | |
| 9.196 | | (This step deleted.) | | |

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Figure 7-11. Self-Test Program Checks (Sheet 21)

INTERNATIONAL BUSINESS MACHINES–

| UNIT NAME: | | | UNIT NO. | |
|---|---|---|---|---|
| **Step** | **Panel** | **Operation** | **Normal Indication** | **Data** |
| 9.197 | | (This step deleted.) | | |
| 9.198 | PD | Press and release I16 pushbutton/ lamp. | | |
| 9.199 | MLDD | Observe that instruction-module, syllable, sector, and address listed for Cal Point 24 of routine 3 in the test program listing are displayed by the INSTRUCTION ADDRESS COMPUTER lamps. | | |

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Figure 7-11. Self-Test Program Checks (Sheet 22)

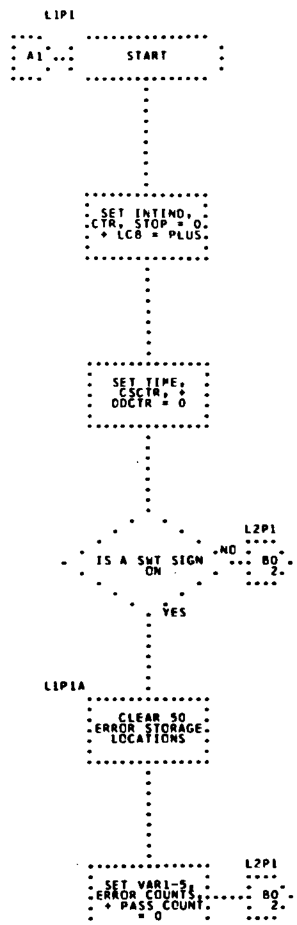


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 1 of 62)

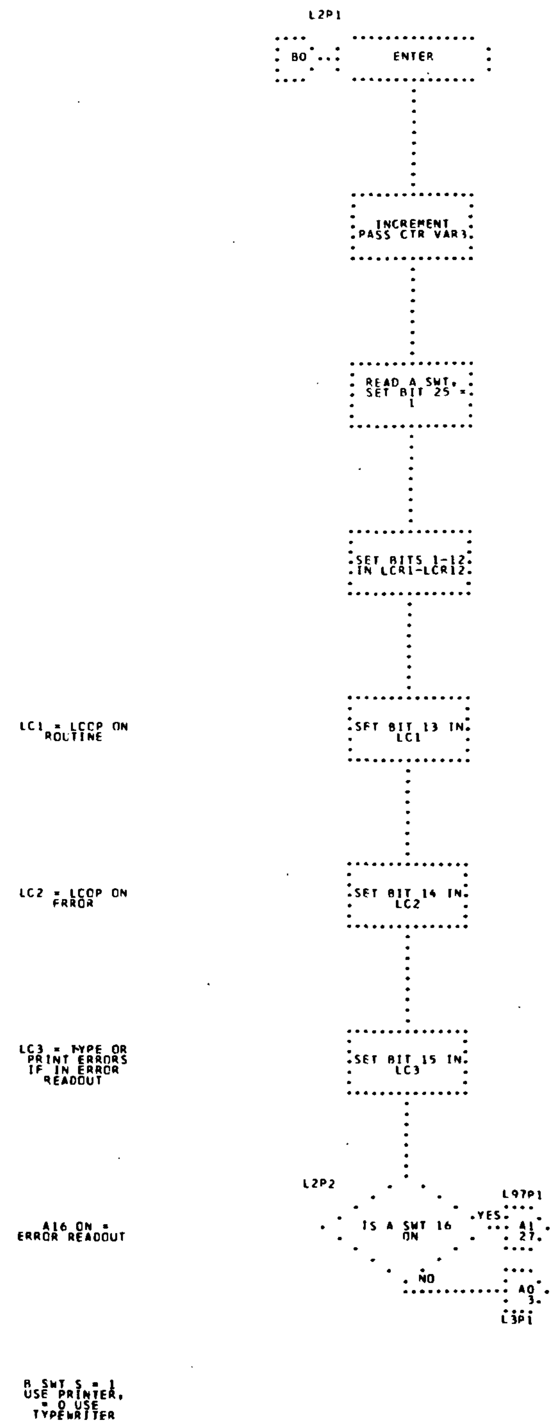


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 2)

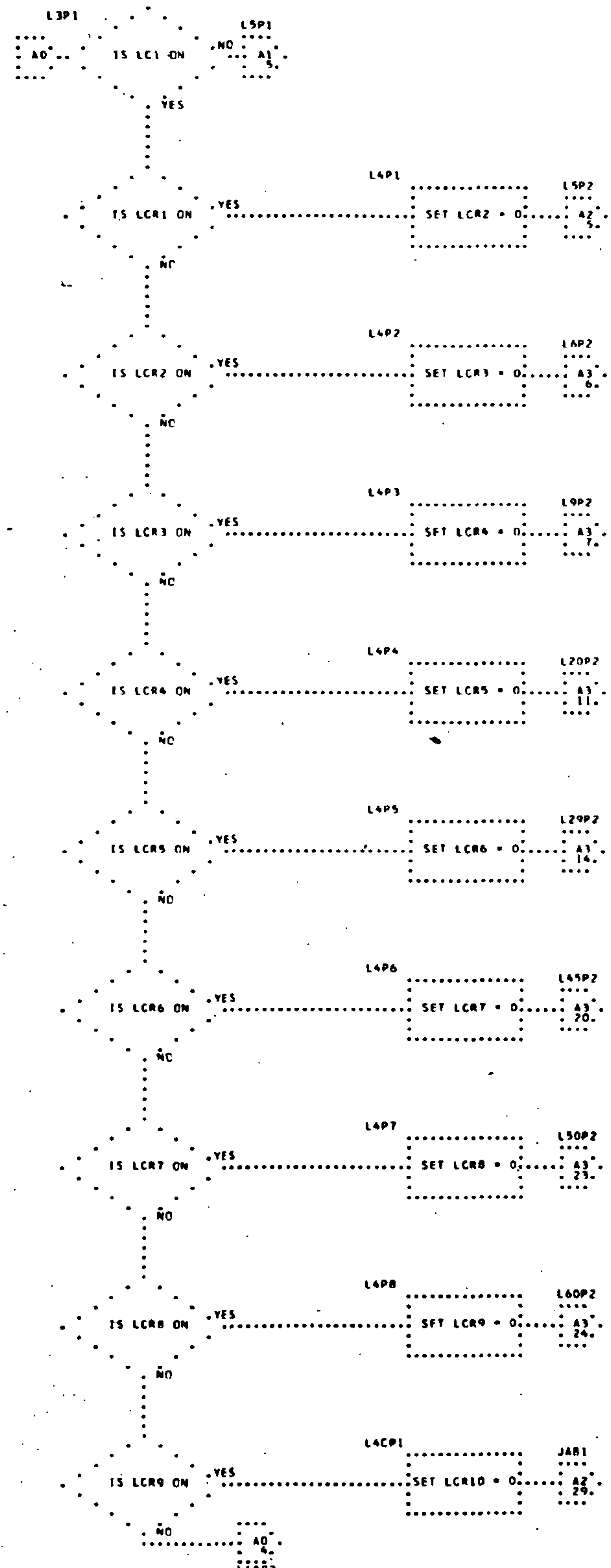


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 3)

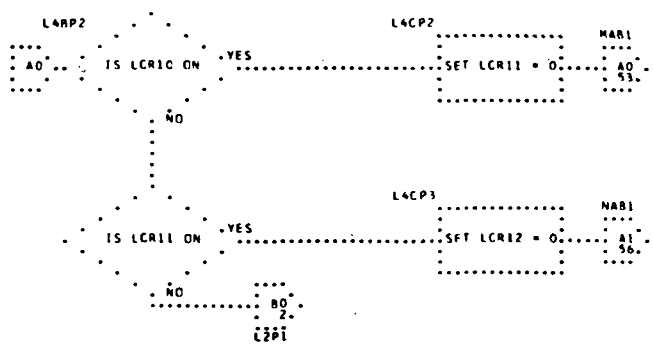


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 4)

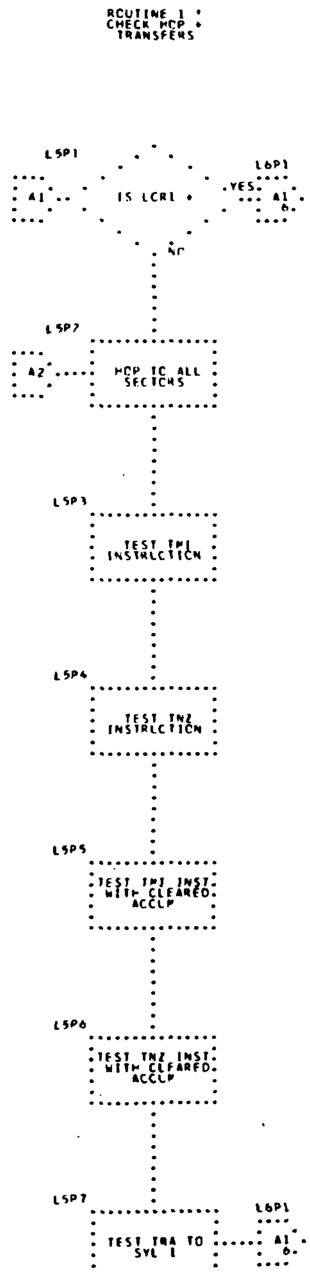


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 5)

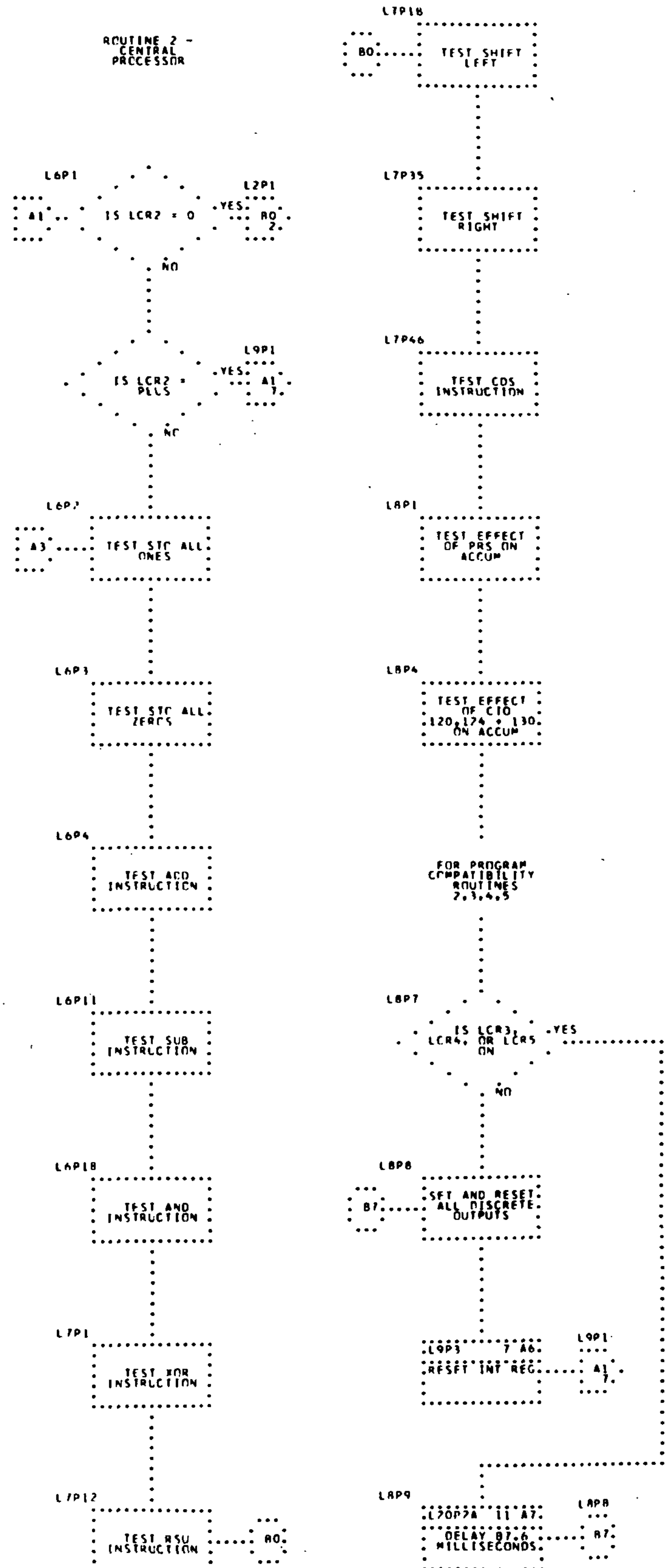


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 6)

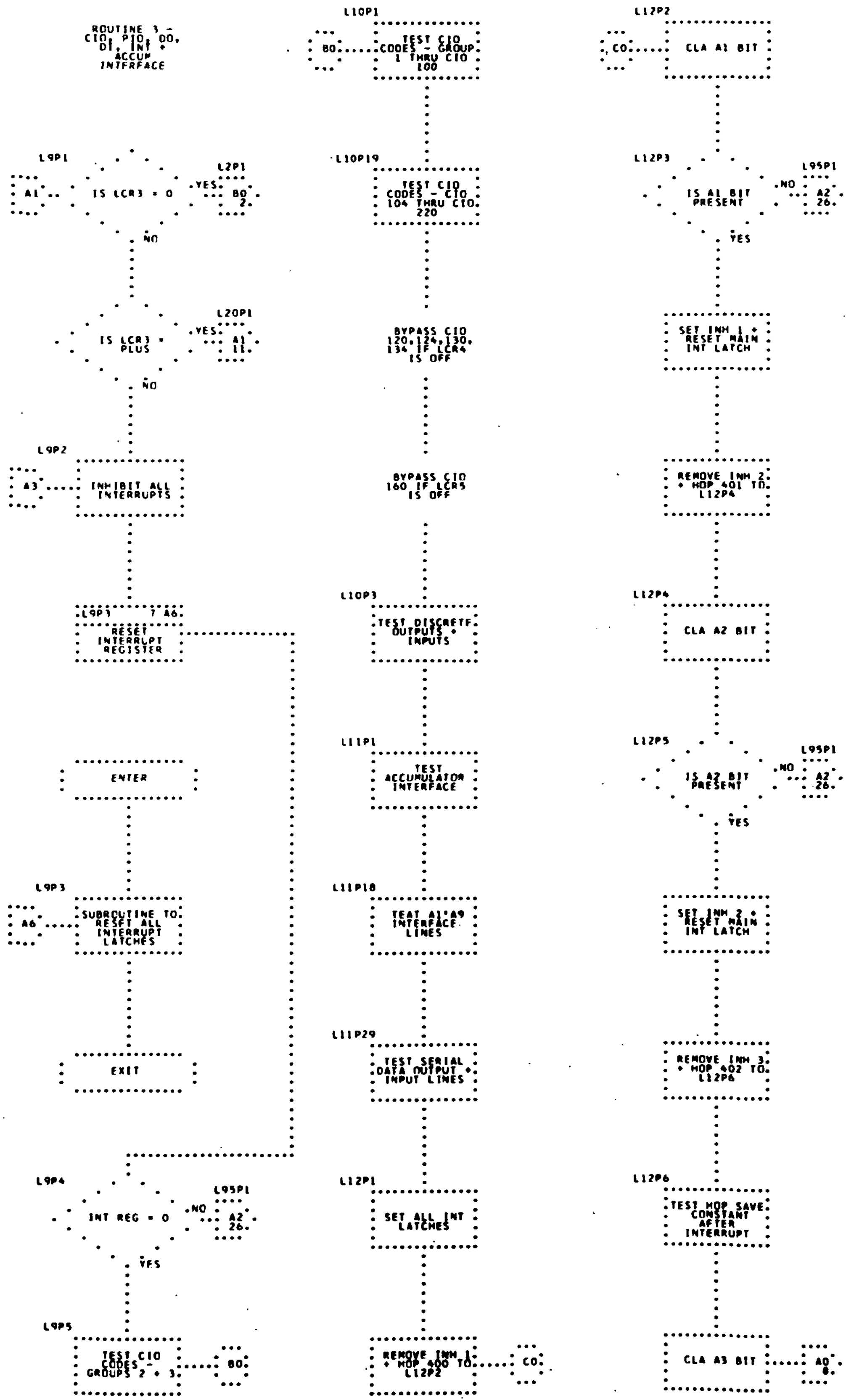


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 7)

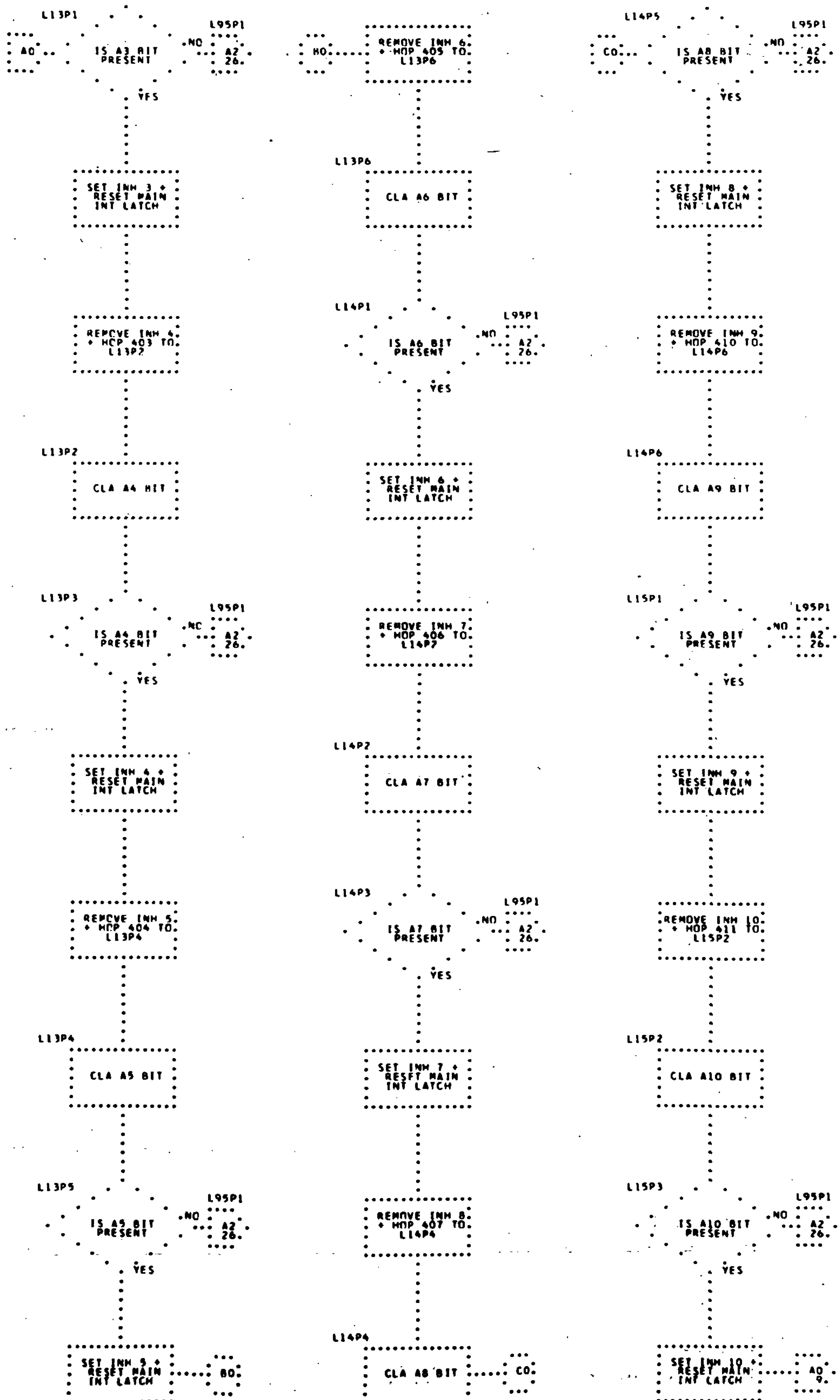


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 8)

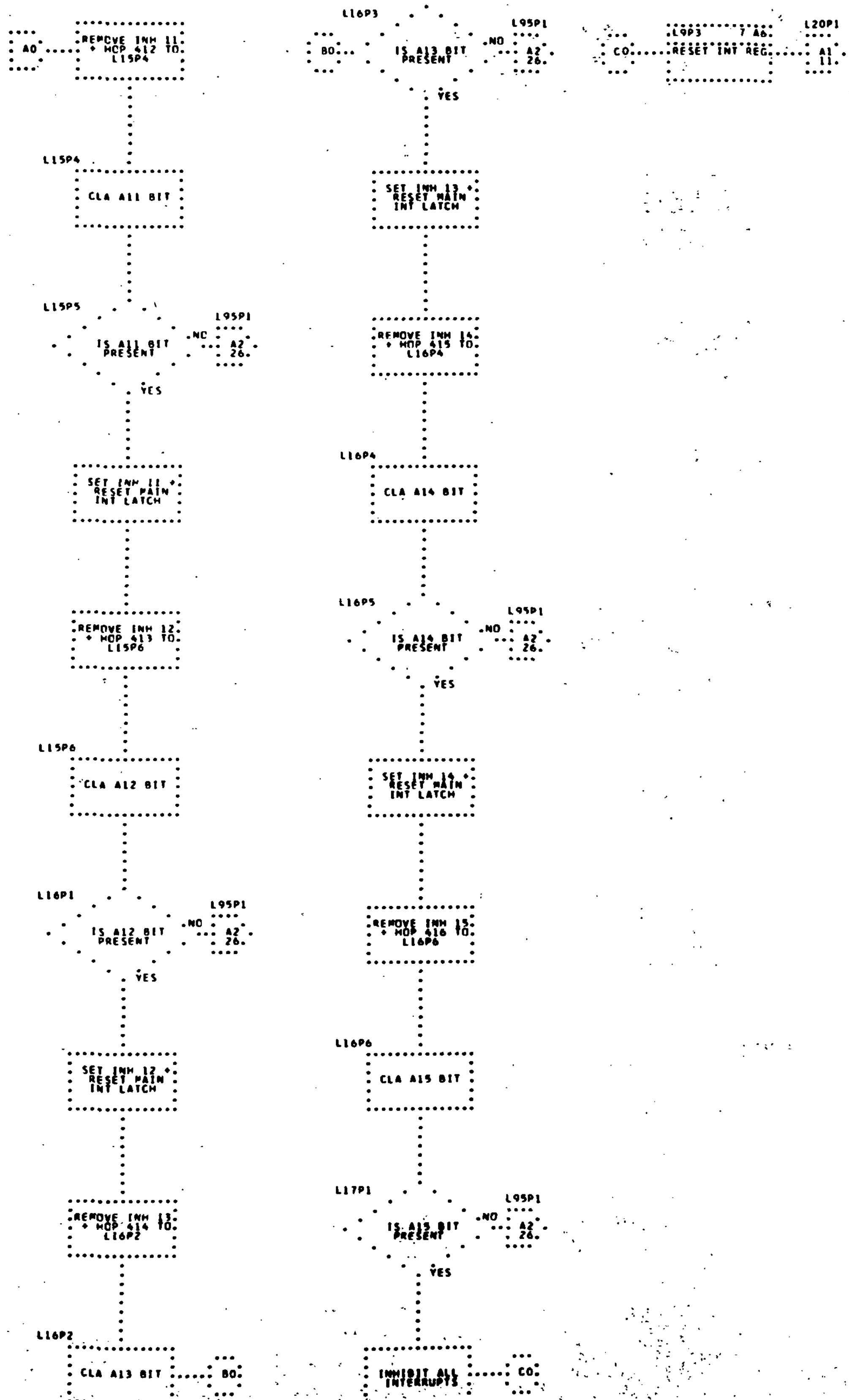


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 9)

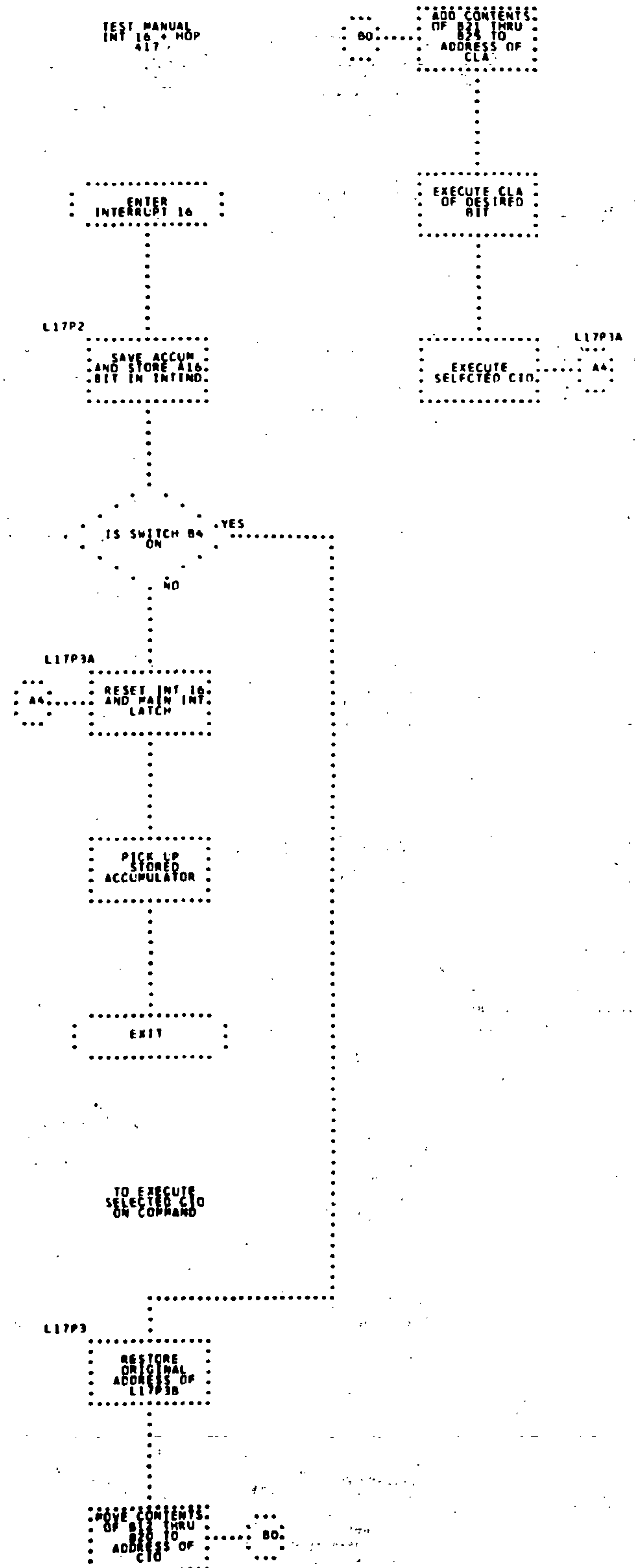


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 10)

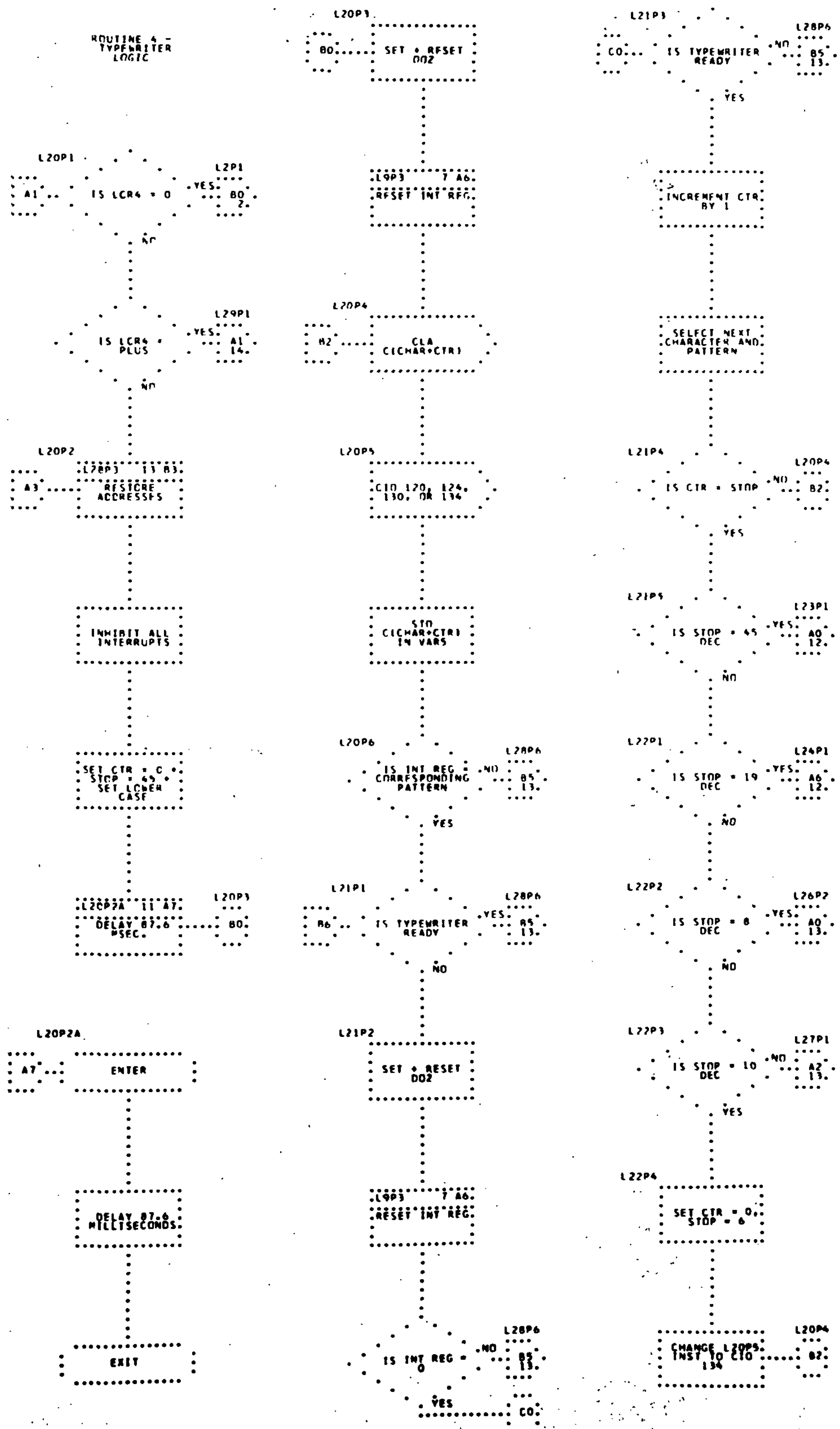


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 11)

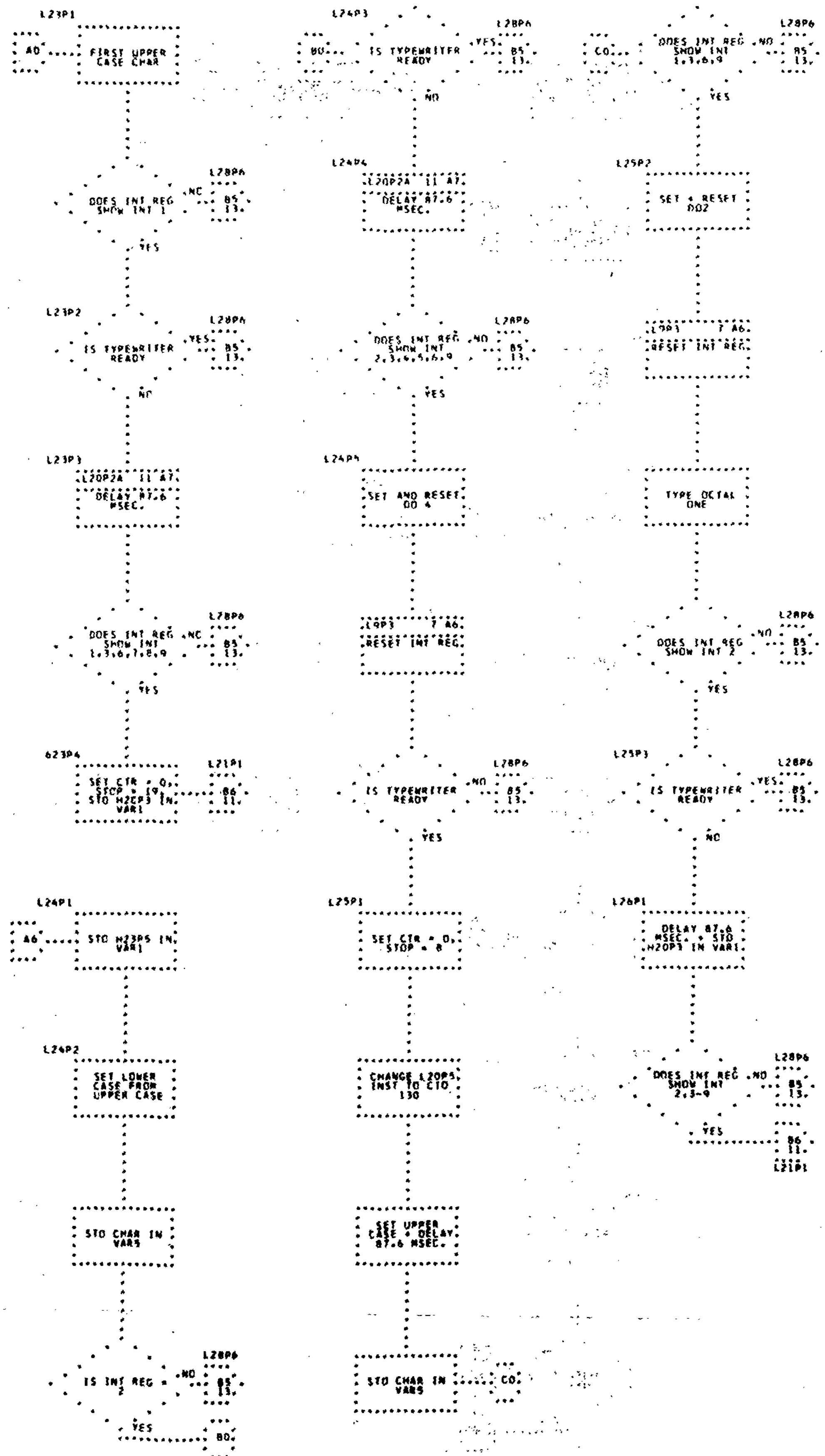


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 12)

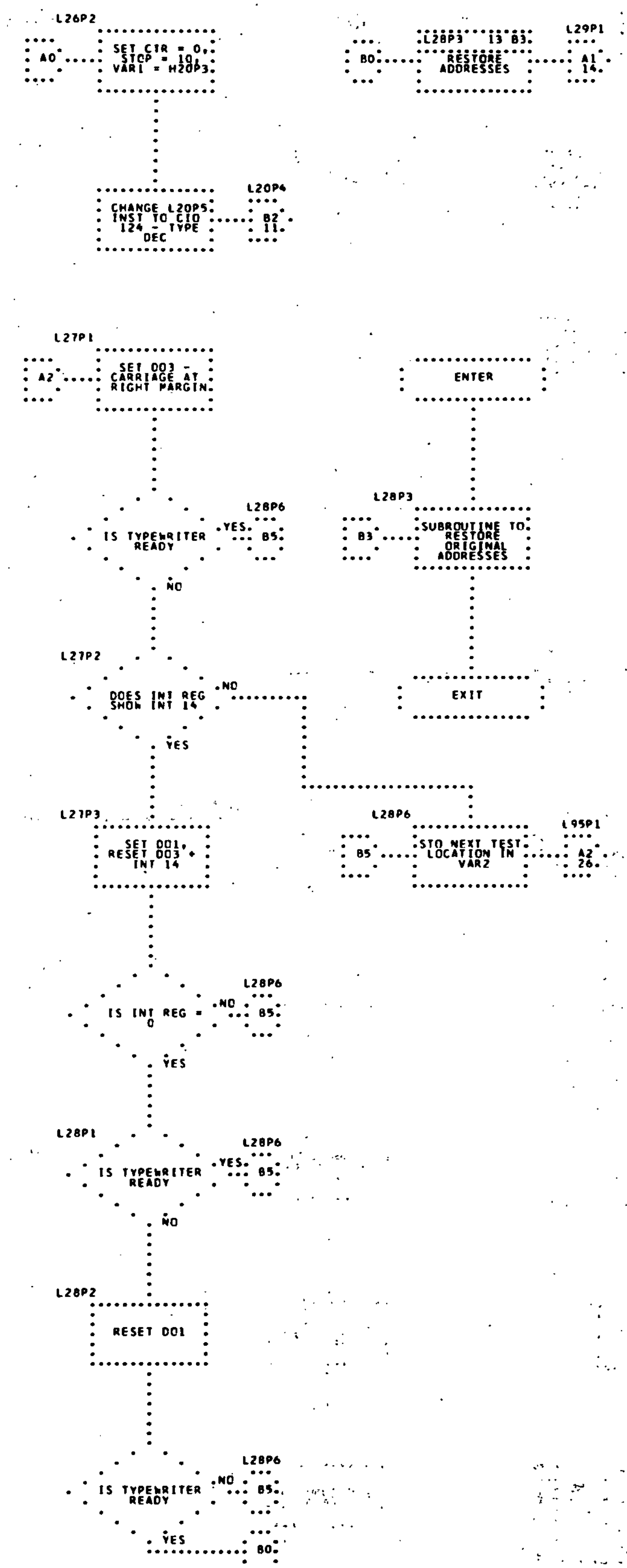


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 13)

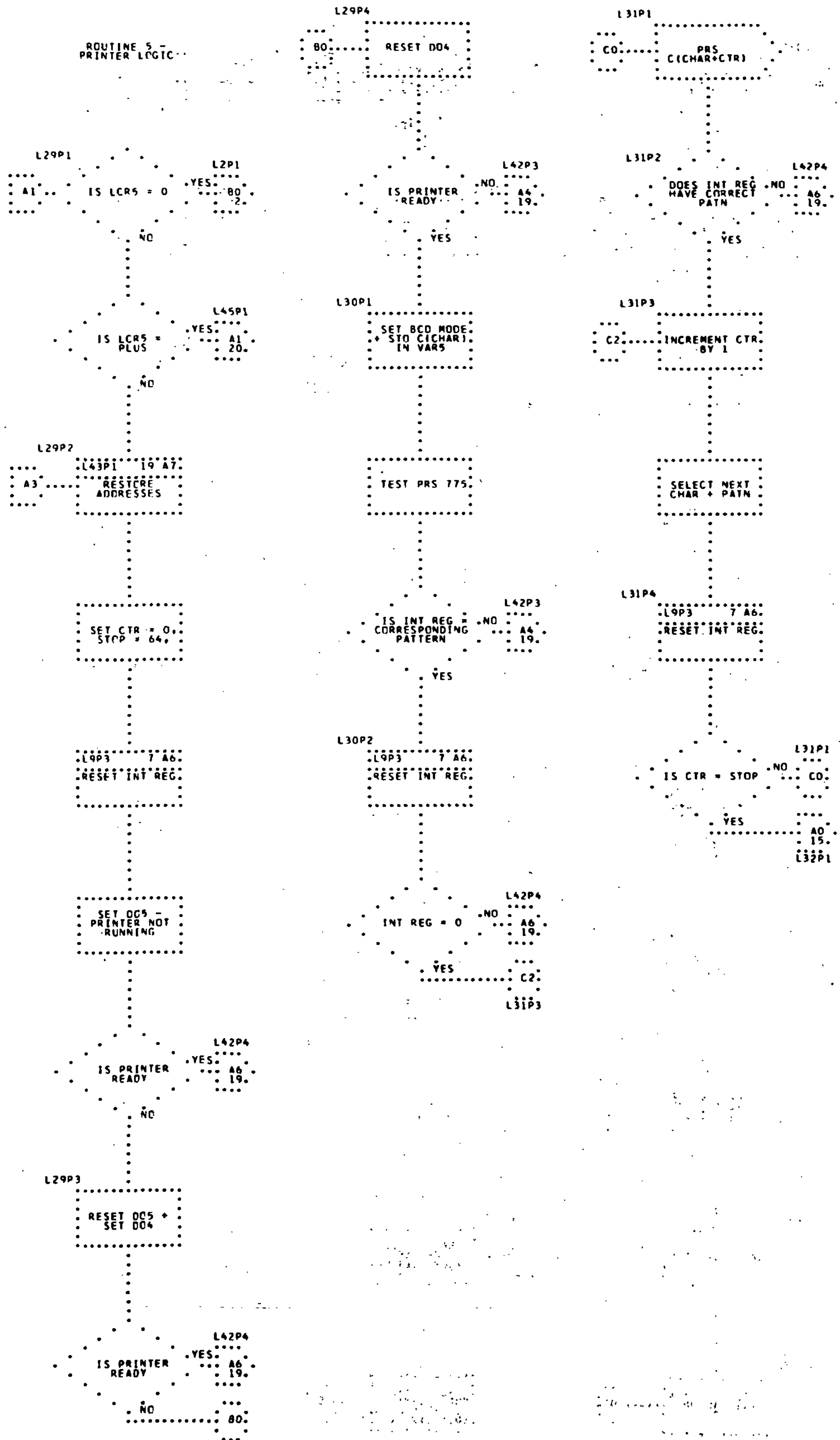


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 14)

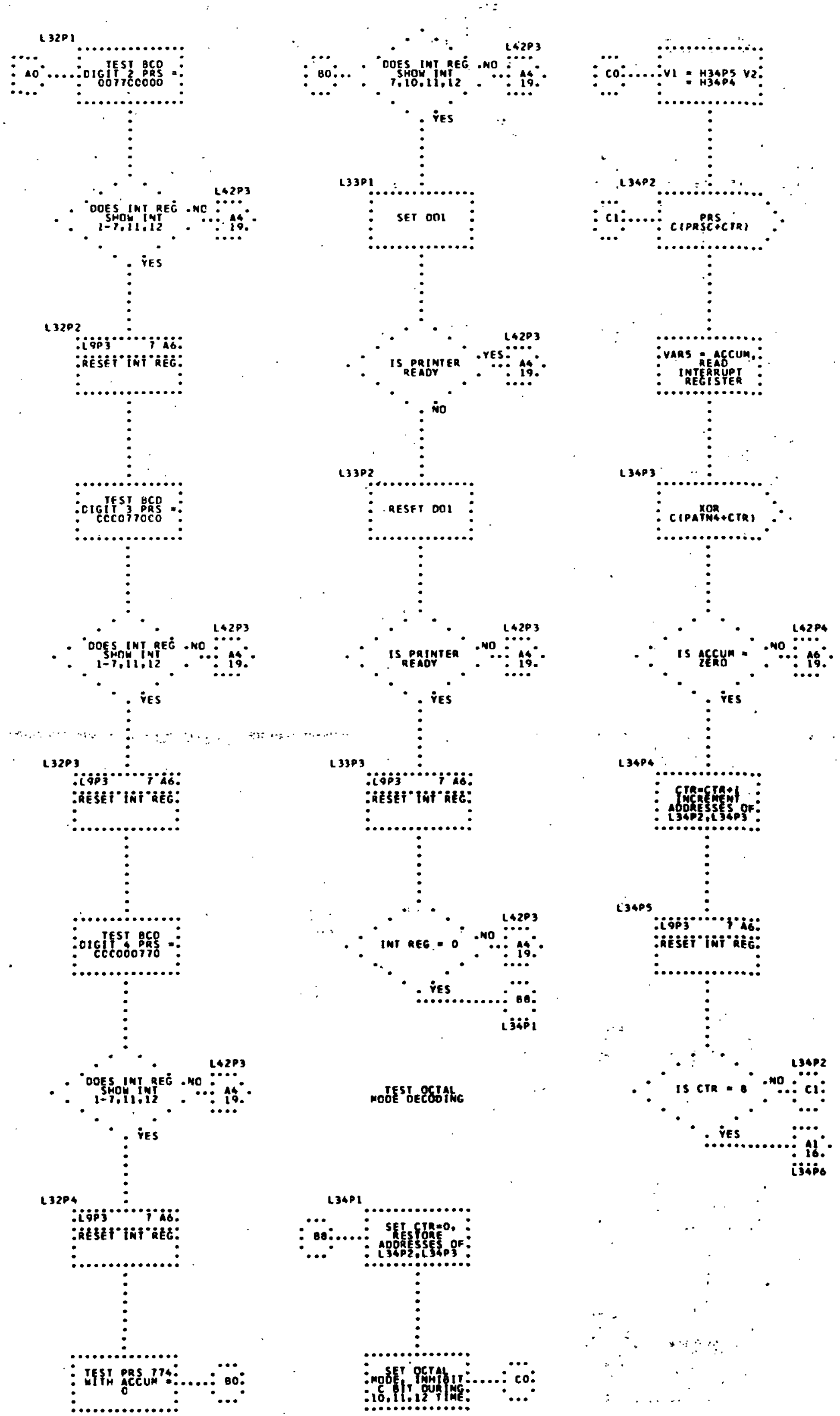


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 15)

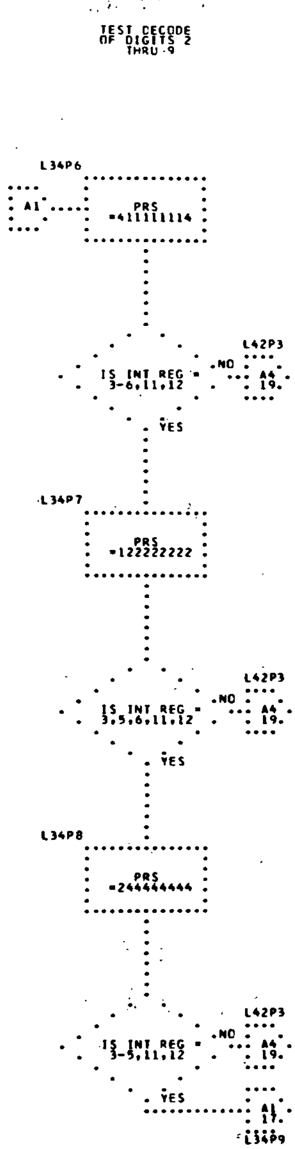


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 16)

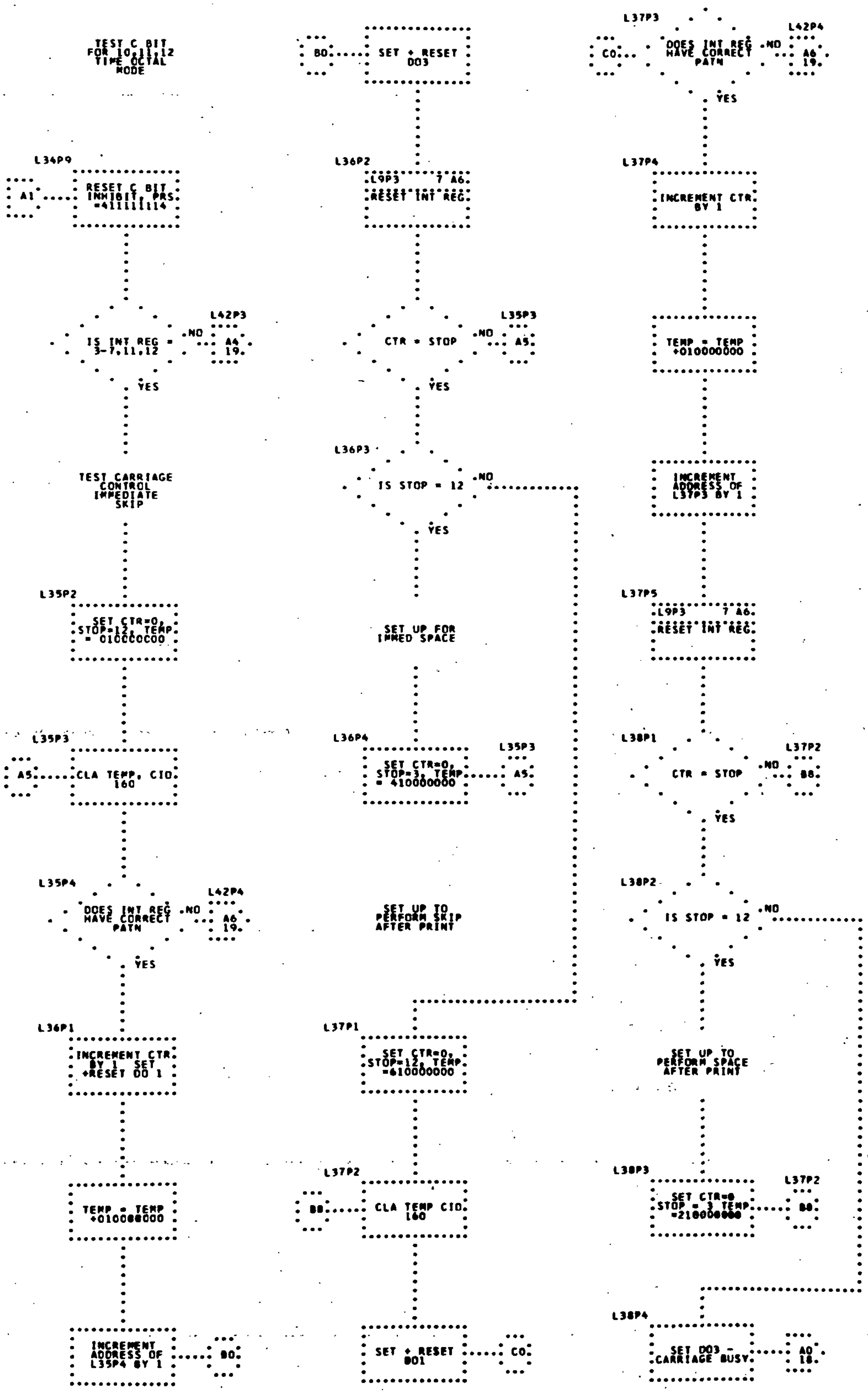


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 17)

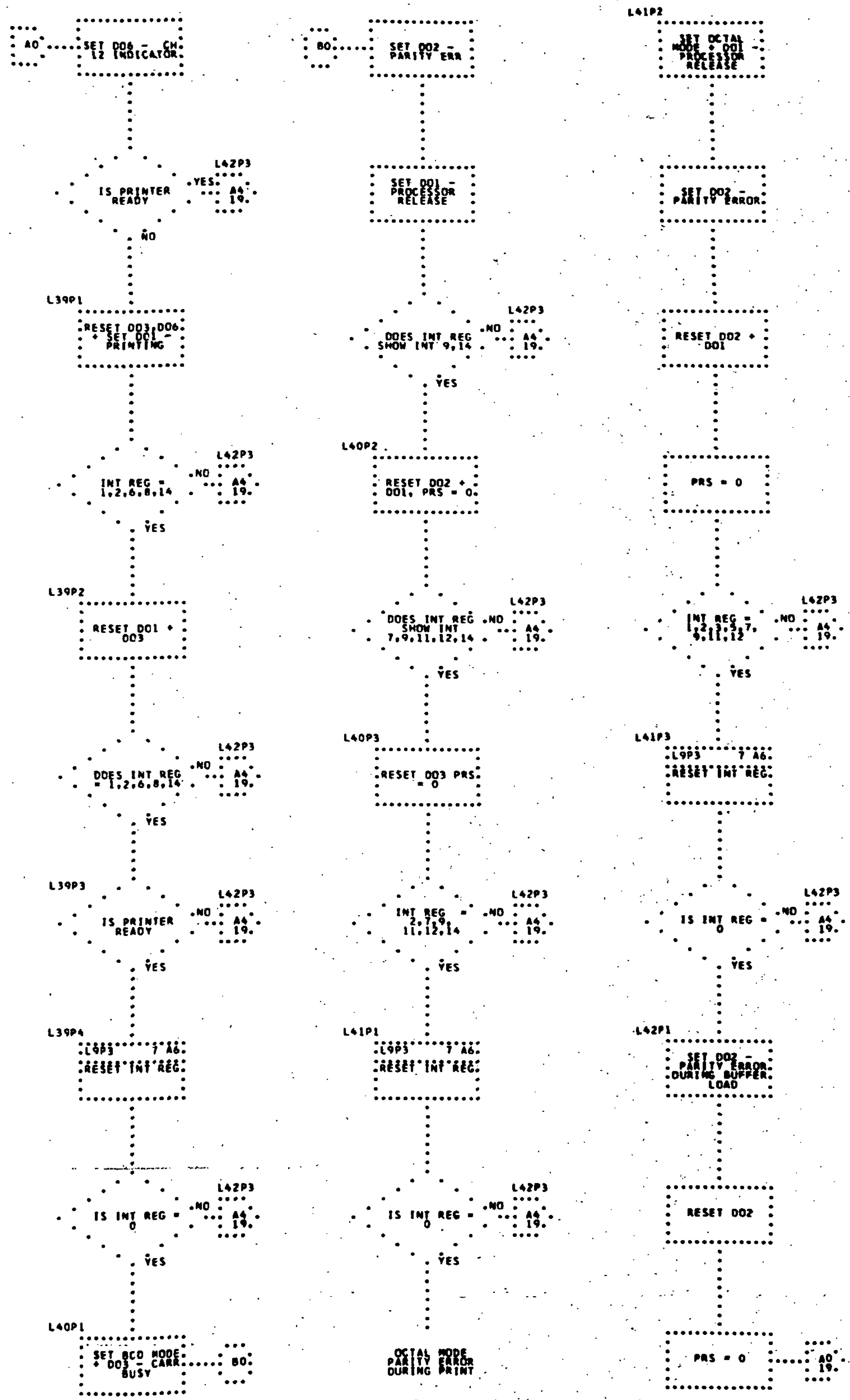


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 18)

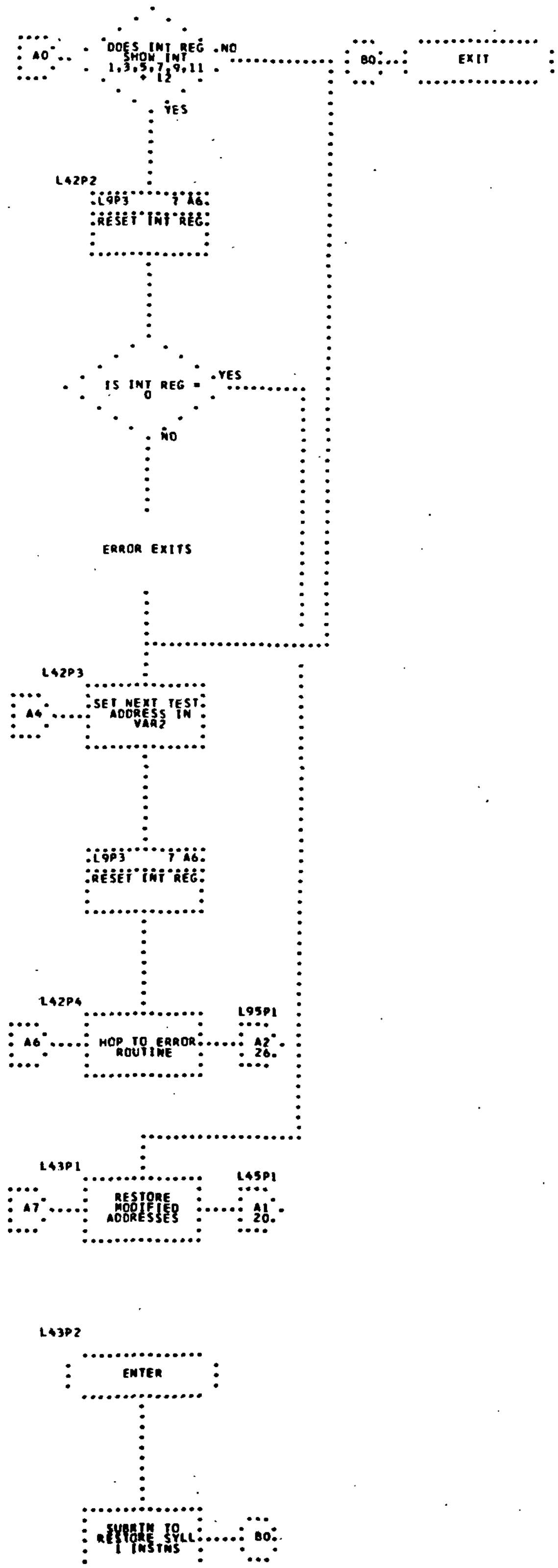


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 19)

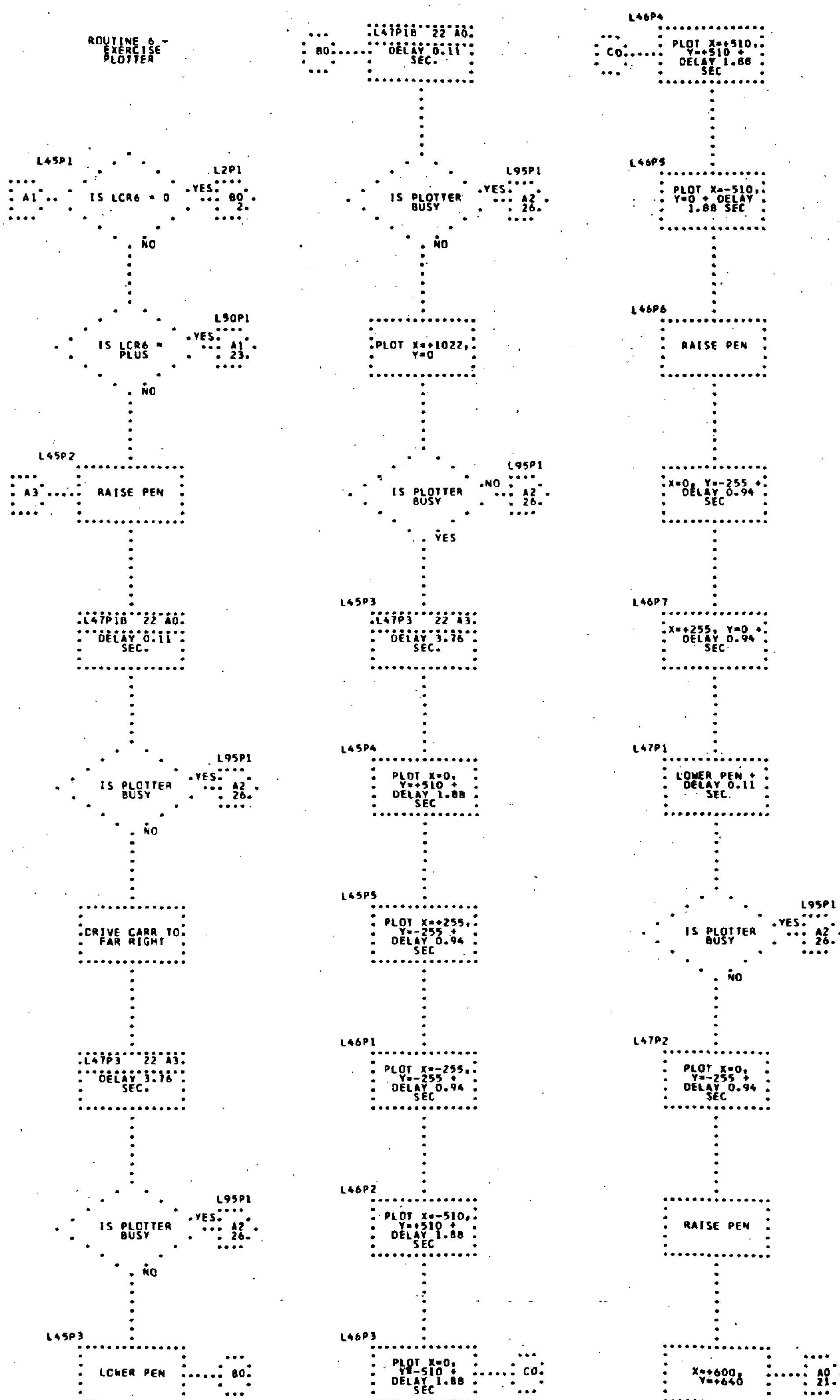


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 20)

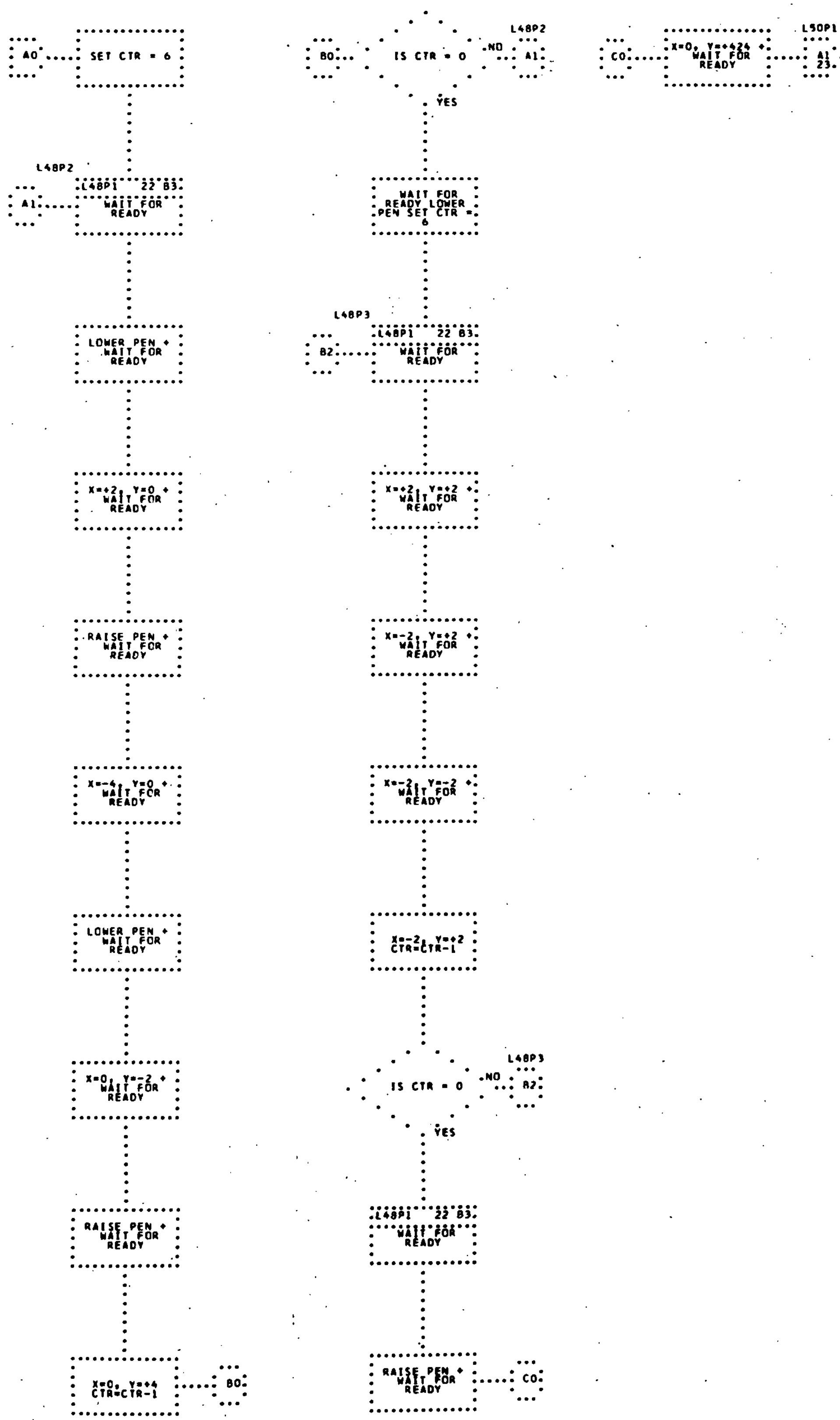


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 21)

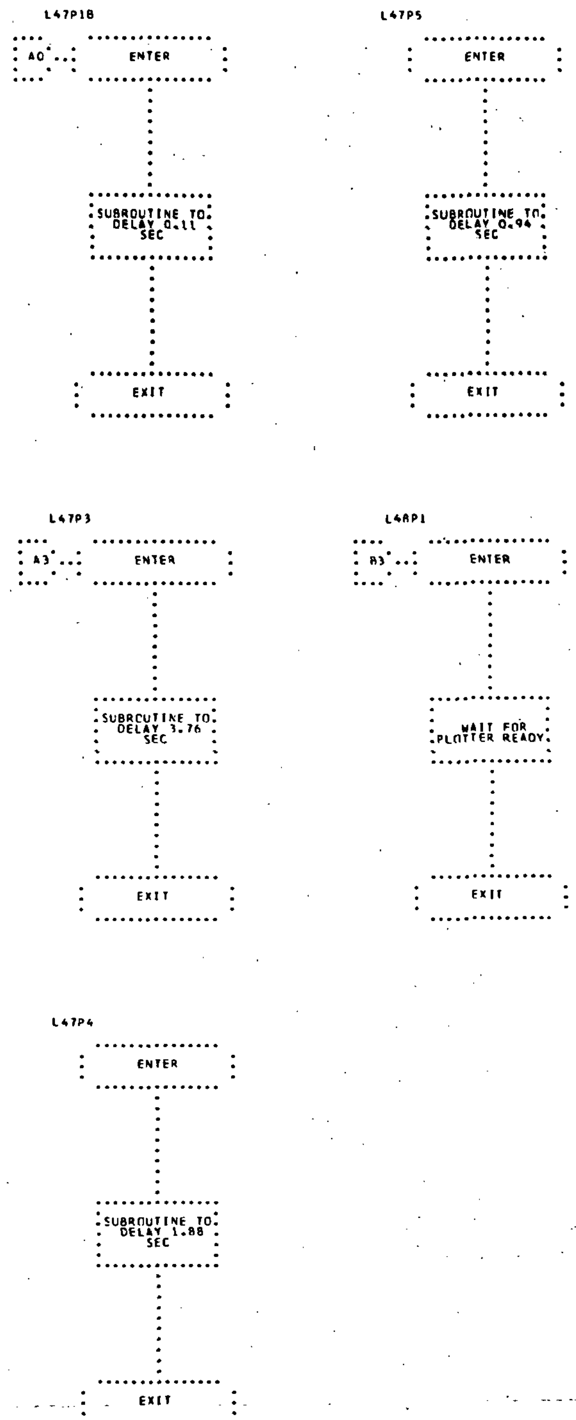


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 22)

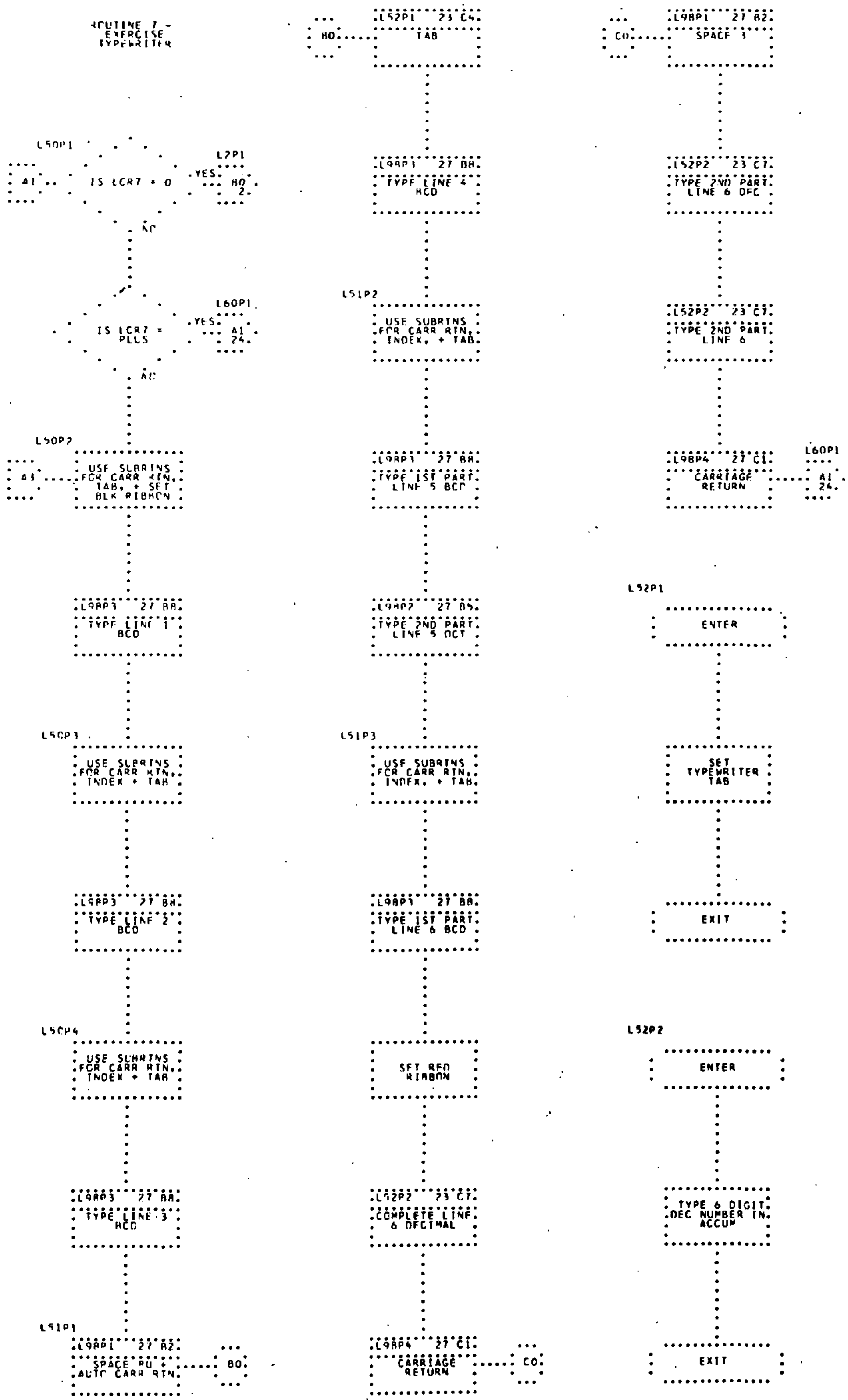


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 23)

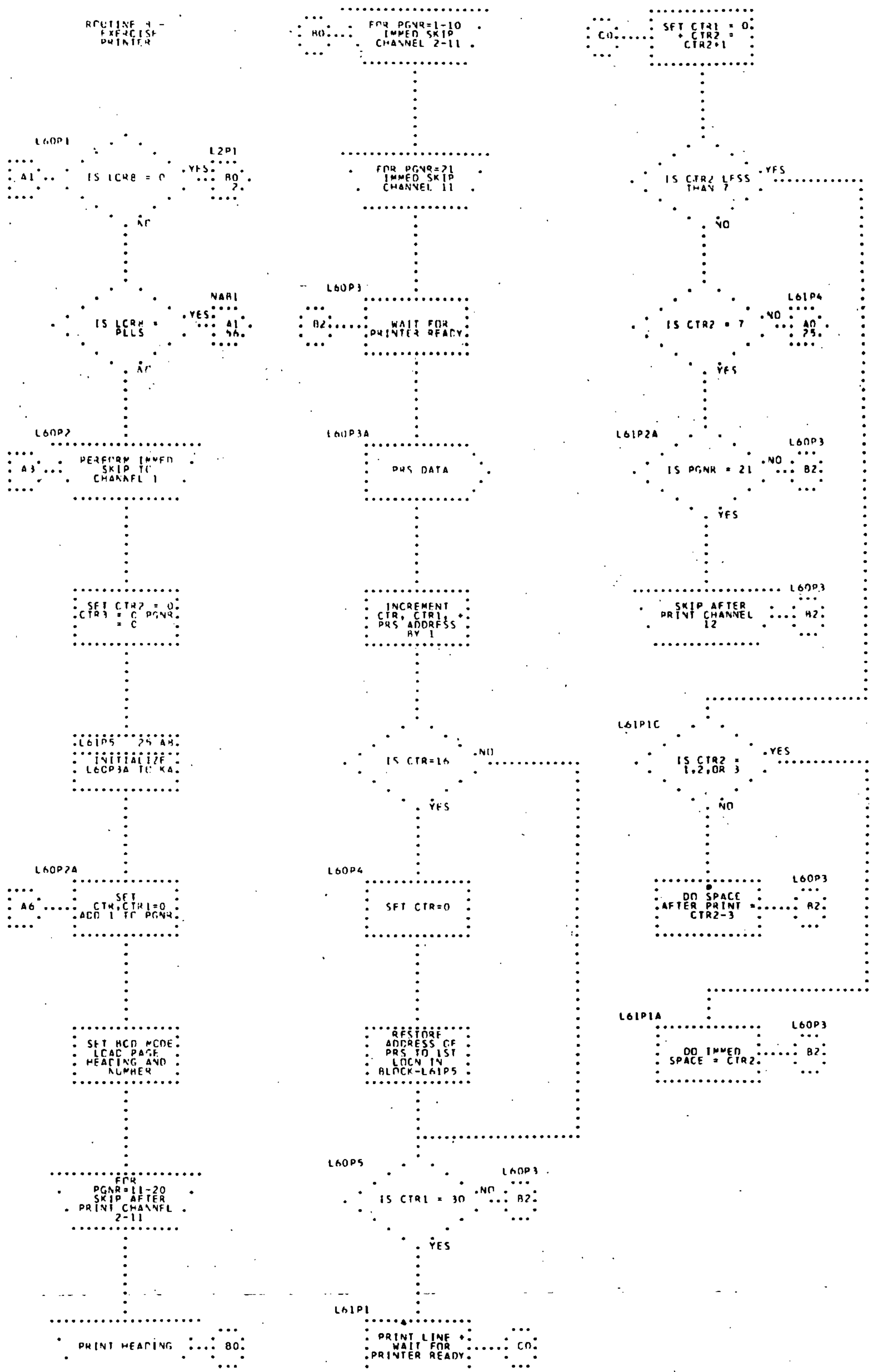

Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 24)

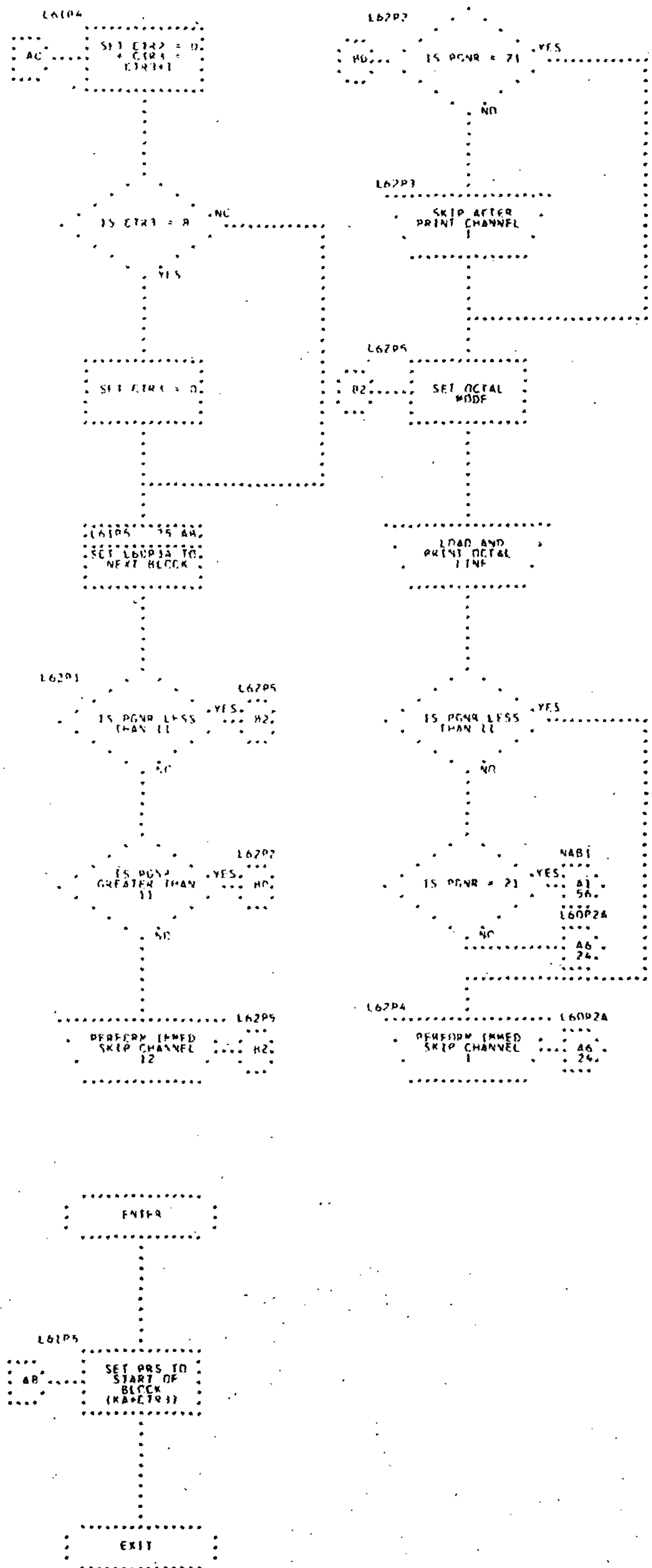

Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 25)

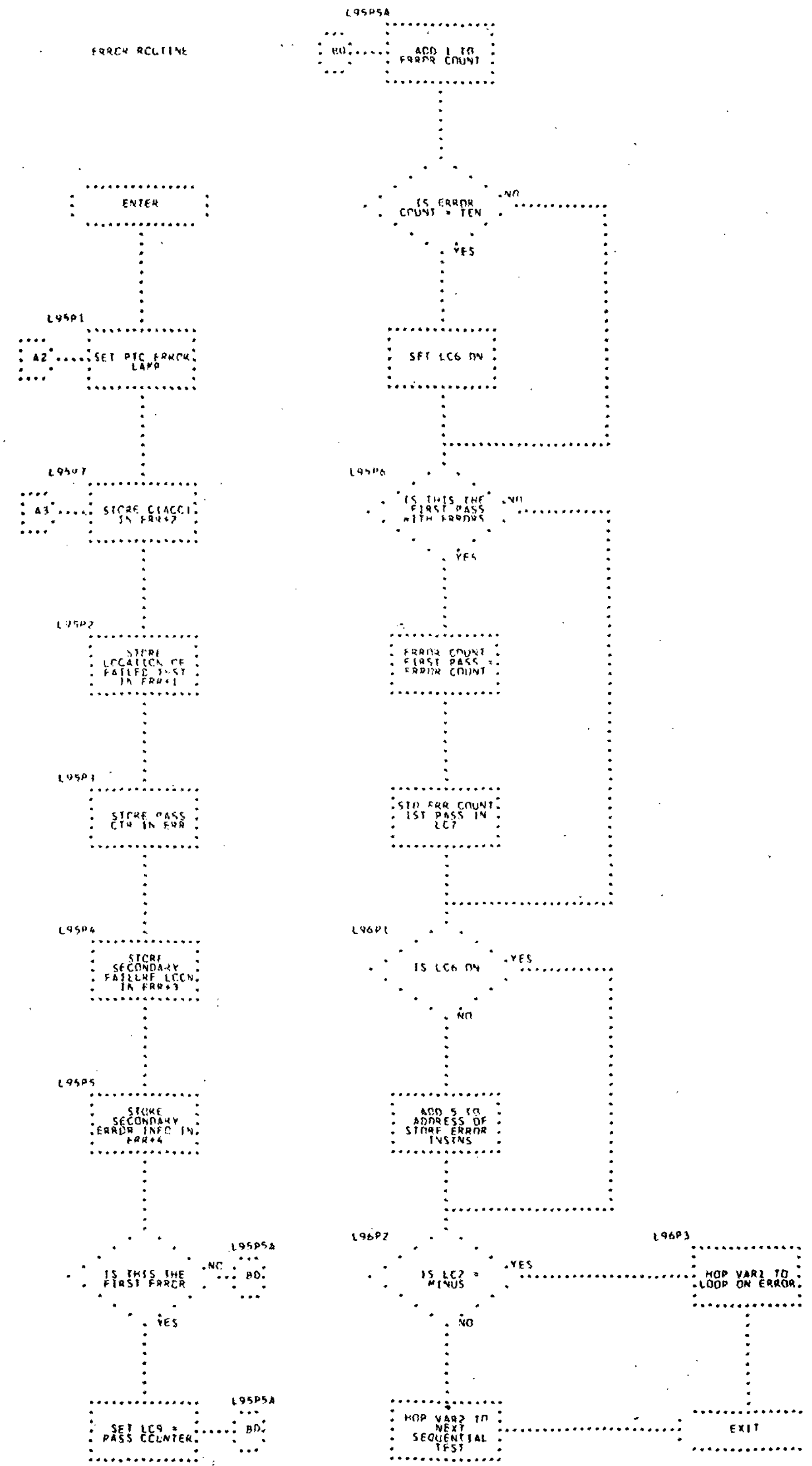


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 26)

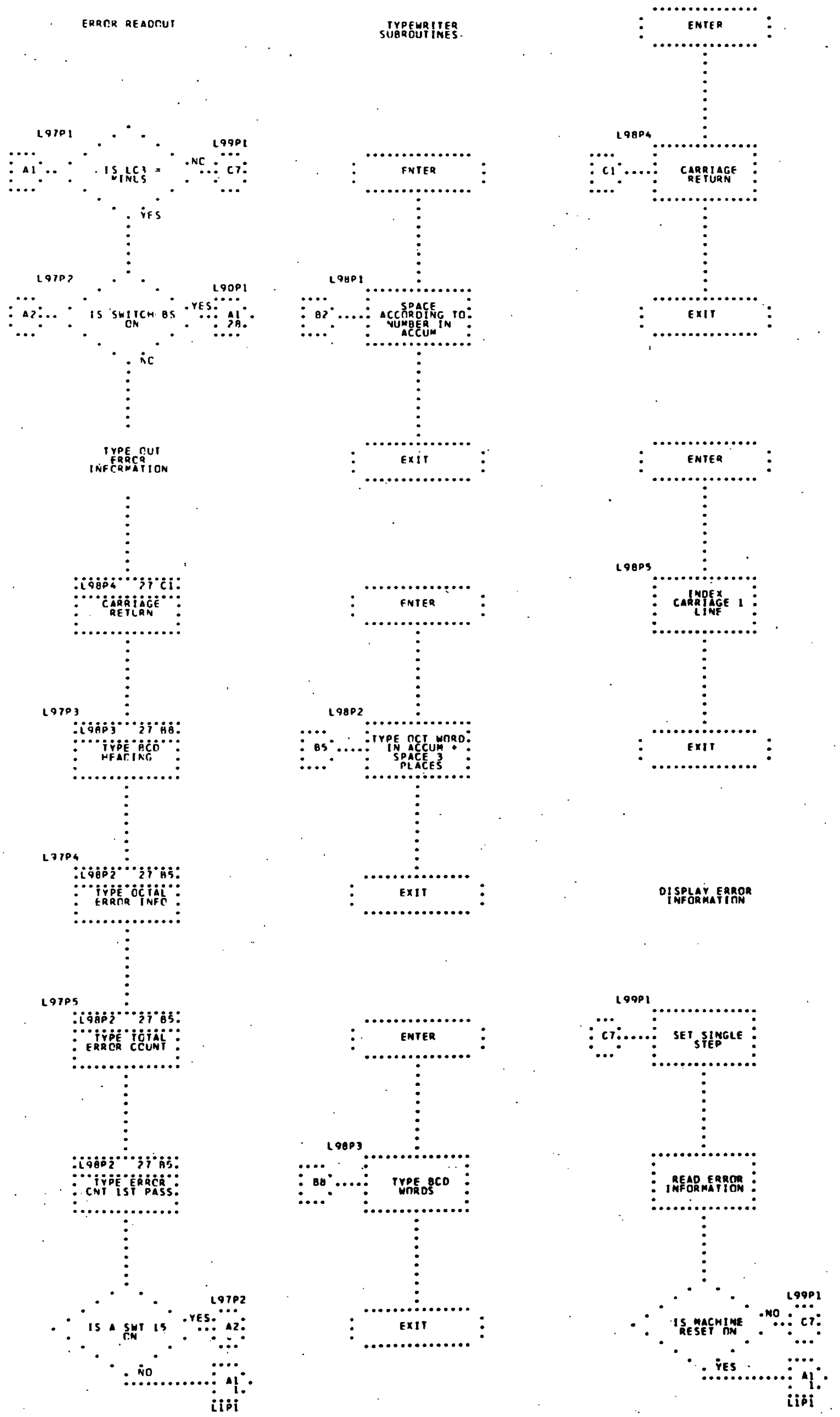


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 27)

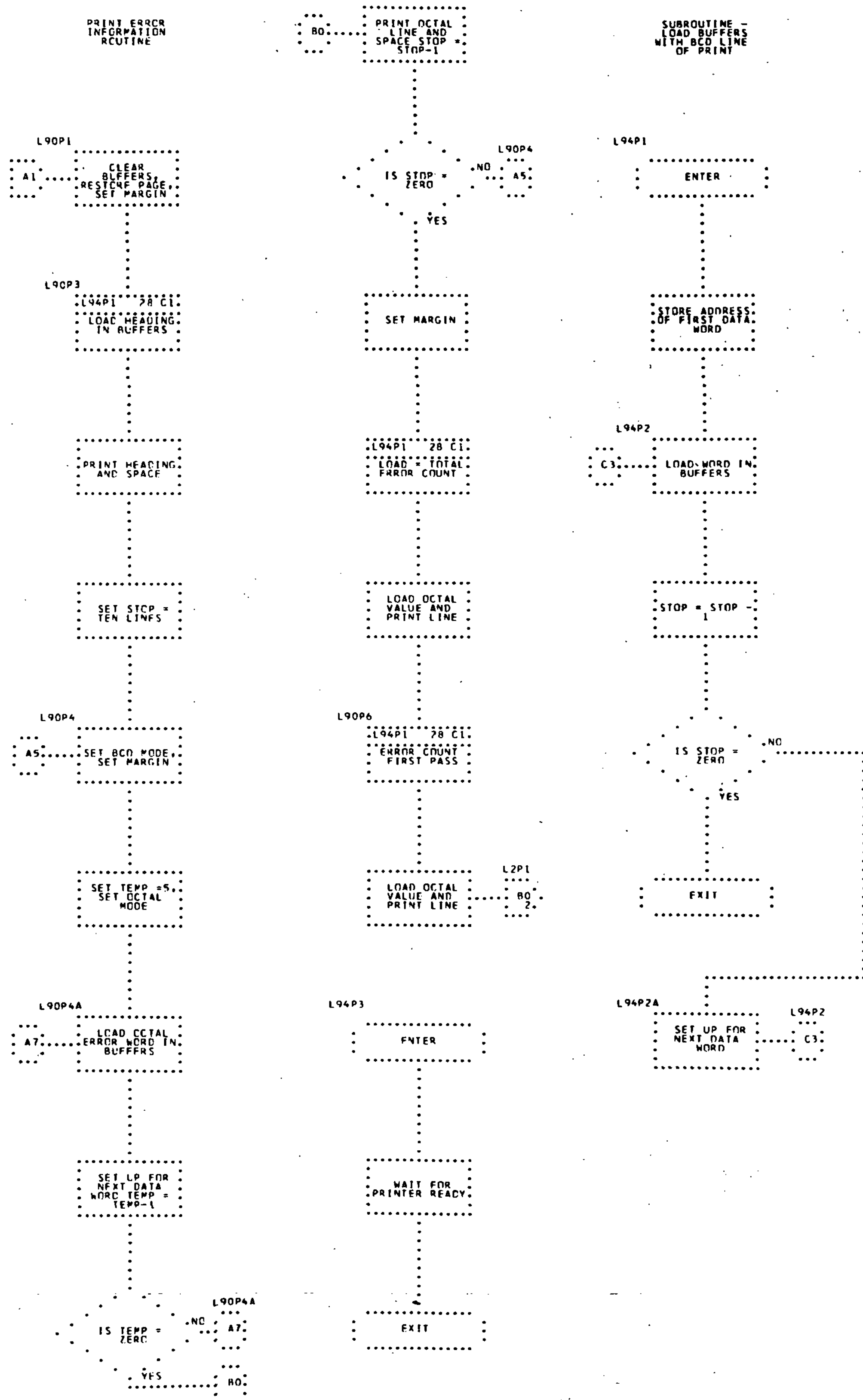


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 28)

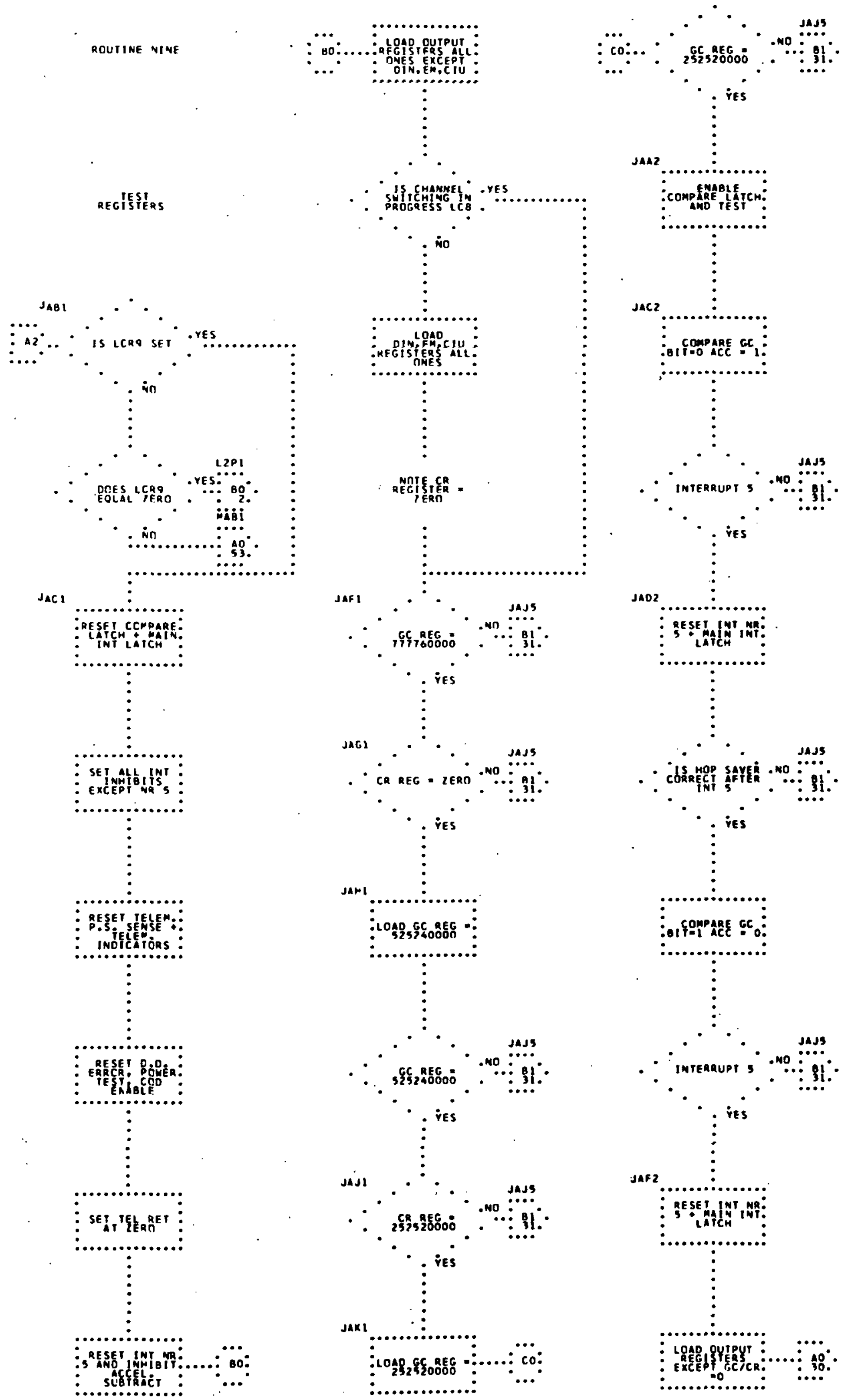


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 29)

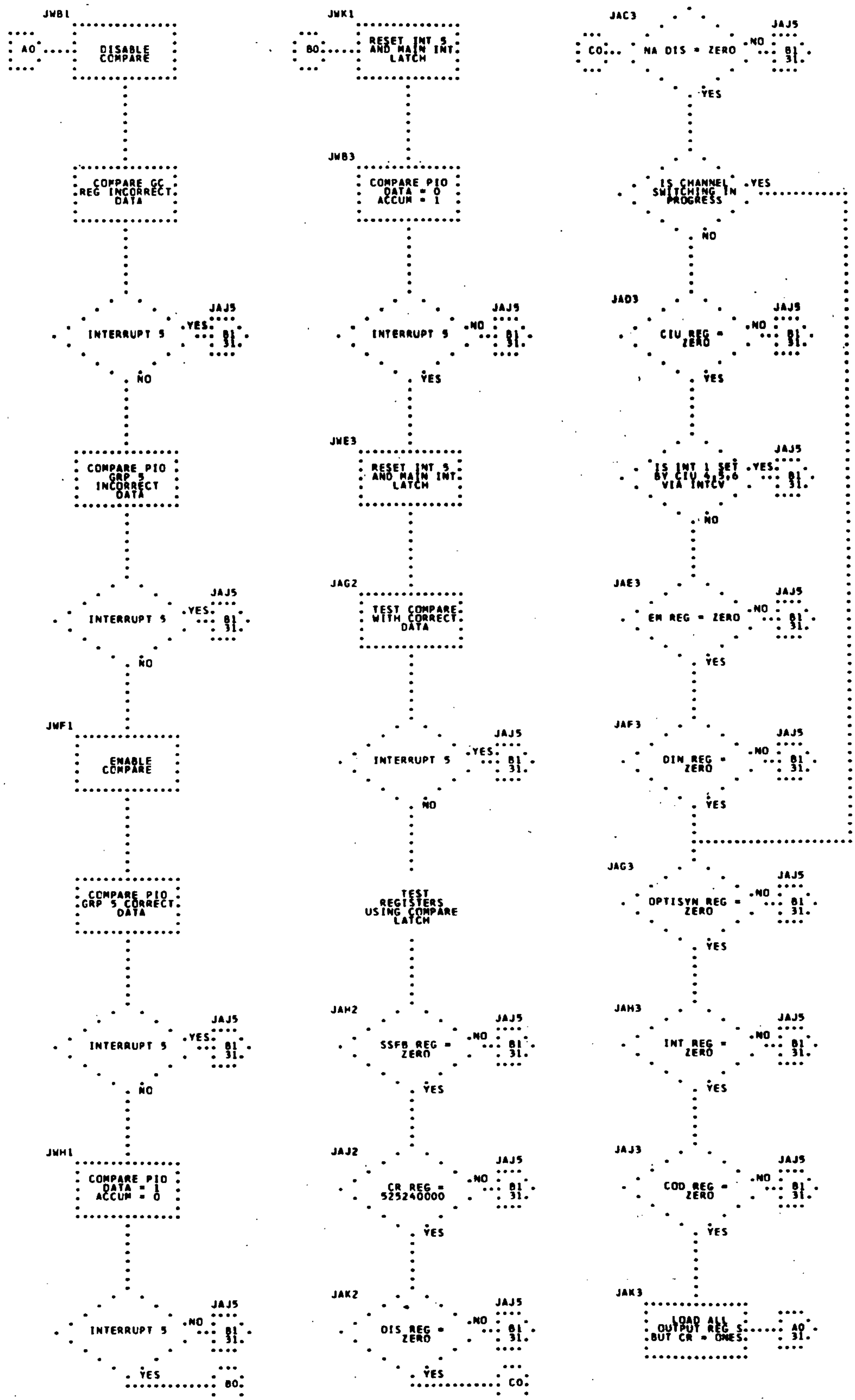


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 30)

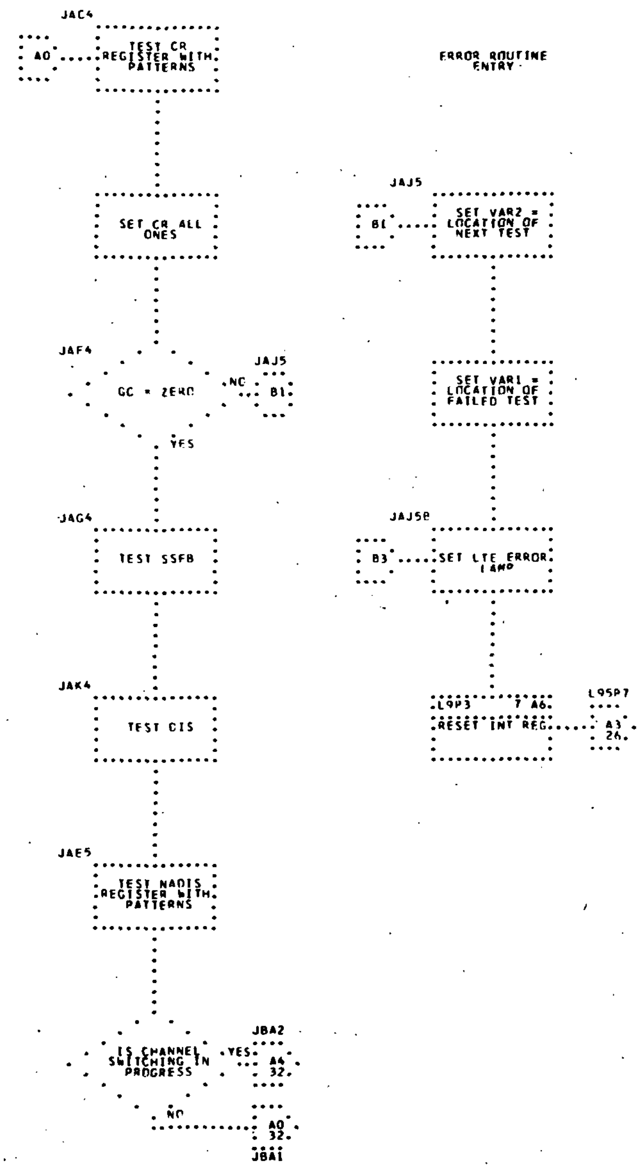


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 31)

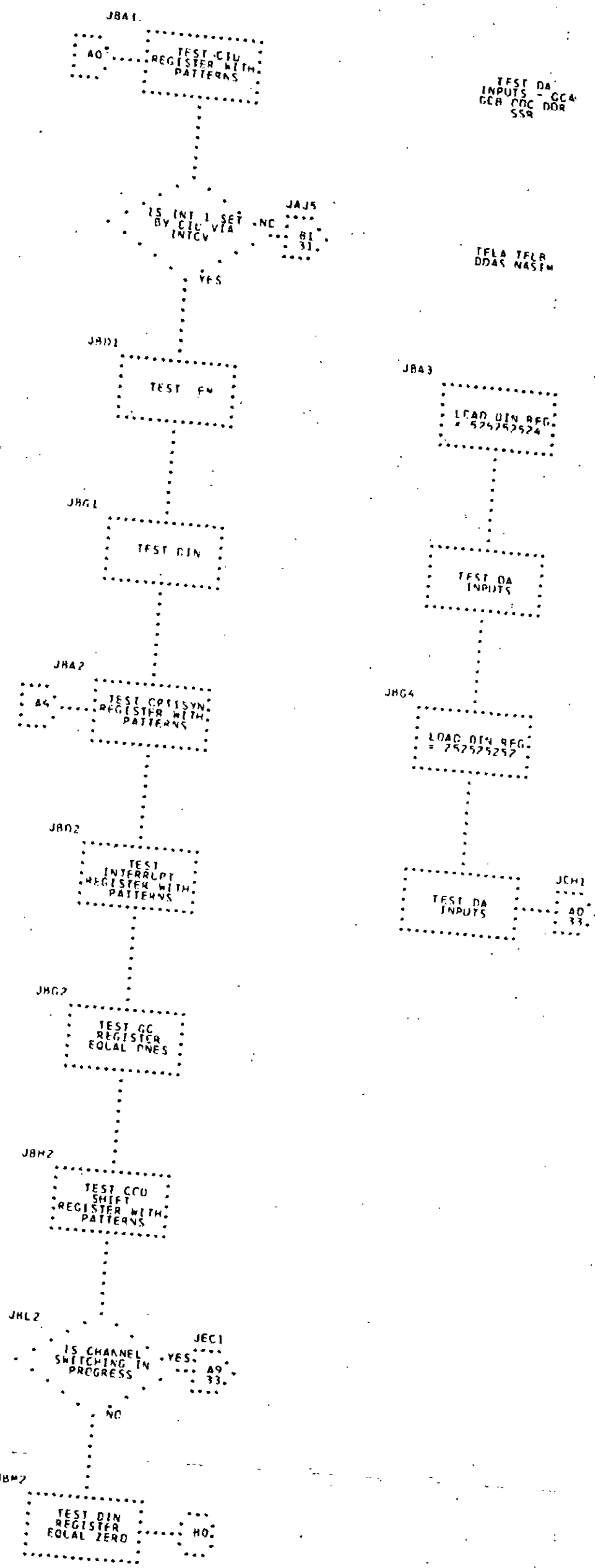


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 32)

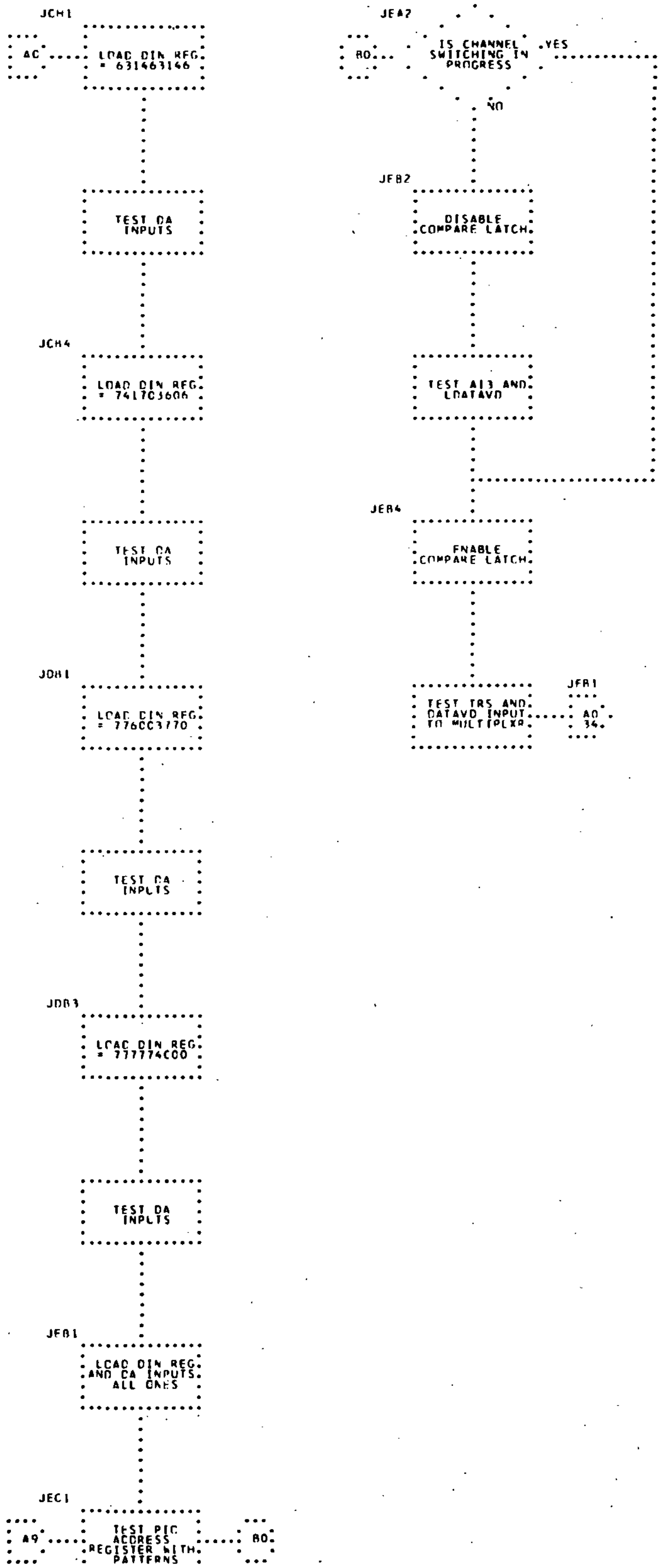


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 33)

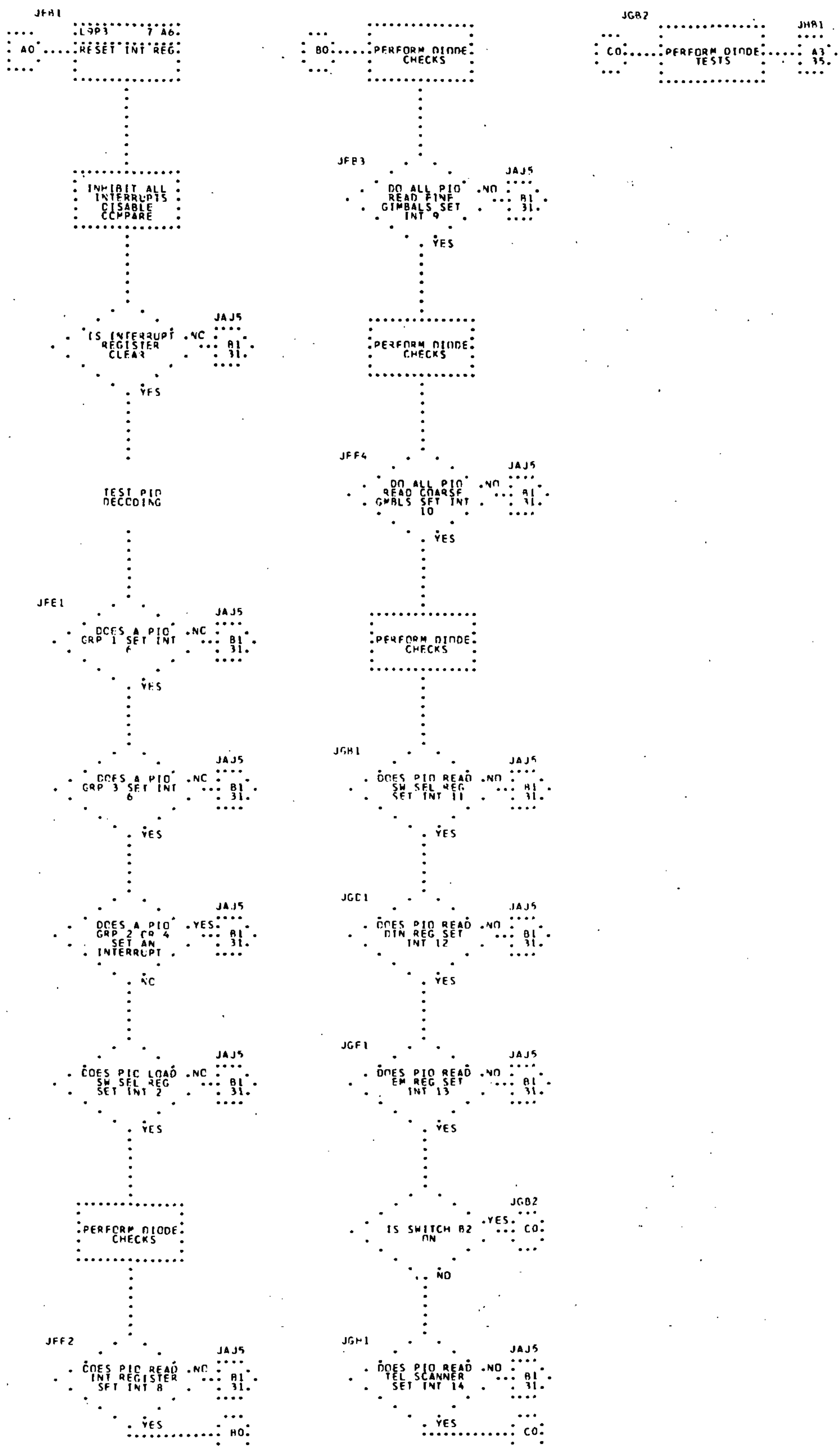


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 34)

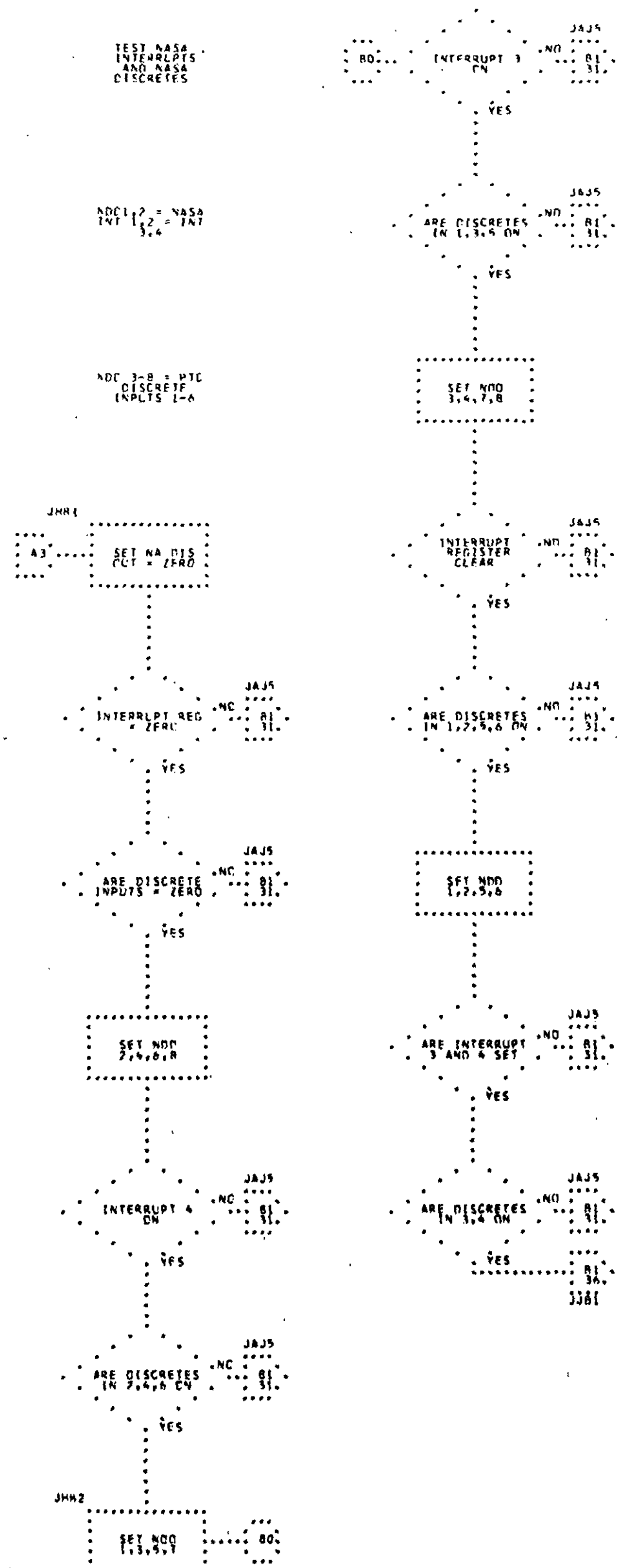


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 35)

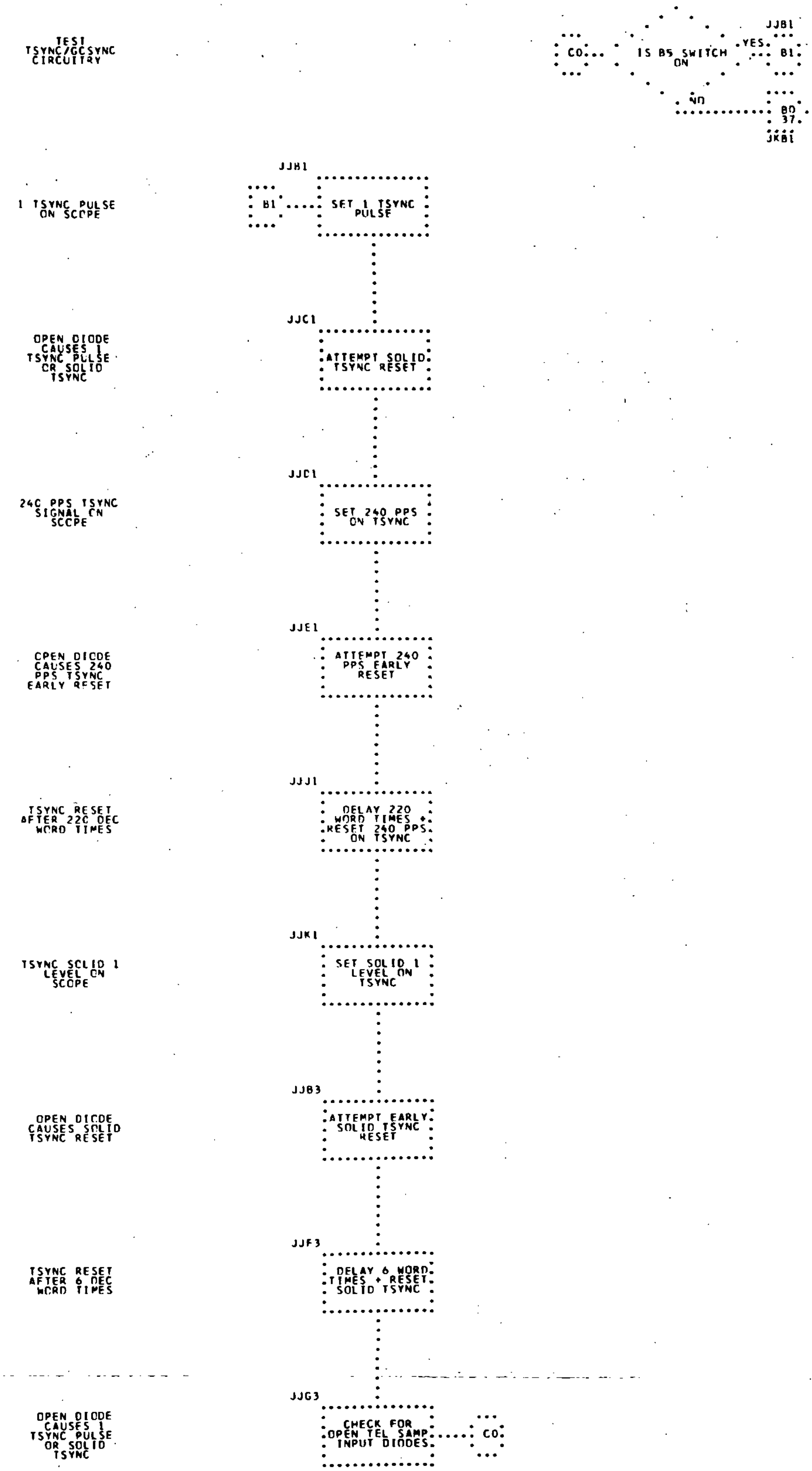


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 36)

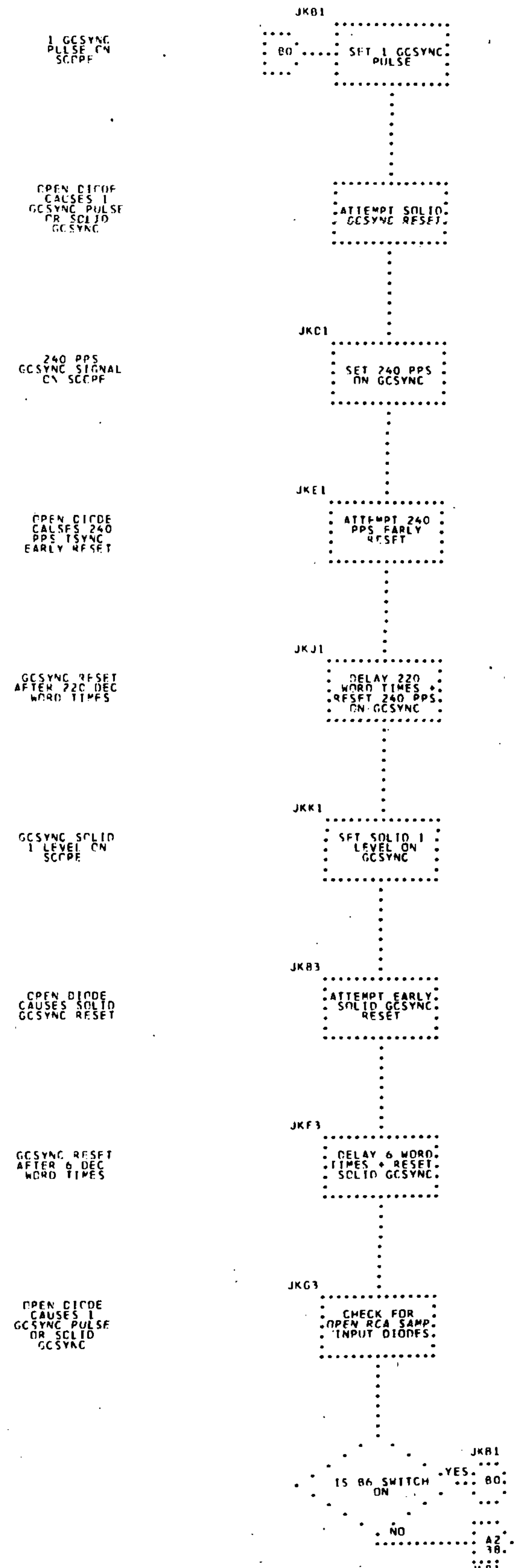


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 37)

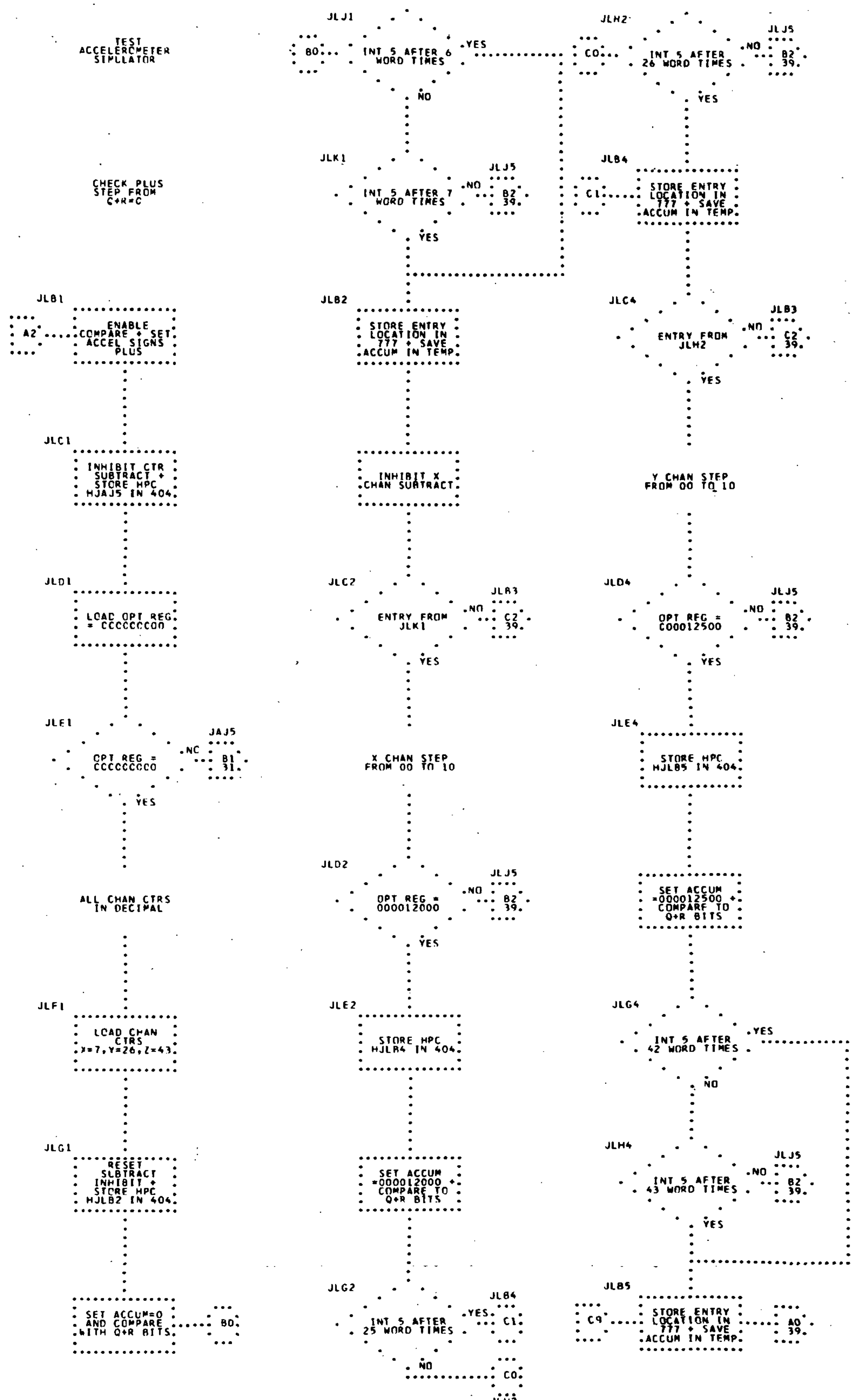


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 38)

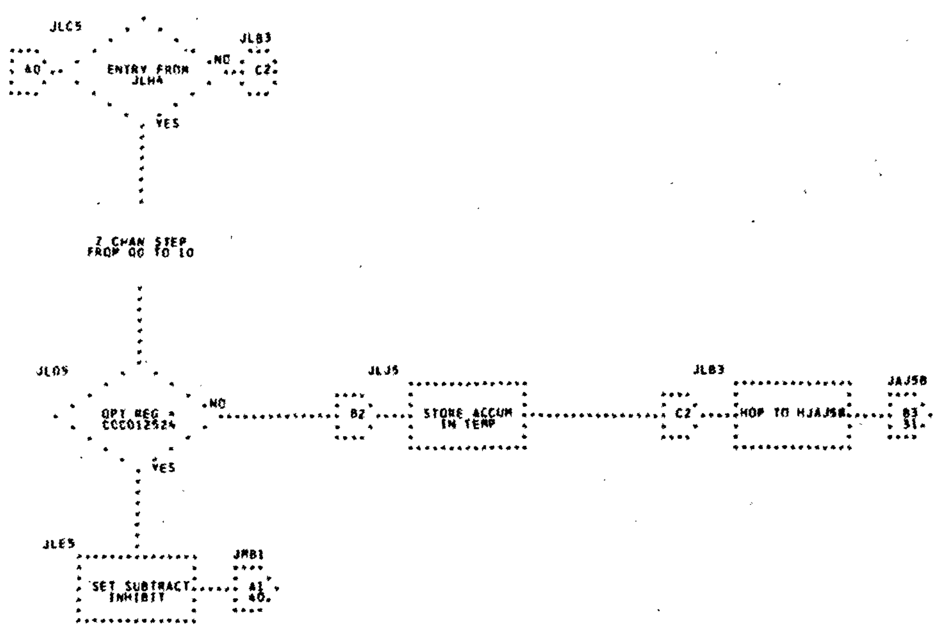


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 39)

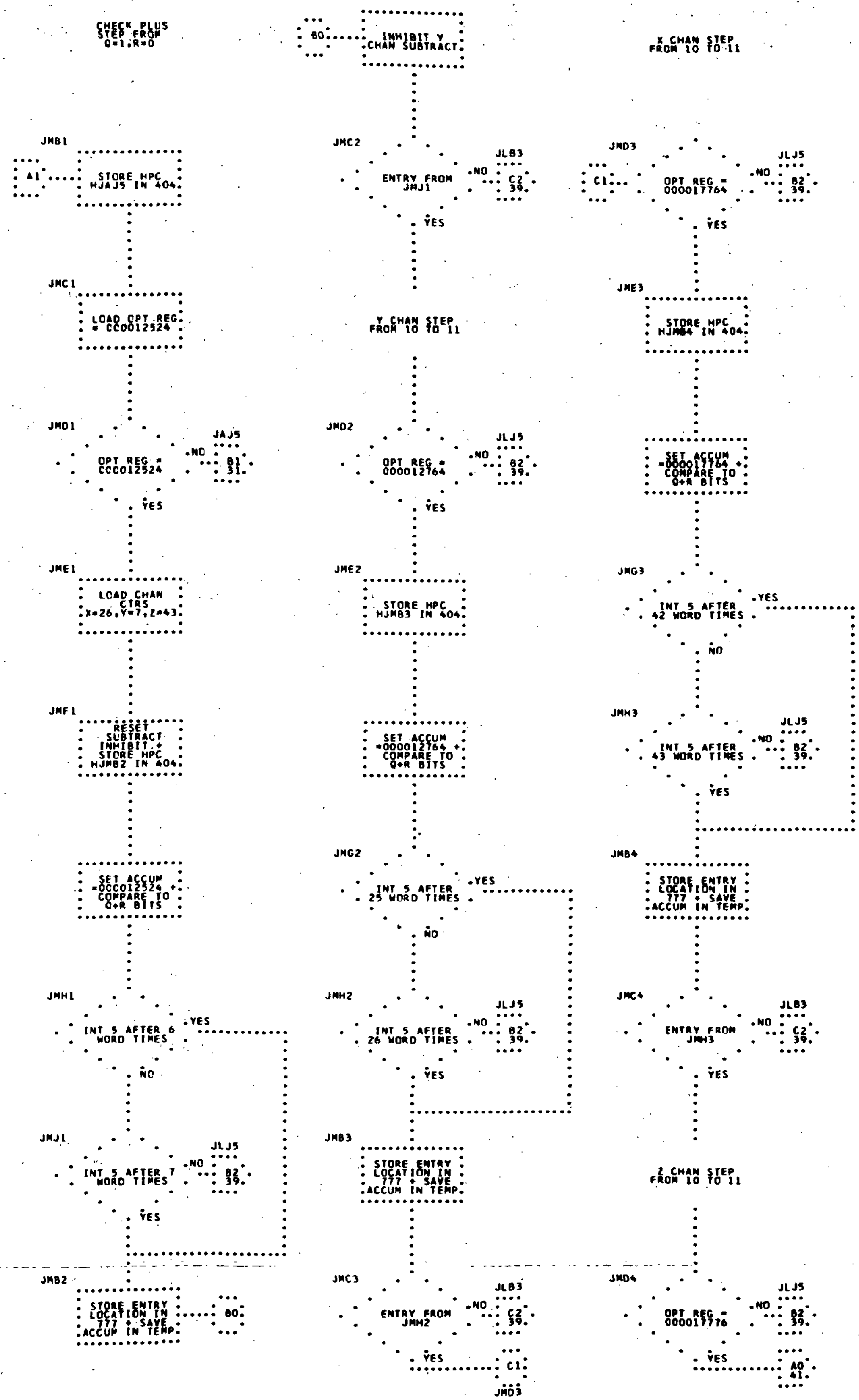


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 40)

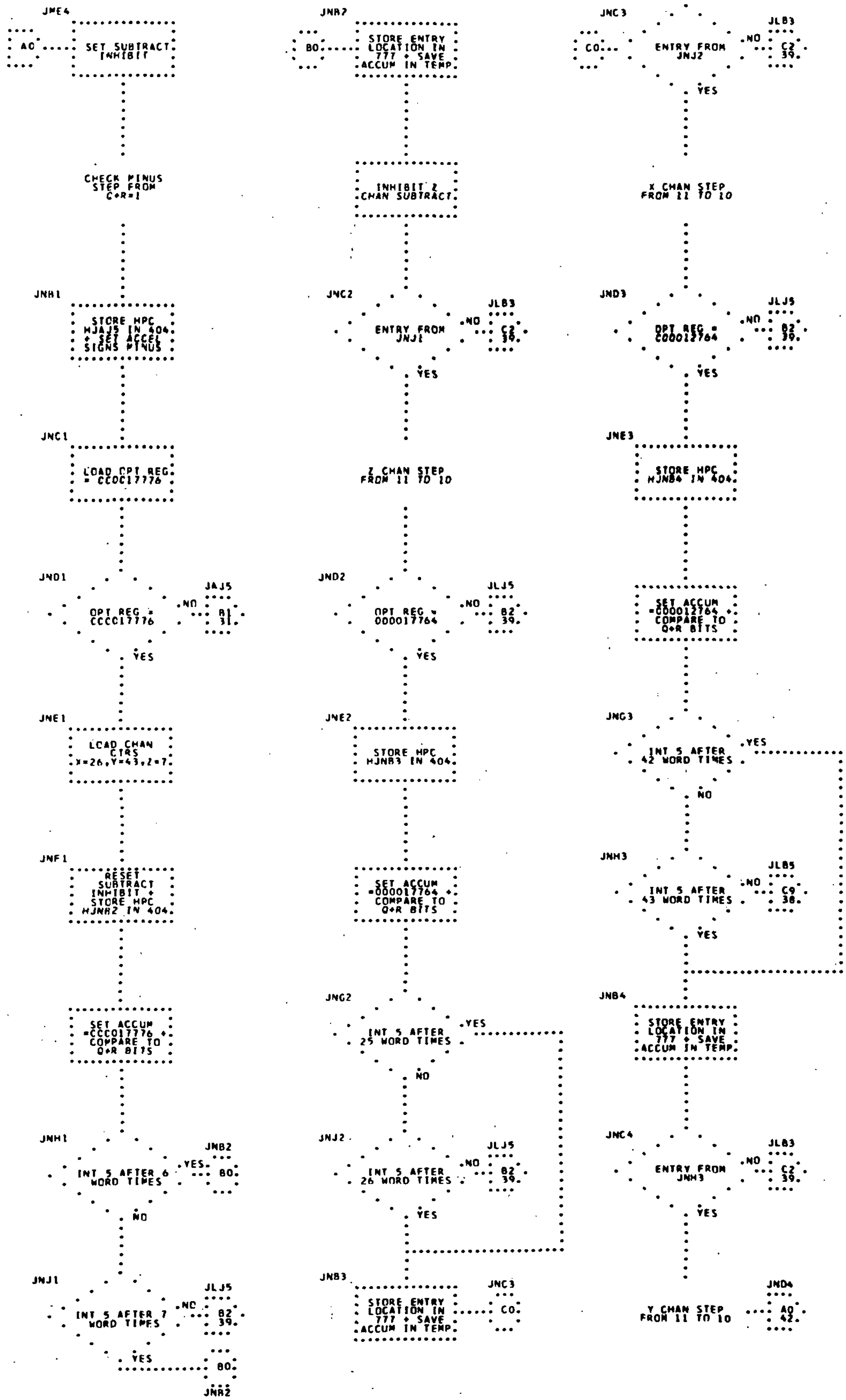


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 41)

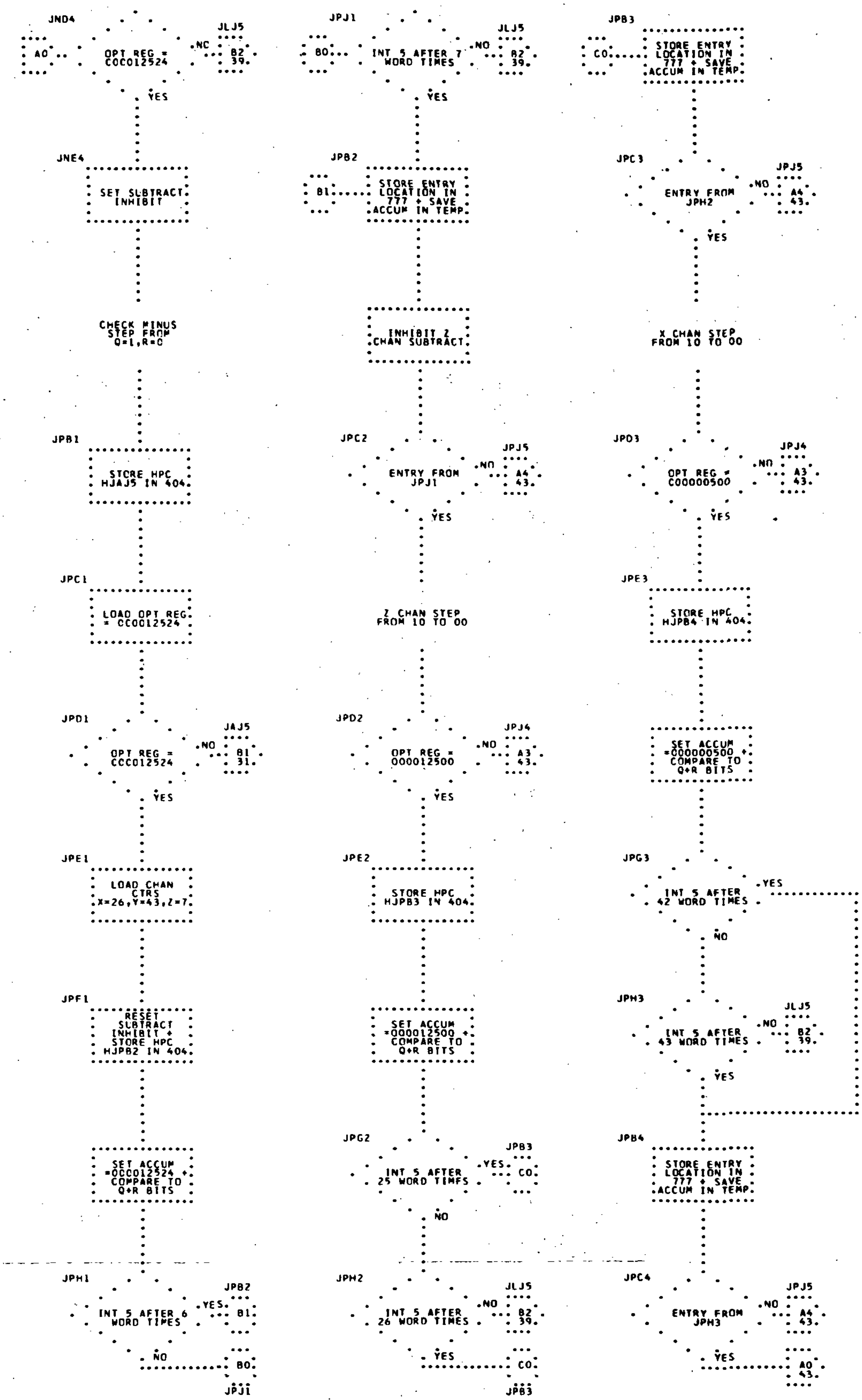


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 42)

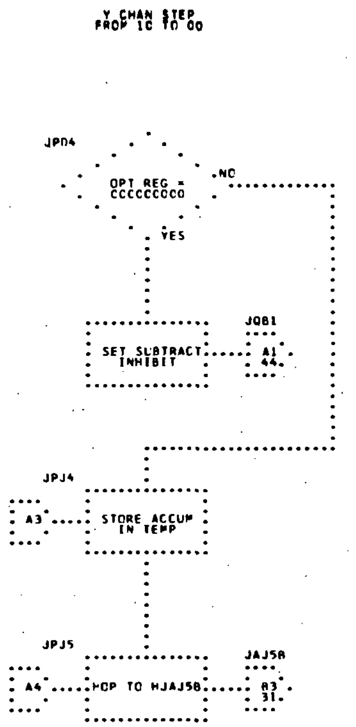


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 43)

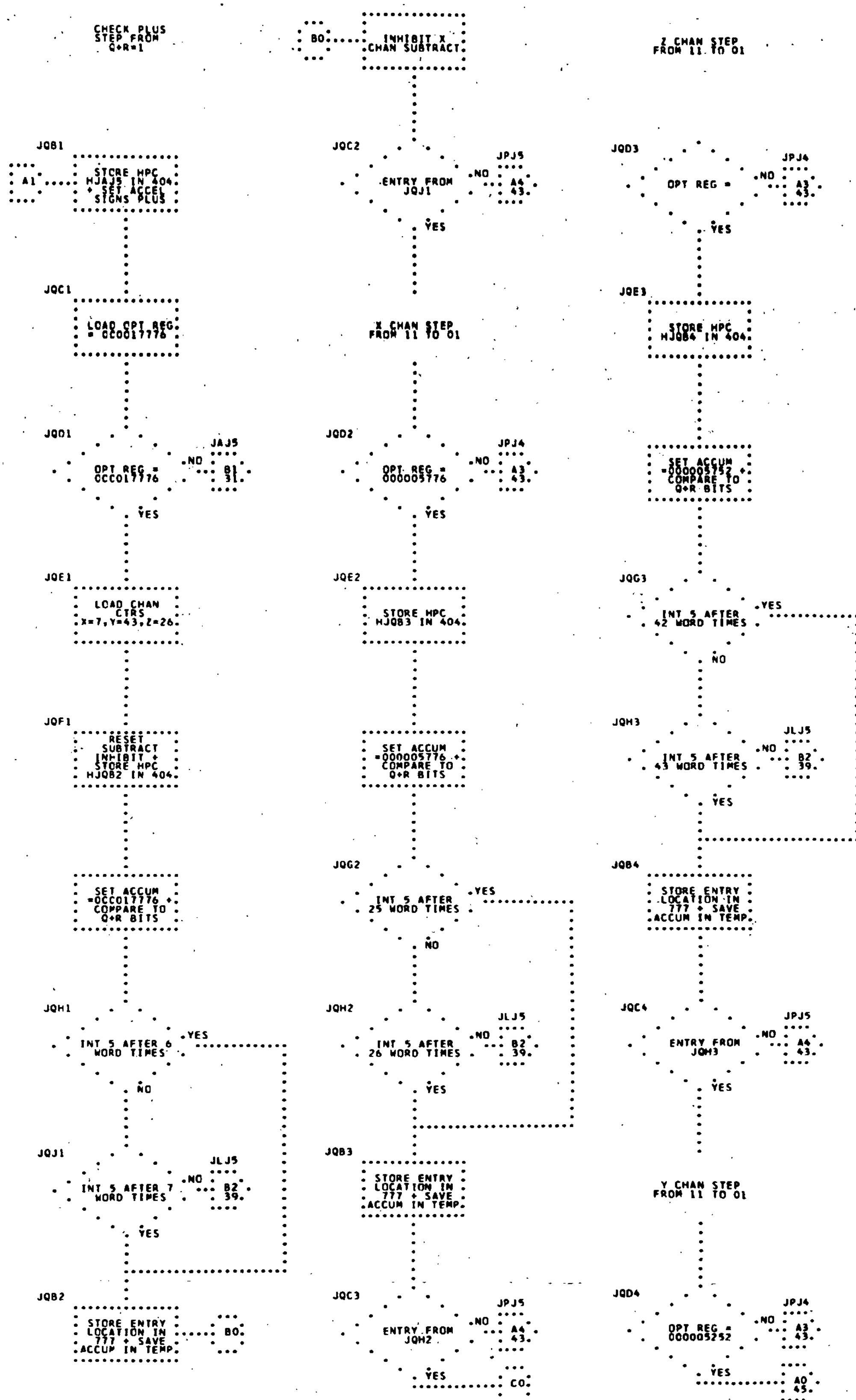


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 44)

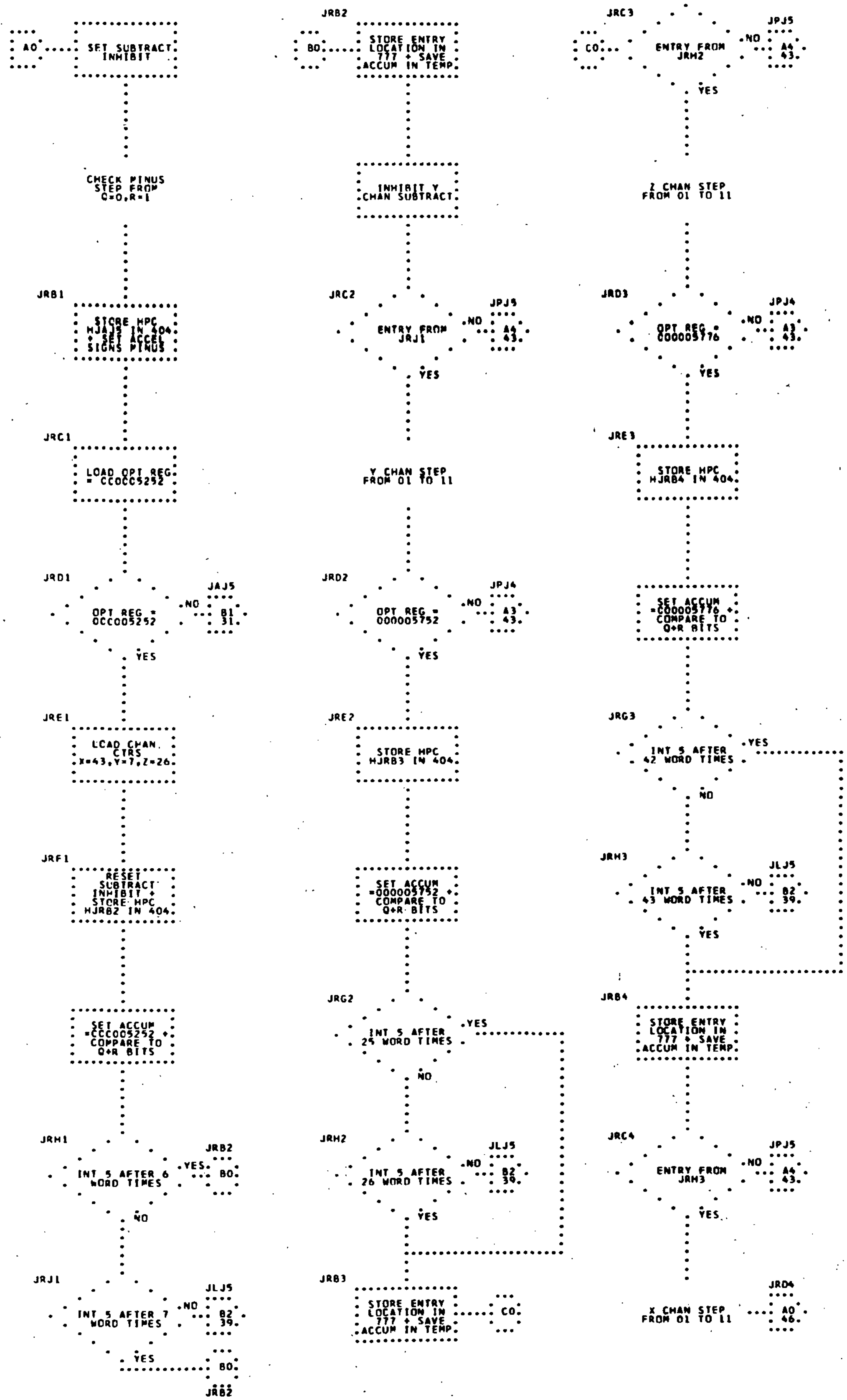


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 45)

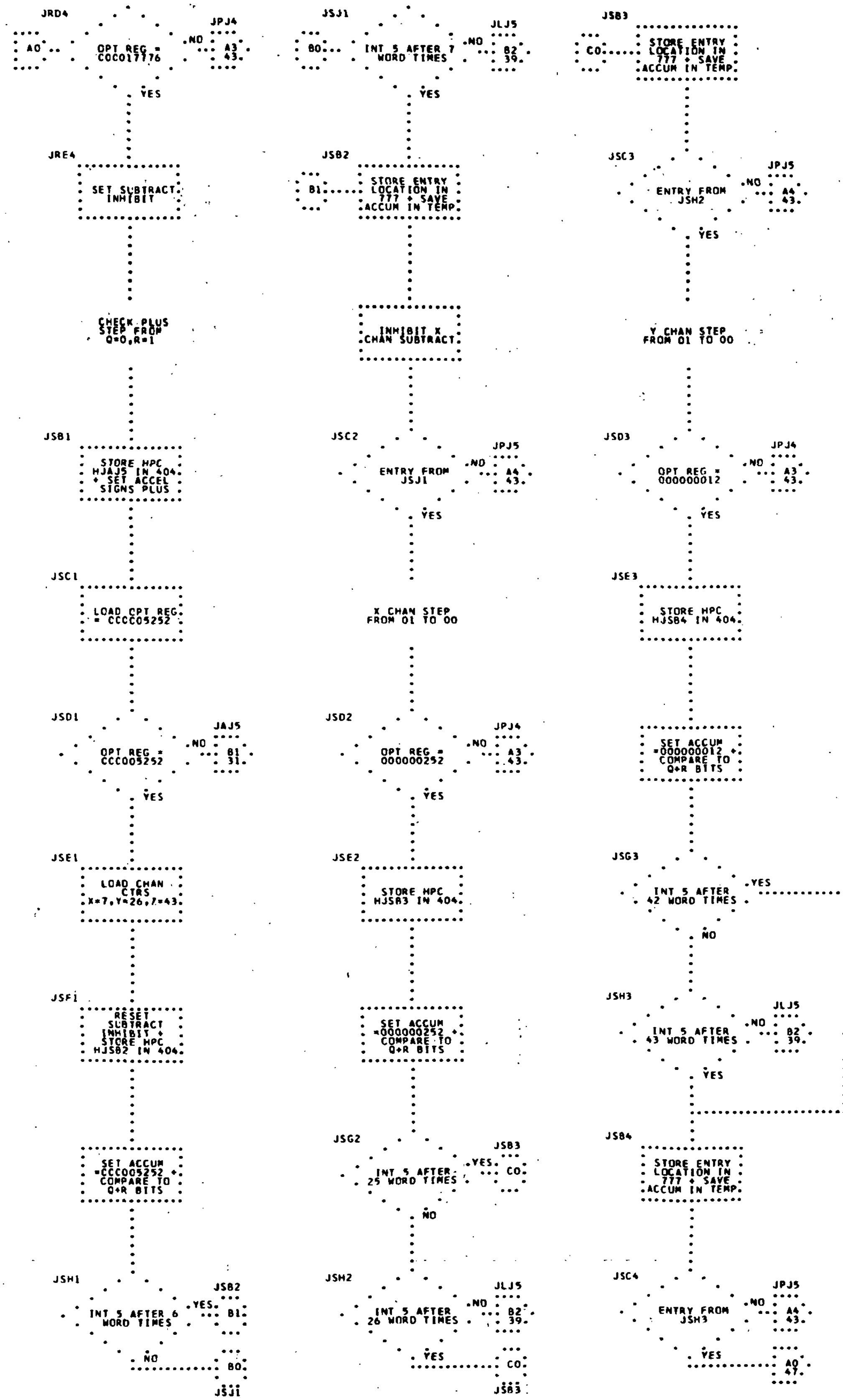


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 46)

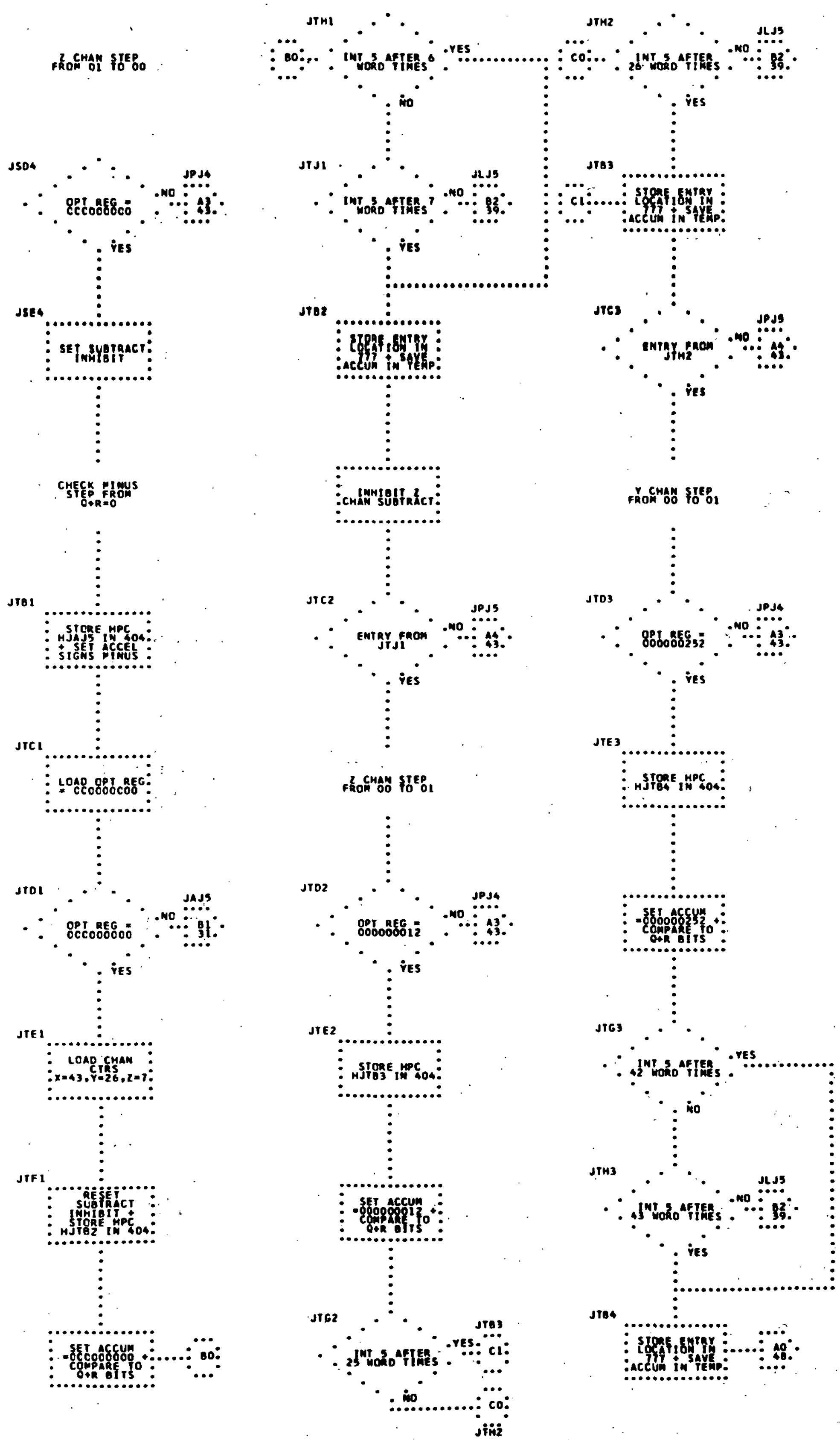


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 47)

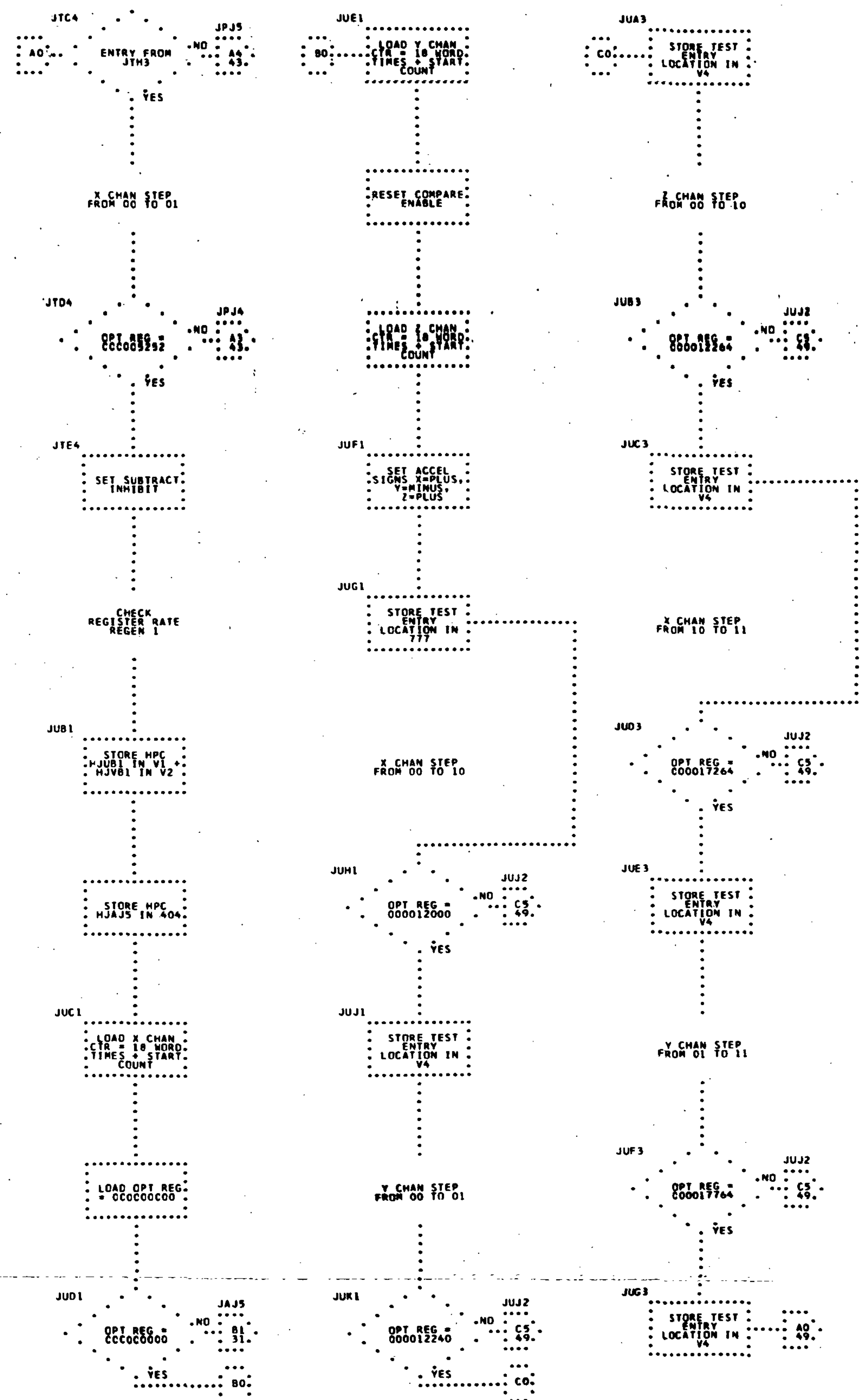


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 48)

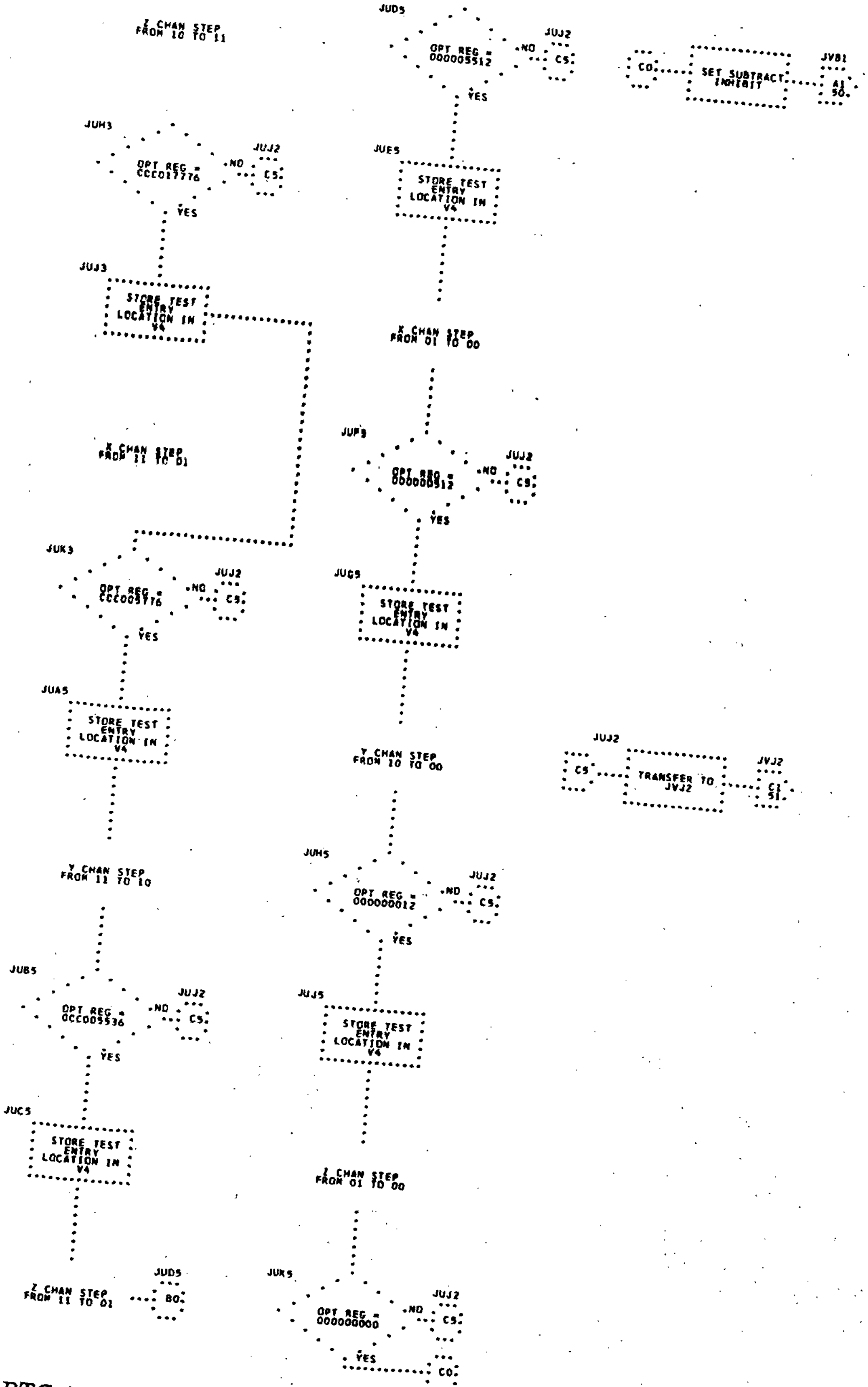


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 49)

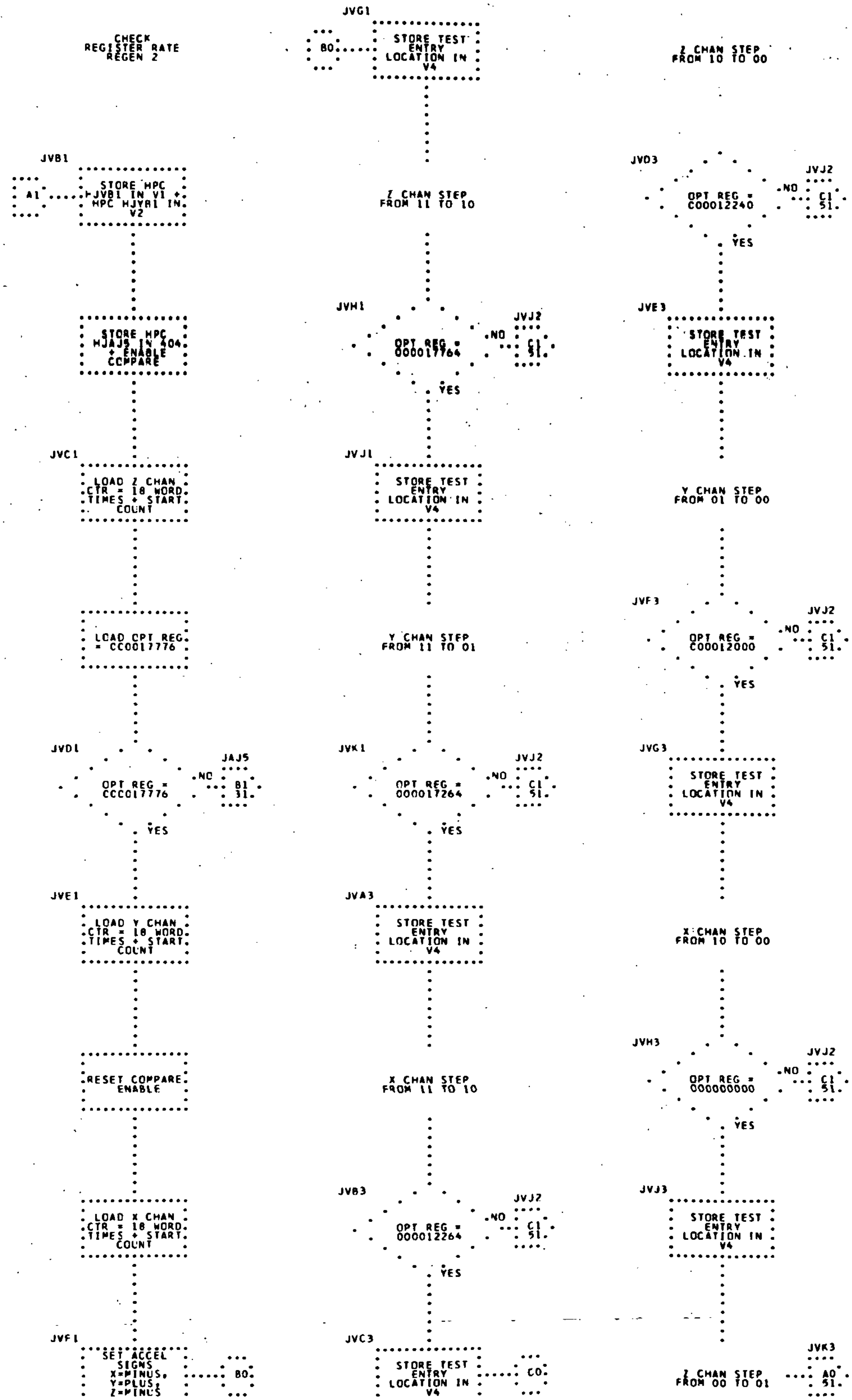


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 50)

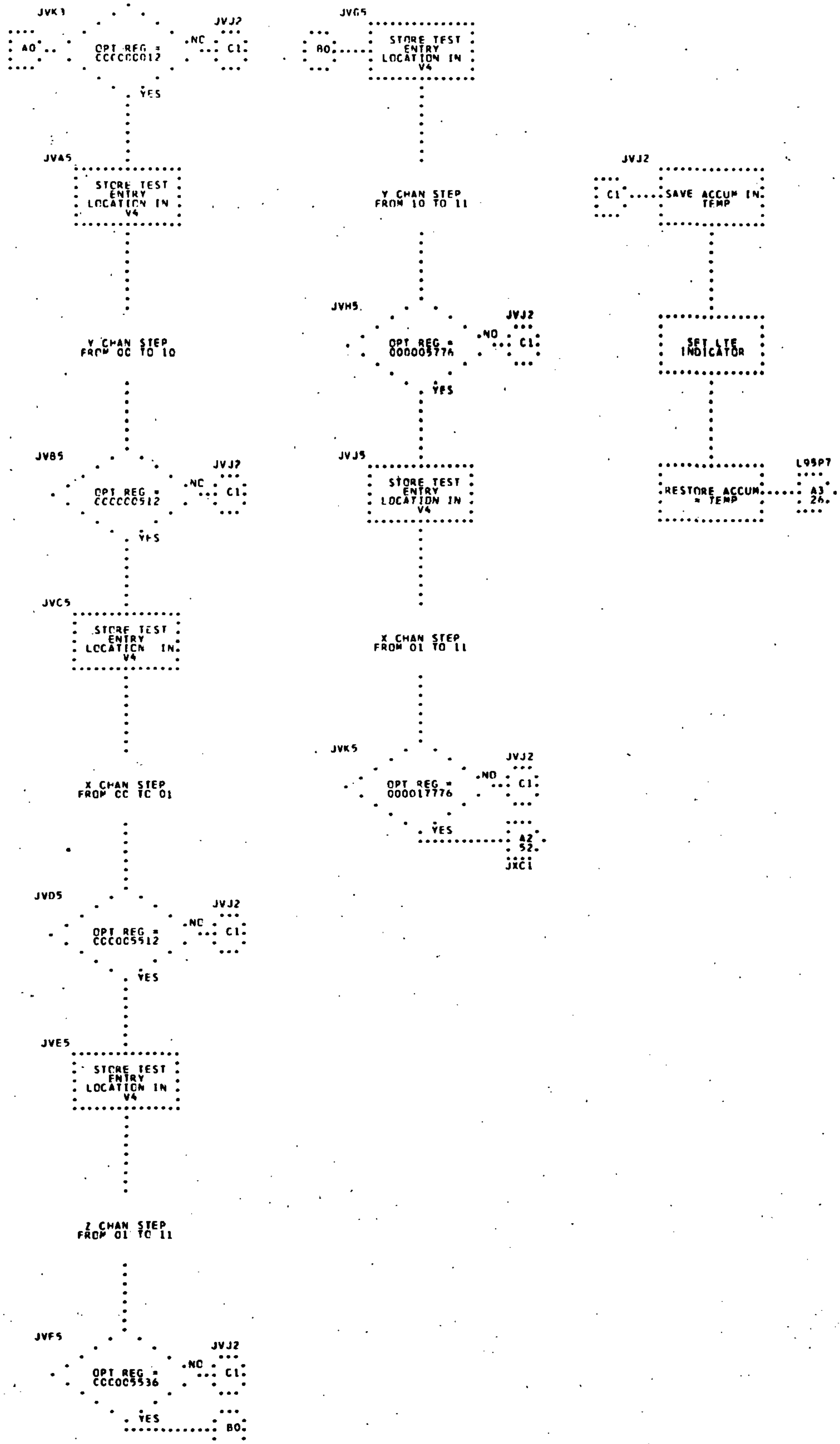


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 51)

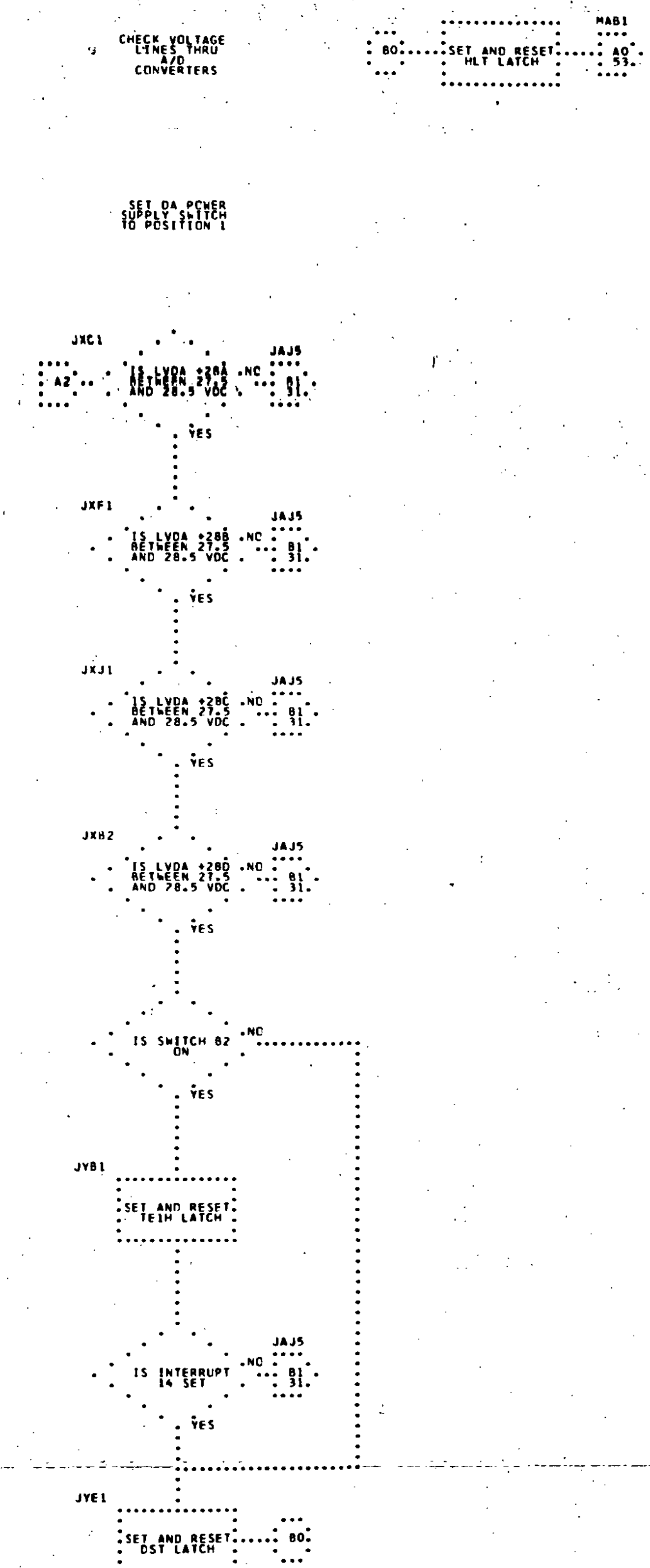


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 52)

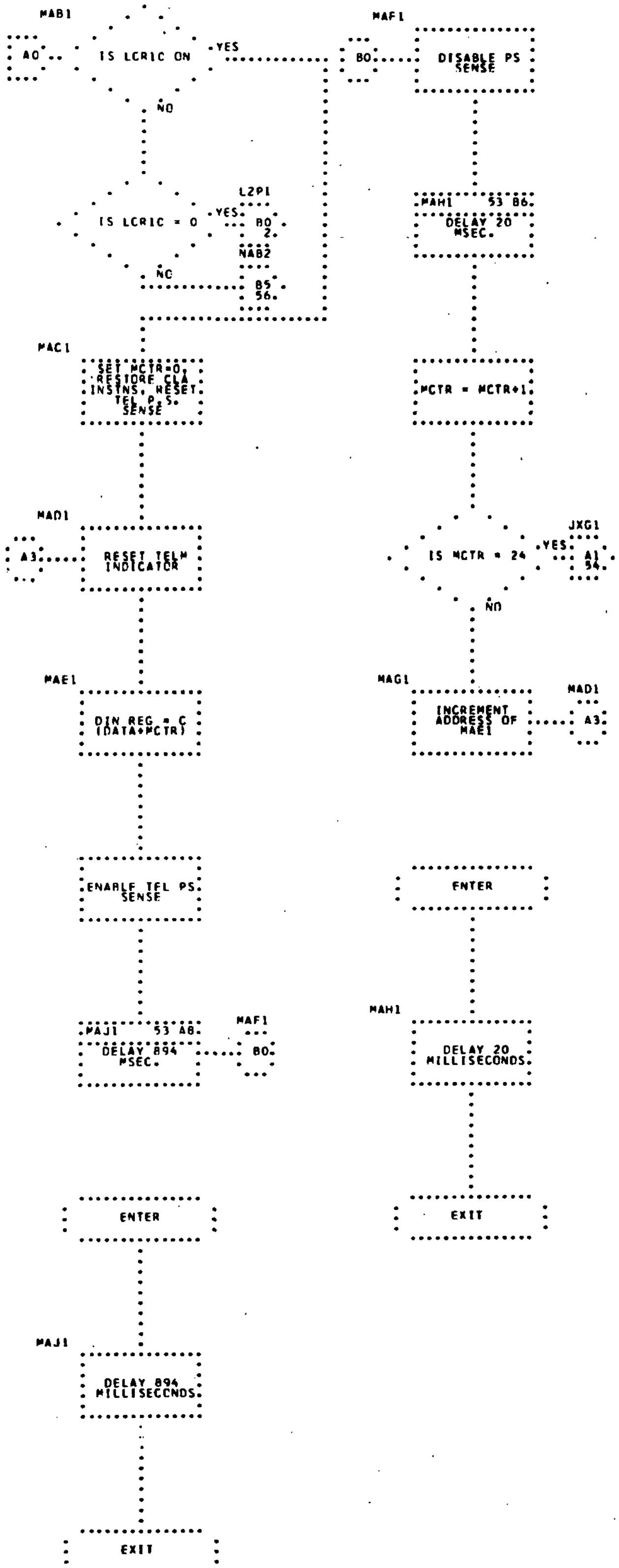


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 53)

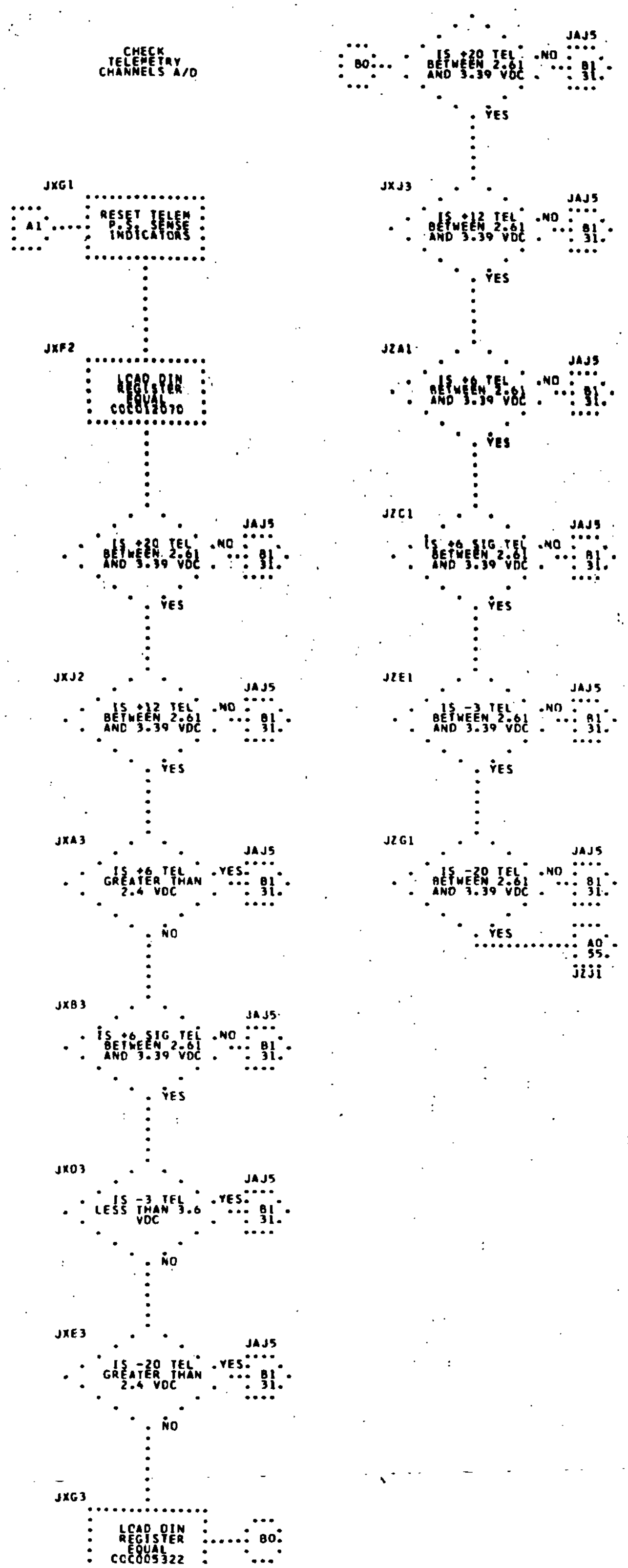


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 54)

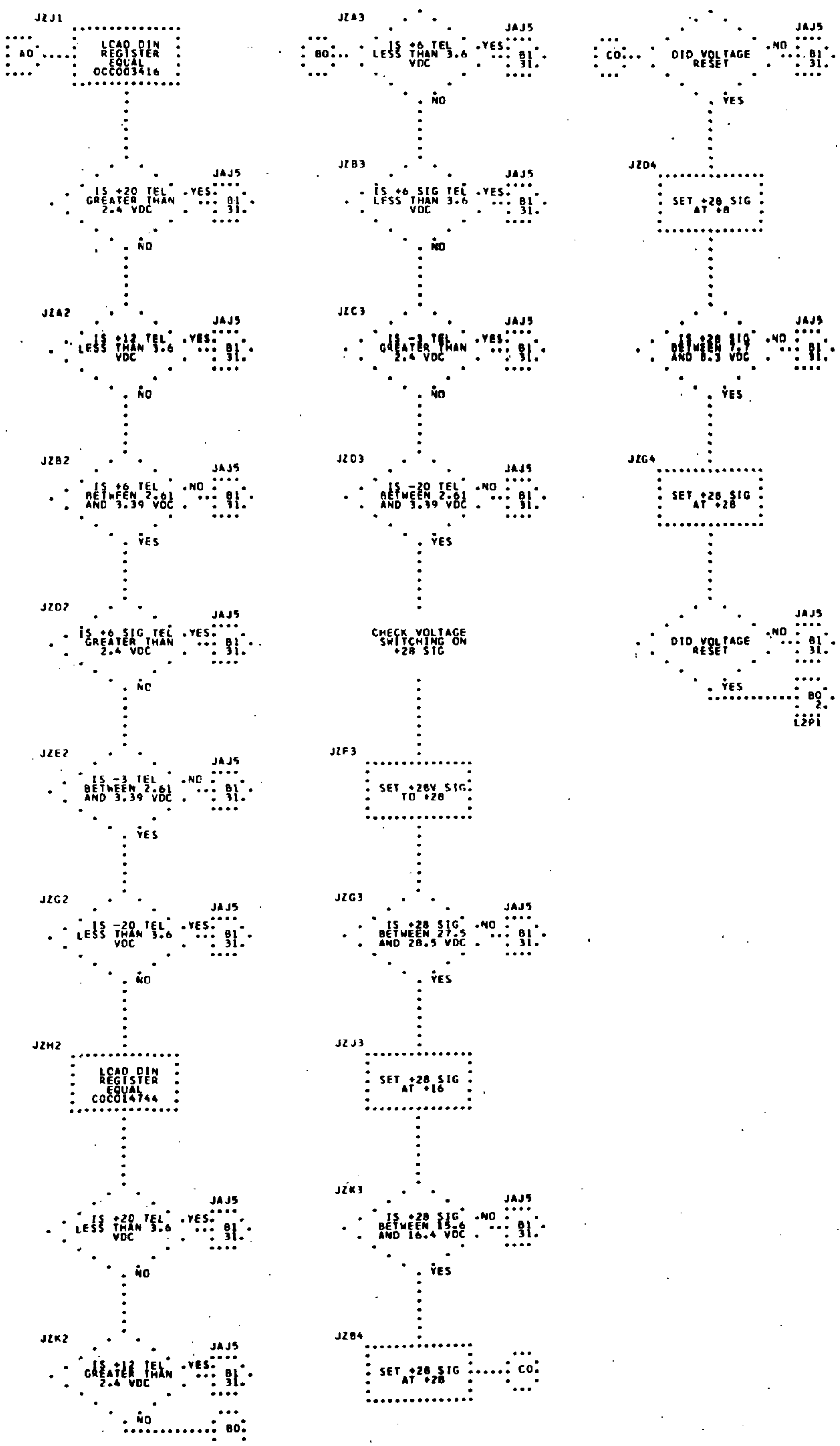


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 55)

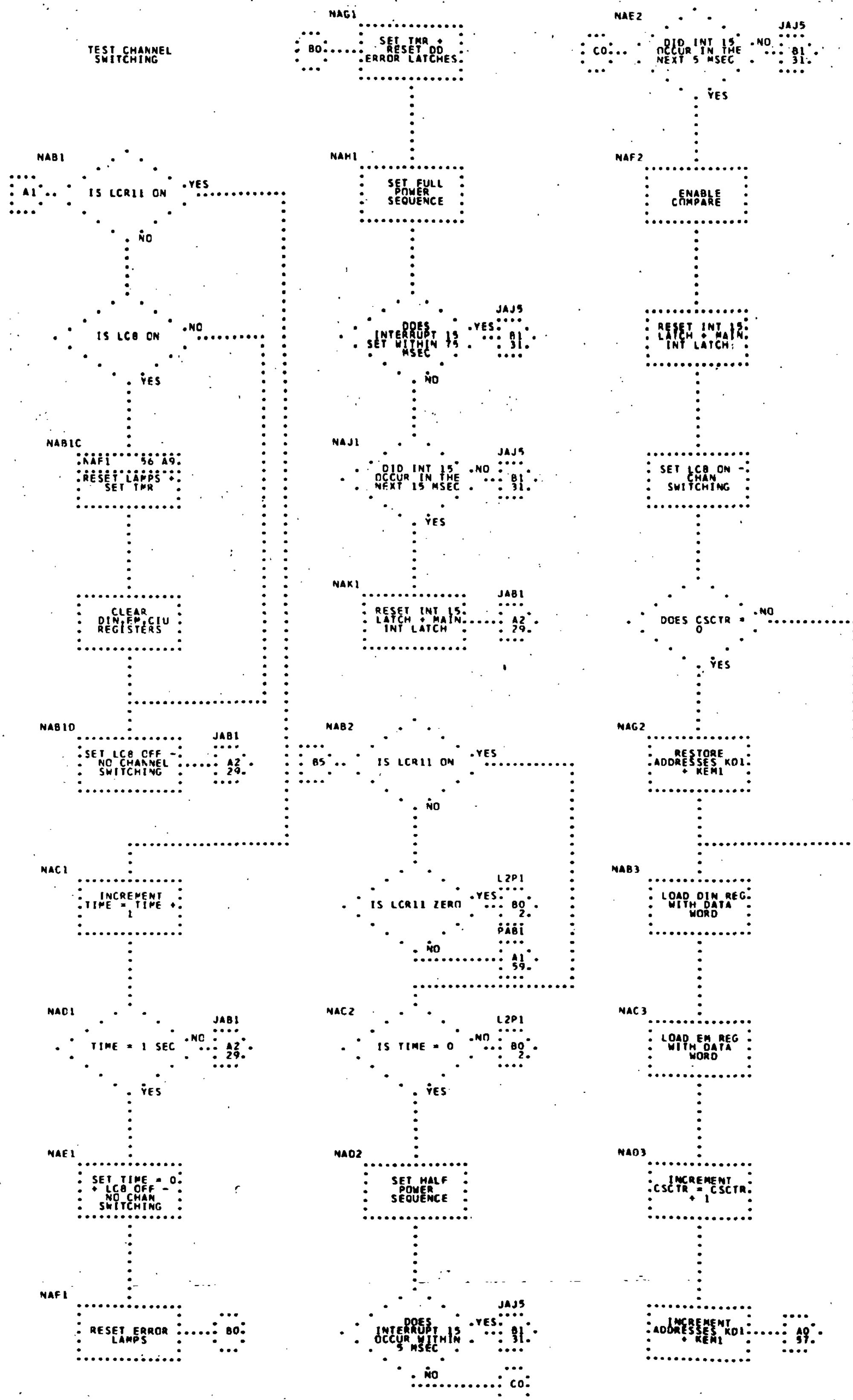


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 56)

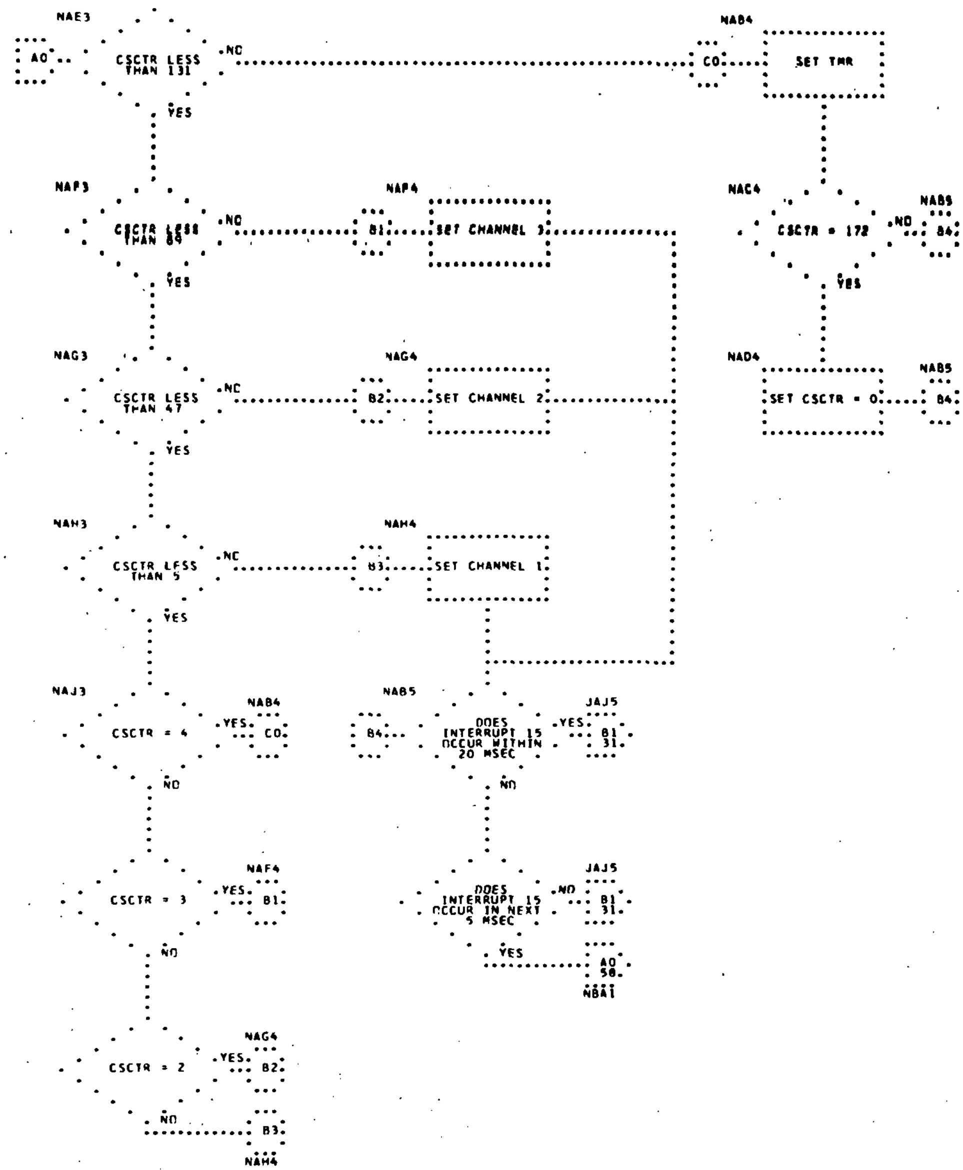


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 57)

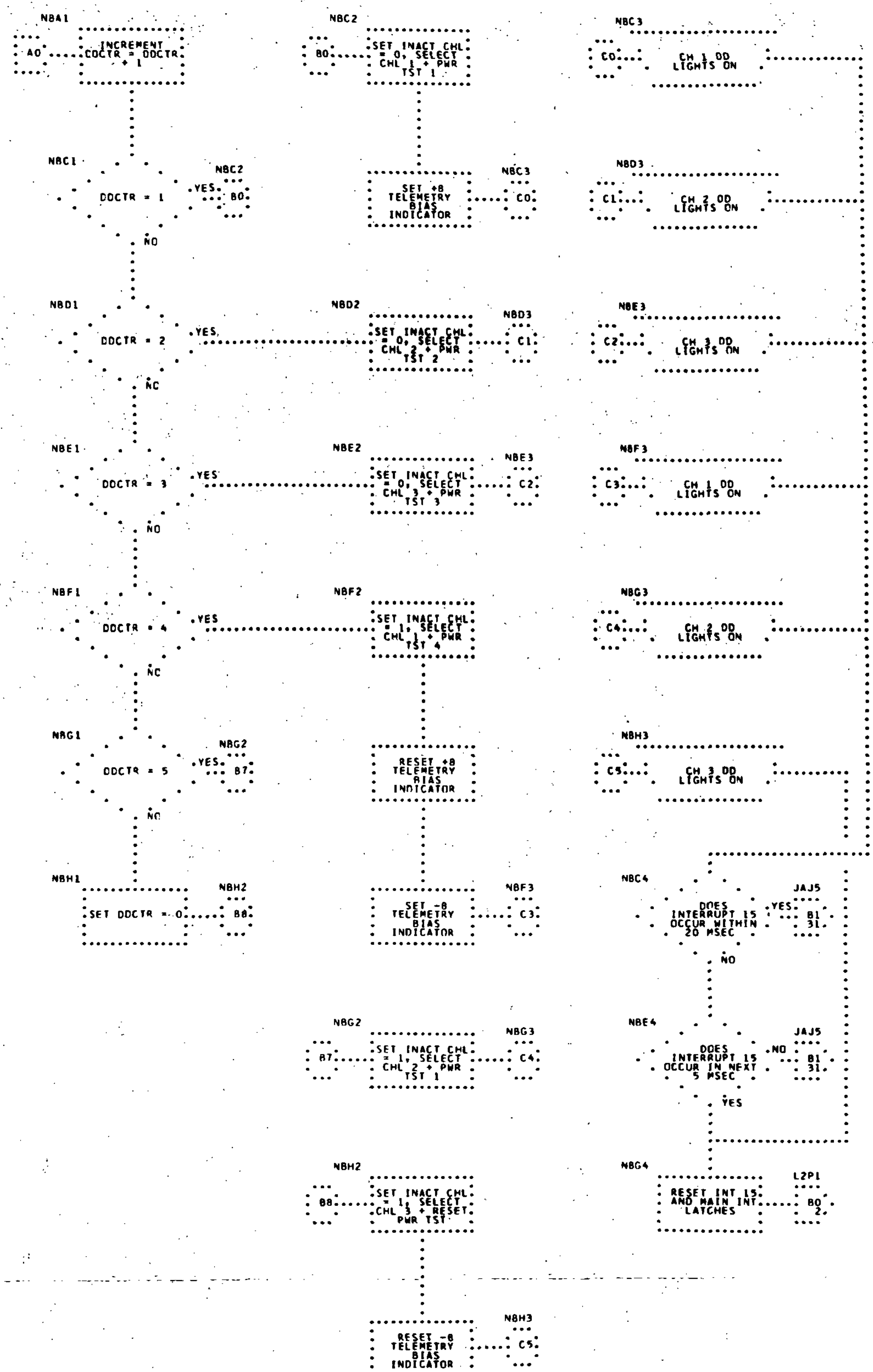


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 58)

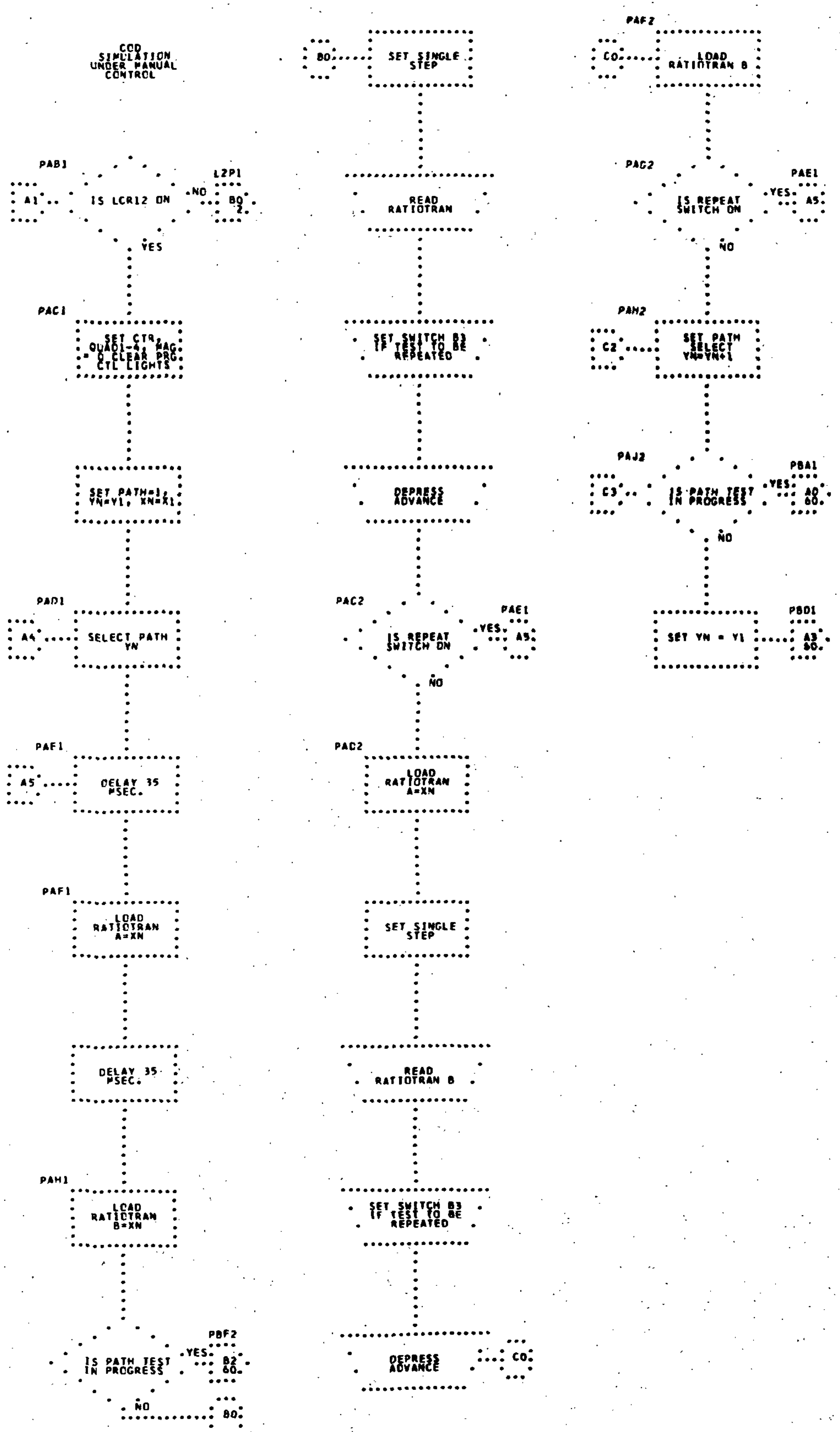


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 59)

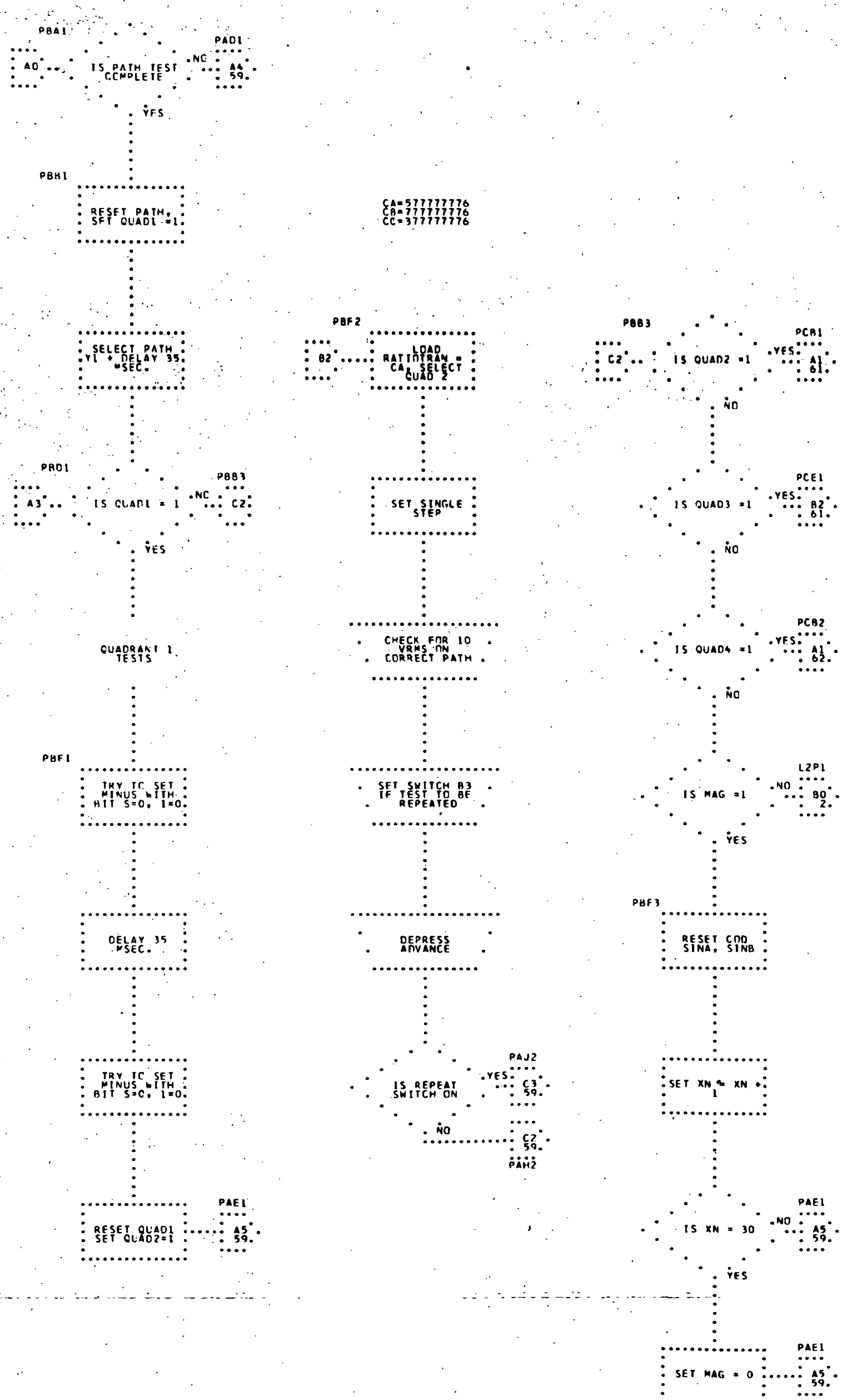


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 60)

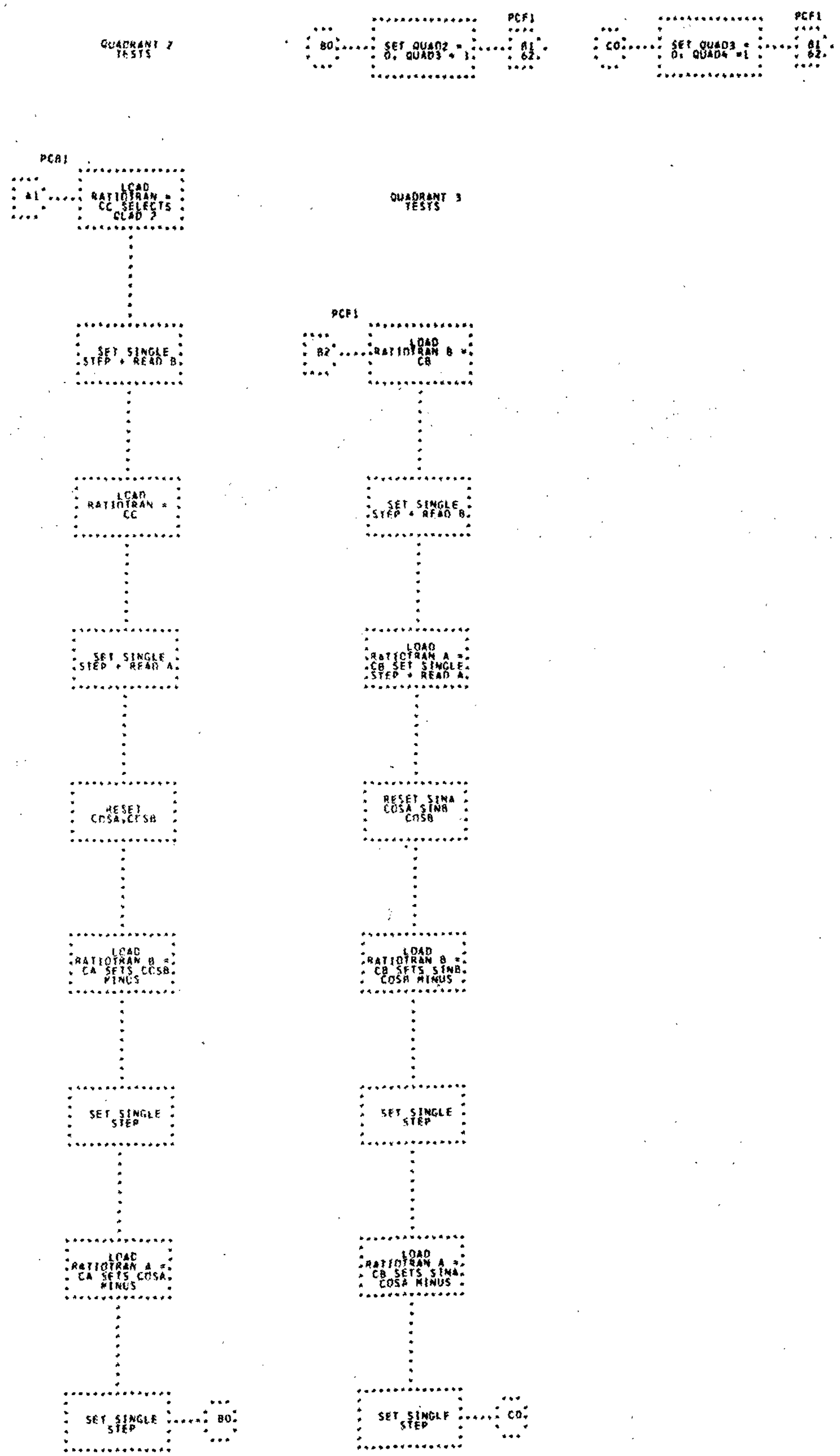


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 61)

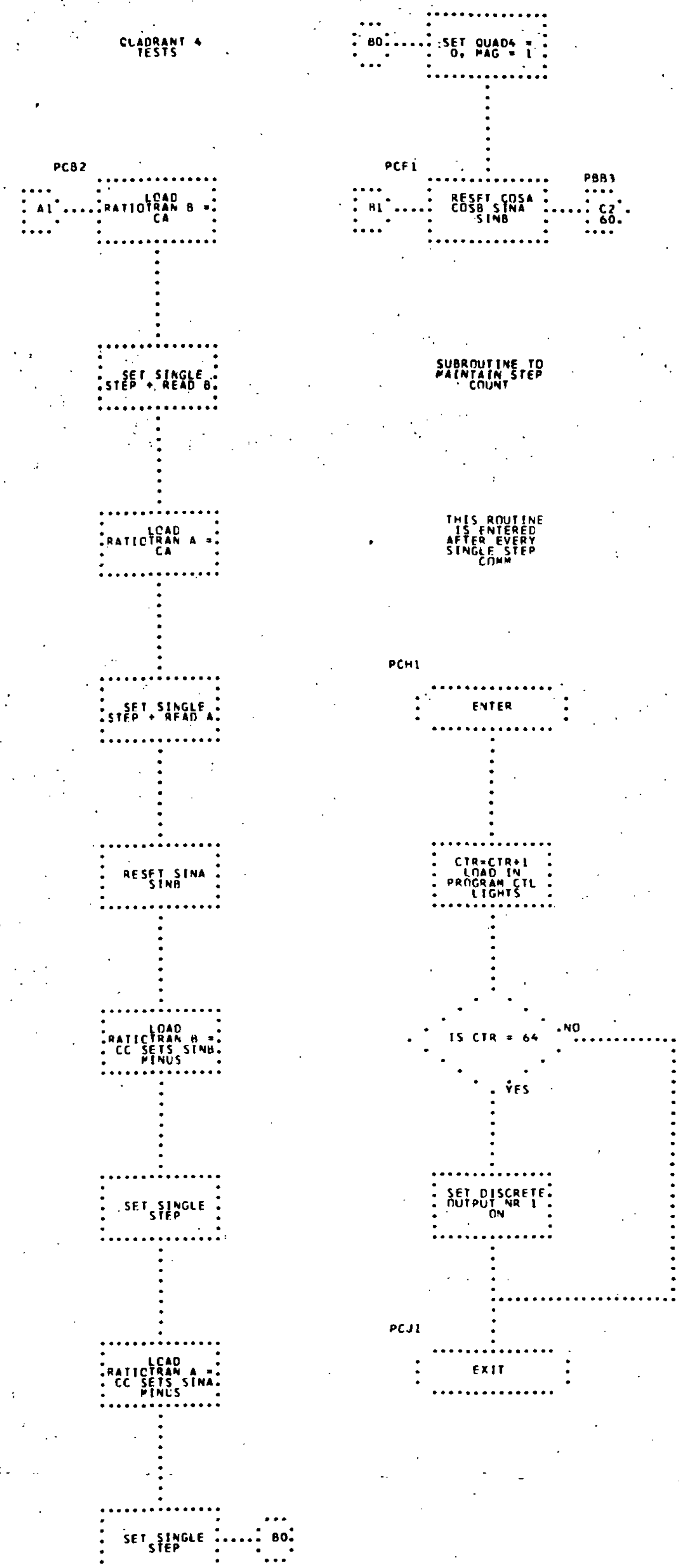


Figure 7-12. PTC ADAPT Self-Test Program Flow Diagram (Sheet 62)

| IM IS S LOC | OP DM DS 9 ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEC NO |
|---|---|---|---|---|---|---|---|
| | | | * | TAPE | 6001236 | | 20 |
| 0 0 0 0 | 0 17 0 | | | DOC | 0,17,0 | | 30 |
| | 0 17 0 | | | BSS | 15 | | 40 |
| | 0 17 17 | 130144130 | H17P2 | HPC | L17P2 | | 50 |
| | 0 17 20 | 0 | ZERO | OCT | 000000000 | | 60 |
| | 0 17 21 | 10 | 8B | OCT | 000000010 | | 70 |
| | 0 17 22 | 130007000 | H2P1 | HPC | L2P1 | | 80 |
| | 0 17 23 | 140066210 | H9P3 | HPC | L9P3 | | 90 |
| | 0 17 24 | 100136700 | H43P2 | HPC | L43P2 | | 100 |
| | 0 17 25 | 130020210 | H8P1A | HPC | L8P1 | | 110 |
| | 0 17 26 | 160000560 | H95P1 | HPC | L95P1 | | 120 |
| | 0 17 27 | 160001160 | H95P7 | HPC | L95P7 | | 130 |
| | 0 17 30 | 501047200 | HJAJ5 | HPC | JAJ5 | | 140 |
| | 0 17 31 | 501052200 | HJAJ5B | HPC | JAJ5B | | 150 |
| | 0 17 32 | 2 | K1 | OCT | 000000002 | | 160 |
| | 0 17 33 | 777777776 | K77 | OCT | 777777776 | | 170 |
| | 0 17 34 | 130300000 | K1303 | OCT | 130300000 | | 180 |
| | 0 17 35 | 1520 | K324 | OCT | 000001520 | | 190 |
| | 0 17 36 | 2000000 | KS1 | OCT | 002000000 | | 200 |
| | 0 17 37 | 100 | KS2 | OCT | 000000100 | | 210 |
| | 0 17 40 | 777776 | KX1 | OCT | 000777776 | | 220 |
| | 0 17 41 | 270000000 | KX2 | OCT | 270000000 | | 230 |
| | 0 17 42 | 260000000 | KX3 | OCT | 260000000 | | 240 |
| | 0 17 43 | 250000000 | KX4 | OCT | 250000000 | | 250 |
| | 0 17 44 | 240000000 | KX5 | OCT | 240000000 | | 260 |
| | 0 17 45 | 777000000 | KX6 | OCT | 777000000 | | 270 |
| | 0 17 46 | 37740 | KX7 | OCT | 000037740 | | 280 |
| | 0 17 47 | 777740036 | KX8 | OCT | 777740036 | | 290 |
| | 0 17 50 | 0 | LC2 | OCT | 000000000 | | 300 |
| | 0 17 51 | 0 | LC3 | OCT | 000000000 | | 310 |
| | 0 17 52 | 0 | LC5 | OCT | 000000000 | | 320 |
| | 0 17 53 | 0 | LC7 | OCT | 000000000 | | 330 |
| | 0 17 54 | 0 | LC8 | OCT | 000000000 | | 340 |
| | 0 17 55 | 0 | LCR2 | OCT | 000000000 | | 350 |
| | 0 17 56 | 0 | LCR3 | OCT | 000000000 | | 360 |
| | 0 17 57 | 0 | LCR4 | OCT | 000000000 | | 370 |
| | 0 17 60 | 0 | LCR5 | OCT | 000000000 | | 380 |
| | 0 17 61 | 0 | LCR6 | OCT | 000000000 | | 390 |
| | 0 17 62 | 0 | LCR7 | OCT | 000000000 | | 400 |
| | 0 17 63 | 0 | LCR8 | OCT | 000000000 | | 410 |
| | 0 17 64 | 0 | LCR9 | OCT | 000000000 | | 420 |
| | 0 17 65 | 0 | LCR10 | OCT | 000000000 | | 430 |
| | 0 17 66 | 0 | LCR11 | OCT | 000000000 | | 440 |
| | 0 17 67 | 0 | LCR12 | OCT | 000000000 | | 450 |
| | 0 17 70 | 0 | VAR1 | OCT | 000000000 | | 460 |
| | 0 17 71 | 0 | VAR2 | OCT | 000000000 | | 470 |
| | 0 17 72 | 0 | VAR3 | OCT | 000000000 | | 480 |
| | 0 17 73 | 0 | VAR4 | OCT | 000000000 | | 490 |
| | 0 17 74 | 0 | VAR5 | OCT | 000000000 | | 500 |
| | 0 17 75 | 0 | INTIND | OCT | 000000000 | | 510 |
| | 0 17 76 | 0 | TEMP | OCT | 000000000 | | 520 |
| | 0 17 77 | 0 | TEMP1 | OCT | 000000000 | | 530 |
| | 0 17 100 | 0 | STOP | OCT | 000000000 | | 540 |
| | 0 17 101 | 0 | CTR | OCT | 000000000 | | 550 |
| | 0 17 102 | 0 | CTR3 | OCT | 000000000 | | 560 |
| | 0 17 103 | 0 | HRTRN | OCT | 000000000 | | 570 |
| | 0 17 104 | 610000000 | CHAR | OCT | 610000000 | A | 580 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 1 of 171)

| IM IS S LOC | OP DM DS 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|
| | 0 17 | 105 | 620000000 | | OCT | 620000000 | B | 590 |
| | 0 17 | 106 | 630000000 | | OCT | 630000000 | C | 600 |
| | 0 17 | 107 | 640000000 | | OCT | 640000000 | D | 610 |
| | 0 17 | 110 | 650000000 | | OCT | 650000000 | E | 620 |
| | 0 17 | 111 | 660000000 | | OCT | 660000000 | F | 630 |
| | 0 17 | 112 | 670000000 | | OCT | 670000000 | G | 640 |
| | 0 17 | 113 | 700000000 | C7 | OCT | 700000000 | H | 650 |
| | 0 17 | 114 | 710000000 | | OCT | 710000000 | I | 660 |
| | 0 17 | 115 | 410000000 | C9 | OCT | 410000000 | J | 670 |
| | 0 17 | 116 | 420000000 | | OCT | 420000000 | K | 680 |
| | 0 17 | 117 | 430000000 | | OCT | 430000000 | L | 690 |
| | 0 17 | 120 | 440000000 | | OCT | 440000000 | M | 700 |
| | 0 17 | 121 | 450000000 | | OCT | 450000000 | N | 710 |
| | 0 17 | 122 | 460000000 | | OCT | 460000000 | O | 720 |
| | 0 17 | 123 | 470000000 | | OCT | 470000000 | P | 730 |
| | 0 17 | 124 | 500000000 | | OCT | 500000000 | Q | 740 |
| | 0 17 | 125 | 510000000 | | OCT | 510000000 | R | 750 |
| | 0 17 | 126 | 220000000 | | OCT | 220000000 | S | 760 |
| | 0 17 | 127 | 230000000 | | OCT | 230000000 | S | 770 |
| | 0 17 | 130 | 240000000 | | OCT | 240000000 | U | 780 |
| | 0 17 | 131 | 250000000 | | OCT | 250000000 | V | 790 |
| | 0 17 | 132 | 260000000 | | OCT | 260000000 | W | 800 |
| | 0 17 | 133 | 270000000 | | OCT | 270000000 | X | 810 |
| | 0 17 | 134 | 300000000 | | OCT | 300000000 | Y | 820 |
| | 0 17 | 135 | 310101010 | | OCT | 310101010 | Z WITH NU CHECK BITS | 830 |
| | 0 17 | 136 | 10000000 | C26 | OCT | 010000000 | 1 | 840 |
| | 0 17 | 137 | 20000000 | C27 | OCT | 020000000 | 2 | 850 |
| | 0 17 | 140 | 30000000 | C28 | OCT | 030000000 | 3 | 860 |
| | 0 17 | 141 | 40000000 | C29 | OCT | 040000000 | 4 | 870 |
| | 0 17 | 142 | 50000000 | | OCT | 050000000 | 5 | 880 |
| | 0 17 | 143 | 60000000 | C31 | OCT | 060000000 | 6 | 890 |
| | 0 17 | 144 | 70000000 | | OCT | 070000000 | 7 | 900 |
| | 0 17 | 145 | 100000000 | | OCT | 100000000 | 8 | 910 |
| | 0 17 | 146 | 110000000 | | OCT | 110000000 | 9 | 920 |
| | 0 17 | 147 | 120000000 | | OCT | 120000000 | 0 | 930 |
| | 0 17 | 150 | 130000000 | C36 | OCT | 130000000 | SPECIAL CHARS | 940 |
| | 0 17 | 151 | 200000000 | C37 | OCT | 200000000 | | 950 |
| | 0 17 | 152 | 210000000 | C38 | OCT | 210000000 | | 960 |
| | 0 17 | 153 | 330000000 | | OCT | 330000000 | | 970 |
| | 0 17 | 154 | 400000000 | C40 | OCT | 400000000 | | 980 |
| | 0 17 | 155 | 530000000 | | OCT | 530000000 | | 990 |
| | 0 17 | 156 | 600000000 | C42 | OCT | 600000000 | | 1000 |
| | 0 17 | 157 | 730000000 | | OCT | 730000000 | | 1010 |
| | 0 17 | 160 | 0 | | OCT | 000000000 | SPACE | 1020 |
| | 0 17 | 161 | 140000000 | C45 | OCT | 140000000 | UPPER CASE | 1030 |
| | 0 17 | 162 | 150000000 | | OCT | 150000000 | | 1040 |
| | 0 17 | 163 | 160000000 | | OCT | 160000000 | | 1050 |
| | 0 17 | 164 | 170000000 | | OCT | 170000000 | | 1060 |
| | 0 17 | 165 | 320000000 | | OCT | 320000000 | | 1070 |
| | 0 17 | 166 | 340000000 | | OCT | 340000000 | | 1080 |
| | 0 17 | 167 | 350000000 | | OCT | 350000000 | | 1090 |
| | 0 17 | 170 | 360000000 | | OCT | 360000000 | | 1100 |
| | 0 17 | 171 | 370000000 | | OCT | 370000000 | | 1110 |
| | 0 17 | 172 | 520000000 | | OCT | 520000000 | | 1120 |
| | 0 17 | 173 | 540000000 | | OCT | 540000000 | | 1130 |
| | 0 17 | 174 | 550000000 | | OCT | 550000000 | | 1140 |
| | 0 17 | 175 | 560000000 | | OCT | 560000000 | | 1150 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 2)

```
IM IS S LOC   UP UM US 9 ADR    OCT VAL    LHS    OPC    VARIABLE     COMMENT                        SEQ NC

                 0 17   176    570000000          OCT    570000000                                    1160
                 0 17   177    720000000          OCT    720000000                                    1170
                 0 17   200    740000000   C60    OCT    740000000                                    1180
                 0 17   201    750000000          OCT    750000000                                    1190
                 0 17   202    760000000          OCT    760000000                                    1200
                 0 17   203    770000000          OCT    770000000                                    1210
                 0 17   204    110000000   C64    OCT    110000000    OCTAL 1                         1220
                 0 17   205    210000000          OCT    210000000    OCTAL 2                         1230
                 0 17   206    310000000          OCT    310000000    OCTAL 3                         1240
                 0 17   207    410000000          OCT    410000000    OCTAL 4                         1250
                 0 17   210    510000000          OCT    510000000    OCTAL 5                         1260
                 0 17   211    610000000          OCT    610000000    OCTAL 6                         1270
                 0 17   212    710000000          OCT    710000000    OCTAL 7                         1280
                 0 17   213     10000000          OCT    010000000    OCTAL 0                         1290
                 0 17   214     50000000          OCT    050000000    DECIMAL 1                       1300
                 0 17   215    110000000          OCT    110000000    DECIMAL 2                       1310
                 0 17   216    150000000          OCT    150000000    DECIMAL 3                       1320
                 0 17   217    210000000          OCT    210000000    DECIMAL 4                       1330
                 0 17   220    250000000          OCT    250000000    DECIMAL 5                       1340
                 0 17   221    310000000          OCT    310000000    DECIMAL 6                       1350
                 0 17   222    350000000          OCT    350000000    DECIMAL 7                       1360
                 0 17   223    410000000          OCT    410000000    DECIMAL 8                       1370
                 0 17   224    450000000          OCT    450000000    DECIMAL 9                       1380
                 0 17   225    510000000          OCT    510000000    DECIMAL 0                       1390
                 0 17   226    400000000          OCT    400000000    SPACE - CNTRL OPNS              1400
                 0 17   227     10000000          OCT    010000000    TAB                             1410
                 0 17   230     20000000          OCT    020000000    CARRIAGE RETURN                 1420
                 0 17   231     40000000          OCT    040000000    INDEX                           1430
                 0 17   232    100000000          OCT    100000000    RED                             1440
                 0 17   233    200000000          OCT    200000000    BLACK                           1450
                                           LINE1  BCI    ROUTINE 7, EXERCISE TYPEWRITERS              1460
                 0 17   234    RODC
                 0 17   235    ZNVO
                 0 17   236    7.OV
                 0 17   237    GVRT
                 0 17   240    ZBVO
                 0 17   241    CHPV
                 0 17   242    FRZC
                 0 17   243    VROO
                                           LINE2  BCI    TYPE ALL ALPHANUMERIC IN BLACKS              1470
                 0 17   244    CHPV
                 0 17   245    O/LL
                 0 17   246    O/LP
                 0 17   247    Y/ND
                 0 17   250    MVRZ
                 0 17   251    TOZN
                 0 17   252    OSL/
                 0 17   253    TKOO
                                           LINE3  BCI    ABCDEFGHIJKLMNOPQRSTUVWXYZ,1234567890$       1480
                 0 17   254    /STU
                 0 17   255    VWXY
                 0 17   256    ZJKL
                 0 17   257    MNOP
                 0 17   260    QRBC
                 0 17   261    DEFG
                 0 17   262    HI.1
                 0 17   263    2345
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 3)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL      LHS     OPC    VARIABLE         COMMENT                          SEQ NO

                  0 17   264   6789
                  0 17   265   0000
                  0 17   266   141516170    LINE4   OCT    141516170           SPECIAL CHARACTRRS           1490
                  0 17   267   323435360            OCT    323435360                                        1500
                  0 17   270   372052210            OCT    372052210                                        1510
                  0 17   271   565772740            OCT    565772740                                        1520
                  0 17   272   757677130            OCT    757677130                                        1530
                  0 17   273   543355400            OCT    543355400                                        1540
                  0 17   274   536073000            OCT    536073000                                        1550
0  0 0   0        0 17   300                        DOG    0,17,300                                         1560
                                            LINE5   BCI    TYPE OCTAL CHARACTERS$                           1570
                  0 17   300   CHPV
                  0 17   301   OOTC
                  0 17   302   /LOT
                  0 17   303   Y/R/
                  0 17   304   TCVR
                  0 17   305   B000
                  0 17   306    12345670    LINE5A  OCT    012345670                                        1580
                                            LINE6   BCI    TYPE DECIMAL INTEGERS IN REDS                    1590
                  0 17   307   CHPV
                  0 17   310   OUVT
                  0 17   311   ZM/L
                  0 17   312   OZNC
                  0 17   313   VXVR
                  0 17   314   BOZN
                  0 17   315   ORVU
                  0 17   316   0000
                  0 17   317    44321260    LINE6A  OCT    044321260                                        1600
                  0 17   320   361150000    LINE6B  OCT    361150000                                        1610
                  0 17   321   150055500    H30P2A  HPC    L30P2A                                           1620
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 4)

| IM IS S LOC | OP | OM DS 9 | ADR | OCT.VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|
| 0 0 0 0 | 0 | 13 | 0 | | | ORG | ,,,,,13,0 | | 1640 |
| | 0 | 13 | 0 | 130074000 | H5P3 | HPC | L5P3 | | 1650 |
| | 0 | 13 | 1 | 130077400 | H5P4 | HPC | L5P4 | | 1660 |
| | 0 | 13 | 2 | 130103000 | H5P5 | HPC | L5P5 | | 1670 |
| | 0 | 13 | 3 | 130107000 | H5P6 | HPC | L5P6 | | 1680 |
| | 0 | 13 | 4 | 130175600 | H5P7 | HPC | L5P7 | | 1690 |
| | 0 | 13 | 5 | 130114000 | H6P1 | HPC | L6P1 | | 1700 |
| | 0 | 13 | 6 | 130116400 | H6P2 | HPC | L6P2 | | 1710 |
| | 0 | 13 | 7 | 130125400 | H6P3 | HPC | L6P3 | | 1720 |
| | 0 | 13 | 10 | 130132000 | H6P4 | HPC | L6P4 | | 1730 |
| | 0 | 13 | 11 | 130137000 | H6P5 | HPC | L6P5 | | 1740 |
| | 0 | 13 | 12 | 130143000 | H6P6 | HPC | L6P6 | | 1750 |
| | 0 | 13 | 13 | 130146400 | H6P7 | HPC | L6P7 | | 1760 |
| | 0 | 13 | 14 | 130152400 | H6P8 | HPC | L6P8 | | 1770 |
| | 0 | 13 | 15 | 130156400 | H6P9 | HPC | L6P9 | | 1780 |
| | 0 | 13 | 16 | 130162000 | H6P10 | HPC | L6P10 | | 1790 |
| | 0 | 13 | 17 | 130166000 | H6P11 | HPC | L6P11 | | 1800 |
| | 0 | 13 | 20 | 130171400 | H6P12 | HPC | L6P12 | | 1810 |
| | 0 | 13 | 21 | 130000200 | H6P13 | HPC | L6P13 | | 1820 |
| | 0 | 13 | 22 | 130003600 | H6P14 | HPC | L6P14 | | 1830 |
| | 0 | 13 | 23 | 130007200 | H6P15 | HPC | L6P15 | | 1840 |
| | 0 | 13 | 24 | 130013200 | H6P16 | HPC | L6P16 | | 1850 |
| | 0 | 13 | 25 | 130016600 | H6P17 | HPC | L6P17 | | 1860 |
| | 0 | 13 | 26 | 130022600 | H6P18 | HPC | L6P18 | | 1870 |
| | 0 | 13 | 27 | 130026200 | H6P19 | HPC | L6P19 | | 1880 |
| | 0 | 13 | 30 | 130031600 | H6P20 | HPC | L6P20 | | 1890 |
| | 0 | 13 | 31 | 130035600 | H6P21 | HPC | L6P21 | | 1900 |
| | 0 | 13 | 32 | 130041200 | H6P22 | HPC | L6P22 | | 1910 |
| | 0 | 13 | 33 | 130044600 | H6P23 | HPC | L6P23 | | 1920 |
| | 0 | 13 | 34 | 130050200 | H7P1 | HPC | L7P1 | | 1930 |
| | 0 | 13 | 35 | 130053600 | H7P2 | HPC | L7P2 | | 1940 |
| | 0 | 13 | 36 | 130057200 | H7P3 | HPC | L7P3 | | 1950 |
| | 0 | 13 | 37 | 130062600 | H7P4 | HPC | L7P4 | | 1960 |
| | 0 | 13 | 40 | 130066200 | H7P5 | HPC | L7P5 | | 1970 |
| | 0 | 13 | 41 | 130071600 | H7P6 | HPC | L7P6 | | 1980 |
| | 0 | 13 | 42 | 130076200 | H7P7 | HPC | L7P7 | | 1990 |
| | 0 | 13 | 43 | 130101600 | H7P8 | HPC | L7P8 | | 2000 |
| | 0 | 13 | 44 | 130105200 | H7P9 | HPC | L7P9 | | 2010 |
| | 0 | 13 | 45 | 130111200 | H7P10 | HPC | L7P10 | | 2020 |
| | 0 | 13 | 46 | 130115200 | H7P11 | HPC | L7P11 | | 2030 |
| | 0 | 13 | 47 | 130121200 | H7P12 | HPC | L7P12 | | 2040 |
| | 0 | 13 | 50 | 130125200 | H7P13 | HPC | L7P13 | | 2050 |
| | 0 | 13 | 51 | 130131200 | H7P14 | HPC | L7P14 | | 2060 |
| | 0 | 13 | 52 | 130135200 | H7P15 | HPC | L7P15 | | 2070 |
| | 0 | 13 | 53 | 130140600 | H7P16 | HPC | L7P16 | | 2080 |
| | 0 | 13 | 54 | 130144200 | H7P17 | HPC | L7P17 | | 2090 |
| | 0 | 13 | 55 | 130150200 | H7P18 | HPC | L7P18 | | 2100 |
| | 0 | 13 | 56 | 130154200 | H7P19 | HPC | L7P19 | | 2110 |
| | 0 | 13 | 57 | 130157600 | H7P20 | HPC | L7P20 | | 2120 |
| | 0 | 13 | 60 | 130163200 | H7P21 | HPC | L7P21 | | 2130 |
| | 0 | 13 | 61 | 130167200 | H7P22 | HPC | L7P22 | | 2140 |
| | 0 | 13 | 62 | 130001410 | H7P23 | HPC | L7P23 | | 2150 |
| | 0 | 13 | 63 | 130005410 | H7P24 | HPC | L7P24 | | 2160 |
| | 0 | 13 | 64 | 130011410 | H7P25 | HPC | L7P25 | | 2170 |
| | 0 | 13 | 65 | 130015410 | H7P26 | HPC | L7P26 | | 2180 |
| | 0 | 13 | 66 | 130021410 | H7P27 | HPC | L7P27 | | 2190 |
| | 0 | 13 | 67 | 130025010 | H7P28 | HPC | L7P28 | | 2200 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 5)

| IM IS S LOC | OP DM DS 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|
| | 0 13 | 70 | 130030410 | H7P29 | HPC | L7P29 | | 2210 |
| | 0 13 | 71 | 130036410 | H7P30 | HPC | L7P30 | | 2220 |
| | 0 13 | 72 | 130042410 | H7P31 | HPC | L7P31 | | 2230 |
| | 0 13 | 73 | 130046410 | H7P32 | HPC | L7P32 | | 2240 |
| | 0 13 | 74 | 130052410 | H7P33 | HPC | L7P33 | | 2250 |
| | 0 13 | 75 | 130056410 | H7P34 | HPC | L7P34 | | 2260 |
| | 0 13 | 76 | 130062410 | H7P35 | HPC | L7P35 | | 2270 |
| | 0 13 | 77 | 130066410 | H7P36 | HPC | L7P36 | | 2280 |
| | 0 13 | 100 | 130072010 | H7P37 | HPC | L7P37 | | 2290 |
| | 0 13 | 101 | 130075410 | H7P38 | HPC | L7P38 | | 2300 |
| | 0 13 | 102 | 130101410 | H7P39 | HPC | L7P39 | | 2310 |
| | 0 13 | 103 | 130105410 | H7P40 | HPC | L7P40 | | 2320 |
| | 0 13 | 104 | 130111410 | H7P41 | HPC | L7P41 | | 2330 |
| | 0 13 | 105 | 130116410 | H7P42 | HPC | L7P42 | | 2340 |
| | 0 13 | 106 | 130122410 | H7P43 | HPC | L7P43 | | 2350 |
| | 0 13 | 107 | 130126410 | H7P44 | HPC | L7P44 | | 2360 |
| | 0 13 | 110 | 130132010 | H7P45 | HPC | L7P45 | | 2370 |
| | 0 13 | 111 | 130135410 | H7P46 | HPC | L7P46 | | 2380 |
| | 0 13 | 112 | 130143410 | H7P47 | HPC | L7P47 | | 2390 |
| | 0 13 | 113 | 130147410 | H7P48 | HPC | L7P48 | | 2400 |
| | 0 13 | 114 | 130153410 | H7P49 | HPC | L7P49 | | 2410 |
| | 0 13 | 115 | 130157410 | H7P50 | HPC | L7P50 | | 2420 |
| | 0 13 | 116 | 130163410 | H7P51 | HPC | L7P51 | | 2430 |
| | 0 13 | 117 | 130167410 | H7P52 | HPC | L7P52 | | 2440 |
| | 0 13 | 120 | 130001210 | H7P53 | HPC | L7P53 | | 2450 |
| | 0 13 | 121 | 130007430 | H7P54 | HPC | L7P54 | | 2460 |
| | 0 13 | 122 | 130013430 | H7P54B | HPC | L7P54B | | 2470 |
| | 0 13 | 123 | 130020210 | H8P1 | HPC | L8P1 | | 2480 |
| | 0 13 | 124 | 130024210 | H8P2 | HPC | L8P2 | | 2490 |
| | 0 13 | 125 | 130030210 | H8P3 | HPC | L8P3 | | 2500 |
| | 0 13 | 126 | 130034210 | H8P4 | HPC | L8P4 | | 2510 |
| | 0 13 | 127 | 130040210 | H8P5 | HPC | L8P5 | | 2520 |
| | 0 13 | 130 | 130044210 | H8P6 | HPC | L8P6 | | 2530 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 6)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC      VARIABLE                 COMMENT                SEQ NO

                                           *      PROGRAM ENTRANCE.                                         2550
0  0 0    0   17  0 13 1 020               L1P1   CLA      ZERO                                             2560
0  0 0    1   13  0 13 1 075                      STO      INTIND                                           2570
0  0 0    2   13  0 13 1 100                      STO      STOP                                             2580
0  0 0    3   13  0 13 1 101                      STO      CTR                                              2590
0  0 0    4   13  0 13 1 054                      STO      LC8                                              2600
0  0 0    5   16  1 13   233                      CCS      1,13                                             2610
0  0 0    6   13  1 13   000                      STO      TIME                                             2620
0  0 0    7   13  1 13   001                      STO      CSCTR                                            2630
0  0 0   10   13  1 13   002                      STO      DDCTR                                            2640
0  0 0   11   16  0 13   213                      CCS      0,13                                             2650
0  0 0   12    5  0 13   214                      CIO      214                                              2660
0  0 0   13   14  0 13   015                      TMI      L1P1A                                            2670
0  0 0   14   10  0 13   016                      TRA      L2P1                                             2680
0  0 0   15   00  0 13   132   160030160   L1P1A  TRA*     L1P1A1                                           2690
0  0 0   16   17  0 13 1 072               L2P1   CLA      VAR3                                             2700
0  0 0   17    7  0 13   133   000000002          ACL      =0000000002                                      2710
0  0 0   20   13  0 13 1 072                      STO      VAR3                                             2720
0  0 0   21    5  0 13   204                      CIO      204                                              2730
0  0 0   22   17  0 13 1 020                      CLA      ZERO                                             2740
0  0 0   23   13  0 13 1 073                      STO      VAR4                                             2750
0  0 0   24   13  0 13 1 074                      STO      VAR5                                             2760
0  0 0   25    5  0 13   214                      CIO      214                      ASWT                    2770
0  0 0   26    7  0 13 1 032                      ACL      K1                                               2780
                                                  SHL      1                                                2790
0  0 0   27   16  0 13   001
0  0 0   30   13  0 13   134                      STO      LCR1                     A1                      2800
                                                  SHL      1                                                2810
0  0 0   31   16  0 13   001
0  0 0   32   13  0 13 1 055                      STO      LCR2                     A2                      2820
                                                  SHL      1                                                2830
0  0 0   33   16  0 13   001
0  0 0   34   13  0 13 1 056                      STO      LCR3                     A3                      2840
                                                  SHL      1                                                2850
0  0 0   35   16  0 13   001
0  0 0   36   13  0 13 1 057                      STO      LCR4                     A4                      2860
                                                  SHL      1                                                2870
0  0 0   37   16  0 13   001
0  0 0   40   13  0 13 1 060                      STO      LCR5                     A5                      2880
                                                  SHL      1                                                2890
0  0 0   41   16  0 13   001
0  0 0   42   13  0 13 1 061                      STO      LCR6                     A6                      2900
                                                  SHL      1                                                2910
0  0 0   43   16  0 13   001
0  0 0   44   13  0 13 1 062                      STO      LCR7                     A7                      2920
                                                  SHL      1                                                2930
0  0 0   45   16  0 13   001
0  0 0   46   13  0 13 1 063                      STO      LCR8                     A8                      2940
                                                  SHL      1                                                2950
0  0 0   47   16  0 13   001
0  0 0   50   13  0 13 1 064                      STO      LCR9                     A9                      2960
                                                  SHL      1                                                2970
0  0 0   51   16  0 13   001
0  0 0   52   13  0 13 1 065                      STO      LCR10                    A10                     2980
                                                  SHL      1                                                2990
0  0 0   53   16  0 13   001
0  0 0   54   13  0 13 1 066                      STO      LCR11           A11                              3000
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 7)

```
IM IS S LOC   UP DM DS 9 ADR    OCT VAL     LHS   OPC   VARIABLE          COMMENT                              SEQ NO

                                                  SHL   1                                                     3010
 0  0 0  55   16  0 13   001
 0  0 0  56   13  0 13 1 067                      STO   LCR12      A12                                        3020
                                                  SHL   1                                                     3030
 0  0 0  57   16  0 13   001
 0  0 0  60   13  0 13   135                      STC   LC1        A13                                        3040
                                                  SHL   1                                                     3050
 0  0 0  61   16  0 13   001
 0  0 0  62   13  0 13 1 050                      STO   LC2        A14                                        3060
                                                  SHL   1                                                     3070
 0  0 0  63   16  0 13   001
 0  0 0  64   13  0 13 1 051                      STC   LC3        A15                                        3080
                                                  SHL   1                                                     3090
 0  0 0  65   16  0 13   001
 0  0 0  66   14  0 13   070                      TMI   L2P2       A16                                        3100
 0  0 0  67   10  0 13   071                      TRA   L3P1                                                  3110
 0  0 0  70   00  0 13   136   160003760   L2P2   TRA*  L97P1                                                 3120

 0  0 0  71   17  0 13   135               L3P1   CLA   LC1                                                   3140
 0  0 0  72   14  0 13   074                      TMI   *+2                                                   3150
 0  0 0  73   10  0 13   164                      TRA   L5P1                                                  3160
 0  0 0  74   17  0 13   134                      CLA   LCR1                                                  3170
 0  0 0  75   14  0 13   123                      TMI   L4P1                                                  3180
 0  0 0  76   17  0 13 1 055                      CLA   LCR2                                                  3190
 0  0 0  77   14  0 13   126                      TMI   L4P2                                                  3200
 0  0 0 100   17  0 13 1 056                      CLA   LCR3                                                  3210
 0  0 0 101   14  0 13   131                      TMI   L4P3                                                  3220
 0  0 0 102   17  0 13 1 057                      CLA   LCR4                                                  3230
 0  0 0 103   14  0 13   134                      TMI   L4P4                                                  3240
 0  0 0 104   17  0 13 1 060                      CLA   LCR5                                                  3250
 0  0 0 105   14  0 13   137                      TMI   L4P5                                                  3260
 0  0 0 106   17  0 13 1 061                      CLA   LCR6                                                  3270
 0  0 0 107   14  0 13   142                      TMI   L4P6                                                  3280
 0  0 0 110   17  0 13 1 062                      CLA   LCR7                                                  3290
 0  0 0 111   14  0 13   145                      TMI   L4P7                                                  3300
 0  0 0 112   17  0 13 1 063                      CLA   LCR8                                                  3310
 0  0 0 113   14  0 13   150                      TMI   L4P8                                                  3320
 0  0 0 114   17  0 13 1 064                      CLA   LCR9                                                  3330
 0  0 0 115   14  0 13   153                      TMI   L4CP1                                                 3340
 0  0 0 116   17  0 13 1 065                      CLA   LCR10                                                 3350
 0  0 0 117   14  0 13   156                      TMI   L4CP2                                                 3360
 0  0 0 120   17  0 13 1 066                      CLA   LCR11                                                 3370
 0  0 0 121   14  0 13   161                      TMI   L4CP3                                                 3380
 0  0 0 122   10  0 13   016                      TRA   L2P1                                                  3390
 0  0 0 123   17  0 13 1 020               L4P1   CLA   ZERO                                                  3400
 0  0 0 124   13  0 13 1 055                      STO   LCR2                                                  3410
 0  0 0 125   10  0 13   167                      TRA   L5P2              TO ROUTINE 1                        3420
 0  0 0 126   17  0 13 1 020               L4P2   CLA   ZERO                                                  3430
 0  0 0 127   13  0 13 1 056                      STO   LCR3                                                  3440
 0  0 0 130   10  0 13   235                      TRA   L6P2              TO ROUTINE 2                        3450
 0  0 0 131   17  0 13 1 020               L4P3   CLA   ZERO                                                  3460
 0  0 0 132   13  0 13 1 057                      STO   LCR4                                                  3470
 0  0 0 133   00  0 13   137   140062210          TRA*  L9P2                                                  3480
 0  0 0 134   17  0 13 1 020               L4P4   CLA   ZERO                                                  3490
 0  0 0 135   13  0 13 1 060                      STC   LCR5                                                  3500
 0  0 0 136   00  0 13   142   150037660          TRA*  L20P2                                                 3510
 0  0 0 137   17  0 13 1 020               L4P5   CLA   ZERO                                                  3520
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 8)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC     VARIABLE          COMMENT                              SEQ NO
0  0  0 140   13  0 13 1 061               STO     LCR6                                                           3530
0  0  0 141   00  0 13   143   120020500           TRA*    L29P2                                                          3540
0  0  0 142   17  0 13 1 020               L4P6    CLA     ZERO                                                           3550
0  0  0 143   13  0 13 1 062               STO     LCR7                                                           3560
0  0  0 144   00  0 13   144   150002710           TRA*    L45P2                                                          3570
0  0  0 145   17  0 13 1 020               L4P7    CLA     ZERO                                                           3580
0  0  0 146   13  0 13 1 063               STO     LCR8                                                           3590
0  0  0 147   00  0 13   145   110005110           TRA*    L50P2                                                          3600
0  0  0 150   17  0 13 1 020               L4P8    CLA     ZERO                                                           3610
0  0  0 151   13  0 13 1 064               STO     LCR9                                                           3620
0  0  0 152   00  0 13   146   050001240           TRA*    L60P2                                                          3630
0  0  0 153   17  0 13 1 020               L4CP1   CLA     ZERO                                                           3640
0  0  0 154   13  0 13 1 065               STO     LCR10                                                          3650
0  0  0 155   00  0 13   147   501004000           TRA*    JAB1                                                           3660
0  0  0 156   17  0 13 1 020               L4CP2   CLA     ZERO                                                           3670
0  0  0 157   13  0 13 1 066               STO     LCR11                                                          3680
0  0  0 160   00  0 13   150   511010050           TRA*    MAB1                                                           3690
0  0  0 161   17  0 13 1 020               L4CP3   CLA     ZERO                                                           3700
0  0  0 162   13  0 13 1 067               STO     LCR12                                                          3710
0  0  0 163   00  0 13   151   531020270           TRA*    MAB1                                                           3720
0  0  0 164   17  0 13   134               L5P1    CLA     LCR1                                                           3730
0  0  0 165   14  0 13   167                       TMI     L5P2                                                           3740
0  0  0 166   10  0 13   230                       TRA     L6P1                                                           3750
                                           *       BEGINNING OF ROUTINE ONE                                               3760
                                           *       CHECK COMPUTER FOR ABILITY TO HOP TO ALL SECTORS.                      3770
0  0  0 167    0  0 13   131               L5P2    HOP     HP1                                                            3780
                  0 13   131   010001010   HP1     HPC     L5P2A                                                          3790
                                           *       SECTOR 1.                                                              3800
0  1  0   2       0  1     1                       ORG     ,1,,2,,1,                                                      3810
0  1  0   2    0  0  1   001               L5P2A   HOP     HP2                                                            3820
                  0  1     1   020000220   HP2     HPC     L5P2B                                                          3830
                                           *       SECTOR 2.                                                              3840
0  2  1   0       0  2     1                       ORG     ,2,1,0,,2,1                                                    3850
0  2  1   0    0  0  2   001               L5P2B   HOP     HP3                                                            3860
                  0  2     1   030177030   HP3     HPC     L5P2C                                                          3870
                                           *       SECTOR 3.                                                              3880
0  3  0 376       0  3     1                       ORG     ,3,,376,,3,                                                    3890
0  3  0 376    0  0  3   001               L5P2C   HOP     HP4                                                            3900
                  0  3     1   040025040   HP4     HPC     L5P2D                                                          3910
                                           *       SECTOR 4.                                                              3920
0  4  0  52       0  4     1                       ORG     ,4,,52,,4,                                                     3930
0  4  0  52    0  0  4   001               L5P2D   HOP     HP5                                                            3940
                  0  4     1   050001450   HP5     HPC     L5P2E                                                          3950
                                           *       SECTOR 5.                                                              3960
0  5  0   3       0  5    10                       ORG     ,5,,3,,5,10                                                    3970
0  5  0   3    0  0  5   010               L5P2E   HOP     HP6                                                            3980
                  0  5    10   160000060   HP6     HPC     L5P2F                                                          3990
                                           *       SECTOR 6.                                                              4000
0  6  0   0       0 16   365                       ORG     ,6,,0,,16,365                                                  4010
0  6  0   0    0  0 16   365               L5P2F   HOP     HP7                                                            4020
                  0 16   365   160077470   HP7     HPC     L5P2G                                                          4030
                                           *       SECTOR 7.                                                              4040
0  7  0 177       0 16   366                       ORG     ,7,,177,,16,                                                   4050
0  7  0 177    0  0 16   366               L5P2G   HOP     HP8                                                            4060
                  0 16   366   160037700   HP8     HPC     L5P2H                                                          4070
                                           *       SECTOR 10.                                                             4080
0 10  1  77       0 16   367                       ORG     ,10,1,77,,16,                                                  4090
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 9)

```
IM IS S LOC   OP OM DS 9 ADR    OCT VAL     LHS    OPC     VARIABLE               COMMENT                       SEQ NO

0 10 1  77     0  0 16   367                L5P2H  HOP     HP9                                                   4100
                  0 16   367   160127710    HP9    HPC     L5P2I                                                 4110
                                            *      SECTOR 11.                                                    4120
0 11 1 257        0 16   370                       ORG     ,11,1,257,,16,                                        4130
0 11 1 257     0  0 16   370                L5P2I  HOP     HP10                                                  4140
                  0 16   370   160000120    HP10   HPC     L5P2J                                                 4150
                                            *      SECTOR 12.                                                    4160
0 12 0   0        0 16   371                       ORG     ,12,,,,16,                                            4170
0 12 0   0     0  0 16   371                L5P2J  HOP     HP11                                                  4180
                  0 16   371   160177330    HP11   HPC     L5P2K                                                 4190
                                            *      SECTOR 13.                                                    4200
0 13 1 376        0 16   372                       ORG     ,13,1,376,,16,                                        4210
0 13 1 376     0  0 16   372                L5P2K  HOP     HP12                                                  4220
                  0 16   372   160014140    HP12   HPC     L5P2L                                                 4230
                                            *      SECTOR 14.                                                    4240
0 14 0  30        0 16   373                       ORG     ,14,,30,,16,                                          4250
0 14 0  30     0  0 16   373                L5P2L  HOP     HP13                                                  4260
                  0 16   373   160177150    HP13   HPC     L5P2M                                                 4270
                                            *      SECTOR 15.                                                    4280
0 15 0 376        0 16   374                       ORG     ,15,,376,,16,                                         4290
0 15 0 376     0  0 16   374                L5P2M  HOP     HP14                                                  4300
                  0 16   374   160000160    HP14   HPC     L5P2N                                                 4310
                                            *      SECTOR 16.                                                    4320
0 16 0   0        0 16   376                       ORG     ,16,,0,,16,376                                        4330
0 16 0   0     0  0 16   376                L5P2N  HOP     HP15                                                  4340
                  0 16   376   160151370    HP15   HPC     L5P2P                                                 4350
                                            *      SECTOR 17.                                                    4360
0 17 1 277        0 16   377                       ORG     ,17,1,277,,16,                                        4370
0 17 1 277    10  0 16 1 322                       TRA**                          GENERATED TRANSFER
0 17 1 322     0  0 16   377                L5P2P  HOP     HP16                                                  4380
                  0 16   377   401000000    HP16   HPC     L5P2Q                                                 4390
                                            *      MEMORY MODULE 1                                               4400
                                            *      SECTOR 0 MM1                                                  4410
1  0 0   0        1  0     1                       ORG     1,,,,1,,                                              4420
1  0 0   0     0  1  0   001                L5P2Q  HOP     HP17                                                  4430
                  1  0     1   411000610    HP17   HPC     L5P2R                                                 4440
                                            *      SECTOR 1 MM1                                                  4450
1  1 1   1        1  1     2                       ORG     1,1,1,1,1,1,2                                         4460
1  1 1   1     0  1  1   002                L5P2R  HOP     HP18                                                  4470
                  1  1     2   421001020    HP18   HPC     L5P2S                                                 4480
                                            *      SECTOR 2 MM1                                                  4490
1  2 0   2        1  2     3                       ORG     1,2,,2,1,2,3                                          4500
1  2 0   2     0  1  2   003                L5P2S  HOP     HP19                                                  4510
                  1  2     3   431001430    HP19   HPC     L5P2T                                                 4520
                                            *      SECTOR 3 MM1                                                  4530
1  3 0   3        1  3     4                       ORG     1,3,,3,1,3,4                                          4540
1  3 0   3     0  1  3   004                L5P2T  HOP     HP20                                                  4550
                  1  3     4   441002040    HP20   HPC     L5P2U                                                 4560
                                            *      SECTOR 4 MM1                                                  4570
1  4 0   4        1  4     5                       ORG     1,4,,4,1,4,5                                          4580
1  4 0   4     0  1  4   005                L5P2U  HOP     HP21                                                  4590
                  1  4     5   451002650    HP21   HPC     L5P2V                                                 4600
                                            *      SECTOR 5 MM1                                                  4610
1  5 1   5        1  5     6                       ORG     1,5,1,5,1,5,6                                         4620
1  5 1   5     0  1  5   006                L5P2V  HOP     HP22                                                  4630
                  1  5     6   461030060    HP22   HPC     L5P2W                                                 4640
                                            *      SECTOR 6 MM1                                                  4650
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 10)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL    LHS     OPC      VARIABLE               COMMENT                  SEQ NO

 1  6 0  60         1  6    7                     ORG      1,6,,60,1,6,7                                     4660
 1  6 0  60      0  1  6  007             L5P2W   HOP      HP23                                              4670
                    1  6    7  471017470  HP23    HPC      L5P2X                                             4680
                                          *       SECTOR 7                                                   4690
 1  7 0  37         1  7   17                     ORG      1,7,,37,1,7,17                                    4700
 1  7 0  37      0  1  7  017             L5P2X   HOP      HP24                                              4710
                    1  7   17  501040100  HP24    HPC      L5P2Y                                             4720
                                          *       SECTOR 10 MM1                                              4730
 1 10 0 100         1 10   27                     ORG      1,10,,100,1,10,27                                 4740
 1 10 0 100      0  1 10  027             L5P2Y   HOP      HP25                                              4750
                    1 10   27  511100110  HP25    HPC      L5P2Z                                             4760
                                          *       SECTOR 11 MM1                                              4770
 1 11 0 200         1 11   37                     ORG      1,11,,200,1,11,37                                 4780
 1 11 0 200      0  1 11  037             L5P2Z   HOP      HP26                                              4790
                    1 11   37  521177120  HP26    HPC      L5P2AA                                            4800
                                          *       SECTOR 12 MM1                                              4810
 1 12 0 376         1 12  377                     ORG      1,12,,376,1,12,377                                4820
 1 12 0 376      0  1 12  377             L5P2AA  HOP      HP27                                              4830
                    1 12  377  531177130  HP27    HPC      L5P2BB                                            4840
                                          *       SECTOR 13 MM1                                              4850
 1 13 0 376         1 13  377                     ORG      1,13,,376,1,13,377                                4860
 1 13 0 376      0  1 13  377             L5P2BB  HOP      HP28                                              4870
                    1 13  377  541077540  HP28    HPC      L5P2CC                                            4880
                                          *       SECTOR 14 MM1                                              4890
 1 14 0 177         1 14  377                     ORG      1,14,,177,1,14,377                                4900
 1 14 0 177      0  1 14  377             L5P2CC  HOP      HP29                                              4910
                    1 14  377  551003550  HP29    HPC      L5P2DD                                            4920
                                          *       SECTOR 15 MM1                                              4930
 1 15 0   7         1 15  177                     ORG      1,15,,7,1,15,177                                  4940
 1 15 0   7      0  1 15  177             L5P2DD  HOP      HP30                                              4950
                    1 15  177  561000360  HP30    HPC      L5P2EE                                            4960
                                          *       SECTOR 16 MM1                                              4970
 1 16 1   0         1 16  100                     ORG      1,16,1,,1,16,100                                  4980
 1 16 1   0      0  1 16  100             L5P2EE  HOP      HP31                                              4990
                    1 16  100  571176770  HP31    HPC      L5P2FF                                            5000
                                          *       SECTOR 17 MM1                                              5010
 1 17 1 375         1 17   77                     ORG      1,17,1,375,1,17,77                                5020
 1 17 1 375      0  1 17  077             L5P2FF  HOP      HP32                                              5030
                    1 17   77  130074000  HP32    HPC      L5P3                                              5040
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 11)

```
IM IS S LOC   OP OM DS 9 ADR    OCT VAL    LHS     OPC     VARIABLE          COMMENT                          SEQ NO

                                           *       BEGIN CHECK OF TRANSFER CLASS INSTRUCTIONS.                5060
0   0 0 373       0 13   132                       ORG     ,,,373,,13,                                        5070
0   0 0 373   10  0 13   226                       TRA     L5P7A                                              5080
                                           *       TEST TRA TO SYLL 1                                         5090
0   0 1 373       0 13   133                       ORG     ,,1,373,,13,                                       5100
0   0 1 373   17  0 13   152    500000000  L5P7    CLA     =0500000000                                        5110
0   0 1 374   10  0 13   226                       TRA     L5P7A                                              5120
                                           *       TEST TMI INSTRUCTION.                                      5130
0   0 0 170       0 13   134                       ORG     ,,,170,,13,                                        5140
0   0 0 170   17  0 13   000               L5P3    CLA     H5P3                                               5150
0   0 0 171   13  0 13 1 070                       STO     VAR1                                               5160
0   0 0 172   17  0 13   001                       CLA     H5P4                                               5170
0   0 0 173   13  0 13 1 071                       STO     VAR2                                               5180
0   0 0 174   17  0 13   153    400000000          CLA     =0400000000                                        5190
0   0 0 175   14  0 13   177                       TMI     L5P4                                               5200
0   0 0 176    0  0 13 1 026                       HOP     H95P1                                              5210
                                           *       TEST TNZ INSTRUCTION.                                      5220
0   0 0 177   17  0 13   001               L5P4    CLA     H5P4                                               5230
0   0 0 200   13  0 13 1 070                       STO     VAR1                                               5240
0   0 0 201   17  0 13   002                       CLA     H5P5                                               5250
0   0 0 202   13  0 13 1 071                       STO     VAR2                                               5260
0   0 0 203   17  0 13   133    000000002          CLA     =0000000002                                        5270
0   0 0 204    4  0 13   206                       TNZ     L5P5                                               5280
0   0 0 205    0  0 13 1 026                       HOP     H95P1                                              5290
                                           *       TEST TMI WITH CLEARED ACCUMULATOR.                         5300
0   0 0 206   17  0 13   002               L5P5    CLA     H5P5                                               5310
0   0 0 207   13  0 13 1 070                       STO     VAR1                                               5320
0   0 0 210   17  0 13   003                       CLA     H5P6                                               5330
0   0 0 211   13  0 13 1 071                       STO     VAR2                                               5340
0   0 0 212   17  0 13   154    000000000          CLA     =0000000000                                        5350
0   0 0 213   14  0 13   227                       TMI     L15P1L                                             5360
0   0 0 214   10  0 13   216                       TRA     L5P6                                               5370
0   0 0 215    0  0 13 1 026                       HOP     H95P1                                              5380
                                           *       TEST TNZ WITH CLEARED ACCUMULATOR.                         5390
0   0 0 216   17  0 13   003               L5P6    CLA     H5P6                                               5400
0   0 0 217   13  0 13 1 070                       STO     VAR1                                               5410
0   0 0 220   17  0 13   004                       CLA     H5P7                                               5420
0   0 0 221   13  0 13 1 071                       STO     VAR2                                               5430
0   0 0 222   17  0 13   154    000000000          CLA     =0000000000                                        5440
0   0 0 223    4  0 13   227                       TNZ     L15P1L                                             5450
0   0 0 224   10  0 13 1 373                       TRA     L5P7                                               5460
0   0 0 225    0  0 13 1 026                       HOP     H95P1                                              5470
0   0 0 226   14  0 13   230               L5P7A   TMI     L6P1                                               5480
0   0 0 227   00  0 13   155    160000560  L15P1L  TRA*    L95P1                                              5490
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 12)

```
IM IS S LOC   OP OM OS 9 ADR   OCT VAL     LHS     OPC     VARIABLE          COMMENT                SEQ NO

                                           *       BEGINNING OF ROUTINE TWO                          5510
                                           *       OPERATION OF STO - ALL ONES.                      5520
0  0 0 230    17  0 13 1 055               L6P1    CLA     LCR2                                      5530
0  0 0 231    14  0 13   235                       TMI     L6P2              TO ROUTINE 2            5540
0  0 0 232     4  0 13   234                       TNZ     L6P1A                                     5550
0  0 0 233    10  0 13   016                       TRA     L2P1                                      5560
0  0 0 234    00  0 13   156   140057610   L6P1A   TRA*    L9P1                                      5570
0  0 0 235    17  0 13   006               L6P2    CLA     H6P2                                      5580
0  0 0 236    13  0 13 1 070                       STO     VAR1                                      5590
0  0 0 237    17  0 13   007                       CLA     H6P3                                      5600
0  0 0 240    13  0 13 1 071                       STO     VAR2                                      5610
0  0 0 241    17  0 13   157   777777776           CLA     =0777777776                               5620
0  0 0 242     4  0 13   244                       TNZ     *+2                                       5630
0  0 0 243    00  0 13   155   160000560           TRA*    L95P1                                     5640
0  0 0 244    13  0 13 1 077                       STO     TEMP1                                     5650
0  0 0 245    17  0 13   154   000000000           CLA     =0000000000                               5660
0  0 0 246    17  0 13 1 077                       CLA     TEMP1                                     5670
0  0 0 247     4  0 13   251                       TNZ     L6P2A                                     5680
0  0 0 250    00  0 13   155   160000560           TRA*    L95P1                                     5690
0  0 0 251     7  0 13   133   000000002   L6P2A   ADC     =0000000002                               5700
0  0 0 252     4  0 13 1 173                       TNZ     L15P1K                                    5710
                                           *       CHECK STO WITH ALL ZEROS.                         5720
0  0 0 253    17  0 13   007               L6P3    CLA     H6P3                                      5730
0  0 0 254    13  0 13 1 070                       STC     VAR1                                      5740
0  0 0 255    17  0 13   010                       CLA     H6P4                                      5750
0  0 0 256    13  0 13 1 071                       STO     VAR2                                      5760
0  0 0 257    17  0 13   154   000000000           CLA     =0000000000                               5770
0  0 0 260    13  0 13 1 077                       STO     TEMP1                                     5780
0  0 0 261    17  0 13   157   777777776           CLA     =0777777776                               5790
0  0 0 262    17  0 13 1 077                       CLA     TEMP1                                     5800
0  0 0 263     4  0 13 1 173                       TNZ     L15P1K                                    5810
```

Figure 7-13. PTCADAPT Self-Test Program (Sheet 13)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE          COMMENT                          SEC NO

                                           *      CAN ACCUMULATOR BE FILLED BY ADD.                         5830
0  0 0 264    17  0 13   010               L6P4   CLA    H6P4                                               5840
0  0 0 265    13  0 13 1 070                      STO    VAR1                                               5850
0  0 0 266    17  0 13   011                      CLA    H6P5                                               5860
0  0 0 267    13  0 13 1 071                      STO    VAR2                                               5870
0  0 0 270    17  0 13   154   000000000          CLA    =0000000000                                        5880
0  0 0 271     7  0 13   157   777777776          ACC    =0777777776                                        5890
0  0 0 272     4  0 13   274                      TNZ    *+2                                                5900
0  0 0 273    10  0 13 1 173                      TRA    L15PIK                                             5910
0  0 0 274     2  0 13   157   777777776          SUB    =0777777776                                        5920
0  0 0 275     4  0 13 1 173                      TNZ    L15PIK                                             5930
                                           *      CAN ACCUMULATOR BE CHANGED BY ADDING ZERO                 5940
0  0 0 276    17  0 13   011               L6P5   CLA    H6P5                                               5950
0  0 0 277    13  0 13 1 070                      STO    VAR1                                               5960
0  0 0 300    17  0 13   012                      CLA    H6P6                                               5970
0  0 0 301    13  0 13 1 071                      STO    VAR2                                               5980
0  0 0 302    17  0 13   157   777777776          CLA    =0777777776                                        5990
0  0 0 303     7  0 13   154   000000000          ACC    =0000000000                                        6000
0  0 0 304     2  0 13   157   777777776          SUB    =0777777776                                        6010
0  0 0 305     4  0 13 1 173                      TNZ    L15PIK                                             6020
                                           *      CAN ACCUMULATOR BE CLEARED BY ADD.                        6030
0  0 0 306    17  0 13   012               L6P6   CLA    H6P6                                               6040
0  0 0 307    13  0 13 1 070                      STO    VAR1                                               6050
0  0 0 310    17  0 13   013                      CLA    H6P7                                               6060
0  0 0 311    13  0 13 1 071                      STO    VAR2                                               6070
0  0 0 312    17  0 13   157   777777776          CLA    =0777777776                                        6080
0  0 0 313     7  0 13   133   000000002          ACC    =0000000002                                        6090
0  0 0 314     4  0 13 1 173                      TNZ    L15PIK                                             6100
                                           *      SAME AS L5P5 EXCEPT CONSTANTS REVERSED.                   6110
0  0 0 315    17  0 13   013               L6P7   CLA    H6P7                                               6120
0  0 0 316    13  0 13 1 070                      STO    VAR1                                               6130
0  0 0 317    17  0 13   014                      CLA    H6P8                                               6140
0  0 0 320    13  0 13 1 071                      STO    VAR2                                               6150
0  0 0 321    17  0 13   133   000000002          CLA    =0000000002                                        6160
0  0 0 322     7  0 13   157   777777776          ACC    =0777777776                                        6170
0  0 0 323     4  0 13 1 173                      TNZ    L15PIK                                             6180
0  0 0 324    10  0 13   325                      TRA    L6P8                                               6190
                                           *      CHECK FOR CHANGE OF SIGN BIT.                             6200
0  0 0 325    17  0 13   014               L6P8   CLA    H6P8                                               6210
0  0 0 326    13  0 13 1 070                      STO    VAR1                                               6220
0  0 0 327    17  0 13   015                      CLA    H6P9                                               6230
0  0 0 330    13  0 13 1 071                      STO    VAR2                                               6240
0  0 0 331    17  0 13   160   200000000          CLA    =0200000000                                        6250
0  0 0 332     7  0 13   160   200000000          ADC    =0200000000                                        6260
0  0 0 333    14  0 13   335                      TMI    L6P9                                               6270
0  0 0 334    10  0 13 1 173                      TRA    L15PIK                                             6280
                                           *      SAME AS L5P7.                                             6290
0  0 0 335    17  0 13   015               L6P9   CLA    H6P9                                               6300
0  0 0 336    13  0 13 1 070                      STO    VAR1                                               6310
0  0 0 337    17  0 13   016                      CLA    H6P10                                              6320
0  0 0 340    13  0 13 1 071                      STO    VAR2                                               6330
0  0 0 341    17  0 13   153   400000000          CLA    =0400000000                                        6340
0  0 0 342     7  0 13   153   400000000          ACC    =0400000000                                        6350
0  0 0 343    14  0 13 1 173                      TMI    L15PIK                                             6360
                                           *      ALL BIT COMBINATIONS ON ADD                               6370
0  0 0 344    17  0 13   016               L6P10  CLA    H6P10                                              6380
0  0 0 345    13  0 13 1 070                      STO    VAR1                                               6390
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 14)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 346 | 17 | 0 | 13 | | 017 | | | CLA | H6P11 | | 6400 |
| 0 | 0 | 0 | 347 | 13 | 0 | 13 | 1 | 071 | | | STO | VAR2 | | 6410 |
| 0 | 0 | 0 | 350 | 17 | 0 | 13 | | 161 | 252642550 | | CLA | =0252642550 | | 6420 |
| 0 | 0 | 0 | 351 | 7 | 0 | 13 | | 162 | 107301660 | | ADD | =0107301660 | | 6430 |
| 0 | 0 | 0 | 352 | 2 | 0 | 13 | | 163 | 362144430 | | SUB | =0362144430 | | 6440 |
| 0 | 0 | 0 | 353 | 4 | 0 | 13 | 1 | 173 | | | TNZ | L15P1K | | 6450 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 15)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC     VARIABLE           COMMENT                      SEQ NC

                                           *       CHECK SIMPLE SUBTRACTION.                            6470
 0  0 0 354   17  0 13   017               L6P11   CLA     H6P11                                        6480
 0  0 0 355   13  0 13 1 070                       STO     VAR1                                         6490
 0  0 0 356   17  0 13   020                       CLA     H6P12                                        6500
 0  0 0 357   13  0 13 1 071                       STO     VAR2                                         6510
 0  0 0 360   17  0 13   153   400000000           CLA     =0400000000                                  6520
 0  0 0 361    2  0 13   153   400000000           SUB     =0400000000                                  6530
 0  0 0 362    4  0 13 1 173                       TNZ     L15P1K                                       6540
                                           *       CHECK SUBTRACTION OF LOW ORDER BIT.                  6550
 0  0 0 363   17  0 13   020               L6P12   CLA     H6P12                                        6560
 0  0 0 364   13  0 13 1 070                       STO     VAR1                                         6570
 0  0 0 365   17  0 13   021                       CLA     H6P13                                        6580
 0  0 0 366   13  0 13 1 071                       STO     VAR2                                         6590
 0  0 0 367   17  0 13   133   000000002           CLA     =0000000002                                  6600
 0  0 0 370    2  0 13   133   000000002           SUB     =0000000002                                  6610
 0  0 0 371    4  0 13 1 173                       TNZ     L15P1K                                       6620
 0  0 0 372   10  0 13   374                       TRA**                      GENERATED TRANSFER
 0  0 0 374   10  0 13 1 000                       TRA     L6P13                                        6630
                                           *       SUBTRACT ALL ODD BITS.                               6640
 0  0 1   0       0 13   135                       ORG     ,,1,,,13,                                    6650
 0  0 1   0   17  0 13   021               L6P13   CLA     H6P13                                        6660
 0  0 1   1   13  0 13 1 070                       STO     VAR1                                         6670
 0  0 1   2   17  0 13   022                       CLA     H6P14                                        6680
 0  0 1   3   13  0 13 1 071                       STO     VAR2                                         6690
 0  0 1   4   17  0 13   164   525252524           CLA     =0525252524                                  6700
 0  0 1   5    2  0 13   164   525252524           SUB     =0525252524                                  6710
 0  0 1   6    4  0 13 1 173                       TNZ     L15P1K                                       6720
                                           *       SUBTRACT ALL EVEN BITS.                              6730
 0  0 1   7   17  0 13   022               L6P14   CLA     H6P14                                        6740
 0  0 1  10   13  0 13 1 070                       STO     VAR1                                         6750
 0  0 1  11   17  0 13   023                       CLA     H6P15                                        6760
 0  0 1  12   13  0 13 1 071                       STO     VAR2                                         6770
 0  0 1  13   17  0 13   165   252525252           CLA     =0252525252                                  6780
 0  0 1  14    2  0 13   165   252525252           SUB     =0252525252                                  6790
 0  0 1  15    4  0 13 1 173                       TNZ     L15P1K                                       6800
                                           *       FILL ACCUMULATOR WITH SUBTRACT.                      6810
 0  0 1  16   17  0 13   023               L6P15   CLA     H6P15                                        6820
 0  0 1  17   13  0 13 1 070                       STO     VAR1                                         6830
 0  0 1  20   17  0 13   024                       CLA     H6P16                                        6840
 0  0 1  21   13  0 13 1 071                       STO     VAR2                                         6850
 0  0 1  22   17  0 13   154   000000000           CLA     =0000000000                                  6860
 0  0 1  23    2  0 13   133   000000002           SUB     =0000000002                                  6870
 0  0 1  24    2  0 13   157   777777776           SUB     =0777777776                                  6880
 0  0 1  25    4  0 13 1 173                       TNZ     L15P1K                                       6890
                                           *       CHECK SUBTRACT ZERO.                                 6900
 0  0 1  26   17  0 13   024               L6P16   CLA     H6P16                                        6910
 0  0 1  27   13  0 13 1 070                       STO     VAR1                                         6920
 0  0 1  30   17  0 13   025                       CLA     H6P17                                        6930
 0  0 1  31   13  0 13 1 071                       STO     VAR2                                         6940
 0  0 1  32   17  0 13   154   000000000           CLA     =0000000000                                  6950
 0  0 1  33    2  0 13   154   000000000           SUB     =0000000000                                  6960
 0  0 1  34    4  0 13 1 173                       TNZ     L15P1K                                       6970
                                           *       SUB - ALL COMBINATIONS                               6980
 0  0 1  35   17  0 13   025               L6P17   CLA     H6P17                                        6990
 0  0 1  36   13  0 13 1 070                       STO     VAR1                                         7000
 0  0 1  37   17  0 13   026                       CLA     H6P18                                        7010
 0  0 1  40   13  0 13 1 071                       STO     VAR2                                         7020
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 16)

```
IM IS S LOC   OP OM OS 9 ADR   OCT VAL     LHS     OPC     VARIABLE          COMMENT                       SEQ NC

0  0 1  41    17  0 13   166   046453224           CLA     =0046453224                                     7030
0  0 1  42     2  0 13   167   114722350           SUB     =0114722350                                     7040
0  0 1  43     2  0 13   170   731530654           SUB     =0731530654                                     7050
0  0 1  44     4  0 13 1 173                       TNZ     L15P1K                                          7060
                                           *       CHECK AND FOR CLEARING ACCUMULATOR.                     7070
0  0 1  45    17  0 13   026               L6P18   CLA     H6P18                                           7080
0  0 1  46    13  0 13 1 070                       STO     VAR1                                            7090
0  0 1  47    17  0 13   027                       CLA     H6P19                                           7100
0  0 1  50    13  0 13 1 071                       STO     VAR2                                            7110
0  0 1  51    17  0 13   164   525252524           CLA     =0525252524                                     7120
0  0 1  52     6  0 13   165   252525252           AND     =0252525252                                     7130
0  0 1  53     4  0 13 1 173                       TNZ     L15P1K                                          7140
                                           *       CHECK FOR EVEN BITS.                                    7150
0  0 1  54    17  0 13   027               L6P19   CLA     H6P19                                           7160
0  0 1  55    13  0 13 1 070                       STO     VAR1                                            7170
0  0 1  56    17  0 13   030                       CLA     H6P20                                           7180
0  0 1  57    13  0 13 1 071                       STO     VAR2                                            7190
0  0 1  60    17  0 13   165   252525252           CLA     =0252525252                                     7200
0  0 1  61     6  0 13   164   525252524           AND     =0525252524                                     7210
0  0 1  62     4  0 13 1 173                       TNZ     L15P1K                                          7220
                                           *       CHECK FOR ABILITY TO RETAIN ACCUMULATOR                 7230
0  0 1  63    17  0 13   030               L6P20   CLA     H6P20                                           7240
0  0 1  64    13  0 13 1 070                       STO     VAR1                                            7250
0  0 1  65    17  0 13   031                       CLA     H6P21                                           7260
0  0 1  66    13  0 13 1 071                       STO     VAR2                                            7270
0  0 1  67    17  0 13   157   777777776           CLA     =0777777776                                     7280
0  0 1  70     6  0 13   157   777777776           AND     =0777777776                                     7290
0  0 1  71     2  0 13   157   777777776           SUB     =0777777776                                     7300
0  0 1  72     4  0 13 1 173                       TNZ     L15P1K                                          7310
                                           *       CHECK AND ZERO TO CHANGE ACCUMULATOR.                   7320
0  0 1  73    17  0 13   031               L6P21   CLA     H6P21                                           7330
0  0 1  74    13  0 13 1 070                       STO     VAR1                                            7340
0  0 1  75    17  0 13   032                       CLA     H6P22                                           7350
0  0 1  76    13  0 13 1 071                       STO     VAR2                                            7360
0  0 1  77    17  0 13   154   000000000           CLA     =0000000000                                     7370
0  0 1 100     6  0 13   154   000000000           AND     =0000000000                                     7380
0  0 1 101     4  0 13 1 173                       TNZ     L15P1K                                          7390
                                           *       CHECK AND ZERO TO CLEAR ACCUMULATOR.                    7400
0  0 1 102    17  0 13   032               L6P22   CLA     H6P22                                           7410
0  0 1 103    13  0 13 1 070                       STO     VAR1                                            7420
0  0 1 104    17  0 13   033                       CLA     H6P23                                           7430
0  0 1 105    13  0 13 1 071                       STO     VAR2                                            7440
0  0 1 106    17  0 13   157   777777776           CLA     =0777777776                                     7450
0  0 1 107     6  0 13   154   000000000           AND     =0000000000                                     7460
0  0 1 110     4  0 13 1 173                       TNZ     L15P1K                                          7470
                                           *       CHECK AND OF ALL BITS.                                  7480
0  0 1 111    17  0 13   033               L6P23   CLA     H6P23                                           7490
0  0 1 112    13  0 13 1 070                       STO     VAR1                                            7500
0  0 1 113    17  0 13   034                       CLA     H7P1                                            7510
0  0 1 114    13  0 13 1 071                       STO     VAR2                                            7520
0  0 1 115    17  0 13   154   000000000           CLA     =0000000000                                     7530
0  0 1 116     6  0 13   157   777777776           AND     =0777777776                                     7540
0  0 1 117     4  0 13 1 173                       TNZ     L15P1K                                          7550
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 17)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC     VARIABLE                        COMMENT        SEQ NO
                                           *       CHECK XOR OF ALL BITS.                                  7570
0  0 1 120    17  0 13   034               L7P1    CLA     H7P1                                            7580
0  0 1 121    13  0 13 1 070                       STO     VAR1                                            7590
0  0 1 122    17  0 13   035                       CLA     H7P2                                            7600
0  0 1 123    13  0 13 1 071                       STO     VAR2                                            7610
0  0 1 124    17  0 13   157   777777776           CLA     =0777777776                                     7620
0  0 1 125    15  0 13   157   777777776           XOR     =0777777776                                     7630
0  0 1 126     4  0 13 1 173                       TNZ     L15PIK                                          7640
                                           *       CHECK XOR WITH ALL ZEROS.                               7650
0  0 1 127    17  0 13   035               L7P2    CLA     H7P2                                            7660
0  0 1 130    13  0 13 1 070                       STO     VAR1                                            7670
0  0 1 131    17  0 13   036                       CLA     H7P3                                            7680
0  0 1 132    13  0 13 1 071                       STO     VAR2                                            7690
0  0 1 133    17  0 13   154   000000000           CLA     =0000000000                                     7700
0  0 1 134    15  0 13   154   000000000           XOR     =0000000000                                     7710
0  0 1 135     4  0 13 1 173                       TNZ     L15PIK                                          7720
                                           *       CHECK SIGN BITS.                                        7730
0  0 1 136    17  0 13   036               L7P3    CLA     H7P3                                            7740
0  0 1 137    13  0 13 1 070                       STO     VAR1                                            7750
0  0 1 140    17  0 13   037                       CLA     H7P4                                            7760
0  0 1 141    13  0 13 1 071                       STO     VAR2                                            7770
0  0 1 142    17  0 13   153   400000000           CLA     =0400000000                                     7780
0  0 1 143    15  0 13   153   400000000           XOR     =0400000000                                     7790
0  0 1 144     4  0 13 1 173                       TNZ     L15PIK                                          7800
                                           *       CHECK ALL BUT SIGN BITS.                                7810
0  0 1 145    17  0 13   037               L7P4    CLA     H7P4                                            7820
0  0 1 146    13  0 13 1 070                       STO     VAR1                                            7830
0  0 1 147    17  0 13   040                       CLA     H7P5                                            7840
0  0 1 150    13  0 13 1 071                       STO     VAR2                                            7850
0  0 1 151    17  0 13   171   377777776           CLA     =0377777776                                     7860
0  0 1 152    15  0 13   171   377777776           XOR     =0377777776                                     7870
0  0 1 153     4  0 13 1 173                       TNZ     L15PIK                                          7880
                                           *       CHECK LOW ORDER BITS.                                   7890
0  0 1 154    17  0 13   040               L7P5    CLA     H7P5                                            7900
0  0 1 155    13  0 13 1 070                       STO     VAR1                                            7910
0  0 1 156    17  0 13   041                       CLA     H7P6                                            7920
0  0 1 157    13  0 13 1 071                       STO     VAR2                                            7930
0  0 1 160    17  0 13   133   000000002           CLA     =0000000002                                     7940
0  0 1 161    15  0 13   133   000000002           XOR     =0000000002                                     7950
0  0 1 162     4  0 13 1 173                       TNZ     L15PIK                                          7960
                                           *       CHECK LOW ORDER BIT WITH ZEROS.                         7970
0  0 1 163    17  0 13   041               L7P6    CLA     H7P6                                            7980
0  0 1 164    13  0 13 1 070                       STO     VAR1                                            7990
0  0 1 165    17  0 13   042                       CLA     H7P7                                            8000
0  0 1 166    13  0 13 1 071                       STO     VAR2                                            8010
0  0 1 167    17  0 13   172   777777774           CLA     =0777777774                                     8020
0  0 1 170    15  0 13   172   777777774           XOR     =0777777774                                     8030
0  0 1 171     4  0 13 1 173                       TNZ     L15PIK                                          8040
0  0 1 172    10  0 13 1 174                       TRA     L7P7                                            8050
0  0 1 173    00  0 13   155   160000560   L15PIK  TRA*    L95P1                                           8060
                                           *       CHECK ALL ODD BITS.                                     8070
0  0 1 174    17  0 13   042               L7P7    CLA     H7P7                                            8080
0  0 1 175    13  0 13 1 070                       STO     VAR1                                            8090
0  0 1 176    17  0 13   043                       CLA     H7P8                                            8100
0  0 1 177    13  0 13 1 071                       STO     VAR2                                            8110
0  0 1 200    17  0 13   164   525252524           CLA     =0525252524                                     8120
0  0 1 201    15  0 13   164   525252524           XOR     =0525252524                                     8130
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 18)

```
IM IS S LOC  OP OM DS 9 ADR   OCT VAL    LHS    OPC    VARIABLE         COMMENT                 SEQ NO
0  0 1 202    4  0 13 1 173                     TNZ    L15P1K                                   8140
                                         *      CHECK ALL EVEN BITS.                            8150
0  0 1 203   17  0 13   043              L7P8   CLA    H7P8                                     8160
0  0 1 204   13  0 13 1 070                     STO    VAR1                                     8170
0  0 1 205   17  0 13   044                     CLA    H7P9                                     8180
0  0 1 206   13  0 13 1 071                     STO    VAR2                                     8190
0  0 1 207   17  0 13   165   252525252         CLA    =0252525252                              8200
0  0 1 210   15  0 13   165   252525252         XOR    =0252525252                              8210
0  0 1 211    4  0 13 1 173                     TNZ    L15P1K                                   8220
                                         *      FILL ACCUMULATOR WITH XOR.                      8230
0  0 1 212   17  0 13   044              L7P9   CLA    H7P9                                     8240
0  0 1 213   13  0 13 1 070                     STO    VAR1                                     8250
0  0 1 214   17  0 13   045                     CLA    H7P10                                    8260
0  0 1 215   13  0 13 1 071                     STO    VAR2                                     8270
0  0 1 216   17  0 13   157   777777776         CLA    =0777777776                              8280
0  0 1 217   15  0 13   154   000000000         XOR    =0000000000                              8290
0  0 1 220    2  0 13   157   777777776         SUB    =0777777776                              8300
0  0 1 221    4  0 13 1 173                     TNZ    L15P1K                                   8310
                                         *      SAME AS L7P9                                    8320
0  0 1 222   17  0 13   045              L7P10  CLA    H7P10                                    8330
0  0 1 223   13  0 13 1 070                     STO    VAR1                                     8340
0  0 1 224   17  0 13   046                     CLA    H7P11                                    8350
0  0 1 225   13  0 13 1 071                     STO    VAR2                                     8360
0  0 1 226   17  0 13   154   000000000         CLA    =0000000000                              8370
0  0 1 227   15  0 13   157   777777776         XOR    =0777777776                              8380
0  0 1 230    2  0 13   157   777777776         SUB    =0777777776                              8390
0  0 1 231    4  0 13 1 173                     TNZ    L15P1K                                   8400
                                         *      SAME AS L7P9 WITH ODD BITS                      8410
0  0 1 232   17  0 13   046              L7P11  CLA    H7P11                                    8420
0  0 1 233   13  0 13 1 070                     STO    VAR1                                     8430
0  0 1 234   17  0 13   047                     CLA    H7P12                                    8440
0  0 1 235   13  0 13 1 071                     STO    VAR2                                     8450
0  0 1 236   17  0 13   164   525252524         CLA    =0525252524                              8460
0  0 1 237   15  0 13   165   252525252         XOR    =0252525252                              8470
0  0 1 240    2  0 13   157   777777776         SUB    =0777777776                              8480
0  0 1 241    4  0 13 1 173                     TNZ    L15P1K                                   8490
                                         *      SAME AS L7P9 WITH  EVEN BITS                    8500
0  0 1 242   17  0 13   047              L7P12  CLA    H7P12                                    8510
0  0 1 243   13  0 13 1 070                     STO    VAR1                                     8520
0  0 1 244   17  0 13   050                     CLA    H7P13                                    8530
0  0 1 245   13  0 13 1 071                     STO    VAR2                                     8540
0  0 1 246   17  0 13   165   252525252         CLA    =0252525252                              8550
0  0 1 247   15  0 13   164   525252524         XOR    =0525252524                              8560
0  0 1 250    2  0 13   157   777777776         SUB    =0777777776                              8570
0  0 1 251    4  0 13 1 173                     TNZ    L15P1K                                   8580
                                         *      CHECK RSU                                       8590
0  0 1 252   17  0 13   050              L7P13  CLA    H7P13                                    8600
0  0 1 253   13  0 13 1 070                     STO    VAR1                                     8610
0  0 1 254   17  0 13   051                     CLA    H7P14                                    8620
0  0 1 255   13  0 13 1 071                     STO    VAR2                                     8630
0  0 1 256   17  0 13   157   777777776         CLA    =0777777776                              8640
0  0 1 257    3  0 13   172   777777774         RSU    =0777777774                              8650
0  0 1 260    2  0 13   157   777777776         SUB    =0777777776                              8660
0  0 1 261    4  0 13 1 173                     TNZ    L15P1K                                   8670
                                         *      CHECK RSU                                       8680
0  0 1 262   17  0 13   051              L7P14  CLA    H7P14                                    8690
0  0 1 263   13  0 13 1 070                     STO    VAR1                                     8700
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 19)

```
IM IS S LOC   OP DM DS 9 ADR    OCT VAL     LHS    OPC     VARIABLE              COMMENT                                        SEQ NO

0  0 1 264    17  0 13   052                       CLA     H7P15                                                                8710
0  0 1 265    13  0 13 1 071                       STC     VAR2                                                                 8720
0  0 1 266    17  0 13   133    000000002          CLA     =0000000002                                                          8730
0  0 1 267     3  0 13   154    000000000          RSU     =0000C00000                                                          8740
0  0 1 270     2  0 13   157    777777776          SUB     =0777777776                                                          8750
0  0 1 271     4  0 13 1 173                       TNZ     L15PIK                                                               8760
                                            *      CHECK RSU                                                                    8770
0  0 1 272    17  0 13   052                L7P15  CLA     H7P15                                                                8780
0  0 1 273    13  0 13 1 070                       STO     VAR1                                                                 8790
0  0 1 274    17  0 13   053                       CLA     H7P16                                                                8800
0  0 1 275    13  0 13 1 071                       STO     VAR2                                                                 8810
0  0 1 276    17  0 13   157    777777776          CLA     =0777777776                                                          8820
0  0 1 277     3  0 13   157    777777776          RSU     =C777777776                                                          8830
0  0 1 300     4  0 13 1 173                       TNZ     L15PIK                                                               8840
                                            *      CHECK RSU                                                                    8850
0  0 1 301    17  C 13   053                L7P16  CLA     H7P16                                                                8860
C  0 1 302    13  0 13 1 070                       STU     VAR1                                                                 8870
0  0 1 303    17  0 13   054                       CLA     H7P17                                                                8880
0  0 1 304    13  0 13 1 071                       STU     VAR2                                                                 8890
0  0 1 305    17  0 13   154    000000000          CLA     =0CCCCC0000                                                          8900
0  0 1 306     3  0 13   154    000000000          RSU     =0000C00000                                                          8910
0  0 1 307     4  0 13 1 173                       TNZ     L15PIK                                                               8920
                                            *      CHECK RSU TO FILL AND CLEAR ACC.                                             8930
0  0 1 310    17  0 13   054                L7P17  CLA     H7P17                                                                8940
0  0 1 311    13  0 13 1 070                       STU     VAR1                                                                 8950
0  0 1 312    17  0 13   055                       CLA     H7P18                                                                8960
0  0 1 313    13  0 13 1 071                       STC     VAR2                                                                 8970
0  0 1 314    17  0 13   157    777777776          CLA     =0777777776                                                          8980
0  0 1 315     3  0 13   154    000000000          RSU     =0000000000                                                          8990
0  0 1 316     2  0 13   133    000000002          SUB     =0000000002                                                          9000
0  0 1 317     4  0 13 1 173                       TNZ     L15PIK                                                               9010
                                            *      CHECK RSU                                                                    9020
0  0 1 320    17  0 13   055                L7P18  CLA     H7P18                                                                9030
0  0 1 321    13  0 13 1 C70                       STO     VAR1                                                                 9040
0  0 1 322    17  0 13   056                       CLA     H7P19                                                                9050
C  0 1 323    13  0 13 1 071                       STL     VAR2                                                                 9060
0  0 1 324    17  0 13   173    331033100          CLA     =0331033100                                                          9070
0  0 1 325     3  0 13   174    265026500          RSU     =0265026500                                                          9080
0  0 1 326     2  0 13   175    733773400          SUB     =07337734CC                                                          9090
0  0 1 327     4  0 13 1 173                       TNZ     L15PIK                                                               9100

                                            *      BEGIN CHECK OF SHIFT INSTRUCTION.                                            9120
                                            *      SHIFT OUT OF SIGN BIT.                                                       9130
0  0 1 330    17  0 13   056                L7P19  CLA     H7P19                                                                9140
0  0 1 331    13  0 13 1 070                       STU     VAR1                                                                 9150
0  0 1 332    17  0 13   057                       CLA     H7P20                                                                9160
0  0 1 333    13  0 13 1 071                       STC     VAR2                                                                 9170
0  0 1 334    17  0 13   153    400000000          CLA     =0400000000                                                          9180
                                                   SHL     1                                                                    9190
0  0 1 335    16  0 13   001
0  0 1 336     4  0 13 1 173                       TNZ     L15PIK                                                               9200
                                            *      SHIFT THROUGH SIGN BIT.                                                      9210
0  0 1 337    17  0 13   057                L7P20  CLA     H7P20                                                                9220
0  0 1 340    13  0 13 1 070                       STO     VAR1                                                                 9230
0  0 1 341    17  0 13   060                       CLA     H7P21                                                                9240
0  0 1 342    13  0 13 1 071                       STO     VAR2                                                                 9250
0  0 1 343    17  0 13   160    200000000          CLA     =0200CC0000                                                          9260
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 20)

```
IM IS S LOC   OP DM DS 9 ADR    OCT VAL    LHS    OPC     VARIABLE           COMMENT                  SEC NO
                                                  SHL     2                                            9270
 0  0 1 344   16  0 13   002                                                                           
 0  0 1 345    4  0 13 1 173                      TNZ     L15P1K                                       9280
                                           *      CHECK SHIFT LEFT ONE OF ALL ODD BITS.                9290
 0  0 1 346   17  0 13   060               L7P21  CLA     H7P21                                        9300
 0  0 1 347   13  0 13 1 070                      STO     VAR1                                         9310
 0  0 1 350   17  0 13   061                      CLA     H7P22                                        9320
 0  0 1 351   13  0 13 1 071                      STO     VAR2                                         9330
 0  0 1 352   17  0 13   164  525252524           CLA     =0525252524                                  9340
                                                  SHL     1                                            9350
 0  0 1 353   16  0 13   001                                                                           
 0  0 1 354    2  0 13   176  252525250           SUB     =0252525250                                  9360
 0  0 1 355    4  0 13 1 173                      TNZ     L15P1K                                       9370
                                           *      CHECK SHIFT LEFT TWO OF ALL ODD BITS.                9380
 0  0 1 356   17  0 13   061               L7P22  CLA     H7P22                                        9390
 0  0 1 357   13  0 13 1 070                      STO     VAR1                                         9400
 0  0 1 360   17  0 13   062                      CLA     H7P23                                        9410
 0  0 1 361   13  0 13 1 071                      STO     VAR2                                         9420
 0  0 1 362   17  0 13   164  525252524           CLA     =0525252524                                  9430
                                                  SHL     2                                            9440
 0  0 1 363   16  0 13   002                                                                           
 0  0 1 364    2  0 13   177  525252520           SUB     =0525252520                                  9450
 0  0 1 365    4  0 13 1 173                      TNZ     L15P1K                                       9460
 0  0 1 366   00  0 13   200  130001410           TRA*    L7P23                                        9470
                                           *      CHECK SHIFT LEFT ONE OF ALL EVEN BITS.               9480
 0  1 0   3       0 13   136                      ORG     ,1,,3,,13,                                   9490
 0  1 0   3   17  0 13   062               L7P23  CLA     H7P23                                        9500
 0  1 0   4   13  0 13 1 070                      STO     VAR1                                         9510
 0  1 0   5   17  0 13   063                      CLA     H7P24                                        9520
 0  1 0   6   13  0 13 1 071                      STO     VAR2                                         9530
 0  1 0   7   17  0 13   165  252525252           CLA     =0252525252                                  9540
                                                  SHL     1                                            9550
 0  1 0  10   16  0 13   001                                                                           
 0  1 0  11    2  0 13   164  525252524           SUB     =0525252524                                  9560
 0  1 0  12    4  0 13   234                      TNZ     L15P1J                                       9570
                                           *      CHECK SHIFT LEFT TWO OF ALL EVEN BITS.               9580
 0  1 0  13   17  0 13   063               L7P24  CLA     H7P24                                        9590
 0  1 0  14   13  0 13 1 070                      STO     VAR1                                         9600
 0  1 0  15   17  0 13   064                      CLA     H7P25                                        9610
 0  1 0  16   13  0 13 1 071                      STO     VAR2                                         9620
 0  1 0  17   17  0 13   165  252525252           CLA     =0252525252                                  9630
                                                  SHL     2                                            9640
 0  1 0  20   16  0 13   002                                                                           
 0  1 0  21    2  0 13   176  252525250           SUB     =0252525250                                  9650
 0  1 0  22    4  0 13   234                      TNZ     L15P1J                                       9660
                                           *      CHECK SHIFT LEFT ONE OF ALL BITS.                    9670
 0  1 0  23   17  0 13   064               L7P25  CLA     H7P25                                        9680
 0  1 0  24   13  0 13 1 070                      STO     VAR1                                         9690
 0  1 0  25   17  0 13   065                      CLA     H7P26                                        9700
 0  1 0  26   13  0 13 1 071                      STO     VAR2                                         9710
 0  1 0  27   17  0 13   157  777777776           CLA     =0777777776                                  9720
                                                  SHL     1                                            9730
 0  1 0  30   16  0 13   001                                                                           
 0  1 0  31    2  0 13   172  777777774           SUB     =0777777774                                  9740
 0  1 0  32    4  0 13   234                      TNZ     L15P1J                                       9750
                                           *      CHECK SHIFT LEFT TWO OF ALL BITS.                    9760
 0  1 0  33   17  0 13   065               L7P26  CLA     H7P26                                        9770
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 21)

```
IM IS S LOC   OP DM DS 9 ADR   CCT VAL     LHS    OPC    VARIABLE                  COMMENT                    SEQ NC

0  1 0  34    13  0 13 1 070                      STC    VAR1                                                  9780
0  1 0  35    17  0 13   066                      CLA    H7P27                                                 9790
0  1 0  36    13  0 13 1 071                      STO    VAR2                                                  9800
0  1 0  37    17  0 13   157   777777776          CLA    =0777777776                                           9810
                                                  SHL    2                                                     9820
0  1 0  40    16  C 13   002
0  1 0  41     2  0 13   201   777777770          SUB    =0777777770                                           9830
0  1 0  42     4  0 13   234                      TNZ    L15P1J                                                9840
                                           *      CHECK SHIFT LEFT ONE OF ALL ZEROS.                           9850
C  1 0  43    17  0 13   066               L7P27  CLA    H7P27                                                 9860
0  1 0  44    13  0 13 1 070                      STO    VAR1                                                  9870
C  1 0  45    17  0 13   067                      CLA    H7P28                                                 9880
C  1 0  46    13  0 13 1 071                      STC    VAR2                                                  9690
0  1 0  47    17  0 13   154   000000000          CLA    =0C00000000                                           9900
                                                  SHL    1                                                     9910
0  1 0  50    16  0 13   C01
0  1 0  51     4  C 13   234                      TNZ    L15P1J                                                9920
                                           *      CHECK SHIFT LEFT TWO OF ALL ZEROS.                           9930
C  1 0  52    17  0 13   067               L7P28  CLA    H7P28                                                 9940
0  1 0  53    13  0 13 1 C70                      STO    VAR1                                                  9950
0  1 0  54    17  0 13   070                      CLA    H7P29                                                 9960
C  1 0  55    13  0 13 1 071                      STC    VAR2                                                  9970
0  1 0  56    17  0 13   154   000000000          CLA    =000000000C                                           9980
                                                  SHL    2                                                     9990
0  1 0  57    16  0 13   002
0  1 0  60     4  C 13   234                      TNZ    L15P1J                                               10000
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 22)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC     VARIABLE          COMMENT                    SEQ NO

                                           *      SHIFT BIT LEFT THROUGH ALL POSITIONS.                 10020
0  1 0  61    17  0 13   070               L7P29  CLA     H7P29                                         10030
0  1 0  62    13  0 13 1 070                      STC     VAR1                                          10040
0  1 0  63    17  0 13   071                      CLA     H7P30                                         10050
0  1 0  64    13  0 13 1 071                      STO     VAR2                                          10060
0  1 0  65    17  0 13   133   000000002          CLA     =0C00000002                                   10070
                                                  SHL     25                                            10080
0  1 0  66    16  0 13   040
0  1 0  67    16  0 13   040
0  1 0  70    16  0 13   040
0  1 0  71    16  0 13   040
0  1 0  72    16  0 13   001
0  1 0  73     2  0 13   153   400000000          SUB     =0400000000                                   10090
0  1 0  74     4  0 13   234                      TNZ     L15P1J                                        10100
                                           *      CHECK SHL3                                            10110
0  1 0  75    17  0 13   071               L7P30  CLA     H7P30                                         10120
0  1 0  76    13  0 13 1 070                      STO     VAR1                                          10130
0  1 0  77    17  0 13   072                      CLA     H7P31                                         10140
0  1 0 100    13  0 13 1 071                      STO     VAR2                                          10150
0  1 0 101    17  0 13   202   042104212          CLA     =0042104212                                   10160
                                                  SHL     3                                             10170
0  1 0 102    16  0 13   004
0  1 0 103    15  0 13   203   421042120          XOR     =0421C42120                                   10180
0  1 0 104     4  0 13   234                      TNZ     L15P1H                                        10190
                                           *      CHECK SHL4                                            10200
0  1 0 105    17  0 13   072               L7P31  CLA     H7P31                                         10210
0  1 0 106    13  0 13 1 070                      STO     VAR1                                          10220
0  1 0 107    17  0 13   073                      CLA     H7P32                                         10230
0  1 0 110    13  0 13 1 071                      STO     VAR2                                          10240
0  1 0 111    17  0 13   204   020410206          CLA     =0020410206                                   10250
                                                  SHL     4                                             10260
0  1 0 112    16  0 13   010
0  1 0 113    15  0 13   205   410204140          XOR     =0410204140                                   10270
0  1 0 114     4  0 13   234                      TNZ     L15P1H                                        10280
                                           *      CHECK SHL5                                            10290
0  1 0 115    17  0 13   073               L7P32  CLA     H7P32                                         10300
0  1 0 116    13  0 13 1 070                      STO     VAR1                                          10310
0  1 0 117    17  0 13   074                      CLA     H7P33                                         10320
0  1 0 120    13  0 13 1 071                      STO     VAR2                                          10330
0  1 0 121    17  0 13   206   010101012          CLA     =0010101012                                   10340
                                                  SHL     5                                             10350
0  1 0 122    16  0 13   020
0  1 0 123    15  0 13   207   404040500          XOR     =040404C50C                                   10360
0  1 0 124     4  0 13   234                      TNZ     L15P1H                                        10370
                                           *      CHECK SHL6                                            10380
0  1 0 125    17  0 13   074               L7P33  CLA     H7P33                                         10390
0  1 0 126    13  0 13 1 070                      STO     VAR1                                          10400
0  1 0 127    17  0 13   075                      CLA     H7P34                                         10410
0  1 0 130    13  0 13 1 071                      STO     VAR2                                          10420
0  1 0 131    17  0 13   210   004020102          CLA     =0004020102                                   10430
                                                  SHL     6                                             10440
0  1 0 132    16  0 13   040
0  1 0 133    15  0 13   211   402010200          XOR     =0402010200                                   10450
0  1 0 134     4  0 13   234                      TNZ     L15P1H                                        10460
                                           *      CHECK SHL6 EVEN BITS                                  10470
0  1 0 135    17  0 13   075               L7P34  CLA     H7P34                                         10480
0  1 0 136    13  0 13 1 070                      STO     VAR1                                          10490
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 23)

```
IM IS S LOC   OP OP DS 9 ADR   OCT VAL     LHS    OPC     VARIABLE          COMMENT                  SEQ NO

0  1 0 137   17  0 13    076                     CLA     H7P35                                        10500
0  1 0 140   13  0 13 1  071                     STO     VAR2                                         10510
0  1 0 141   17  0 13    165   252525252          CLA     =0252525252                                  10520
                                                 SHL     6                                            10530
0  1 0 142   16  0 13    040
0  1 0 143    2  0 13    212   252525200          SUB     =0252525200                                  10540
0  1 0 144    4  0 13    234                     TNZ     L15P1H                                       10550
                                          *      CHECK   SHL6 ODD BITS                                10560
0  1 0 145   17  0 13    076              L7P35  CLA     H7P35                                        10570
0  1 0 146   13  0 13 1  070                     STO     VAR1                                         10580
0  1 0 147   17  0 13    077                     CLA     H7P36                                        10590
0  1 0 150   13  0 13 1  071                     STO     VAR2                                         10600
0  1 0 151   17  0 13    164   525252524          CLA     =0525252524                                  10610
                                                 SHL     5                                            10620
0  1 0 152   16  0 13    040
0  1 0 153    2  0 13    213   525252400          SUB     =0525252400                                  10630
0  1 0 154    4  0 13    234                     TNZ     L15P1H                                       10640
                                          *      SHIFT   OUT OF LOW ORDER BIT.                        10650
0  1 0 155   17  0 13    077              L7P36  CLA     H7P36                                        10660
0  1 0 156   13  0 13 1  070                     STO     VAR1                                         10670
0  1 0 157   17  0 13    100                     CLA     H7P37                                        10680
0  1 0 160   13  0 13 1  071                     STO     VAR2                                         10690
0  1 0 161   17  0 13    133   000000002          CLA     =0000000002                                  10700
                                                 SHR     1                                            10710
0  1 0 162   16  0 13    101
0  1 0 163    4  0 13    234                     TNZ     L15P1J                                       10720
                                          *      SHIFT   THROUGH LOW ORDER BIT.                       10730
0  1 0 164   17  0 13    100              L7P37  CLA     H7P37                                        10740
0  1 0 165   13  0 13 1  070                     STO     VAR1                                         10750
0  1 0 166   17  0 13    101                     CLA     H7P38                                        10760
0  1 0 167   13  0 13 1  071                     STO     VAR2                                         10770
0  1 0 170   17  0 13    214   000000004          CLA     =0000000004                                  10780
                                                 SHR     2                                            10790
0  1 0 171   16  0 13    102
0  1 0 172    4  0 13    234                     TNZ     L15P1J                                       10800
                                          *      CHECK   SHIFT RIGHT ONE OF ALL ODD BITS.             10810
0  1 0 173   17  0 13    101              L7P38  CLA     H7P38                                        10820
0  1 0 174   13  0 13 1  070                     STO     VAR1                                         10830
0  1 0 175   17  0 13    102                     CLA     H7P39                                        10840
0  1 0 176   13  0 13 1  071                     STO     VAR2                                         10850
0  1 0 177   17  0 13    164   525252524          CLA     =0525252524                                  10860
                                                 SHR     1                                            10870
0  1 0 200   16  0 13    101
0  1 0 201    2  0 13    215   652525252          SUB     =0652525252                                  10880
0  1 0 202    4  0 13    234                     TNZ     L15P1J                                       10890
                                          *      CHECK   SHIFT RIGHT TWO OF ALL ODD BITS.             10900
0  1 0 203   17  0 13    102              L7P39  CLA     H7P39                                        10910
0  1 0 204   13  0 13 1  070                     STO     VAR1                                         10920
0  1 0 205   17  0 13    103                     CLA     H7P40                                        10930
0  1 0 206   13  0 13 1  071                     STO     VAR2                                         10940
0  1 0 207   17  0 13    164   525252524          CLA     =0525252524                                  10950
                                                 SHR     2                                            10960
0  1 0 210   16  0 13    102
0  1 0 211    2  0 13    216   725252524          SUB     =0725252524                                  10970
0  1 0 212    4  0 13    234                     TNZ     L15P1J                                       10980
                                          *      CHECK   SHIFT RIGHT ONE OF ALL EVEN BITS.            10990
0  1 0 213   17  0 13    103              L7P40  CLA     H7P40                                        11000
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 24)

```
IM IS S LOC   OP DM DS 9 ADR    OCT VAL     LHS    OPC     VARIABLE          COMMENT                          SEQ NC

0  1 0 214    13  0 13 1 070                       STC     VAR1                                               11010
0  1 0 215    17  0 13   104                       CLA     H7P41                                              11020
0  1 0 216    13  0 13 1 071                       STO     VAR2                                               11030
0  1 0 217    17  0 13   165    252525252          CLA     =0252525252                                        11040
                                                   SHR     1                                                  11050

0  1 0 220    16  0 13   101                                                                                  11060
0  1 0 221     2  0 13   217    125252524          SUB     =0125252524                                        11070
0  1 0 222     4  0 13   234                       TNZ     L15P1J
                                            *      CHECK SHIFT RIGHT TWO OF ALL EVEN BITS.                    11080
0  1 0 223    17  0 13   104                L7P41  CLA     H7P41                                              11090
0  1 0 224    13  0 13 1 070                       STO     VAR1                                               11100
0  1 0 225    17  0 13   105                       CLA     H7P42                                              11110
0  1 0 226    13  0 13 1 071                       STO     VAR2                                               11120
0  1 0 227    17  0 13   165    252525252          CLA     =0252525252                                        11130
                                                   SHR     2                                                  11140

0  1 0 230    16  0 13   102
0  1 0 231     2  0 13   220    052525252          SUB     =0052525252                                        11150
0  1 0 232     4  0 13   234                       TNZ     L15P1J                                             11160
0  1 0 233    10  0 13   235                       TRA     L7P42                                              11170
0  1 0 234    00  0 13   155    160000560   L15P1J TRA*    L95P1                                              11180
                                            L15P1H SYN     L15P1J                                             11190

                                            *      CHECK SHIFT RIGHT ONE OF ALL BITS.                         11210
0  1 0 235    17  0 13   105                L7P42  CLA     H7P42                                              11220
0  1 0 236    13  0 13 1 070                       STO     VAR1                                               11230
0  1 0 237    17  0 13   106                       CLA     H7P43                                              11240
0  1 0 240    13  0 13 1 071                       STO     VAR2                                               11250
0  1 0 241    17  0 13   157    777777776          CLA     =0777777776                                        11260
                                                   SHR     1                                                  11270

0  1 0 242    16  0 13   101
0  1 0 243     2  0 13   157    777777776          SUB     =0777777776                                        11280
0  1 0 244     4  0 13   234                       TNZ     L15P1J                                             11290
                                            *      CHECK SHIFT RIGHT TWO OF ALL BITS.                         11300
0  1 0 245    17  0 13   106                L7P43  CLA     H7P43                                              11310
0  1 0 246    13  0 13 1 070                       STO     VAR1                                               11320
0  1 0 247    17  0 13   107                       CLA     H7P44                                              11330
0  1 0 250    13  0 13 1 071                       STO     VAR2                                               11340
0  1 0 251    17  0 13   157    777777776          CLA     =0777777776                                        11350
                                                   SHR     2                                                  11360

0  1 0 252    16  0 13   102
0  1 0 253     2  0 13   157    777777776          SUB     =0777777776                                        11370
0  1 0 254     4  0 13   234                       TNZ     L15P1J                                             11380
                                            *      CHECK SHIFT RIGHT ONE OF ALL ZEROS.                        11390
0  1 0 255    17  0 13   107                L7P44  CLA     H7P44                                              11400
0  1 0 256    13  0 13 1 070                       STO     VAR1                                               11410
0  1 0 257    17  0 13   110                       CLA     H7P45                                              11420
0  1 0 260    13  0 13 1 071                       STO     VAR2                                               11430
0  1 0 261    17  0 13   154    000000000          CLA     =0000000000                                        11440
                                                   SHR     1                                                  11450

0  1 0 262    16  0 13   101
0  1 0 263     4  0 13   234                       TNZ     L15P1J                                             11460
                                            *      CHECK SHIFT RIGHT TWO OF ALL ZEROS.                        11470
0  1 0 264    17  0 13   110                L7P45  CLA     H7P45                                              11480
0  1 0 265    13  0 13 1 070                       STO     VAR1                                               11490
0  1 0 266    17  0 13   111                       CLA     H7P46                                              11500
0  1 0 267    13  0 13 1 071                       STO     VAR2                                               11510
0  1 0 270    17  0 13   154    000000000          CLA     =0000000000                                        11520
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 25)

```
IM IS S LOC   OP OM DS 9 ADR    OCT VAL    LHS    OPC    VARIABLE          COMMENT                        SEQ NO
                                                  SHR    2                                                11530
0  1 0 271    16  0 13   102
0  1 0 272     4  0 13   234                      TNZ    L15P1J                                           11540
                                           *      SHIFT BIT RIGHT THROUGH ALL POSITIONS.                  11550
0  1 0 273    17  0 13   111               L7P46  CLA    H7P46                                            11560
0  1 0 274    13  0 13 1 070                      STO    VAR1                                             11570
0  1 0 275    17  0 13   112                      CLA    H7P47                                            11580
0  1 0 276    13  0 13 1 071                      STO    VAR2                                             11590
0  1 0 277    17  0 13   153  400000000           CLA    =0400000000                                      11600
                                                  SHR    25                                               11610
0  1 0 300    16  0 13   140
0  1 0 301    16  0 13   140
0  1 0 302    16  0 13   140
0  1 0 303    16  0 13   140
0  1 0 304    16  0 13   101
0  1 0 305     2  0 13   157  777777776           SUB    =0777777776                                      11620
0  1 0 306     4  0 13   234                      TNZ    L15P1J                                           11630
                                           *      CHECK SHR3                                              11640
0  1 0 307    17  0 13   112               L7P47  CLA    H7P47                                            11650
0  1 0 310    13  0 13 1 070                      STO    VAR1                                             11660
0  1 0 311    17  0 13   113                      CLA    H7P48                                            11670
0  1 0 312    13  0 13 1 071                      STO    VAR2                                             11680
0  1 0 313    17  0 13   221  210421042           CLA    =0210421042                                      11690
                                                  SHR    3                                                11700
0  1 0 314    16  0 13   104
0  1 0 315    15  0 13   222  021042104           XOR    =0021042104                                      11710
0  1 0 316     4  0 13   234                      TNZ    L15P1H                                           11720
                                           *      CHECK SHR4                                              11730
0  1 0 317    17  0 13   113               L7P48  CLA    H7P48                                            11740
0  1 0 320    13  0 13 1 070                      STO    VAR1                                             11750
0  1 0 321    17  0 13   114                      CLA    H7P49                                            11760
0  1 0 322    13  0 13 1 071                      STO    VAR2                                             11770
0  1 0 323    17  0 13   223  214102040           CLA    =0214102040                                      11780
                                                  SHR    4                                                11790
0  1 0 324    16  0 13   110
0  1 0 325    15  0 13   224  010604102           XOR    =0010604102                                      11800
0  1 0 326     4  0 13   234                      TNZ    L15P1H                                           11810
                                           *      CHECK SHR5                                              11820
0  1 0 327    17  0 13   114               L7P49  CLA    H7P49                                            11830
0  1 0 330    13  0 13 1 070                      STO    VAR1                                             11840
0  1 0 331    17  0 13   115                      CLA    H7P50                                            11850
0  1 0 332    13  0 13 1 071                      STO    VAR2                                             11860
0  1 0 333    17  0 13   225  202020200           CLA    =0202020200                                      11870
                                                  SHR    5                                                11880
0  1 0 334    16  0 13   120
0  1 0 335    15  0 13   226  004040404           XOR    =0004040404                                      11890
0  1 0 336     4  0 13   234                      TNZ    L15P1H                                           11900
                                           *      CHECK SHR6                                              11910
0  1 0 337    17  0 13   115               L7P50  CLA    H7P50                                            11920
0  1 0 340    13  0 13 1 070                      STO    VAR1                                             11930
0  1 0 341    17  0 13   116                      CLA    H7P51                                            11940
0  1 0 342    13  0 13 1 071                      STO    VAR2                                             11950
0  1 0 343    17  0 13   227  201004220           CLA    =0201004220                                      11960
                                                  SHR    6                                                11970
0  1 0 344    16  0 13   140
0  1 0 345    15  0 13   230  002010042           XOR    =0002010042                                      11980
0  1 0 346     4  0 13   234                      TNZ    L15P1H                                           11990
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 26)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     CPC     VARIABLE                COMMENT                    SEQ NC
                                            *      CHECK   SHR6 EVEN BITS                                     12000
0  1 0 347    17  0 13   116               L7P51   CLA     H7P51                                              12010
0  1 0 350    13  C 13 1 070                       STO     VAR1                                               12020
0  1 0 351    17  0 13   117                       CLA     H7P52                                              12030
C  1 0 352    13  0 13 1 C71                       STC     VAR2                                               12040
0  1 0 353    17  0 13   165   252525252           CLA     =0252525252                                        12050
                                                   SHR     6                                                  12060
0  1 0 354    16  0 13   140
0  1 0 355     2  0 13   231   002525252           SUB     =C002525252                                        12070
0  1 0 356     4  0 13   234                       TNZ     L15P1H                                             12080
                                            *      CHECK   SHR6 OCD BITS                                      12090
0  1 0 357    17  0 13   117               L7P52   CLA     H7P52                                              12100
0  1 0 360    13  0 13 1 070                       STC     VAR1                                               12110
0  1 0 361    17  0 13   120                       CLA     H7P53                                              12120
C  1 0 362    13  0 13 1 071                       STO     VAR2                                               12130
0  1 0 363    17  0 13   164   525252524           CLA     =0525252524                                        12140
                                                   SHR     6                                                  12150
0  1 0 364    16  0 13   140
C  1 0 365     2  0 13   232   775252524           SUB     =0775252524                                        12160
0  1 0 366     4  0 13   234                       TNZ     L15P1H                                             12170
0  1 0 367    10  0 13 1 C02                       TRA     L7P53                                              12180
                                            *      CHECK   CDS                                                12190
0  1 1   2        0 13   137                       ORG     ,1,1,2,,13,                                        12200
0  1 1   2    17  0 13   120               L7P53   CLA     H7P53                                              12210
0  1 1   3    13  0 13 1 070                       STC     VAR1                                               12220
0  1 1   4    17  0 13   121                       CLA     H7P54                                              12230
0  1 1   5    13  0 13 1 071                       STC     VAR2                                               12240
0  1 1   6    17  0 13   154   000000000           CLA     =0C00000000                                        12250
0  1 1   7    16  1  7   227                       CCS     1,07                                               12260
0  1 1  10    17  1  7   375                       CLA     KMA                                                12270
0  1 1  11    16  C 10   210                       CDS     0,10                                               12280
0  1 1  12    14  0 10 1 015                       TMI     L15P1T                                             12290
                                                   SHL     1                                                  12300
C  1 1  13    16  0 10   001
0  1 1  14    14  0 10 1 016                       TMI     *+2                                                12310
0  1 1  15    00  0 10   374   130116010   L15P1T  TRA*    L15P1H                                             12320
0  1 1  16    17  0 10   375                       CLA     KMB                                                12330
C  1 1  17    14  0 10 1 021                       TMI     *+2                                                12340
0  1 1  20    10  0 10 1 015                       TRA     L15P1T                                             12350
                                                   SHL     2                                                  12360
0  1 1  21    16  0 10   002
0  1 1  22    14  0 10 1 024                       TMI     *+2                                                12370
0  1 1  23    10  0 10 1 015                       TRA     L15P1T                                             12380
                                                   SHL     1                                                  12390
0  1 1  24    16  0 10   001
0  1 1  25     4  0 10 1 015                       TNZ     L15P1T                                             12400
C  1 1  26    16  0  0   200                       CDS     0,0                                                12410
0  1 1  27    17  0  0   375                       CLA     KMR                                                12420
0  1 1  30    16  0 13   213                       CCS     0,13                                               12430
                                                   SHL     2                                                  12440
0  1 1  31    16  0 13   002
0  1 1  32    14  0 13   234                       TMI     L15P1H                                             12450
0  1 1  33     4  0 13 1 035                       TNZ     *+2                                                12460
0  1 1  34    10  0 13   234                       TRA     L15P1H                                             12470
                                                   SHL     2                                                  12480
0  1 1  35    16  0 13   002
0  1 1  36     4  0 13   234                       TNZ     L15P1H                                             12490
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 27)

```
IM IS S LOC   OP UM DS 9 ADR   OCT VAL    LHS     OPC    VARIABLE              COMMENT                                    SEC NO

                                          *       CHECK  HOP SAVE CONSTANT                                               12500
0  1 1  37    00  0 13   233   130007430          TRA*   L7P54                                                           12510
0  3 0  17        0 13   140                      ORG    ,3,,17,,13,                                                     12520
0  3 0  17    13  0 13 1 376              L7P54   STO    776                                                             12530
0  3 0  20    17  0 13   121                      CLA    H7P54                                                           12540
0  3 0  21    13  0 13 1 070                      STO    VAR1                                                            12550
0  3 0  22    17  0 13   122                      CLA    H7P54B                                                          12560
                  0 13   140   571165370  H7P55B  HPC    L7P55                                                           12570
0  3 0  23    13  0 13 1 071              L7P54A  STO    VAR2                                                            12580

0  3 0  24    17  0 13 1 376                      CLA    776                                                             12600
0  3 0  25    15  0 13 1 025                      XOR    H8P1A                                                           12610

0  3 0  26     4  0 13   030                      TNZ    L95P1A                                                          12630
0  3 0  27     0  0 13   140              L7P54B  HOP    H7P55B                                                          12640
0  3 0  30     0  0 13 1 026              L95P1A  HOP    H95P1                                                           12650
1 17 1 352        1 17   100                      ORG    1,17,1,352,1,17,                                                12660
1 17 1 352    13  1 17 1 377              L7P55   STO    777                                                             12670
1 17 1 353    17  1 17   101                      CLA    H7P55                                                           12680
1 17 1 354    13  1 17 1 070                      STO    VAR1                                                            12690
1 17 1 355    17  1 17 1 025                      CLA    H8P1A                                                           12700

1 17 1 356    13  1 17 1 071              L7P55A  STO    VAR2                                                            12720

1 17 1 357    17  1 17 1 377                      CLA    777                                                             12740
1 17 1 360    15  1 17   100                      XOR    H95P1A                                                          12750
                  1 17   100   130014030  H95P1A  HPC    L95P1A                                                          12760
1 17 1 361     4  1 17 1 363                      TNZ    L15P1M                                                          12770
1 17 1 362     0  1 17 1 025                      HOP    H8P1A                                                           12780
                  1 17   101   571165370  H7P55   HPC    L7P55                                                           12790

1 17 1 363    00  1 17   000   160000560  L15P1M  TRA*   L95P1                                                           12810
0  1 1  40        0 13   141                      ORG    ,1,1,40,,13,                                                    12820
                                          *       CHECK  AFFECT OF PRS 775 ON ACCUMULATOR                                12830
0  1 1  40    17  0 13   123              L8P1    CLA    H8P1                                                            12840
0  1 1  41    13  0 13 1 070                      STO    VAR1                                                            12850
0  1 1  42    17  0 13   124                      CLA    H8P2                                                            12860
0  1 1  43    13  0 13 1 071                      STO    VAR2                                                            12870
0  1 1  44    17  0 13   234   123456702          CLA    =O123456702                                                     12880
0  1 1  45     1  0 13 1 375                      PRS    775                                                             12890
0  1 1  46    15  0 13   234   123456702          XOR    =O123456702                                                     12900
0  1 1  47     4  0 13 1 136                      TNZ    L15P1N                                                          12910
                                          *       CHECK  AFFECT OF PRS 774 ON ACCUMULATOR                                12920
0  1 1  50    17  0 13   124              L8P2    CLA    H8P2                                                            12930
0  1 1  51    13  0 13 1 070                      STO    VAR1                                                            12940
0  1 1  52    17  0 13   125                      CLA    H8P3                                                            12950
0  1 1  53    13  0 13 1 071                      STO    VAR2                                                            12960
0  1 1  54    17  0 13   235   765432106          CLA    =O765432106                                                     12970
0  1 1  55     1  0 13 1 374                      PRS    774                                                             12980
0  1 1  56    15  0 13   235   765432106          XOR    =O765432106                                                     12990
0  1 1  57     4  0 13 1 136                      TNZ    L15P1N                                                          13000
                                          *       CHECK  AFFECT OF PRS MEMORY ON ACCUMULATOR                             13010
0  1 1  60    17  0 13   125              L8P3    CLA    H8P3                                                            13020
0  1 1  61    13  0 13 1 070                      STO    VAR1                                                            13030
0  1 1  62    17  0 13   126                      CLA    H8P4                                                            13040
0  1 1  63    13  0 13 1 071                      STO    VAR2                                                            13050
0  1 1  64    17  0 13   157   777777776          CLA    =O777777776                                                     13060
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 28)

```
IM IS S LOC   OP OM OS 9 ADR   OCT VAL    LHS    OPC    VARIABLE          COMMENT                           SEQ NO
0  1  1  65    1  C 13    125                    PRS    H8P3                                                13070
0  1  1  66   15  0 13    125                    XOR    H8P3                                                13080
0  1  1  67    4  0 13 1 136                     TNZ    L15PIN                                              13090
                                          *      CHECK AFFECT OF CIO 120 ON ACCUMULATOR                     13100
0  1  1  70   17  C 13    126             L8P4   CLA    H8P4                                                13110
0  1  1  71   13  0 13 1 070                     STO    VAR1                                                13120
0  1  1  72   17  0 13    127                    CLA    H8P5                                                13130
0  1  1  73   13  0 13 1 071                     STO    VAR2                                                13140
0  1  1  74   17  0 13    157   777777776        CLA    =0777777776                                         13150
0  1  1  75    5  0 13    120                    CIO    120                                                 13160
0  1  1  76   15  0 13    157   777777776        XOR    =0777777776                                         13170
0  1  1  77    4  0 13 1 136                     TNZ    L15PIN                                              13180
                                          *      SAML AS ABOVE FOR CIO 124                                  13190
0  1  1 100   17  0 13    127             L8P5   CLA    H8P5                                                13200
0  1  1 101   13  0 13 1 070                     STO    VAR1                                                13210
0  1  1 102   17  0 13    130                    CLA    H8P6                                                13220
0  1  1 103   13  0 13 1 070                     STO    VAR1                                                13230
0  1  1 104   17  0 13    157   777777776        CLA    =0777777776                                         13240
0  1  1 105    5  0 13    124                    CIO    124                                                 13250
C  1  1 106   15  0 13    157   777777776        XOR    =0777777776                                         13260
0  1  1 107    4  0 13 1 136                     TNZ    L15PIN                                              13270
                                          *      SAME AS ABOVE FOR CIO 130                                  13280
0  1  1 110   17  0 13    130             L8P6   CLA    H8P6                                                13290
0  1  1 111   13  0 13 1 070                     STO    VAR1                                                13300
0  1  1 112   17  0 13    141                    CLA    H9P1                                                13310
                  0 13    141   140057610 H9P1   HPC    L9P1                                                13320
0  1  1 113   13  0 13 1 071                     STO    VAR2                                                13330
0  1  1 114   17  0 13    157   777777776        CLA    =0777777776                                         13340
0  1  1 115    5  0 13    130                    CIO    130                                                 13350
0  1  1 116   15  0 13    157   777777776        XOR    =0777777776                                         13360
0  1  1 117    4  0 13 1 136                     TNZ    L15PIN                                              13370
0  1  1 120   17  0 13 1 057              L8P7   CLA    LCR4              FOR PROGRAM COMPATIBILITY         13380
0  1  1 121   14  0 13 1 134                     TMI    L8P9                                                13390
0  1  1 122   17  0 13 1 056                     CLA    LCR3                                                13400
0  1  1 123   14  0 13 1 134                     TMI    L8P9                                                13410
0  1  1 124   17  0 13 1 060                     CLA    LCR5                                                13420
0  1  1 125   14  0 13 1 134                     TMI    L8P9                                                13430
0  1  1 126   17  0 13 1 033              L8P8   CLA    K77               SET AND RESET ALL DO S            13440
0  1  1 127    5  0 13    210                    CIO    210                                                 13450
0  1  1 130   17  0 13 1 020                     CLA    ZERO                                                13460
0  1  1 131    5  0 13    210                    CIO    210                                                 13470
0  1  1 132    0  0 13 1 023                     HOP    H9P3                                                13480
0  1  1 133    0  0 13    141                    HOP    H9P1                                                13490
0  1  1 134   00  0 13    236   120000270 L8P9   TRA*   L20P2A            DELAY                             13500
0  1  1 135   10  0 13 1 126                     TRA    L8P8                                                13510
0  1  1 136   00  0 13    155   160000560 L15PIN TRA*   L95P1                                               13520
0  1  1 136       0  0    375                    DOG    ,,375                                               13530
                  0  0    375   440000000 KMR    OCT    440000000                                           13540
0  1  1 136       0  1    375                    DOG    ,1,375                                              13550
                  0  1    375   420000000 KMP    OCT    420000000                                           13560
0  1  1 136       0  2    375                    DOG    ,2,375                                              13570
                  0  2    375   410000000 KMC    OCT    410000000                                           13580
0  1  1 136       0  3    375                    DOC    ,3,375                                              13590
                  0  3    375   404000000 KMD    OCT    404000000                                           13600
0  1  1 136       0  4    375                    DOG    ,4,375                                              13610
                  0  4    375   402000000 KME    OCT    402000000                                           13620
0  1  1 136       0  5    375                    DOG    ,5,375                                              13630
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 29)

| IM | IS | S | LOC | CP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | C | 5 | | 375 | 401C00000 | KMF | OCT | 40100C0C0 | | 13640 |
| C | 1 | 1 | 136 | | 0 | 6 | | 375 | | | COG | ,6,375 | | 13650 |
| | | | | | 0 | 6 | | 375 | 400400000 | KMG | OCT | 40040C0C0 | | 13660 |
| 0 | 1 | 1 | 136 | | C | 7 | | 375 | | | DOG | ,7,375 | | 13670 |
| | | | | | 0 | 7 | | 375 | 400001000 | KMQ | OCT | 40000L0C0 | | 13680 |
| 0 | 1 | 1 | 136 | | C | 10 | | 375 | | | COG | ,10,375 | | 13690 |
| | | | | | 0 | 10 | | 375 | 500000000 | KPB | OCT | 500000000 | | 13700 |
| 0 | 1 | 1 | 136 | | 0 | 11 | | 375 | | | DOG | ,11,375 | | 13710 |
| | | | | | 0 | 11 | | 375 | 400200000 | KPH | OCT | 400200C00 | | 13720 |
| 0 | 1 | 1 | 136 | | 0 | 12 | | 375 | | | DOG | ,12,375 | | 13730 |
| | | | | | 0 | 12 | | 375 | 400100000 | KMJ | CCT | 4001C0CC0 | | 13740 |
| 0 | 1 | 1 | 136 | | C | 13 | | 375 | | | DCG | ,13,375 | | 13750 |
| | | | | | 0 | 13 | | 375 | 400040000 | KPK | OCT | 4C0040000 | | 13760 |
| 0 | 1 | 1 | 136 | | 0 | 14 | | 375 | | | DOG | ,14,375 | | 13770 |
| | | | | | 0 | 14 | | 375 | 400020000 | KML | OCT | 400020000 | | 13780 |
| 0 | 1 | 1 | 136 | | 0 | 15 | | 375 | | | DOG | ,15,375 | | 13790 |
| | | | | | 0 | 15 | | 375 | 40C010000 | KPM | OCT | 40C01CC00 | | 13800 |
| C | 1 | 1 | 136 | | 0 | 16 | | 375 | | | COG | ,16,375 | | 13810 |
| | | | | | C | 16 | | 375 | 400004000 | KMN | OCT | 400004000 | | 13820 |
| 0 | 1 | 1 | 136 | | 0 | 17 | | 375 | | | COG | ,17,375 | | 13830 |
| | | | | | 0 | 17 | | 375 | 400002000 | KMO | OCT | 400CC2CC0 | | 13840 |
| C | 1 | 1 | 136 | | 1 | 7 | | 375 | | | COG | 1,07,375 | | 13850 |
| | | | | | 1 | 7 | | 375 | 200000000 | KMA | OCT | 20C0000C0 | | 13860 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 30)

| IM IS S LOC | OP DM DS 9 ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NC |
|---|---|---|---|---|---|---|---|
| 0 1 1 136 | 0 14 0 | | | DOG | ,14,0 | | 13880 |
| | 0 14 0 | 140062210 | H9P2 | HPC | L9P2 | | 13890 |
| | 0 14 1 | 140001020 | H9P4 | HPC | L9P4 | | 13900 |
| | 0 14 2 | 140002020 | H9P5 | HPC | L9P5 | | 13910 |
| | 0 14 3 | 140005020 | H9P6 | HPC | L9P6 | | 13920 |
| | 0 14 4 | 140007420 | H9P7 | HPC | L9P7 | | 13930 |
| | 0 14 5 | 140012420 | H9P8 | HPC | L9P8 | | 13940 |
| | 0 14 6 | 140015420 | H9P9 | HPC | L9P9 | | 13950 |
| | 0 14 7 | 140021020 | H9P10 | HPC | L9P10 | | 13960 |
| | 0 14 10 | 140024420 | H9P11 | HPC | L9P11 | | 13970 |
| | 0 14 11 | 140030020 | H9P12 | HPC | L9P12 | | 13980 |
| | 0 14 12 | 140033020 | H9P13 | HPC | L9P13 | | 13990 |
| | C 14 13 | 140036020 | H9P14 | HPC | L9P14 | | 14000 |
| | 0 14 14 | 140041420 | H9P15 | HPC | L9P15 | | 14010 |
| | 0 14 15 | 140045020 | H9P16 | HPC | L9P16 | | 14020 |
| | 0 14 16 | 140050420 | H9P17 | HPC | L9P17 | | 14030 |
| | 0 14 17 | 140054020 | H9P18 | HPC | L9P18 | | 14040 |
| | 0 14 20 | 140057420 | H9P19 | HPC | L9P19 | | 14050 |
| | 0 14 21 | 140063020 | H9P20 | HPC | L9P20 | | 14060 |
| | 0 14 22 | 140066420 | H9P21 | HPC | L9P21 | | 14070 |
| | 0 14 23 | 140072020 | H9P22 | HPC | L9P22 | | 14080 |
| | 0 14 24 | 140075420 | H9P23 | HPC | L9P23 | | 14090 |
| | 0 14 25 | 140101020 | H9P24 | HPC | L9P24 | | 14100 |
| | 0 14 26 | 140104420 | H9P25 | HPC | L9P25 | | 14110 |
| 0 1 1 136 | 0 14 31 | | | DOG | ,14,31 | | 14120 |
| | C 14 31 | 140110020 | H9P26 | HPC | L9P26 | | 14130 |
| | 0 14 32 | 140113420 | H9P27 | HPC | L9P27 | | 14140 |
| | 0 14 33 | 140117020 | H9P28 | HPC | L9P28 | | 14150 |
| | 0 14 34 | 140122420 | H9P29 | HPC | L9P29 | | 14160 |
| | C 14 35 | 140126020 | H9P30 | HPC | L9P30 | | 14170 |
| | 0 14 36 | 140131420 | H9P31 | HPC | L9P31 | | 14180 |
| | 0 14 37 | 140135020 | H9P32 | HPC | L9P32 | | 14190 |
| | 0 14 40 | 140140420 | H9P33 | HPC | L9P33 | | 14200 |
| | 0 14 41 | 140144020 | H9P34 | HPC | L9P34 | | 14210 |
| | 0 14 42 | 140147420 | H9P35 | HPC | L9P35 | | 14220 |
| | 0 14 43 | 140153020 | H9P36 | HPC | L9P36 | | 14230 |
| | C 14 44 | 140156420 | H9P37 | HPC | L9P37 | | 14240 |
| | 0 14 45 | 140162020 | H9P38 | HPC | L9P38 | | 14250 |
| | 0 14 46 | 140165420 | H9P39 | HPC | L9P39 | | 14260 |
| | 0 14 47 | 140001220 | H9P40 | HPC | L9P40 | | 14270 |
| | 0 14 50 | 140004620 | H9P41 | HPC | L9P41 | | 14280 |
| | 0 14 51 | 140010220 | H9P42 | HPC | L9P42 | | 14290 |
| | 0 14 52 | 140013620 | H9P43 | HPC | L9P43 | | 14300 |
| | 0 14 53 | 140017220 | H9P44 | HPC | L9P44 | | 14310 |
| | 0 14 54 | 140022620 | H9P45 | HPC | L9P45 | | 14320 |
| | 0 14 55 | 140026220 | H9P46 | HPC | L9P46 | | 14330 |
| | 0 14 56 | 140031620 | H9P47 | HPC | L9P47 | | 14340 |
| | 0 14 57 | 140035220 | H9P48 | HPC | L9P48 | | 14350 |
| | 0 14 60 | 140040620 | H9P49 | HPC | L9P49 | | 14360 |
| | 0 14 61 | 140044220 | H9P50 | HPC | L9P50 | | 14370 |
| | C 14 62 | 140047620 | H9P51 | HPC | L9P51 | | 14380 |
| | 0 14 63 | 140053220 | H9P52 | HPC | L9P52 | | 14390 |
| | C 14 64 | 140056620 | H9P53 | HPC | L9P53 | | 14400 |
| | 0 14 65 | 140062220 | H9P54 | HPC | L9P54 | | 14410 |
| | 0 14 66 | 140065620 | H9P55 | HPC | L9P55 | | 14420 |
| | 0 14 67 | 140071220 | H9P56 | HPC | L9P56 | | 14430 |
| | 0 14 70 | 140074620 | H9P57 | HPC | L9P57 | | 14440 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 31)

```
IM IS S LOC   OP DP DS 9 ADR    OCT VAL     LHS     OPC     VARIABLE          COMMENT                                 SEQ NO

                     0 14   71  140100220   H9P58   HPC     L9P58                                                     14450
                     0 14   72  140103620   H9P59   HPC     L9P59                                                     14460
                     0 14   73  140107220   H9P60   HPC     L9P60                                                     14470
                     0 14   74  140112620   H9P61   HPC     L9P61                                                     14480
                     0 14   75  140116220   H9P62   HPC     L9P62                                                     14490
                     0 14   76  140121620   H9P63   HPC     L9P63                                                     14500
                     0 14   77  140125220   H9P64   HPC     L9P64                                                     14510
                     0 14  100  140130620   H9P65   HPC     L9P65                                                     14520
                     0 14  101  140134220   H9P66   HPC     L9P66                                                     14530
                     0 14  102  140137620   H9P67   HPC     L9P67                                                     14540
                     0 14  103  140143220   H9P68   HPC     L9P68                                                     14550
                     0 14  104  140146620   H9P69   HPC     L9P69                                                     14560
                     0 14  105  140152220   H9P70   HPC     L9P70                                                     14570
                     0 14  106  140155620   H9P71   HPC     L9P71                                                     14580
                     0 14  107  140161220   H9P72   HPC     L9P72                                                     14590

                                            *       ROUTINE THREE                                                     14610
                                            *       TEST CIO CODES,ACCUMULATOR INTERFACE,DISCRETE                     14620
                                            *       OUTPUTS, DISCRETE INPUTS, INTERRUPTS                              14630
                                            *       FOR CIO SELF TEST B SWITCH NR 1 MUST BE ON                        14640
0  1 1 137    17  0 14 1 056                L9P1    CLA     LCR3                                                      14650
0  1 1 140    14  0 14 1 144                        TMI     L9P2                                                      14660
0  1 1 141     4  0 14 1 143                        TNZ     L20P1A                                                    14670
0  1 1 142    00  0 14   027  130007000             TRA*    L2P1                                                      14680
0  1 1 143    00  0 14   110  150030260   L20P1A    TRA*    L20P1                                                     14690
                                            *       INITIALIZE                                                        14700
0  1 1 144    17  0 14   000                L9P2    CLA     H9P2                                                      14710
0  1 1 145    13  0 14 1 073                        STO     VAR4                                                      14720
0  1 1 146    17  0 14   111  777777776             CLA     =0777777776                                               14730
0  1 1 147     5  0 14   000                        CIO     000                                                       14740
0  1 1 150    17  0 14 1 020                        CLA     ZERO                                                      14750
0  1 1 151    13  0 14 1 074                        STO     VAR5                                                      14760
0  1 1 152    10  0 14 1 154                        TRA     L9P3              RST INT LATCHES                         14770
0  1 1 153    00  0 14   112  140001020             TRA*    L9P4                                                      14780
0  1 1 154    13  0 14 1 376                L9P3    STO     776               SUBROUTINE TO RESET ALL INT LATCHES     14790
0  1 1 155     5  0 14   010                        CIO     010                                                       14800
0  1 1 156     5  0 14   014                        CIO     014                                                       14810
0  1 1 157     5  0 14   020                        CIO     020                                                       14820
0  1 1 160     5  0 14   024                        CIO     024                                                       14830
0  1 1 161     5  0 14   030                        CIO     030                                                       14840
0  1 1 162     5  0 14   034                        CIO     034                                                       14850
0  1 1 163     5  0 14   040                        CIO     040                                                       14860
0  1 1 164     5  0 14   044                        CIO     044                                                       14870
0  1 1 165     5  0 14   050                        CIO     050                                                       14880
0  1 1 166     5  0 14   054                        CIO     054                                                       14890
0  1 1 167     5  0 14   060                        CIO     060                                                       14900
0  1 1 170     5  0 14   064                        CIO     064                                                       14910
0  1 1 171     5  0 14   070                        CIO     070                                                       14920
0  1 1 172     5  0 14   074                        CIO     074                                                       14930
0  1 1 173     5  0 14   100                        CIO     100                                                       14940
0  1 1 174     5  0 14   104                        CIO     104                                                       14950
0  1 1 175     0  0 14 1 376                        HOP     776                                                       14960
                                            *       TEST INTERRUPT REGISTER FOR ZERO CONDITION                        14970
0  2 0   2        0 14   110                        ORG     ,2,,2,,14,                                                14980
0  2 0   2     5  0 14   154                L9P4    CIO     154                                                       14990
0  2 0   3     4  0 14 1 356                        TNZ     L15P1P                                                    15000
                                            *       BEGIN TEST OF CIO CODES                                           15010
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 32)

| IM | IS | S | LOC | UP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 0 | 4 | 17 | 0 | 14 | | 002 | | L9P5 | CLA | H9P5 | | 15020 |
| 0 | 2 | 0 | 5 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15030 |
| 0 | 2 | 0 | 6 | 17 | 0 | 14 | | 111 | 777777776 | | CLA | =0777777776 | | 15040 |
| 0 | 2 | 0 | 7 | 5 | 0 | 14 | | 000 | | | CIO | 000 | | 15050 |
| 0 | 2 | 0 | 10 | 5 | 0 | 14 | | 154 | | | CIO | 154 | READ INT REG R | 15060 |
| 0 | 2 | 0 | 11 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15070 |
| 0 | 2 | 0 | 12 | 17 | 0 | 14 | | 003 | | L9P6 | CLA | H9P6 | | 15080 |
| 0 | 2 | 0 | 13 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15090 |
| 0 | 2 | 0 | 14 | 5 | 0 | 14 | | 003 | | | CIO | 003 | | 15100 |
| 0 | 2 | 0 | 15 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15110 |
| 0 | 2 | 0 | 16 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15120 |
| 0 | 2 | 0 | 17 | 17 | 0 | 14 | | 004 | | L9P7 | CLA | H9P7 | | 15130 |
| 0 | 2 | 0 | 20 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15140 |
| 0 | 2 | 0 | 21 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 15150 |
| 0 | 2 | 0 | 22 | 5 | 0 | 14 | | 004 | | | CIO | 004 | | 15160 |
| 0 | 2 | 0 | 23 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15170 |
| 0 | 2 | 0 | 24 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15180 |
| 0 | 2 | 0 | 25 | 17 | 0 | 14 | | 005 | | L9P8 | CLA | H9P8 | | 15190 |
| 0 | 2 | 0 | 26 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15200 |
| 0 | 2 | 0 | 27 | 5 | 0 | 14 | | 001 | | | CIO | 001 | SET I3 | 15210 |
| 0 | 2 | 0 | 30 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15220 |
| 0 | 2 | 0 | 31 | 15 | 0 | 14 | | 167 | 100000000 | | XOR | =0100000000 | | 15230 |
| 0 | 2 | 0 | 32 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15240 |
| 0 | 2 | 0 | 33 | 5 | 0 | 14 | | 020 | | L9P9 | CIO | 020 | RST I3 | 15250 |
| 0 | 2 | 0 | 34 | 17 | 0 | 14 | | 006 | | | CLA | H9P9 | | 15260 |
| 0 | 2 | 0 | 35 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15270 |
| 0 | 2 | 0 | 36 | 5 | 0 | 14 | | 002 | | | CIO | 002 | SET I1 | 15280 |
| 0 | 2 | 0 | 37 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15290 |
| 0 | 2 | 0 | 40 | 15 | 0 | 14 | | 221 | 400000000 | | XOR | =0400000000 | | 15300 |
| 0 | 2 | 0 | 41 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15310 |
| 0 | 2 | 0 | 42 | 5 | 0 | 14 | | 010 | | L9P10 | CIO | 010 | RST I1 | 15320 |
| 0 | 2 | 0 | 43 | 17 | 0 | 14 | | 007 | | | CLA | H9P10 | | 15330 |
| 0 | 2 | 0 | 44 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15340 |
| 0 | 2 | 0 | 45 | 5 | 0 | 14 | | 005 | | | CIO | 005 | SET I4 | 15350 |
| 0 | 2 | 0 | 46 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15360 |
| 0 | 2 | 0 | 47 | 15 | 0 | 14 | | 222 | 040000000 | | XOR | =0040000000 | | 15370 |
| 0 | 2 | 0 | 50 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15380 |
| 0 | 2 | 0 | 51 | 5 | 0 | 14 | | 024 | | L9P11 | CIO | 024 | RST I4 | 15390 |
| 0 | 2 | 0 | 52 | 17 | 0 | 14 | | 010 | | | CLA | H9P11 | | 15400 |
| 0 | 2 | 0 | 53 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15410 |
| 0 | 2 | 0 | 54 | 5 | 0 | 14 | | 006 | | | CIO | 006 | SET I2 | 15420 |
| 0 | 2 | 0 | 55 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15430 |
| 0 | 2 | 0 | 56 | 15 | 0 | 14 | | 223 | 200000000 | | XOR | =0200000000 | | 15440 |
| 0 | 2 | 0 | 57 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15450 |
| 0 | 2 | 0 | 60 | 5 | 0 | 14 | | 014 | | L9P12 | CIO | 014 | RST I2 | 15460 |
| 0 | 2 | 0 | 61 | 17 | 0 | 14 | | 011 | | | CLA | H9P12 | | 15470 |
| 0 | 2 | 0 | 62 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15480 |
| 0 | 2 | 0 | 63 | 5 | 0 | 14 | | 007 | | | CIO | 007 | | 15490 |
| 0 | 2 | 0 | 64 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15500 |
| 0 | 2 | 0 | 65 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15510 |
| 0 | 2 | 0 | 66 | 17 | 0 | 14 | | 012 | | L9P13 | CLA | H9P13 | | 15520 |
| 0 | 2 | 0 | 67 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15530 |
| 0 | 2 | 0 | 70 | 5 | 0 | 14 | | 011 | | | CIO | 011 | SET I5 | 15540 |
| 0 | 2 | 0 | 71 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15550 |
| 0 | 2 | 0 | 72 | 15 | 0 | 14 | | 224 | 020000000 | | XOR | =0020000000 | | 15560 |
| 0 | 2 | 0 | 73 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15570 |
| 0 | 2 | 0 | 74 | 5 | 0 | 14 | | 030 | | L9P14 | CIO | 030 | RST I5 | 15580 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 33)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 0 | 75 | 17 | 0 | 14 | | 013 | | | CLA | H9P14 | | 15590 |
| 0 | 2 | 0 | 76 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15600 |
| 0 | 2 | 0 | 77 | 5 | 0 | 14 | | 012 | | | CIO | 012 | SET I3 | 15610 |
| 0 | 2 | 0 | 100 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15620 |
| 0 | 2 | 0 | 101 | 15 | 0 | 14 | | 167 | 100000000 | | XOR | =0100000000 | | 15630 |
| 0 | 2 | 0 | 102 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15640 |
| 0 | 2 | 0 | 103 | 5 | 0 | 14 | | 020 | | L9P15 | CIO | 020 | RST I3 | 15650 |
| 0 | 2 | 0 | 104 | 17 | 0 | 14 | | 014 | | | CLA | H9P15 | | 15660 |
| 0 | 2 | 0 | 105 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15670 |
| 0 | 2 | 0 | 106 | 5 | 0 | 14 | | 015 | | | CIO | 015 | SET I6 | 15680 |
| 0 | 2 | 0 | 107 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15690 |
| 0 | 2 | 0 | 110 | 15 | 0 | 14 | | 225 | 010000000 | | XOR | =0010000000 | | 15700 |
| 0 | 2 | 0 | 111 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15710 |
| 0 | 2 | 0 | 112 | 5 | 0 | 14 | | 034 | | L9P16 | CIO | 034 | RST I6 | 15720 |
| 0 | 2 | 0 | 113 | 17 | 0 | 14 | | 015 | | | CLA | H9P16 | | 15730 |
| 0 | 2 | 0 | 114 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15740 |
| 0 | 2 | 0 | 115 | 5 | 0 | 14 | | 016 | | | CIO | 016 | SET I4 | 15750 |
| 0 | 2 | 0 | 116 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15760 |
| 0 | 2 | 0 | 117 | 15 | 0 | 14 | | 222 | 040000000 | | XOR | =0040000000 | | 15770 |
| 0 | 2 | 0 | 120 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15780 |
| 0 | 2 | 0 | 121 | 5 | 0 | 14 | | 024 | | L9P17 | CIO | 024 | RST I4 | 15790 |
| 0 | 2 | 0 | 122 | 17 | 0 | 14 | | 016 | | | CLA | H9P17 | | 15800 |
| 0 | 2 | 0 | 123 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15810 |
| 0 | 2 | 0 | 124 | 5 | 0 | 14 | | 021 | | | CIO | 021 | SET I7 | 15820 |
| 0 | 2 | 0 | 125 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15830 |
| 0 | 2 | 0 | 126 | 15 | 0 | 14 | | 226 | 004000000 | | XOR | =0004000000 | | 15840 |
| 0 | 2 | 0 | 127 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15850 |
| 0 | 2 | 0 | 130 | 5 | 0 | 14 | | 040 | | L9P18 | CIO | 040 | RST I7 | 15860 |
| 0 | 2 | 0 | 131 | 17 | 0 | 14 | | 017 | | | CLA | H9P18 | | 15870 |
| 0 | 2 | 0 | 132 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15880 |
| 0 | 2 | 0 | 133 | 5 | 0 | 14 | | 022 | | | CIO | 022 | SET I5 | 15890 |
| 0 | 2 | 0 | 134 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15900 |
| 0 | 2 | 0 | 135 | 15 | 0 | 14 | | 224 | 020000000 | | XOR | =0020000000 | | 15910 |
| 0 | 2 | 0 | 136 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15920 |
| 0 | 2 | 0 | 137 | 5 | 0 | 14 | | 030 | | L9P19 | CIO | 030 | RST I5 | 15930 |
| 0 | 2 | 0 | 140 | 17 | 0 | 14 | | 020 | | | CLA | H9P19 | | 15940 |
| 0 | 2 | 0 | 141 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 15950 |
| 0 | 2 | 0 | 142 | 5 | 0 | 14 | | 025 | | | CIO | 025 | SET I8 | 15960 |
| 0 | 2 | 0 | 143 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 15970 |
| 0 | 2 | 0 | 144 | 15 | 0 | 14 | | 227 | 002000000 | | XOR | =0002000000 | | 15980 |
| 0 | 2 | 0 | 145 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 15990 |
| 0 | 2 | 0 | 146 | 5 | 0 | 14 | | 044 | | L9P20 | CIO | 044 | RST I8 | 16000 |
| 0 | 2 | 0 | 147 | 17 | 0 | 14 | | 021 | | | CLA | H9P20 | | 16010 |
| 0 | 2 | 0 | 150 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16020 |
| 0 | 2 | 0 | 151 | 5 | 0 | 14 | | 026 | | | CIO | 026 | SET I6 | 16030 |
| 0 | 2 | 0 | 152 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16040 |
| 0 | 2 | 0 | 153 | 15 | 0 | 14 | | 225 | 010000000 | | XOR | =0010000000 | | 16050 |
| 0 | 2 | 0 | 154 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16060 |
| 0 | 2 | 0 | 155 | 5 | 0 | 14 | | 034 | | L9P21 | CIO | 034 | RST I6 | 16070 |
| 0 | 2 | 0 | 156 | 17 | 0 | 14 | | 022 | | | CLA | H9P21 | | 16080 |
| 0 | 2 | 0 | 157 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16090 |
| 0 | 2 | 0 | 160 | 5 | 0 | 14 | | 031 | | | CIO | 031 | SET I9 | 16100 |
| 0 | 2 | 0 | 161 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16110 |
| 0 | 2 | 0 | 162 | 15 | 0 | 14 | | 230 | 001000000 | | XOR | =0001000000 | | 16120 |
| 0 | 2 | 0 | 163 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16130 |
| 0 | 2 | 0 | 164 | 5 | 0 | 14 | | 050 | | L9P22 | CIO | 050 | RST I9 | 16140 |
| 0 | 2 | 0 | 165 | 17 | 0 | 14 | | 023 | | | CLA | H9P22 | | 16150 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 34)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 0 | 166 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16160 |
| 0 | 2 | 0 | 167 | 5 | 0 | 14 | | 032 | | | CIO | 032 | SET I7 | 16170 |
| 0 | 2 | 0 | 170 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16180 |
| 0 | 2 | 0 | 171 | 15 | 0 | 14 | | 226 | 004000000 | | XOR | =0004000000 | | 16190 |
| 0 | 2 | 0 | 172 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16200 |
| 0 | 2 | 0 | 173 | 5 | 0 | 14 | | 040 | | L9P23 | CIO | 040 | RST I7 | 16210 |
| 0 | 2 | 0 | 174 | 17 | 0 | 14 | | 024 | | | CLA | H9P23 | | 16220 |
| 0 | 2 | 0 | 175 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16230 |
| 0 | 2 | 0 | 176 | 5 | 0 | 14 | | 035 | | | CIO | 035 | SET I10 | 16240 |
| 0 | 2 | 0 | 177 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16250 |
| 0 | 2 | 0 | 200 | 15 | 0 | 14 | | 231 | 000400000 | | XOR | =0000400000 | | 16260 |
| 0 | 2 | 0 | 201 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16270 |
| 0 | 2 | 0 | 202 | 5 | 0 | 14 | | 054 | | L9P24 | CIO | 054 | RST I10 | 16280 |
| 0 | 2 | 0 | 203 | 17 | 0 | 14 | | 025 | | | CLA | H9P24 | | 16290 |
| 0 | 2 | 0 | 204 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16300 |
| 0 | 2 | 0 | 205 | 5 | 0 | 14 | | 036 | | | CIO | 036 | SET I8 | 16310 |
| 0 | 2 | 0 | 206 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16320 |
| 0 | 2 | 0 | 207 | 15 | 0 | 14 | | 227 | 002000000 | | XOR | =0002000000 | | 16330 |
| 0 | 2 | 0 | 210 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16340 |
| 0 | 2 | 0 | 211 | 5 | 0 | 14 | | 044 | | L9P25 | CIO | 044 | RST I8 | 16350 |
| 0 | 2 | 0 | 212 | 17 | 0 | 14 | | 026 | | | CLA | H9P25 | | 16360 |
| 0 | 2 | 0 | 213 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16370 |
| 0 | 2 | 0 | 214 | 5 | 0 | 14 | | 041 | | | CIC | 041 | SET I11 | 16380 |
| 0 | 2 | 0 | 215 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16390 |
| 0 | 2 | 0 | 216 | 15 | 0 | 14 | | 232 | 000200000 | | XOR | =0000200000 | | 16400 |
| 0 | 2 | 0 | 217 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16410 |
| 0 | 2 | 0 | 220 | 5 | 0 | 14 | | 060 | | L9P26 | CIO | 060 | RST I11 | 16420 |
| 0 | 2 | 0 | 221 | 17 | 0 | 14 | | 031 | | | CLA | H9P26 | | 16430 |
| 0 | 2 | 0 | 222 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16440 |
| 0 | 2 | 0 | 223 | 5 | 0 | 14 | | 042 | | | CIO | 042 | SET I9 | 16450 |
| 0 | 2 | 0 | 224 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16460 |
| 0 | 2 | 0 | 225 | 15 | 0 | 14 | | 230 | 001000000 | | XOR | =0001000000 | | 16470 |
| 0 | 2 | 0 | 226 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16480 |
| 0 | 2 | 0 | 227 | 5 | 0 | 14 | | 050 | | L9P27 | CIO | 050 | RST I9 | 16490 |
| 0 | 2 | 0 | 230 | 17 | 0 | 14 | | 032 | | | CLA | H9P27 | | 16500 |
| 0 | 2 | 0 | 231 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16510 |
| 0 | 2 | 0 | 232 | 5 | 0 | 14 | | 045 | | | CIO | 045 | SET I12 | 16520 |
| 0 | 2 | 0 | 233 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16530 |
| 0 | 2 | 0 | 234 | 15 | 0 | 14 | | 233 | 000100000 | | XOR | =0000100000 | | 16540 |
| 0 | 2 | 0 | 235 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16550 |
| 0 | 2 | 0 | 236 | 5 | 0 | 14 | | 064 | | L9P28 | CIO | 064 | RST I12 | 16560 |
| 0 | 2 | 0 | 237 | 17 | 0 | 14 | | 033 | | | CLA | H9P28 | | 16570 |
| 0 | 2 | 0 | 240 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16580 |
| 0 | 2 | 0 | 241 | 5 | 0 | 14 | | 046 | | | CIO | 046 | SET I10 | 16590 |
| 0 | 2 | 0 | 242 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16600 |
| 0 | 2 | 0 | 243 | 15 | 0 | 14 | | 231 | 000400000 | | XOR | =0000400000 | | 16610 |
| 0 | 2 | 0 | 244 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16620 |
| 0 | 2 | 0 | 245 | 5 | 0 | 14 | | 054 | | L9P29 | CIO | 054 | RST I10 | 16630 |
| 0 | 2 | 0 | 246 | 17 | 0 | 14 | | 034 | | | CLA | H9P29 | | 16640 |
| 0 | 2 | 0 | 247 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16650 |
| 0 | 2 | 0 | 250 | 5 | 0 | 14 | | 051 | | | CIO | 051 | SET I13 | 16660 |
| 0 | 2 | 0 | 251 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16670 |
| 0 | 2 | 0 | 252 | 15 | 0 | 14 | | 234 | 000040000 | | XOR | =0000040000 | | 16680 |
| 0 | 2 | 0 | 253 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16690 |
| 0 | 2 | 0 | 254 | 5 | 0 | 14 | | 070 | | L9P30 | CIO | 070 | RST 13 | 16700 |
| 0 | 2 | 0 | 255 | 17 | 0 | 14 | | 035 | | | CLA | H9P30 | | 16710 |
| 0 | 2 | 0 | 256 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16720 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 35)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEC NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 0 | 257 | 5 | 0 | 14 | | 052 | | | CIO | 052 | SET 11 | 16730 |
| 0 | 2 | 0 | 260 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 16740 |
| 0 | 2 | 0 | 261 | 15 | 0 | 14 | | 232 | 000200000 | | XOR | =00C0200000 | | 16750 |
| 0 | 2 | 0 | 262 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16760 |
| 0 | 2 | 0 | 263 | 5 | 0 | 14 | | 060 | | L9P31 | CIO | 060 | RST 11 | 16770 |
| 0 | 2 | 0 | 264 | 17 | 0 | 14 | | 036 | | | CLA | H9P31 | | 16780 |
| 0 | 2 | 0 | 265 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16790 |
| 0 | 2 | 0 | 266 | 5 | 0 | 14 | | 055 | | | CIC | 055 | SET 14 | 16800 |
| 0 | 2 | 0 | 267 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16810 |
| 0 | 2 | 0 | 270 | 15 | 0 | 14 | | 235 | 000020000 | | XOR | =000002C000 | | 16820 |
| 0 | 2 | 0 | 271 | 4 | C | 14 | 1 | 356 | | | TNZ | L15P1P | | 16830 |
| 0 | 2 | 0 | 272 | 5 | 0 | 14 | | 074 | | L9P32 | CIU | 074 | RST 14 | 16840 |
| 0 | 2 | 0 | 273 | 17 | 0 | 14 | | 037 | | | CLA | H9P32 | | 16850 |
| 0 | 2 | 0 | 274 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 16860 |
| 0 | 2 | 0 | 275 | 5 | 0 | 14 | | 056 | | | CIO | 056 | SET 12 | 16870 |
| 0 | 2 | 0 | 276 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16880 |
| 0 | 2 | 0 | 277 | 15 | 0 | 14 | | 233 | 000100000 | | XOR | =0000100000 | | 16890 |
| 0 | 2 | 0 | 300 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16900 |
| 0 | 2 | 0 | 301 | 5 | 0 | 14 | | 064 | | L9P33 | CIO | 064 | RST 12 | 16910 |
| 0 | 2 | 0 | 302 | 17 | 0 | 14 | | 040 | | | CLA | H9P33 | | 16920 |
| 0 | 2 | 0 | 303 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 16930 |
| 0 | 2 | 0 | 304 | 5 | 0 | 14 | | 061 | | | CIO | 061 | SET 15 | 16940 |
| 0 | 2 | 0 | 305 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 16950 |
| 0 | 2 | 0 | 306 | 15 | 0 | 14 | | 236 | 000010000 | | XOR | =0000010000 | | 16960 |
| 0 | 2 | 0 | 307 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 16970 |
| 0 | 2 | 0 | 310 | 5 | 0 | 14 | | 100 | | L9P34 | CIO | 100 | RST 15 | 16980 |
| 0 | 2 | 0 | 311 | 17 | 0 | 14 | | 041 | | | CLA | H9P34 | | 16990 |
| 0 | 2 | 0 | 312 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17000 |
| 0 | 2 | 0 | 313 | 5 | 0 | 14 | | 062 | | | CIO | 062 | SET 13 | 17010 |
| 0 | 2 | 0 | 314 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17020 |
| 0 | 2 | 0 | 315 | 15 | 0 | 14 | | 234 | 000040000 | | XOR | =000004C000 | | 17030 |
| 0 | 2 | 0 | 316 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17040 |
| 0 | 2 | 0 | 317 | 5 | 0 | 14 | | 070 | | L9P35 | CIO | 070 | RST 13 | 17050 |
| 0 | 2 | 0 | 320 | 17 | 0 | 14 | | 042 | | | CLA | H9P35 | | 17060 |
| 0 | 2 | 0 | 321 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17070 |
| 0 | 2 | 0 | 322 | 5 | 0 | 14 | | 065 | | | CIO | 065 | SET 9 | 17080 |
| 0 | 2 | 0 | 323 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17090 |
| 0 | 2 | 0 | 324 | 15 | 0 | 14 | | 230 | 001000000 | | XOR | =0001000000 | | 17100 |
| 0 | 2 | 0 | 325 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17110 |
| 0 | 2 | 0 | 326 | 5 | 0 | 14 | | 050 | | L9P36 | CIO | 050 | RST 9 | 17120 |
| 0 | 2 | 0 | 327 | 17 | 0 | 14 | | 043 | | | CLA | H9P36 | | 17130 |
| 0 | 2 | 0 | 330 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17140 |
| 0 | 2 | 0 | 331 | 5 | 0 | 14 | | 066 | | | CIO | 066 | SET 14 | 17150 |
| 0 | 2 | 0 | 332 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17160 |
| 0 | 2 | 0 | 333 | 15 | 0 | 14 | | 235 | 000020000 | | XOR | =0000020000 | | 17170 |
| 0 | 2 | 0 | 334 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17180 |
| 0 | 2 | 0 | 335 | 5 | 0 | 14 | | 074 | | L9P37 | CIO | 074 | RST 14 | 17190 |
| 0 | 2 | 0 | 336 | 17 | 0 | 14 | | 044 | | | CLA | H9P37 | | 17200 |
| 0 | 2 | 0 | 337 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17210 |
| 0 | 2 | 0 | 340 | 5 | 0 | 14 | | 071 | | | CIO | 071 | SET 10 | 17220 |
| 0 | 2 | 0 | 341 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17230 |
| 0 | 2 | 0 | 342 | 15 | 0 | 14 | | 231 | 000400000 | | XOR | =0000400C00 | | 17240 |
| 0 | 2 | 0 | 343 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17250 |
| 0 | 2 | 0 | 344 | 5 | 0 | 14 | | 054 | | L9P38 | CIC | 054 | RST 1C | 17260 |
| 0 | 2 | 0 | 345 | 17 | 0 | 14 | | 045 | | | CLA | H9P38 | | 17270 |
| 0 | 2 | 0 | 346 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17280 |
| 0 | 2 | 0 | 347 | 5 | 0 | 14 | | 072 | | | CIO | 072 | SET 15 | 17290 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 36)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 0 | 350 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17300 |
| 0 | 2 | 0 | 351 | 15 | 0 | 14 | | 236 | 000010000 | | XOR | =0000010000 | | 17310 |
| 0 | 2 | 0 | 352 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17320 |
| 0 | 2 | 0 | 353 | 5 | 0 | 14 | | 100 | | L9P39 | CIO | 100 | RST 15 | 17330 |
| 0 | 2 | 0 | 354 | 17 | 0 | 14 | | 046 | | | CLA | H9P39 | | 17340 |
| 0 | 2 | 0 | 355 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17350 |
| 0 | 2 | 0 | 356 | 5 | 0 | 14 | | 075 | | | CIO | 075 | SET 1 | 17360 |
| 0 | 2 | 0 | 357 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17370 |
| 0 | 2 | 0 | 360 | 15 | 0 | 14 | | 221 | 400000000 | | XOR | =0400000000 | | 17380 |
| 0 | 2 | 0 | 361 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17390 |
| 0 | 2 | 0 | 362 | 10 | 0 | 14 | 1 | 002 | | | TRA | L9P40 | | 17400 |
| 0 | 2 | 1 | 2 | | 0 | 14 | | 111 | | | ORG | ,2,1,2,,14, | | 17410 |
| 0 | 2 | 1 | 2 | 5 | 0 | 14 | | 010 | | L9P40 | CIO | 010 | RST 1 | 17420 |
| 0 | 2 | 1 | 3 | 17 | 0 | 14 | | 047 | | | CLA | H9P40 | | 17430 |
| 0 | 2 | 1 | 4 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17440 |
| 0 | 2 | 1 | 5 | 5 | 0 | 14 | | 076 | | | CIO | 076 | SET 11 | 17450 |
| 0 | 2 | 1 | 6 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17460 |
| 0 | 2 | 1 | 7 | 15 | 0 | 14 | | 232 | 000200000 | | XOR | =0000200000 | | 17470 |
| 0 | 2 | 1 | 10 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17480 |
| 0 | 2 | 1 | 11 | 5 | 0 | 14 | | 060 | | L9P41 | CIO | 060 | RST 11 | 17490 |
| 0 | 2 | 1 | 12 | 17 | 0 | 14 | | 050 | | | CLA | H9P41 | | 17500 |
| 0 | 2 | 1 | 13 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17510 |
| 0 | 2 | 1 | 14 | 5 | 0 | 14 | | 101 | | | CIO | 101 | SET 2 | 17520 |
| 0 | 2 | 1 | 15 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17530 |
| 0 | 2 | 1 | 16 | 15 | 0 | 14 | | 223 | 200000000 | | XOR | =0200000000 | | 17540 |
| 0 | 2 | 1 | 17 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17550 |
| 0 | 2 | 1 | 20 | 5 | 0 | 14 | | 014 | | L9P42 | CIO | 014 | RST 2 | 17560 |
| 0 | 2 | 1 | 21 | 17 | 0 | 14 | | 051 | | | CLA | H9P42 | | 17570 |
| 0 | 2 | 1 | 22 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17580 |
| 0 | 2 | 1 | 23 | 5 | 0 | 14 | | 102 | | | CIO | 102 | SET 13 | 17590 |
| 0 | 2 | 1 | 24 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17600 |
| 0 | 2 | 1 | 25 | 15 | 0 | 14 | | 234 | 000040000 | | XOR | =0000040000 | | 17610 |
| 0 | 2 | 1 | 26 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17620 |
| 0 | 2 | 1 | 27 | 5 | 0 | 14 | | 070 | | L9P43 | CIO | 070 | | 17630 |
| 0 | 2 | 1 | 30 | 17 | 0 | 14 | | 052 | | | CLA | H9P43 | | 17640 |
| 0 | 2 | 1 | 31 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17650 |
| 0 | 2 | 1 | 32 | 5 | 0 | 14 | | 105 | | | CIO | 105 | SET 3 | 17660 |
| 0 | 2 | 1 | 33 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17670 |
| 0 | 2 | 1 | 34 | 15 | 0 | 14 | | 167 | 100000000 | | XOR | =0100000000 | | 17680 |
| 0 | 2 | 1 | 35 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17690 |
| 0 | 2 | 1 | 36 | 5 | 0 | 14 | | 020 | | L9P44 | CIO | 020 | RST 3 | 17700 |
| 0 | 2 | 1 | 37 | 17 | 0 | 14 | | 053 | | | CLA | H9P44 | | 17710 |
| 0 | 2 | 1 | 40 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17720 |
| 0 | 2 | 1 | 41 | 5 | 0 | 14 | | 106 | | | CIO | 106 | SET 1 | 17730 |
| 0 | 2 | 1 | 42 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17740 |
| 0 | 2 | 1 | 43 | 15 | 0 | 14 | | 221 | 400000000 | | XOR | =0400000000 | | 17750 |
| 0 | 2 | 1 | 44 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17760 |
| 0 | 2 | 1 | 45 | 5 | 0 | 14 | | 010 | | L9P45 | CIO | 010 | RST 1 | 17770 |
| 0 | 2 | 1 | 46 | 17 | 0 | 14 | | 054 | | | CLA | H9P45 | | 17780 |
| 0 | 2 | 1 | 47 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17790 |
| 0 | 2 | 1 | 50 | 5 | 0 | 14 | | 111 | | | CIO | 111 | SET 4 | 17800 |
| 0 | 2 | 1 | 51 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 17810 |
| 0 | 2 | 1 | 52 | 15 | 0 | 14 | | 222 | 040000000 | | XOR | =0040000000 | | 17820 |
| 0 | 2 | 1 | 53 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17830 |
| 0 | 2 | 1 | 54 | 5 | 0 | 14 | | 024 | | L9P46 | CIO | 024 | RST 4 | 17840 |
| 0 | 2 | 1 | 55 | 17 | 0 | 14 | | 055 | | | CLA | H9P46 | | 17850 |
| 0 | 2 | 1 | 56 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 17860 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 37)

| IM | IS | S | LOC | OP | OM | OS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 1 | 57 | 5 | 0 | 14 | | 112 | | | CIC | 112 | SET 2 | 17870 |
| C | 2 | 1 | 60 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 17880 |
| 0 | 2 | 1 | 61 | 15 | 0 | 14 | | 223 | 200000000 | | XOR | =0200000000 | | 17890 |
| 0 | 2 | 1 | 62 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17900 |
| C | 2 | 1 | 63 | 5 | 0 | 14 | | 014 | | L9P47 | CIO | 014 | RST 2 | 17910 |
| 0 | 2 | 1 | 64 | 17 | 0 | 14 | | 056 | | | CLA | H9P47 | | 17920 |
| 0 | 2 | 1 | 65 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 17930 |
| 0 | 2 | 1 | 66 | 5 | 0 | 14 | | 115 | | | CIO | 115 | SET 5 | 17940 |
| 0 | 2 | 1 | 67 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 17950 |
| C | 2 | 1 | 70 | 15 | 0 | 14 | | 224 | 020000000 | | XOR | =0020C00000 | | 17960 |
| 0 | 2 | 1 | 71 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 17970 |
| 0 | 2 | 1 | 72 | 5 | 0 | 14 | | 030 | | L9P48 | CIO | 030 | RST 5 | 17980 |
| 0 | 2 | 1 | 73 | 17 | 0 | 14 | | 057 | | | CLA | H9P48 | | 17990 |
| 0 | 2 | 1 | 74 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18000 |
| 0 | 2 | 1 | 75 | 5 | C | 14 | | 116 | | | CIO | 116 | SET 3 | 18010 |
| 0 | 2 | 1 | 76 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18020 |
| 0 | 2 | 1 | 77 | 15 | 0 | 14 | | 167 | 100000000 | | XOR | =0100000000 | | 18030 |
| C | 2 | 1 | 100 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18040 |
| 0 | 2 | 1 | 101 | 5 | 0 | 14 | | 020 | | L9P49 | CIC | 020 | RST 3 | 18050 |
| 0 | 2 | 1 | 102 | 17 | 0 | 14 | | 060 | | | CLA | H9P49 | | 18060 |
| 0 | 2 | 1 | 103 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18070 |
| 0 | 2 | 1 | 104 | 5 | 0 | 14 | | 121 | | | CIO | 121 | SET 6 | 18080 |
| 0 | 2 | 1 | 105 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18090 |
| 0 | 2 | 1 | 106 | 15 | 0 | 14 | | 225 | 010000000 | | XOR | =0010000000 | | 18100 |
| 0 | 2 | 1 | 107 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18110 |
| 0 | 2 | 1 | 110 | 5 | 0 | 14 | | 034 | | L9P50 | CIC | 034 | RST 6 | 18120 |
| 0 | 2 | 1 | 111 | 17 | 0 | 14 | | 061 | | | CLA | H9P50 | | 18130 |
| 0 | 2 | 1 | 112 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18140 |
| 0 | 2 | 1 | 113 | 5 | 0 | 14 | | 122 | | | CIC | 122 | SET 4 | 18150 |
| 0 | 2 | 1 | 114 | 5 | C | 14 | | 154 | | | CIO | 154 | | 18160 |
| 0 | 2 | 1 | 115 | 15 | 0 | 14 | | 222 | 040000000 | | XOR | =0040000000 | | 18170 |
| 0 | 2 | 1 | 116 | 4 | 0 | 14 | 1 | 356 | | | TN/ | L15P1P | | 18180 |
| 0 | 2 | 1 | 117 | 5 | 0 | 14 | | 024 | | L9P51 | CIO | 024 | RST 4 | 18190 |
| 0 | 2 | 1 | 120 | 17 | 0 | 14 | | 062 | | | CLA | H9P51 | | 18200 |
| 0 | 2 | 1 | 121 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 18210 |
| 0 | 2 | 1 | 122 | 5 | 0 | 14 | | 125 | | | CIO | 125 | | 18220 |
| 0 | 2 | 1 | 123 | 5 | 0 | 14 | | 154 | | | CIC | 154 | SET 7 | 18230 |
| 0 | 2 | 1 | 124 | 15 | 0 | 14 | | 226 | 004000000 | | XOR | =0004000000 | | 18240 |
| 0 | 2 | 1 | 125 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18250 |
| 0 | 2 | 1 | 126 | 5 | 0 | 14 | | 040 | | L9P52 | CIC | 040 | RST 7 | 18260 |
| C | 2 | 1 | 127 | 17 | 0 | 14 | | 063 | | | CLA | H9P52 | | 18270 |
| 0 | 2 | 1 | 130 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18280 |
| 0 | 2 | 1 | 131 | 5 | C | 14 | | 126 | | | CIU | 126 | SET 5 | 18290 |
| 0 | 2 | 1 | 132 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18300 |
| 0 | 2 | 1 | 133 | 15 | 0 | 14 | | 224 | 020000000 | | XOR | =0020C00000 | | 18310 |
| C | 2 | 1 | 134 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18320 |
| 0 | 2 | 1 | 135 | 5 | 0 | 14 | | 030 | | L9P53 | CIC | 030 | RST 5 | 18330 |
| 0 | 2 | 1 | 136 | 17 | 0 | 14 | | 064 | | | CLA | H9P53 | | 18340 |
| 0 | 2 | 1 | 137 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18350 |
| 0 | 2 | 1 | 140 | 5 | 0 | 14 | | 131 | | | CIC | 131 | SET 8 | 18360 |
| 0 | 2 | 1 | 141 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18370 |
| 0 | 2 | 1 | 142 | 15 | 0 | 14 | | 227 | 002000000 | | XOR | =0002000000 | | 18380 |
| 0 | 2 | 1 | 143 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18390 |
| 0 | 2 | 1 | 144 | 5 | 0 | 14 | | 044 | | L9P54 | CIO | 044 | RST 8 | 18400 |
| 0 | 2 | 1 | 145 | 17 | 0 | 14 | | 065 | | | CLA | H9P54 | | 18410 |
| 0 | 2 | 1 | 146 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 18420 |
| 0 | 2 | 1 | 147 | 5 | 0 | 14 | | 132 | | | CIU | 132 | SET 6 | 18430 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 38)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 1 | 150 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18440 |
| 0 | 2 | 1 | 151 | 15 | 0 | 14 | | 225 | 010000000 | | XOR | =0010000000 | | 18450 |
| 0 | 2 | 1 | 152 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18460 |
| 0 | 2 | 1 | 153 | 5 | 0 | 14 | | 034 | | L9P55 | CIO | 034 | RST 6 | 18470 |
| 0 | 2 | 1 | 154 | 17 | 0 | 14 | | 066 | | | CLA | H9P55 | | 18480 |
| 0 | 2 | 1 | 155 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18490 |
| 0 | 2 | 1 | 156 | 5 | 0 | 14 | | 135 | | | CIO | 135 | SET 9 | 18500 |
| 0 | 2 | 1 | 157 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18510 |
| 0 | 2 | 1 | 160 | 15 | 0 | 14 | | 230 | 001000000 | | XOR | =0001000000 | | 18520 |
| 0 | 2 | 1 | 161 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18530 |
| 0 | 2 | 1 | 162 | 5 | 0 | 14 | | 050 | | L9P56 | CIO | 050 | RST 9 | 18540 |
| 0 | 2 | 1 | 163 | 17 | 0 | 14 | | 067 | | | CLA | H9P56 | | 18550 |
| 0 | 2 | 1 | 164 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18560 |
| 0 | 2 | 1 | 165 | 5 | 0 | 14 | | 136 | | | CIO | 136 | SET 7 | 18570 |
| 0 | 2 | 1 | 166 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18580 |
| 0 | 2 | 1 | 167 | 15 | 0 | 14 | | 226 | 004000000 | | XOR | =0004000000 | | 18590 |
| 0 | 2 | 1 | 170 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18600 |
| 0 | 2 | 1 | 171 | 5 | 0 | 14 | | 040 | | L9P57 | CIO | 040 | RST 7 | 18610 |
| 0 | 2 | 1 | 172 | 17 | 0 | 14 | | 070 | | | CLA | H9P57 | | 18620 |
| 0 | 2 | 1 | 173 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18630 |
| 0 | 2 | 1 | 174 | 5 | 0 | 14 | | 141 | | | CIO | 141 | SET 10 | 18640 |
| 0 | 2 | 1 | 175 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18650 |
| 0 | 2 | 1 | 176 | 15 | 0 | 14 | | 231 | 000400000 | | XOR | =0000400000 | | 18660 |
| 0 | 2 | 1 | 177 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18670 |
| 0 | 2 | 1 | 200 | 5 | 0 | 14 | | 054 | | L9P58 | CIC | 054 | RST10 | 18680 |
| 0 | 2 | 1 | 201 | 17 | 0 | 14 | | 071 | | | CLA | H9P58 | | 18690 |
| 0 | 2 | 1 | 202 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18700 |
| 0 | 2 | 1 | 203 | 5 | 0 | 14 | | 142 | | | CIO | 142 | SET 8 | 18710 |
| 0 | 2 | 1 | 204 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18720 |
| 0 | 2 | 1 | 205 | 15 | 0 | 14 | | 227 | 002000000 | | XOR | =0002000000 | | 18730 |
| 0 | 2 | 1 | 206 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18740 |
| 0 | 2 | 1 | 207 | 5 | 0 | 14 | | 044 | | L9P59 | CIO | 044 | RST 8 | 18750 |
| 0 | 2 | 1 | 210 | 17 | 0 | 14 | | 072 | | | CLA | H9P59 | | 18760 |
| 0 | 2 | 1 | 211 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18770 |
| 0 | 2 | 1 | 212 | 5 | 0 | 14 | | 145 | | | CIC | 145 | SET 11 | 18780 |
| 0 | 2 | 1 | 213 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18790 |
| 0 | 2 | 1 | 214 | 15 | 0 | 14 | | 232 | 000200000 | | XOR | =0000200000 | | 18800 |
| 0 | 2 | 1 | 215 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18810 |
| 0 | 2 | 1 | 216 | 5 | 0 | 14 | | 060 | | L9P60 | CIO | 060 | RST 11 | 18820 |
| 0 | 2 | 1 | 217 | 17 | 0 | 14 | | 073 | | | CLA | H9P60 | | 18830 |
| 0 | 2 | 1 | 220 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18840 |
| 0 | 2 | 1 | 221 | 5 | 0 | 14 | | 146 | | | CIO | 146 | SET 9 | 18850 |
| 0 | 2 | 1 | 222 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18860 |
| 0 | 2 | 1 | 223 | 15 | 0 | 14 | | 230 | 001000000 | | XOR | =0001000000 | | 18870 |
| 0 | 2 | 1 | 224 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18880 |
| 0 | 2 | 1 | 225 | 5 | 0 | 14 | | 050 | | L9P61 | CIO | 050 | RST 9 | 18890 |
| 0 | 2 | 1 | 226 | 17 | 0 | 14 | | 074 | | | CLA | H9P61 | | 18900 |
| 0 | 2 | 1 | 227 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18910 |
| 0 | 2 | 1 | 230 | 5 | 0 | 14 | | 151 | | | CIO | 151 | SET 12 | 18920 |
| 0 | 2 | 1 | 231 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 18930 |
| 0 | 2 | 1 | 232 | 15 | 0 | 14 | | 233 | 000100000 | | XOR | =0000100000 | | 18940 |
| 0 | 2 | 1 | 233 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 18950 |
| 0 | 2 | 1 | 234 | 5 | 0 | 14 | | 064 | | L9P62 | CIO | 064 | RST 12 | 18960 |
| 0 | 2 | 1 | 235 | 17 | 0 | 14 | | 075 | | | CLA | H9P62 | | 18970 |
| 0 | 2 | 1 | 236 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 18980 |
| 0 | 2 | 1 | 237 | 5 | 0 | 14 | | 152 | | | CIO | 152 | SET 10 | 18990 |
| 0 | 2 | 1 | 240 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 19000 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 39)

| IM | IS | S | LOC | OP | DP | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 1 | 241 | 15 | 0 | 14 | | 231 | 000400000 | | XOR | =0000400000 | | 19010 |
| 0 | 2 | 1 | 242 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19020 |
| 0 | 2 | 1 | 243 | 5 | 0 | 14 | | 054 | | L9P63 | CIC | 054 | RST 10 | 19030 |
| 0 | 2 | 1 | 244 | 17 | 0 | 14 | | 076 | | | CLA | H9P63 | | 19040 |
| 0 | 2 | 1 | 245 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 19050 |
| 0 | 2 | 1 | 246 | 5 | 0 | 14 | | 156 | | | CIC | 156 | SET 11 | 19060 |
| 0 | 2 | 1 | 247 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 19070 |
| 0 | 2 | 1 | 250 | 15 | 0 | 14 | | 232 | 000200000 | | XOR | =0000200000 | | 19080 |
| 0 | 2 | 1 | 251 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19090 |
| 0 | 2 | 1 | 252 | 5 | 0 | 14 | | 060 | | L9P64 | CIC | 060 | RST 11 | 19100 |
| 0 | 2 | 1 | 253 | 17 | 0 | 14 | | 077 | | | CLA | H9P64 | | 19110 |
| 0 | 2 | 1 | 254 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 19120 |
| 0 | 2 | 1 | 255 | 5 | 0 | 14 | | 162 | | | CIC | 162 | | 19130 |
| 0 | 2 | 1 | 256 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 19140 |
| 0 | 2 | 1 | 257 | 15 | 0 | 14 | | 233 | 000100000 | | XOR | =0000100000 | | 19150 |
| 0 | 2 | 1 | 260 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19160 |
| 0 | 2 | 1 | 261 | 5 | 0 | 14 | | 064 | | L9P65 | CIC | 064 | RST 12 | 19170 |
| 0 | 2 | 1 | 262 | 17 | 0 | 14 | | 100 | | | CLA | H9P65 | | 19180 |
| 0 | 2 | 1 | 263 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 19190 |
| 0 | 2 | 1 | 264 | 5 | 0 | 14 | | 166 | | | CIC | 166 | SET 13 | 19200 |
| 0 | 2 | 1 | 265 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 19210 |
| 0 | 2 | 1 | 266 | 15 | 0 | 14 | | 234 | 000040000 | | XOR | =0000040000 | | 19220 |
| 0 | 2 | 1 | 267 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19230 |
| 0 | 2 | 1 | 270 | 5 | 0 | 14 | | 070 | | L9P66 | CIC | 070 | RST 13 | 19240 |
| 0 | 2 | 1 | 271 | 17 | 0 | 14 | | 101 | | | CLA | H9P66 | | 19250 |
| 0 | 2 | 1 | 272 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 19260 |
| 0 | 2 | 1 | 273 | 5 | 0 | 14 | | 172 | | | CIC | 172 | SET 14 | 19270 |
| 0 | 2 | 1 | 274 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 19280 |
| 0 | 2 | 1 | 275 | 15 | 0 | 14 | | 235 | 000020000 | | XOR | =0000020000 | | 19290 |
| 0 | 2 | 1 | 276 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19300 |
| 0 | 2 | 1 | 277 | 5 | 0 | 14 | | 074 | | L9P67 | CIC | 074 | RST 14 | 19310 |
| 0 | 2 | 1 | 300 | 17 | 0 | 14 | | 102 | | | CLA | H9P67 | | 19320 |
| 0 | 2 | 1 | 301 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 19330 |
| 0 | 2 | 1 | 302 | 5 | 0 | 14 | | 176 | | | CIC | 176 | SET 15 | 19340 |
| 0 | 2 | 1 | 303 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 19350 |
| 0 | 2 | 1 | 304 | 15 | 0 | 14 | | 236 | 000010000 | | XOR | =0000010000 | | 19360 |
| 0 | 2 | 1 | 305 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19370 |
| 0 | 2 | 1 | 306 | 5 | 0 | 14 | | 100 | | L9P68 | CIC | 100 | RST 15 | 19380 |
| 0 | 2 | 1 | 307 | 17 | 0 | 14 | | 103 | | | CLA | H9P68 | | 19390 |
| 0 | 2 | 1 | 310 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 19400 |
| 0 | 2 | 1 | 311 | 5 | 0 | 14 | | 202 | | | CIC | 202 | SET 12 | 19410 |
| 0 | 2 | 1 | 312 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 19420 |
| 0 | 2 | 1 | 313 | 15 | 0 | 14 | | 233 | 000100000 | | XOR | =0000100000 | | 19430 |
| 0 | 2 | 1 | 314 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19440 |
| 0 | 2 | 1 | 315 | 5 | 0 | 14 | | 064 | | L9P69 | CIC | 064 | | 19450 |
| 0 | 2 | 1 | 316 | 17 | 0 | 14 | | 104 | | | CLA | H9P69 | | 19460 |
| 0 | 2 | 1 | 317 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 19470 |
| 0 | 2 | 1 | 320 | 5 | 0 | 14 | | 206 | | | CIC | 206 | SET 14 | 19480 |
| 0 | 2 | 1 | 321 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 19490 |
| 0 | 2 | 1 | 322 | 15 | 0 | 14 | | 235 | 000020000 | | XOR | =0000020000 | | 19500 |
| 0 | 2 | 1 | 323 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19510 |
| 0 | 2 | 1 | 324 | 5 | 0 | 14 | | 074 | | L9P70 | CIC | 074 | RST 14 | 19520 |
| 0 | 2 | 1 | 325 | 17 | 0 | 14 | | 105 | | | CLA | H9P70 | | 19530 |
| 0 | 2 | 1 | 326 | 13 | 0 | 14 | 1 | 073 | | | STC | VAR4 | | 19540 |
| 0 | 2 | 1 | 327 | 5 | 0 | 14 | | 212 | | | CIC | 212 | SET 1 | 19550 |
| 0 | 2 | 1 | 330 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 19560 |
| 0 | 2 | 1 | 331 | 15 | 0 | 14 | | 221 | 400000000 | | XOR | =0400000000 | | 19570 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 40)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 1 | 332 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19580 |
| 0 | 2 | 1 | 333 | 5 | 0 | 14 | | 010 | | L9P71 | CIO | 010 | RST 1 | 19590 |
| 0 | 2 | 1 | 334 | 17 | 0 | 14 | | 106 | | | CLA | H9P71 | | 19600 |
| 0 | 2 | 1 | 335 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 19610 |
| 0 | 2 | 1 | 336 | 5 | 0 | 14 | | 216 | | | CIO | 216 | SET 2 | 19620 |
| 0 | 2 | 1 | 337 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 19630 |
| 0 | 2 | 1 | 340 | 15 | 0 | 14 | | 223 | 200000000 | | XOR | =0200000000 | | 19640 |
| 0 | 2 | 1 | 341 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19650 |
| 0 | 2 | 1 | 342 | 5 | 0 | 14 | | 014 | | L9P72 | CIO | 014 | RST 2 | 19660 |
| 0 | 2 | 1 | 343 | 17 | 0 | 14 | | 107 | | | CLA | H9P72 | | 19670 |
| 0 | 2 | 1 | 344 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 19680 |
| 0 | 2 | 1 | 345 | 5 | 0 | 14 | | 155 | | | CIO | 155 | TEST SPARES | 19690 |
| 0 | 2 | 1 | 346 | 5 | 0 | 14 | | 161 | | | CIO | 161 | | 19700 |
| 0 | 2 | 1 | 347 | 5 | 0 | 14 | | 165 | | | CIO | 165 | | 19710 |
| 0 | 2 | 1 | 350 | 5 | 0 | 14 | | 171 | | | CIO | 171 | | 19720 |
| 0 | 2 | 1 | 351 | 5 | 0 | 14 | | 175 | | | CIO | 175 | | 19730 |
| 0 | 2 | 1 | 352 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19740 |
| 0 | 2 | 1 | 353 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 19750 |
| 0 | 2 | 1 | 354 | 4 | 0 | 14 | 1 | 356 | | | TNZ | L15P1P | | 19760 |
| 0 | 2 | 1 | 355 | 00 | 0 | 14 | | 237 | 140014430 | | TRA* | L10P1 | | 19770 |
| 0 | 2 | 1 | 356 | 13 | 0 | 14 | 1 | 377 | | L15P1P | STO | 777 | | 19780 |
| 0 | 2 | 1 | 357 | 13 | 0 | 14 | 1 | 076 | | LPPA | STO | TEMP | | 19790 |
| 0 | 2 | 1 | 360 | 17 | 0 | 14 | 1 | 377 | | | CLA | 777 | | 19800 |
| 0 | 2 | 1 | 361 | 13 | 0 | 14 | 1 | 071 | | | STO | VAR2 | | 19810 |
| 0 | 2 | 1 | 362 | 17 | 0 | 14 | 1 | 073 | | | CLA | VAR4 | | 19820 |
| 0 | 2 | 1 | 363 | 13 | 0 | 14 | 1 | 070 | | | STO | VAR1 | | 19830 |
| 0 | 2 | 1 | 364 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 19840 |
| 0 | 2 | 1 | 365 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 19850 |
| 0 | 2 | 1 | 366 | 0 | 0 | 14 | 1 | 023 | | | HOP | H9P3 | | 19860 |
| 0 | 2 | 1 | 367 | 17 | 0 | 14 | 1 | 076 | | | CLA | TEMP | | 19870 |
| 0 | 2 | 1 | 370 | 0 | 0 | 14 | 1 | 026 | | | HOP | H95P1 | | 19880 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 41)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL    LHS    OPC    VARIABLE        COMMENT                                SEQ NC

                                          *      BEGIN  TEST OF CIO CODES GROUP 1                              19900
0  3 0  31        0 14   112                     ORG    ,3,,31,,14,                                            19910
0  3 0  31    16  0 14   214              L1OP1  CCS    0,14                                                   19920
0  3 0  32    17  0 14   113                     CLA    H1OP1                                                  19930
0  3 0  33    13  0 14 1 073                     STO    VAR4                                                   19940
0  3 0  34     5  0 14   002                     CIO    002             C04 CAUSE HOP 400                      19950
0  3 0  35     5  0 14   006                     CIO    006                                                    19960
0  3 0  36     5  0 14   012                     CIO    012             C1C RST1,014 RST 2                     19970
0  3 0  37     5  0 14   016                     CIO    016                                                    19980
0  3 0  40     5  0 14   022                     CIO    022             C20 RST 3, 024 RST 4                   19990
0  3 0  41     5  0 14   026                     CIO    026                                                    20000
0  3 0  42     5  0 14   032                     CIO    032             030 RST5, 034 RST6                     20010
0  3 0  43     5  0 14   036                     CIO    036                                                    20020
0  3 0  44     5  0 14   042                     CIO    042             C40 RST 7, 044 RST 8                   20030
0  3 0  45     5  0 14   046                     CIO    046                                                    20040
0  3 0  46     5  0 14   052                     CIO    052             050 RST9, 054 RST 10                   20050
0  3 0  47     5  0 14   056                     CIO    056                                                    20060
0  3 0  50     5  0 14   062                     CIO    062             C60 RST 11, 064 RST 12                 20070
0  3 0  51     5  0 14   066                     CIO    066                                                    20080
0  3 0  52     5  0 14   072                     CIO    072             C70 RST 13, 074 RST 14                 20090
0  3 0  53     5  0 14   000                     CIO    000             100 RST 15                             20100
0  3 0  54     5  0 14   154                     CIO    154             READ INT REG                           20110
0  3 0  55    15  0 14   240   777770000         XOR    =0777770000                                            20120
0  3 0  56     4  0 14 1 305                     TNZ    L15P1Q                                                 20130
0  3 0  57     5  0 14   010                     CIO    010             RST 1, 014 RST 2, 020 RST 3            20140
0  3 0  60     5  0 14   154                     CIO    154             C30 RST 5, 040 RST 7                   20150
0  3 0  61    15  0 14   241   377770000         XOR    =0377770000     050 RST 9, 060 RST 11                  20160
0  3 0  62     4  0 14 1 305                     TNZ    L15P1Q          C70 RST 13, 110 CAUSES HOP             20170
0  3 0  63    17  0 14   114              L1OP2  CLA    H1OP2                                                  20180
0  3 0  64    13  0 14 1 073                     STO    VAR4                                                   20190
0  3 0  65    17  0 14 1 020                     CLA    ZERO                                                   20200
0  3 0  66     5  0 14   014                     CIO    014             RST 2, 114 SETS CST AND STOPS PROG.    20210
0  3 0  67     4  0 14 1 305                     TNZ    L15P1Q          214 READS A SWTS, 314 SP               20220
0  3 0  70    17  0 14   115              L1OP3  CLA    H1OP3                                                  20230
0  3 0  71    13  0 14 1 073                     STO    VAR4                                                   20240
0  3 0  72     5  0 14   154                     CIO    154                                                    20250
0  3 0  73    15  0 14   242   177770000         XOR    =0177770000     024,034,044,054,064,074                20260
0  3 0  74     4  0 14 1 305                     TNZ    L15P1Q          RESET 4,6,8,10,12,14                   20270
0  3 0  75    17  0 14   116              L1OP4  CLA    H1OP4                                                  20280
0  3 0  76    13  0 14 1 073                     STO    VAR4                                                   20290
0  3 0  77     5  0 14   002                     CIO    002             SET 1                                  20300
0  3 0 100    17  0 14   243   470000000         CLA    =0470000000                                            20310
0  3 0 101     5  0 14   020                     CIO    020             RST 3                                  20320
0  3 0 102    15  0 14   243   470000000         XOR    =0470000000                                            20330
0  3 0 103     4  0 14 1 305                     TNZ    L15P1Q          220 READS B SWT 1                      20340
0  3 0 104     5  0 14   154                     CIO    154                                                    20350
0  3 0 105    15  0 14   244   477770000         XOR    =0477770000     C1C RST 1, 120 SET 3                   20360
0  3 0 106     4  0 14 1 305                     TNZ    L15P1Q          320 SP                                 20370
0  3 0 107    17  0 14   117              L1OP5  CLA    H1OP5                                                  20380
0  3 0 110    13  0 14 1 073                     STO    VAR4                                                   20390
0  3 0 111    17  0 14   245   110000000         CLA    =0110000000                                            20400
0  3 0 112     5  0 14   024                     CIO    024             RST 4                                  20410
0  3 0 113     5  0 14   154                     CIO    154             124 SET 3,7,8, 224 SET 3,6             20420
0  3 0 114    15  0 14   246   437770000         XOR    =0437770000     324 SP                                 20430
0  3 0 115     4  0 14 1 305                     TNZ    L15P1Q                                                 20440
0  3 0 116    17  0 14   120              L1OP6  CLA    H1OP6                                                  20450
0  3 0 117    13  0 14 1 073                     STO    VAR4                                                   20460
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 42)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 3 | 0 | 120 | 17 | 0 | 14 | | 225 | 010000000 | | CLA | =0010000000 | | 20470 |
| 0 | 3 | 0 | 121 | 5 | 0 | 14 | | 030 | | | CIO | 030 | RST 5, 130 SET 3 THRU 9 | 20480 |
| 0 | 3 | 0 | 122 | 5 | 0 | 14 | | 154 | | | CIO | 154 | 230 SP | 20490 |
| 0 | 3 | 0 | 123 | 15 | 0 | 14 | | 247 | 417770000 | | XOR | =0417770000 | | 20500 |
| 0 | 3 | 0 | 124 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 20510 |
| 0 | 3 | 0 | 125 | 17 | 0 | 14 | | 121 | | L10P7 | CLA | H10P7 | | 20520 |
| 0 | 3 | 0 | 126 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 20530 |
| 0 | 3 | 0 | 127 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 20540 |
| 0 | 3 | 0 | 130 | 5 | 0 | 14 | | 034 | | | CIO | 034 | RST 6 , 234 SP | 20550 |
| 0 | 3 | 0 | 131 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 20560 |
| 0 | 3 | 0 | 132 | 15 | 0 | 14 | | 250 | 407770000 | | XOR | =0407770000 | | 20570 |
| 0 | 3 | 0 | 133 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 20580 |
| 0 | 3 | 0 | 134 | 17 | 0 | 14 | | 122 | | L10P8 | CLA | H10P8 | | 20590 |
| 0 | 3 | 0 | 135 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 20600 |
| 0 | 3 | 0 | 136 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 20610 |
| 0 | 3 | 0 | 137 | 5 | 0 | 14 | | 040 | | | CIO | 040 | RST 7 | 20620 |
| 0 | 3 | 0 | 140 | 5 | 0 | 14 | | 154 | | | CIO | 154 | 140 PLT X, 240 SP | 20630 |
| 0 | 3 | 0 | 141 | 15 | 0 | 14 | | 251 | 403770000 | | XOR | =0403770000 | | 20640 |
| 0 | 3 | 0 | 142 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 20650 |
| 0 | 3 | 0 | 143 | 17 | 0 | 14 | | 123 | | L10P9 | CLA | H10P9 | | 20660 |
| 0 | 3 | 0 | 144 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 20670 |
| 0 | 3 | 0 | 145 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 20680 |
| 0 | 3 | 0 | 146 | 5 | 0 | 14 | | 044 | | | CIO | 044 | RST 8 | 20690 |
| 0 | 3 | 0 | 147 | 5 | 0 | 14 | | 154 | | | CIO | 154 | 144 PLT Y, 244 SP | 20700 |
| 0 | 3 | 0 | 150 | 15 | 0 | 14 | | 252 | 401770000 | | XOR | =0401770000 | | 20710 |
| 0 | 3 | 0 | 151 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 20720 |
| 0 | 3 | 0 | 152 | 17 | 0 | 14 | | 124 | | L10P10 | CLA | H10P10 | | 20730 |
| 0 | 3 | 0 | 153 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 20740 |
| 0 | 3 | 0 | 154 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 20750 |
| 0 | 3 | 0 | 155 | 5 | 0 | 14 | | 050 | | | CIO | 050 | RST 9 | 20760 |
| 0 | 3 | 0 | 156 | 5 | 0 | 14 | | 154 | | | CIO | 154 | 150 PLT Z, 250 SP | 20770 |
| 0 | 3 | 0 | 157 | 15 | 0 | 14 | | 253 | 400770000 | | XOR | =0400770000 | | 20780 |
| 0 | 3 | 0 | 160 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 20790 |
| 0 | 3 | 0 | 161 | 17 | 0 | 14 | | 125 | | L10P11 | CLA | H10P11 | | 20800 |
| 0 | 3 | 0 | 162 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 20810 |
| 0 | 3 | 0 | 163 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 20820 |
| 0 | 3 | 0 | 164 | 5 | 0 | 14 | | 054 | | | CIO | 054 | RST 10 | 20830 |
| 0 | 3 | 0 | 165 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | 154 READ INT REG., 254 SP | 20840 |
| 0 | 3 | 0 | 166 | 17 | 0 | 14 | | 126 | | L10P12 | CLA | H10P12 | | 20850 |
| 0 | 3 | 0 | 167 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 20860 |
| 0 | 3 | 0 | 170 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 20870 |
| 0 | 3 | 0 | 171 | 15 | 0 | 14 | | 254 | 400370000 | | XOR | =0400370000 | | 20880 |
| 0 | 3 | 0 | 172 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 20890 |
| 0 | 3 | 0 | 173 | 17 | 0 | 14 | | 127 | | L10P13 | CLA | H10P13 | | 20900 |
| 0 | 3 | 0 | 174 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 20910 |
| 0 | 3 | 0 | 175 | 17 | 0 | 14 | | 167 | 100000000 | | CLA | =0100000000 | | 20920 |
| 0 | 3 | 0 | 176 | 5 | 0 | 14 | | 060 | | | CIO | 060 | RST 11 | 20930 |
| 0 | 3 | 0 | 177 | 5 | 0 | 14 | | 154 | | | CIO | 154 | 160 SET 3,8,12 | 20940 |
| 0 | 3 | 0 | 200 | 15 | 0 | 14 | | 255 | 400170000 | | XOR | =0400170000 | 260 SP | 20950 |
| 0 | 3 | 0 | 201 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 20960 |
| 0 | 3 | 0 | 202 | 17 | 0 | 14 | | 130 | | L10P14 | CLA | H10P14 | | 20970 |
| 0 | 3 | 0 | 203 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 20980 |
| 0 | 3 | 0 | 204 | 5 | 0 | 14 | | 064 | | | CIO | 064 | RST 12 | 20990 |
| 0 | 3 | 0 | 205 | 5 | 0 | 14 | | 154 | | | CIO | 154 | 164 PRT OCTAL | 21000 |
| 0 | 3 | 0 | 206 | 15 | 0 | 14 | | 256 | 400070000 | | XOR | =0400070000 | 264 SP | 21010 |
| 0 | 3 | 0 | 207 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 21020 |
| 0 | 3 | 0 | 210 | 17 | 0 | 14 | | 131 | | L10P15 | CLA | H10P15 | | 21030 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 43)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL    LHS    OPC   VARIABLE       COMMENT                         SEC NO

0  3 0 211    13  0 14 1 073              STO    VAR4                                             21040
0  3 0 212     5  0 14   070              CIO    070            RST 13                            21050
0  3 0 213     5  0 14   154              CIO    154            170 PRT BCD                       21060
0  3 0 214    15  0 14   257   400030000         XOR    =0400030000    270 SP                     21070
0  3 0 215     4  0 14 1 305              TNZ    L15P1Q                                           21080
0  3 0 216    17  0 14   132       L10P16 CLA    H10P16                                           21090
0  3 0 217    13  0 14 1 073              STO    VAR4                                             21100
0  3 0 220     5  0 14   074              CIO    074            174,274 SP                        21110
0  3 0 221     5  0 14   154              CIO    154                                              21120
0  3 0 222    15  0 14   260   400010000         XOR    =0400010000                               21130
0  3 0 223     4  0 14 1 305              TNZ    L15P1Q                                           21140
0  3 0 224    17  0 14   133       L10P17 CLA    H10P17                                           21150
0  3 0 225    13  0 14 1 073              STO    VAR4                                             21160
0  3 0 226     5  0 14   100              CIO    100            RST 15                            21170
0  3 0 227     5  0 14   154              CIO    154            200,3C0 SP                        21180
0  3 0 230    15  0 14   221   400000000         XOR    =0400000000                               21190
0  3 0 231     4  0 14 1 305              TNZ    L15P1Q                                           21200
                                   *      TEST DISCCRETE OUTPUTS + INPUTS ALL ZERO                21210
0  3 0 232    17  0 14   134       L10P18 CLA    H10P18                                           21220
0  3 0 233    13  0 14 1 073              STC    VAR4                                             21230
0  3 0 234    17  0 14 1 020              CLA    ZERO                                             21240
0  3 0 235     5  0 14   210              CIO    210            RESET DO S                        21250
0  3 0 236     4  0 14 1 305              TNZ    L15P1Q         214,220 READ A,B SWTS             21260
0  3 0 237    17  0 14   261   000000006         CLA    =0000000006                               21270
0  3 0 240     5  0 14   214              CIO    214            READ A SWTS                       21280
0  3 0 241     6  0 14   262   000001760         ANC    =0000001760    17-22 DO S + DI S ALL DOWN  21290
0  3 0 242     4  0 14 1 305              TNZ    L15P1Q         210 SET DO 1,2                    21300
                                   *      CIO CODES 104 THRU 22C                                  21310
0  3 0 243    17  0 14   135       L10P19 CLA    H10P19                                           21320
0  3 0 244    13  0 14 1 073              STO    VAR4                                             21330
0  3 0 245    17  0 14   263   660000176         CLA    =0660CC0176                               21340
0  3 0 246     5  0 14   110              CIC    110            C10 RST1, 210 SET D.O.            21350
0  3 0 247     5  0 14   154              CIO    154            114 STOP PRG, 120 SET 5           21360
0  3 0 250    15  0 14   221   400000000         XOR    =0400C00000    130 SET 5,7,8              21370
0  3 0 251     4  0 14 1 305              TNZ    L15P1Q                                           21380
0  3 0 252    17  0 14   136       L10P20 CLA    H10P20                                           21390
0  3 0 253    13  0 14 1 073              STC    VAR4                                             21400
0  3 0 254     5  0 14   006              CIC    006            SET 2                             21410
0  3 0 255    17  0 14   264   300000040         CLA    =0300000040                               21420
0  3 0 256     5  0 14   214              CIC    214            CHECK FOR D.O. SET                21430
0  3 0 257     6  0 14   262   000001760         ANC    =0000001760                               21440
0  3 0 260     4  0 14 1 305              TNZ    L15P1Q                                           21450
0  3 0 261     5  0 14   154              CIO    154            224 ACC SET 3                     21460
0  3 0 262    15  0 14   265   600000000         XOR    =06000CC000    204 TURN ON P20 LIGHT      21470
0  3 0 263     4  0 14 1 305              TNZ    L15P1Q         014 RST 2                         21480
0  3 0 264    17  0 14   137       L10P21 CLA    H10P21                                           21490
0  3 0 265    13  0 14 1 073              STO    VAR4                                             21500
0  3 0 266     5  0 14   072              CIO    072            SET 15                            21510
0  3 0 267    17  0 14   266   120000000         CLA    =0120CC0000                               21520
0  3 0 270     5  0 14   104              CIO    104            124 SET 6,7,8                     21530
0  3 0 271     5  0 14   154              CIO    154            100 RST 15,004 FORCED HOP         21540
0  3 0 272    15  0 14   267   600010000         XOR    =0600010000    304 SP                     21550
0  3 0 273     4  0 14 1 305              TNZ    L15P1Q                                           21560
0  3 0 274    17  0 14 1 057              CLA    LCR4           IS ROUTINE 4 SELECTED             21570
0  3 0 275    14  0 14   302              TMI    L10P22                                           21580
0  3 0 276     5  0 14   010              CIO    010                                              21590
0  3 0 277     5  0 14   014              CIC    014                                              21600
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 44)

```
IM IS S LOC   OP DM DS 9 ADR    OCT VAL    LHS    OPC    VARIABLE          COMMENT                                 SEQ NO

0  3 0 300    5  0 14    100                      CIO    100                                                       21610
0  3 0 301   10  0 14 1 045                       TRA    L10P27                                                    21620
0  3 0 302   17  0 14    140               L10P22 CLA    H10P22                                                    21630
0  3 0 303   13  0 14 1 073                       STO    VAR4                                                      21640
0  3 0 304    5  0 14    012                      CIO    012               SET3                                    21650
0  3 0 305   17  0 14    270   460000000          CLA    =0460000000                                               21660
0  3 0 306    5  0 14    120                      CIO    120               SET 5,7,9                               21670
0  3 0 307   17  0 14 1 055                       CLA    LCR2                                                      21680
0  3 0 310   14  0 14    312                      TMI    *+2                                                       21690
0  3 0 311   10  0 14    313                      TRA    *+2                                                       21700
0  3 0 312   00  0 14    271   120000270          TRA*   L20P2A                                                    21710
0  3 0 313   17  0 14    272   000000004          CLA    =0000000004                                               21720
0  3 0 314    5  0 14    210                      CIO    210                                                       21730
0  3 0 315   17  0 14 1 020                       CLA    ZERO                                                      21740
0  3 0 316    5  0 14    210                      CIO    210                                                       21750
0  3 0 317    5  0 14    154                      CIO    154               124 SET 3,7,8,130 SET 3 THRU 9          21760
0  3 0 320    6  0 14    242   177770000          ANC    =0177770000       020 RST 3,100 RST 15,320 SP             21770
0  3 0 321   15  0 14    273   125010000          XOR    =0125010000                                               21780
                                           *      CIO 120,124,130 MAY SET 1 OR 2 IF CASE SHIFT OCCURS              21790
0  3 0 322    4  0 14 1 305                       TNZ    L15P1Q                                                    21800
0  3 0 323   17  0 14    141               L10P23 CLA    H10P23                                                    21810
0  3 0 324   13  0 14 1 073                       STO    VAR4                                                      21820
0  3 0 325    5  0 14    010                      CIO    010               RESET 1,3,5,7,9,15                      21830
0  3 0 326    5  0 14    020                      CIO    020                                                       21840
0  3 0 327    5  0 14    030                      CIO    030                                                       21850
0  3 0 330    5  0 14    040                      CIO    040                                                       21860
0  3 0 331    5  0 14    050                      CIO    050                                                       21870
0  3 0 332    5  0 14    100                      CIO    100                                                       21880
0  3 0 333    5  0 14    016                      CIO    016               SET 4                                   21890
0  3 0 334   17  0 14    274   510000000          CLA    =0510000000                                               21900
0  3 0 335    5  0 14    124                      CIO    124               SET 6,7,8                               21910
0  3 0 336   15  0 14    274   510000000          XOR    =0510000000       154 READ INT REG                        21920
0  3 0 337    4  0 14 1 305                       TNZ    L15P1Q                                                    21930
0  3 0 340   17  0 14    142               L10P24 CLA    H10P24            024 RST 4,120 SET 3,7,9                 21940
0  3 0 341   13  0 14 1 073                       STO    VAR4              224 SET 1,3,6,134 SET 8,10,12           21950
0  3 0 342   17  0 14    272   000000004          CLA    =0000000004                                               21960
0  3 0 343    5  0 14    210                      CIO    210                                                       21970
0  3 0 344   17  0 14 1 020                       CLA    ZERO                                                      21980
0  3 0 345    5  0 14    210                      CIO    210                                                       21990
0  3 0 346    5  0 14    154                      CIO    154               144 PLT,164 PRT OCTAL                   22000
0  3 0 347    6  0 14    242   177770000          ANC    =0177770000       174,324 SP                              22010
0  3 0 350   15  0 14    275   056000000          XOR    =0056000000                                               22020
0  3 0 351    4  0 14 1 305                       TNZ    L15P1Q                                                    22030
0  3 0 352   10  0 14 1 002                       TRA    L10P25                                                    22040
0  3 1   2       0 14    113                      ORG    ,3,1,2,,14,                                               22050
0  3 1   2   17  0 14    143               L10P25 CLA    H10P25                                                    22060
0  3 1   3   13  0 14 1 073                       STO    VAR4                                                      22070
0  3 1   4    5  0 14    020                      CIO    020               RST 3,4,7,8                             22080
0  3 1   5    5  0 14    024                      CIO    024                                                       22090
0  3 1   6    5  0 14    040                      CIO    040                                                       22100
0  3 1   7    5  0 14    044                      CIO    044                                                       22110
0  3 1  10    5  0 14    022                      CIO    022               SET 5                                   22120
0  3 1  11   17  0 14    276   300000000          CLA    =0300000000                                               22130
0  3 1  12    5  0 14    130                      CIO    130               SET 4,5,6,7,8                           22140
0  3 1  13   17  0 14    272   000000004          CLA    =0000000004                                               22150
0  3 1  14    5  0 14    210                      CIO    210                                                       22160
0  3 1  15   17  0 14 1 020                       CLA    ZERO                                                      22170
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 45)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 3 | 1 | 16 | 5 | 0 | 14 | | 210 | | | CIO | 210 | | 22180 |
| 0 | 3 | 1 | 17 | 5 | 0 | 14 | | 154 | | | CIO | 154 | 030 RST 5,134 SET 7,12 | 22190 |
| 0 | 3 | 1 | 20 | 6 | 0 | 14 | | 242 | 177770000 | | ANC | =0177770000 | 120 SET 3,6,8,160 SET 3,8,12 | 22200 |
| 0 | 3 | 1 | 21 | 15 | 0 | 14 | | 277 | 076000000 | | XOR | =0076000000 | 110 HOP, 170 PRT BCD | 22210 |
| 0 | 3 | 1 | 22 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | 230 SP | 22220 |
| 0 | 3 | 1 | 23 | 17 | 0 | 14 | | 144 | | L10P26 | CLA | H10P26 | | 22230 |
| 0 | 3 | 1 | 24 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 22240 |
| 0 | 3 | 1 | 25 | 5 | 0 | 14 | | 010 | | | CIO | 010 | RST 1 THRU 5,7,8 | 22250 |
| 0 | 3 | 1 | 26 | 5 | 0 | 14 | | 014 | | | CIO | 014 | | 22260 |
| 0 | 3 | 1 | 27 | 5 | 0 | 14 | | 020 | | | CIO | 020 | | 22270 |
| 0 | 3 | 1 | 30 | 5 | 0 | 14 | | 024 | | | CIO | 024 | | 22280 |
| 0 | 3 | 1 | 31 | 5 | 0 | 14 | | 030 | | | CIO | 030 | | 22290 |
| 0 | 3 | 1 | 32 | 5 | 0 | 14 | | 040 | | | CIO | 040 | | 22300 |
| 0 | 3 | 1 | 33 | 5 | 0 | 14 | | 044 | | | CIO | 044 | | 22310 |
| 0 | 3 | 1 | 34 | 17 | 0 | 14 | | 300 | 060000000 | | CLA | =0060000000 | | 22320 |
| 0 | 3 | 1 | 35 | 5 | 0 | 14 | | 134 | | | CIO | 134 | SET 11,14 | 22330 |
| 0 | 3 | 1 | 36 | 17 | 0 | 14 | | 272 | 000000004 | | CLA | =0000000004 | | 22340 |
| 0 | 3 | 1 | 37 | 5 | 0 | 14 | | 210 | | | CIO | 210 | | 22350 |
| 0 | 3 | 1 | 40 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 22360 |
| 0 | 3 | 1 | 41 | 5 | 0 | 14 | | 210 | | | CIO | 210 | | 22370 |
| 0 | 3 | 1 | 42 | 5 | 0 | 14 | | 154 | | | CIO | 154 | 034 RST 6,124 SET 5,7,8 | 22380 |
| 0 | 3 | 1 | 43 | 15 | 0 | 14 | | 301 | 010220000 | | XOR | =0010220000 | 130 SET 5,7,8,164 PRT OCTAL | 22390 |
| 0 | 3 | 1 | 44 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | 234 SP | 22400 |
| 0 | 3 | 1 | 45 | 17 | 0 | 14 | | 145 | | L10P27 | CLA | H10P27 | | 22410 |
| 0 | 3 | 1 | 46 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 22420 |
| 0 | 3 | 1 | 47 | 5 | 0 | 14 | | 034 | | | CIO | 034 | | 22430 |
| 0 | 3 | 1 | 50 | 5 | 0 | 14 | | 060 | | | CIO | 060 | | 22440 |
| 0 | 3 | 1 | 51 | 5 | 0 | 14 | | 074 | | | CIO | 074 | | 22450 |
| 0 | 3 | 1 | 52 | 5 | 0 | 14 | | 032 | | | CIO | 032 | SET 7 | 22460 |
| 0 | 3 | 1 | 53 | 5 | 0 | 14 | | 036 | | | CIO | 036 | SET 8 | 22470 |
| 0 | 3 | 1 | 54 | 5 | 0 | 14 | | 042 | | | CIO | 042 | SET 9 | 22480 |
| 0 | 3 | 1 | 55 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 22490 |
| 0 | 3 | 1 | 56 | 5 | 0 | 14 | | 140 | | | CIO | 140 | 040 RST 7 | 22500 |
| 0 | 3 | 1 | 57 | 5 | 0 | 14 | | 144 | | | CIO | 144 | 044 RST 8 | 22510 |
| 0 | 3 | 1 | 60 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 22520 |
| 0 | 3 | 1 | 61 | 15 | 0 | 14 | | 302 | 007000000 | | XOR | =0007000000 | | 22530 |
| 0 | 3 | 1 | 62 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 22540 |
| 0 | 3 | 1 | 63 | 17 | 0 | 14 | | 146 | | L10P28 | CLA | H10P28 | | 22550 |
| 0 | 3 | 1 | 64 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 22560 |
| 0 | 3 | 1 | 65 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 22570 |
| 0 | 3 | 1 | 66 | 5 | 0 | 14 | | 150 | | | CIO | 150 | | 22580 |
| 0 | 3 | 1 | 67 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | 154 READ INT REG | 22590 |
| 0 | 3 | 1 | 70 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 22600 |
| 0 | 3 | 1 | 71 | 15 | 0 | 14 | | 302 | 007000000 | | XOR | =0007000000 | 050 RST 9 | 22610 |
| 0 | 3 | 1 | 72 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 22620 |
| 0 | 3 | 1 | 73 | 17 | 0 | 14 | | 147 | | L10P29 | CLA | H10P29 | | 22630 |
| 0 | 3 | 1 | 74 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 22640 |
| 0 | 3 | 1 | 75 | 5 | 0 | 14 | | 052 | | | CIO | 052 | SET 11 | 22650 |
| 0 | 3 | 1 | 76 | 17 | 0 | 14 | 1 | 060 | | | CLA | LCR5 | IS ROUTINE 5 SELECTED | 22660 |
| 0 | 3 | 1 | 77 | 14 | 0 | 14 | 1 | 103 | | | TMI | *+4 | | 22670 |
| 0 | 3 | 1 | 100 | 17 | 0 | 14 | | 303 | 132100000 | | CLA | =01321 | SET 3,5,6,8,12 | 22680 |
| 0 | 3 | 1 | 101 | 5 | 0 | 14 | | 224 | | | CIO | 224 | | 22690 |
| 0 | 3 | 1 | 102 | 10 | 0 | 14 | 1 | 114 | | | TRA | L10P30 | | 22700 |
| 0 | 3 | 1 | 103 | 17 | 0 | 14 | | 304 | 130000000 | | CLA | =0130000000 | | 22710 |
| 0 | 3 | 1 | 104 | 5 | 0 | 14 | | 160 | | | CIO | 160 | SET 3,5,6,8,12 | 22720 |
| 0 | 3 | 1 | 105 | 17 | 0 | 14 | | 305 | 000000176 | | CLA | =0000000176 | RESET DATA LINES | 22730 |
| 0 | 3 | 1 | 106 | 5 | 0 | 14 | | 210 | | | CIO | 210 | | 22740 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 46)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 3 | 1 | 107 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 22750 |
| 0 | 3 | 1 | 110 | 5 | 0 | 14 | | 210 | | | CIO | 210 | | 22760 |
| 0 | 3 | 1 | 111 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 22770 |
| 0 | 3 | 1 | 112 | 15 | 0 | 14 | | 306 | 137300000 | | XOR | =0137300000 | 060 RST 11,164 PRT OCTAL | 22780 |
| 0 | 3 | 1 | 113 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | 260 SP | 22790 |
| 0 | 3 | 1 | 114 | 17 | 0 | 14 | | 150 | | L10P30 | CLA | H10P30 | | 22800 |
| 0 | 3 | 1 | 115 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 22810 |
| 0 | 3 | 1 | 116 | 17 | 0 | 14 | | 222 | 040000000 | | CLA | =0040000000 | | 22820 |
| 0 | 3 | 1 | 117 | 5 | 0 | 14 | | 164 | | | CIO | 164 | 160 SET 4 | 22830 |
| 0 | 3 | 1 | 120 | 5 | 0 | 14 | | 154 | | | CIO | 154 | 064 RST 12 | 22840 |
| 0 | 3 | 1 | 121 | 15 | 0 | 14 | | 306 | 137300000 | | XOR | =0137300000 | | 22850 |
| 0 | 3 | 1 | 122 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 22860 |
| 0 | 3 | 1 | 123 | 17 | 0 | 14 | | 151 | | L10P31 | CLA | H10P31 | | 22870 |
| 0 | 3 | 1 | 124 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 22880 |
| 0 | 3 | 1 | 125 | 5 | 0 | 14 | | 062 | | | CIO | 062 | SET 13 | 22890 |
| 0 | 3 | 1 | 126 | 5 | 0 | 14 | | 170 | | | CIO | 170 | 070 RST 13 | 22900 |
| 0 | 3 | 1 | 127 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 22910 |
| 0 | 3 | 1 | 130 | 15 | 0 | 14 | | 307 | 137340000 | | XOR | =0137340000 | | 22920 |
| 0 | 3 | 1 | 131 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 22930 |
| 0 | 3 | 1 | 132 | 17 | 0 | 14 | | 152 | | L10P33 | CLA | H10P33 | | 22940 |
| 0 | 3 | 1 | 133 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 22950 |
| 0 | 3 | 1 | 134 | 5 | 0 | 14 | | 066 | | | CIO | 066 | SET 14 | 22960 |
| 0 | 3 | 1 | 135 | 5 | 0 | 14 | | 072 | | | CIO | 072 | SET 15 | 22970 |
| 0 | 3 | 1 | 136 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 22980 |
| 0 | 3 | 1 | 137 | 5 | 0 | 14 | | 174 | | | CIO | 174 | 074 RST 14 | 22990 |
| 0 | 3 | 1 | 140 | 17 | 0 | 14 | | 261 | 000000006 | | CLA | =0000000006 | | 23000 |
| 0 | 3 | 1 | 141 | 5 | 0 | 14 | | 200 | | | CIO | 200 | 204 RST P LIGHTS TO 3 | 23010 |
| 0 | 3 | 1 | 142 | 5 | 0 | 14 | | 154 | | | CIO | 154 | 210 SET D.O. 1 + 2 | 23020 |
| 0 | 3 | 1 | 143 | 15 | 0 | 14 | | 310 | 137370000 | | XOR | =0137370000 | 100 RST 15 | 23030 |
| 0 | 3 | 1 | 144 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 23040 |
| 0 | 3 | 1 | 145 | 17 | 0 | 14 | | 153 | | L10P34 | CLA | H10P34 | | 23050 |
| 0 | 3 | 1 | 146 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 23060 |
| 0 | 3 | 1 | 147 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 23070 |
| 0 | 3 | 1 | 150 | 5 | 0 | 14 | | 214 | | | CIO | 214 | | 23080 |
| 0 | 3 | 1 | 151 | 6 | 0 | 14 | | 262 | 000001760 | | ANC | =0000001760 | CHECK FOR DU 5+6 | 23090 |
| 0 | 3 | 1 | 152 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 23100 |
| 0 | 3 | 1 | 153 | 17 | 0 | 14 | | 154 | | L10P35 | CLA | H10P35 | | 23110 |
| 0 | 3 | 1 | 154 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 23120 |
| 0 | 3 | 1 | 155 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 23130 |
| 0 | 3 | 1 | 156 | 5 | 0 | 14 | | 204 | | | CIO | 204 | 214 READ A SWTS | 23140 |
| 0 | 3 | 1 | 157 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 23150 |
| 0 | 3 | 1 | 160 | 17 | 0 | 14 | | 155 | | L10P36 | CLA | H10P36 | | 23160 |
| 0 | 3 | 1 | 161 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 23170 |
| 0 | 3 | 1 | 162 | 17 | 0 | 14 | | 221 | 400000000 | | CLA | =0400000000 | | 23180 |
| 0 | 3 | 1 | 163 | 5 | 0 | 14 | | 220 | | | CIO | 220 | 224 SET 1 | 23190 |
| 0 | 3 | 1 | 164 | 15 | 0 | 14 | | 223 | 200000000 | | XOR | =0200000000 | | 23200 |
| 0 | 3 | 1 | 165 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 23210 |
| 0 | 3 | 1 | 166 | 17 | 0 | 14 | | 156 | | L10P37 | CLA | H10P37 | | 23220 |
| 0 | 3 | 1 | 167 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 23230 |
| 0 | 3 | 1 | 170 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 23240 |
| 0 | 3 | 1 | 171 | 15 | 0 | 14 | | 310 | 137370000 | | XOR | =0137370000 | | 23250 |
| 0 | 3 | 1 | 172 | 4 | 0 | 14 | 1 | 305 | | | TNZ | L15P1Q | | 23260 |
| 0 | 3 | 1 | 173 | 17 | 0 | 14 | | 157 | | L10P38 | CLA | H10P38 | | 23270 |
| 0 | 3 | 1 | 174 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 23280 |
| 0 | 3 | 1 | 175 | 5 | 0 | 14 | | 020 | | | CIO | 020 | RESET INT REG | 23290 |
| 0 | 3 | 1 | 176 | 5 | 0 | 14 | | 030 | | | CIO | 030 | | 23300 |
| 0 | 3 | 1 | 177 | 5 | 0 | 14 | | 034 | | | CIO | 034 | | 23310 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 47)

```
IM IS S LOC   OP IM DS 9 ADR   OCT VAL     LHS     OPC   VARIABLE        COMMENT                          SEQ NO

0  3 1 200    5  0 14    040                       CIO   040                                              23320
0  3 1 201    5  0 14    044                       CIO   044                                              23330
0  3 1 202    5  0 14    050                       CIO   050                                              23340
0  3 1 203    5  0 14    060                       CIO   060                                              23350
0  3 1 204    5  0 14    064                       CIO   064                                              23360
0  3 1 205    5  0 14    070                       CIO   070                                              23370
0  3 1 206    5  0 14    074                       CIO   074                                              23380
0  3 1 207    5  0 14    100                       CIO   100                                              23390
0  3 1 210   17  0 14    305   000000176           CLA   =000000176                                       23400
0  3 1 211   12  0 14    210                       PIC   210             CIO 210 SETS D.O.S               23410
0  3 1 212    5  0 14    214                       CIO   214                                              23420
0  3 1 213    6  0 14    262   000001760           ANL   =000001760                                       23430
0  3 1 214    4  0 14 1  305                       TNZ   L15P14                                           23440
                                           *     TEST DISCRETE INPUTS AND OUTPUTS                          23450
0  3 1 215   17  0 14    160               L10P39  CLA   H10P39                                           23460
0  3 1 216   13  0 14 1  073                       STO   VAR4                                             23470
0  3 1 217   17  0 14    311   000000002           CLA   =000000002                                       23480
0  3 1 220    5  0 14    210                       CIO   210             SET DO 1                         23490
                                           *                             CAL POINT NR  1                  23500
0  3 1 221    5  0 14    214                       CIO   214                                              23510
0  3 1 222    6  0 14    262   000001760           ANL   =000001760                                       23520
0  3 1 223   15  0 14    312   000000020           XOR   =000000020                                       23530
0  3 1 224    4  0 14 1  305                       TNZ   L15P14          TEST DO 1, DI 1, CIO 210 UP      23540
0  3 1 225   17  0 14    161               L10P40  CLA   H10P40                                           23550
0  3 1 226   13  0 14 1  073                       STO   VAR4                                             23560
0  3 1 227   17  0 14    272   000000004           CLA   =000000004                                       23570
0  3 1 230    5  0 14    210                       CIO   210             RST DO1, SET DO 2                23580
                                           *                             CAL POINT NR  2                  23590
0  3 1 231    5  0 14    214                       CIO   214                                              23600
0  3 1 232    6  0 14    262   000001760           ANL   =000001760                                       23610
0  3 1 233   15  0 14    313   000000040           XOR   =000000040      TEST DO2, DI2 UP                 23620
0  3 1 234    4  0 14 1  305                       TNZ   L15P14                                           23630
0  3 1 235   17  0 14    162               L10P41  CLA   H10P41                                           23640
0  3 1 236   13  0 14 1  073                       STO   VAR4                                             23650
0  3 1 237   17  0 14    314   000000010           CLA   =000000010                                       23660
0  3 1 240    5  0 14    210                       CIO   210             RST DO2, SET DO3                 23670
                                           *                             CAL POINT NR  3                  23680
0  3 1 241    5  0 14    214                       CIO   214                                              23690
0  3 1 242    6  0 14    262   000001760           ANL   =000001760                                       23700
0  3 1 243   15  0 14    315   000000100           XOR   =000000100      TEST DO 3, DI 3 UP               23710
0  3 1 244    4  0 14 1  305                       TNZ   L15P14                                           23720
0  3 1 245   17  0 14    163               L10P42  CLA   H10P42                                           23730
0  3 1 246   13  0 14 1  073                       STO   VAR4                                             23740
0  3 1 247   17  0 14    312   000000020           CLA   =000000020                                       23750
0  3 1 250    5  0 14    210                       CIO   210             RST DO 3, SET DO 4               23760
                                           *                             CAL POINT NR  4                  23770
0  3 1 251    5  0 14    214                       CIO   214                                              23780
0  3 1 252    6  0 14    262   000001760           ANL   =000001760                                       23790
0  3 1 253   15  0 14    316   000000200           XOR   =000000200      TEST DO 4, DI 4 UP               23800
0  3 1 254    4  0 14 1  305                       TNZ   L15P14                                           23810
0  3 1 255   17  0 14    164               L10P43  CLA   H10P43                                           23820
0  3 1 256   13  0 14 1  073                       STO   VAR4                                             23830
0  3 1 257   17  0 14    313   000000040           CLA   =000000040                                       23840
0  3 1 260    5  0 14    210                       CIO   210             RST DO 4, SET DO 5               23850
                                           *                             CAL POINT NR  5                  23860
0  3 1 261    5  0 14    214                       CIO   214                                              23870
0  3 1 262    6  0 14    262   000001760           ANL   =000001760                                       23880
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 48)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC   VARIABLE        COMMENT                        SEQ NO
 0  3 1 263   15  0 14   317   000000400           XOR   =0000000400     TEST DO 5, DI 5 UP             23890
 0  3 1 264    4  0 14 1 305                       TNZ   L15P1Q                                         23900
 0  3 1 265   17  0 14   165               L10P44  CLA   H10P44                                         23910
 0  3 1 266   13  0 14 1 073                       STO   VAR4                                           23920
 0  3 1 267   17  0 14   315   000000100           CLA   =0000000100                                    23930
 0  3 1 270    5  0 14   210                       CIL   210             RST DO 5, SET DC 6             23940
                                                                         CAL POINT NR  6                23950
 0  3 1 271    5  0 14   214                       CIL   214                                            23960
 0  3 1 272    6  0 14   262   000001760           AND   =0000001760                                    23970
 0  3 1 273   15  0 14   320   000001000           XOR   =0000001000     TEST DO 6, DI 6 UP             23980
 0  3 1 274    4  0 14 1 305                       TNZ   L15P1Q                                         23990
 0  3 1 275   17  0 14   166               L10P45  CLA   H10P45                                         24000
 0  3 1 276   13  0 14 1 073                       STO   VAR4                                           24010
 0  3 1 277   17  0 14 1 020                       CLA   ZERO                                           24020
 0  3 1 300    5  0 14   210                       CIO   210             RST DO 6                       24030
 0  3 1 301    5  0 14   214                       CIO   214                                            24040
 0  3 1 302    6  0 14   262   000001760           AND   =0000001760     TEST RST DO 6                  24050
 0  3 1 303    4  0 14 1 305                       TNZ   L15P1Q                                         24060
 0  3 1 304   10  0 14 1 315                       TRA   L11P1                                          24070
 0  3 1 305   13  0 14 1 076               L15P1Q  STO   TEMP                                           24080
 0  3 1 306   17  0 14   170                       CLA   H11P1                                          24090
 0  3 1 307   13  0 14 1 071                       STO   VAR2                                           24100
 0  3 1 310   17  0 14   113                       CLA   H10P1                                          24110
 0  3 1 311   13  0 14 1 070                       STO   VAR1                                           24120
 0  3 1 312    0  0 14 1 023                       HOP   H9P3                                           24130
 0  3 1 313   17  0 14 1 076                       CLA   TEMP                                           24140
 0  3 1 314   00  0 14   321   160000560           TRA*  L95P1                                          24150
                  0 14   113   140014430   H10P1   HPC   L10P1                                          24160
                  0 14   114   140031430   H10P2   HPC   L10P2                                          24170
                  0 14   115   140034030   H10P3   HPC   L10P3                                          24180
                  0 14   116   140036430   H10P4   HPC   L10P4                                          24190
                  0 14   117   140043430   H10P5   HPC   L10P5                                          24200
                  0 14   120   140047030   H10P6   HPC   L10P6                                          24210
                  0 14   121   140052430   H10P7   HPC   L10P7                                          24220
                  0 14   122   140056030   H10P8   HPC   L10P8                                          24230
                  0 14   123   140061430   H10P9   HPC   L10P9                                          24240
                  0 14   124   140065030   H10P10  HPC   L10P10                                         24250
                  0 14   125   140070430   H10P11  HPC   L10P11                                         24260
                  0 14   126   140073030   H10P12  HPC   L10P12                                         24270
                  0 14   127   140075430   H10P13  HPC   L10P13                                         24280
                  0 14   130   140101030   H10P14  HPC   L10P14                                         24290
                  0 14   131   140104030   H10P15  HPC   L10P15                                         24300
                  0 14   132   140107030   H10P16  HPC   L10P16                                         24310
                  0 14   133   140112030   H10P17  HPC   L10P17                                         24320
                  0 14   134   140115030   H10P18  HPC   L10P18                                         24330
                  0 14   135   140121430   H10P19  HPC   L10P19                                         24340
                  0 14   136   140125030   H10P20  HPC   L10P20                                         24350
                  0 14   137   140132030   H10P21  HPC   L10P21                                         24360
                  0 14   140   140141030   H10P22  HPC   L10P22                                         24370
                  0 14   141   140151430   H10P23  HPC   L10P23                                         24380
                  0 14   142   140160030   H10P24  HPC   L10P24                                         24390
                  0 14   143   140001230   H10P25  HPC   L10P25                                         24400
                  0 14   144   140011630   H10P26  HPC   L10P26                                         24410
                  0 14   145   140022630   H10P27  HPC   L10P27                                         24420
                  0 14   146   140031630   H10P28  HPC   L10P28                                         24430
                  0 14   147   140035630   H10P29  HPC   L10P29                                         24440
                  0 14   150   140046230   H10P30  HPC   L10P30                                         24450
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 49)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | 14 | | 151 | 140051630 | H10P31 | HPC | L10P31 | | 24460 |
| | | | | | 0 | 14 | | 152 | 140055230 | H10P33 | HPC | L10P33 | | 24470 |
| | | | | | 0 | 14 | | 153 | 140062630 | H10P34 | HPC | L10P34 | | 24480 |
| | | | | | 0 | 14 | | 154 | 140065630 | H10P35 | HPC | L10P35 | | 24490 |
| | | | | | 0 | 14 | | 155 | 140070230 | H10P36 | HPC | L10P36 | | 24500 |
| | | | | | 0 | 14 | | 156 | 140073230 | H10P37 | HPC | L10P37 | | 24510 |
| | | | | | 0 | 14 | | 157 | 140075630 | H10P38 | HPC | L10P38 | | 24520 |
| | | | | | 0 | 14 | | 160 | 140106630 | H10P39 | HPC | L10P39 | | 24530 |
| | | | | | 0 | 14 | | 161 | 140112630 | H10P40 | HPC | L10P40 | | 24540 |
| | | | | | 0 | 14 | | 162 | 140116630 | H10P41 | HPC | L10P41 | | 24550 |
| | | | | | 0 | 14 | | 163 | 140122630 | H10P42 | HPC | L10P42 | | 24560 |
| | | | | | 0 | 14 | | 164 | 140126630 | H10P43 | HPC | L10P43 | | 24570 |
| | | | | | 0 | 14 | | 165 | 140132630 | H10P44 | HPC | L10P44 | | 24580 |
| | | | | | 0 | 14 | | 166 | 140136630 | H10P45 | HPC | L10P45 | | 24590 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 50)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL    LHS     OPC   VARIABLE        COMMENT                         SEQ NO

                                          *       TEST ACCUMULATOR INTERFACE                            24610
0  3 1 315    17  0 14   170              L11P1   CLA   H11P1                                           24620
0  3 1 316    13  0 14 1 073                      STO   VAR4                                            24630
0  3 1 317     0  0 14 1 023                      HOP   H9P3                                            24640
0  3 1 320    17  0 14 1 020                      CLA   ZERO                                            24650
0  3 1 321     5  0 14   224                      CIO   224             220 READ H SWT = 1              24660
0  3 1 322     4  0 14 1 361                      TNZ   L15P1R                                          24670
0  3 1 323    17  0 14   171              L11P2   CLA   H11P2                                           24680
0  3 1 324    13  0 14 1 073                      STO   VAR4                                            24690
0  3 1 325     5  0 14   154                      CIO   154                                             24700
0  3 1 326     4  0 14 1 361                      TNZ   L15P1R          CHECK FOR ALL INTERFACE UP      24710
0  3 1 327    17  0 14   172              L11P3   CLA   H11P3                                           24720
0  3 1 330    13  0 14 1 073                      STO   VAR4                                            24730
0  3 1 331    17  0 14   322   400000002          CLA   =O400000002     A5, A25                         24740
0  3 1 332     5  0 14   224                      CIO   224                                             24750
0  3 1 333     5  0 14   154                      CIO   154                                             24760
0  3 1 334    15  0 14   323   400200000          XOR   =O400200000                                     24770
0  3 1 335     4  0 14 1 361                      TNZ   L15P1R                                          24780
0  3 1 336    17  0 14   173              L11P4   CLA   H11P4                                           24790
0  3 1 337    13  0 14 1 073                      STO   VAR4                                            24800
0  3 1 340     5  0 14   010                      CIO   010             RST 1                           24810
0  3 1 341     5  0 14   060                      CIO   060             RST 11                          24820
0  3 1 342    17  0 14   324   200000004          CLA   =O200000004     A1,A24                          24830
0  3 1 343     5  0 14   224                      CIO   224                                             24840
0  3 1 344     5  0 14   154                      CIO   154                                             24850
0  3 1 345    15  0 14   325   200400000          XOR   =O200400000                                     24860
0  3 1 346     4  0 14 1 361                      TNZ   L15P1R                                          24870
0  3 1 347    17  0 14   174              L11P5   CLA   H11P5                                           24880
0  3 1 350    13  0 14 1 073                      STO   VAR4                                            24890
0  3 1 351     5  0 14   014                      CIO   014             RST 2                           24900
0  3 1 352     5  0 14   054                      CIO   054             RST 10                          24910
0  3 1 353    17  0 14   326   100000010          CLA   =O100000010     A2,A23                          24920
0  3 1 354     5  0 14   224                      CIO   224                                             24930
0  3 1 355     5  0 14   154                      CIO   154                                             24940
0  3 1 356    15  0 14   327   101000000          XOR   =O101000000                                     24950
0  3 1 357     4  0 14 1 361                      TNZ   L15P1R                                          24960
0  3 1 360    00  0 14   330   140001040          TRA*  L11P6                                           24970
0  3 1 361    13  0 14 1 377              L15P1R  STO   777                                             24980
0  3 1 362    13  0 14 1 076              LPRA    STO   TEMP                                            24990
0  3 1 363    17  0 14 1 073                      CLA   VAR4                                            25000
0  3 1 364    13  0 14 1 070                      STO   VAR1                                            25010
0  3 1 365    17  0 14 1 377                      CLA   777                                             25020
0  3 1 366    13  0 14 1 071                      STO   VAR2                                            25030
0  3 1 367     0  0 14 1 023                      HOP   H9P3                                            25040
0  3 1 370    17  0 14 1 076                      CLA   TEMP                                            25050
0  3 1 371     0  0 14 1 026                      HOP   H95P1                                           25060
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 51)

| IM | IS | S | LOC | OP | OM | OS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEC NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 | 0 | 2 | | 0 | 14 | | 167 | | | ORG | ,4,,2,,14, | | 25080 |
| 0 | 4 | 0 | 2 | 17 | 0 | 14 | | 175 | | L11P6 | CLA | H11P6 | | 25090 |
| 0 | 4 | 0 | 3 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 25100 |
| 0 | 4 | 0 | 4 | 5 | 0 | 14 | | 020 | | | CIO | 020 | RST3 | 25110 |
| 0 | 4 | 0 | 5 | 5 | 0 | 14 | | 050 | | | CIO | 050 | RST9 | 25120 |
| 0 | 4 | 0 | 6 | 17 | 0 | 14 | | 331 | 040000020 | | CLA | =0040000020 | A3,A22 | 25130 |
| 0 | 4 | 0 | 7 | 5 | 0 | 14 | | 224 | | | CIO | 224 | | 25140 |
| 0 | 4 | 0 | 10 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 25150 |
| 0 | 4 | 0 | 11 | 15 | 0 | 14 | | 332 | 042000000 | | XOR | =0042000000 | | 25160 |
| 0 | 4 | 0 | 12 | 4 | 0 | 14 | | 137 | | | TNZ | LPR | | 25170 |
| 0 | 4 | 0 | 13 | 17 | 0 | 14 | | 176 | | L11P7 | CLA | H11P7 | | 25180 |
| 0 | 4 | 0 | 14 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 25190 |
| 0 | 4 | 0 | 15 | 5 | 0 | 14 | | 024 | | | CIO | 024 | RST 4 | 25200 |
| 0 | 4 | 0 | 16 | 5 | 0 | 14 | | 044 | | | CIO | 044 | RST 8 | 25210 |
| 0 | 4 | 0 | 17 | 17 | 0 | 14 | | 333 | 020000040 | | CLA | =0020000040 | A4, A21 | 25220 |
| 0 | 4 | 0 | 20 | 5 | 0 | 14 | | 224 | | | CIO | 224 | | 25230 |
| 0 | 4 | 0 | 21 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 25240 |
| 0 | 4 | 0 | 22 | 15 | 0 | 14 | | 334 | 024000000 | | XOR | =0024000000 | | 25250 |
| 0 | 4 | 0 | 23 | 4 | 0 | 14 | | 137 | | | TNZ | LPR | | 25260 |
| 0 | 4 | 0 | 24 | 17 | 0 | 14 | | 177 | | L11P8 | CLA | H11P8 | | 25270 |
| 0 | 4 | 0 | 25 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 25280 |
| 0 | 4 | 0 | 26 | 5 | 0 | 14 | | 030 | | | CIO | 030 | RST 5 | 25290 |
| 0 | 4 | 0 | 27 | 5 | 0 | 14 | | 040 | | | CIO | 040 | RST 7 | 25300 |
| 0 | 4 | 0 | 30 | 17 | 0 | 14 | | 335 | 010100000 | | CLA | =0010100000 | A5, A11 | 25310 |
| 0 | 4 | 0 | 31 | 5 | 0 | 14 | | 224 | | | CIO | 224 | | 25320 |
| 0 | 4 | 0 | 32 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 25330 |
| 0 | 4 | 0 | 33 | 15 | 0 | 14 | | 335 | 010100000 | | XOR | =0010100000 | | 25340 |
| 0 | 4 | 0 | 34 | 4 | 0 | 14 | | 137 | | | TNZ | LPR | | 25350 |
| 0 | 4 | 0 | 35 | 17 | 0 | 14 | | 200 | | L11P9 | CLA | H11P9 | | 25360 |
| 0 | 4 | 0 | 36 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 25370 |
| 0 | 4 | 0 | 37 | 5 | 0 | 14 | | 034 | | | CIO | 034 | RST 6 | 25380 |
| 0 | 4 | 0 | 40 | 5 | 0 | 14 | | 064 | | | CIO | 064 | RST 12 | 25390 |
| 0 | 4 | 0 | 41 | 17 | 0 | 14 | | 336 | 004040000 | | CLA | =0004040000 | A6, A12 | 25400 |
| 0 | 4 | 0 | 42 | 5 | 0 | 14 | | 224 | | | CIO | 224 | | 25410 |
| 0 | 4 | 0 | 43 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 25420 |
| 0 | 4 | 0 | 44 | 15 | 0 | 14 | | 336 | 004040000 | | XOR | =0004040000 | | 25430 |
| 0 | 4 | 0 | 45 | 4 | 0 | 14 | | 137 | | | TNZ | LPR | | 25440 |
| 0 | 4 | 0 | 46 | 10 | 0 | 14 | | 053 | | | TRA | L11P10 | | 25450 |
| 0 | 4 | 0 | 53 | | 0 | 14 | | 170 | | | ORG | ,4,,53,,14, | | 25460 |
| 0 | 4 | 0 | 53 | 17 | 0 | 14 | | 201 | | L11P10 | CLA | H11P10 | | 25470 |
| 0 | 4 | 0 | 54 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 25480 |
| 0 | 4 | 0 | 55 | 5 | 0 | 14 | | 040 | | | CIO | 040 | RST 7 | 25490 |
| 0 | 4 | 0 | 56 | 5 | 0 | 14 | | 070 | | | CIO | 070 | RST 13 | 25500 |
| 0 | 4 | 0 | 57 | 17 | 0 | 14 | | 337 | 002020100 | | CLA | =0002020100 | A7, A13, A20 | 25510 |
| 0 | 4 | 0 | 60 | 5 | 0 | 14 | | 224 | | | CIO | 224 | | 25520 |
| 0 | 4 | 0 | 61 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 25530 |
| 0 | 4 | 0 | 62 | 15 | 0 | 14 | | 340 | 012020000 | | XOR | =0012020000 | | 25540 |
| 0 | 4 | 0 | 63 | 4 | 0 | 14 | | 137 | | | TNZ | LPR | | 25550 |
| 0 | 4 | 0 | 64 | 17 | 0 | 14 | | 202 | | L11P11 | CLA | H11P11 | | 25560 |
| 0 | 4 | 0 | 65 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 25570 |
| 0 | 4 | 0 | 66 | 5 | 0 | 14 | | 044 | | | CIO | 044 | RST 8 | 25580 |
| 0 | 4 | 0 | 67 | 5 | 0 | 14 | | 074 | | | CIO | 074 | RST 14 | 25590 |
| 0 | 4 | 0 | 70 | 5 | 0 | 14 | | 034 | | | CIO | 034 | RST 6 | 25600 |
| 0 | 4 | 0 | 71 | 17 | 0 | 14 | | 341 | 001010200 | | CLA | =0001010200 | A8, A14, A19 | 25610 |
| 0 | 4 | 0 | 72 | 5 | 0 | 14 | | 224 | | | CIO | 224 | | 25620 |
| 0 | 4 | 0 | 73 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 25630 |
| 0 | 4 | 0 | 74 | 15 | 0 | 14 | | 342 | 021010000 | | XOR | =0021010000 | | 25640 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 52)

| IM | IS | S | LOC | UP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 | 0 | 75 | 4 | 0 | 14 | | 137 | | | TNZ | LPR | | 25650 |
| 0 | 4 | 0 | 76 | 17 | 0 | 14 | | 203 | | L11P12 | CLA | H11P12 | | 25660 |
| 0 | 4 | 0 | 77 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 25670 |
| 0 | 4 | 0 | 100 | 5 | 0 | 14 | | 030 | | | CIO | 030 | RST 5 | 25680 |
| 0 | 4 | 0 | 101 | 5 | 0 | 14 | | 050 | | | CIO | 050 | RST 9 | 25690 |
| 0 | 4 | 0 | 102 | 5 | 0 | 14 | | 100 | | | CIO | 100 | RST 15 | 25700 |
| 0 | 4 | 0 | 103 | 17 | 0 | 14 | | 343 | 000404400 | | CLA | =0000404400 | A9, A15, A16 | 25710 |
| 0 | 4 | 0 | 104 | 5 | 0 | 14 | | 224 | | | CIO | 224 | | 25720 |
| 0 | 4 | 0 | 105 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 25730 |
| 0 | 4 | 0 | 106 | 15 | 0 | 14 | | 344 | 440400000 | | XOR | =0440400000 | | 25740 |
| 0 | 4 | 0 | 107 | 4 | 0 | 14 | | 137 | | | TNZ | LPR | | 25750 |
| 0 | 4 | 0 | 110 | 17 | 0 | 14 | | 204 | | L11P13 | CLA | H11P13 | | 25760 |
| 0 | 4 | 0 | 111 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 25770 |
| 0 | 4 | 0 | 112 | 5 | 0 | 14 | | 010 | | | CIO | 010 | RST 1 | 25780 |
| 0 | 4 | 0 | 113 | 5 | 0 | 14 | | 024 | | | CIO | 024 | RST 4 | 25790 |
| 0 | 4 | 0 | 114 | 5 | 0 | 14 | | 054 | | | CIO | 054 | RST 10 | 25800 |
| 0 | 4 | 0 | 115 | 17 | 0 | 14 | | 345 | 000201000 | | CLA | =0000201000 | A10, A17 | 25810 |
| 0 | 4 | 0 | 116 | 5 | 0 | 14 | | 224 | | | CIO | 224 | | 25820 |
| 0 | 4 | 0 | 117 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 25830 |
| 0 | 4 | 0 | 120 | 15 | 0 | 14 | | 346 | 100200000 | | XOR | =0100200000 | | 25840 |
| 0 | 4 | 0 | 121 | 4 | 0 | 14 | | 137 | | | TNZ | LPR | | 25850 |
| 0 | 4 | 0 | 122 | 17 | 0 | 14 | | 205 | | L11P14 | CLA | H11P14 | | 25860 |
| 0 | 4 | 0 | 123 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 25870 |
| 0 | 4 | 0 | 124 | 5 | 0 | 14 | | 020 | | L11PA | CIO | 020 | RST 3 | 25880 |
| 0 | 4 | 0 | 125 | 5 | 0 | 14 | | 060 | | | CIO | 060 | RST 11 | 25890 |
| 0 | 4 | 0 | 126 | 17 | 0 | 14 | | 347 | 000002000 | | CLA | =0000002000 | A16 | 25900 |
| 0 | 4 | 0 | 127 | 5 | 0 | 14 | | 224 | | | CIO | 224 | | 25910 |
| 0 | 4 | 0 | 130 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 25920 |
| 0 | 4 | 0 | 131 | 15 | 0 | 14 | | 223 | 200000000 | | XOR | =0200000000 | | 25930 |
| 0 | 4 | 0 | 132 | 4 | 0 | 14 | | 137 | | | TNZ | LPR | | 25940 |
| 0 | 4 | 0 | 133 | 17 | 0 | 14 | | 206 | | L11P15 | CLA | H11P15 | | 25950 |
| 0 | 4 | 0 | 134 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 25960 |
| 0 | 4 | 0 | 135 | 5 | 0 | 14 | | 014 | | | CIO | 014 | RST 2 | 25970 |
| 0 | 4 | 0 | 136 | 10 | 0 | 14 | | 141 | | | TRA | L11P18 | | 25980 |
| 0 | 4 | 0 | 137 | 13 | 0 | 14 | 1 | 377 | | LPR | STO | 777 | | 25990 |
| 0 | 4 | 0 | 140 | 00 | 0 | 14 | | 350 | 140171230 | | TRA* | LPRA | | 26000 |
| | | | | | | | | | | * | CHECK | PIO + A1 THRU A9 INTERFACE LINES | | 26020 |
| 0 | 4 | 0 | 141 | 17 | 0 | 14 | | 207 | | L11P18 | CLA | H11P18 | | 26030 |
| 0 | 4 | 0 | 142 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26040 |
| 0 | 4 | 0 | 143 | 12 | 0 | 14 | | 000 | | | PIO | 000 | | 26050 |
| 0 | 4 | 0 | 144 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 26060 |
| 0 | 4 | 0 | 145 | 4 | 0 | 14 | | 305 | | | TNZ | L11P28 | | 26070 |
| 0 | 4 | 0 | 146 | 17 | 0 | 14 | | 210 | | L11P19 | CLA | H11P19 | | 26080 |
| 0 | 4 | 0 | 147 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26090 |
| 0 | 4 | 0 | 150 | 12 | 0 | 14 | | 001 | | | PIO | 001 | SET INT 1 | 26100 |
| 0 | 4 | 0 | 151 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 26110 |
| 0 | 4 | 0 | 152 | 15 | 0 | 14 | | 221 | 400000000 | | XOR | =0400000000 | | 26120 |
| 0 | 4 | 0 | 153 | 4 | 0 | 14 | | 305 | | | TNZ | L11P28 | | 26130 |
| 0 | 4 | 0 | 154 | 17 | 0 | 14 | | 211 | | L11P20 | CLA | H11P20 | | 26140 |
| 0 | 4 | 0 | 155 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26150 |
| 0 | 4 | 0 | 156 | 5 | 0 | 14 | | 010 | | | CIO | 010 | RST 1 | 26160 |
| 0 | 4 | 0 | 157 | 12 | 0 | 14 | | 002 | | | PIO | 002 | SET 2 | 26170 |
| 0 | 4 | 0 | 160 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 26180 |
| 0 | 4 | 0 | 161 | 15 | 0 | 14 | | 223 | 200000000 | | XOR | =0200000000 | | 26190 |
| 0 | 4 | 0 | 162 | 4 | 0 | 14 | | 305 | | | TNZ | L11P28 | | 26200 |
| 0 | 4 | 0 | 163 | 17 | 0 | 14 | | 212 | | L11P21 | CLA | H11P21 | | 26210 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 53)

| IM | IS | S | LOC | OP | OM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 | 0 | 164 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26220 |
| 0 | 4 | 0 | 165 | 5 | 0 | 14 | | 014 | | | CIC | 014 | RST 2 | 26230 |
| 0 | 4 | 0 | 166 | 12 | 0 | 14 | | 004 | | | PIC | 004 | SET 3 | 26240 |
| 0 | 4 | 0 | 167 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 26250 |
| 0 | 4 | 0 | 170 | 15 | 0 | 14 | | 167 | 100000000 | | XOR | =0100000000 | | 26260 |
| 0 | 4 | 0 | 171 | 4 | 0 | 14 | | 305 | | | TNZ | L11P28 | | 26270 |
| 0 | 4 | 0 | 172 | 17 | 0 | 14 | | 213 | | L11P22 | CLA | H11P22 | | 26280 |
| 0 | 4 | 0 | 173 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26290 |
| 0 | 4 | 0 | 174 | 5 | 0 | 14 | | 020 | | | CIC | 020 | RST 3 | 26300 |
| 0 | 4 | 0 | 175 | 12 | 0 | 14 | | 010 | | | PIO | 010 | SET 4 | 26310 |
| 0 | 4 | 0 | 176 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 26320 |
| 0 | 4 | 0 | 177 | 15 | 0 | 14 | | 222 | 040000000 | | XOR | =0040000000 | | 26330 |
| 0 | 4 | 0 | 200 | 4 | 0 | 14 | | 305 | | | TNZ | L11P28 | | 26340 |
| 0 | 4 | 0 | 201 | 17 | 0 | 14 | | 214 | | L11P23 | CLA | H11P23 | | 26350 |
| 0 | 4 | 0 | 202 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26360 |
| 0 | 4 | 0 | 203 | 5 | 0 | 14 | | 024 | | | CIC | 024 | RST 4 | 26370 |
| 0 | 4 | 0 | 204 | 12 | 0 | 14 | | 020 | | | PIO | 020 | SET 5 | 26380 |
| 0 | 4 | 0 | 205 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 26390 |
| 0 | 4 | 0 | 206 | 15 | 0 | 14 | | 224 | 020000000 | | XOR | =0020000000 | | 26400 |
| 0 | 4 | 0 | 207 | 4 | 0 | 14 | | 305 | | | TNZ | L11P28 | | 26410 |
| 0 | 4 | 0 | 210 | 17 | 0 | 14 | | 215 | | L11P24 | CLA | H11P24 | | 26420 |
| 0 | 4 | 0 | 211 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26430 |
| 0 | 4 | 0 | 212 | 5 | 0 | 14 | | 030 | | | CIC | 030 | RST 5 | 26440 |
| 0 | 4 | 0 | 213 | 12 | 0 | 14 | | 040 | | | PIC | 040 | SET 6 | 26450 |
| 0 | 4 | 0 | 214 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 26460 |
| 0 | 4 | 0 | 215 | 15 | 0 | 14 | | 225 | 010000000 | | XOR | =0010000000 | | 26470 |
| 0 | 4 | 0 | 216 | 4 | 0 | 14 | | 305 | | | TNZ | L11P28 | | 26480 |
| 0 | 4 | 0 | 217 | 17 | 0 | 14 | | 216 | | L11P25 | CLA | H11P25 | | 26490 |
| 0 | 4 | 0 | 220 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26500 |
| 0 | 4 | 0 | 221 | 5 | 0 | 14 | | 034 | | | CIO | 034 | RST 6 | 26510 |
| 0 | 4 | 0 | 222 | 12 | 0 | 14 | | 100 | | | PIO | 100 | SET 7 | 26520 |
| 0 | 4 | 0 | 223 | 5 | 0 | 14 | | 154 | | | CIO | 154 | | 26530 |
| 0 | 4 | 0 | 224 | 15 | 0 | 14 | | 226 | 004000000 | | XOR | =0004000000 | | 26540 |
| 0 | 4 | 0 | 225 | 4 | 0 | 14 | | 305 | | | TNZ | L11P28 | | 26550 |
| 0 | 4 | 0 | 226 | 17 | 0 | 14 | | 217 | | L11P26 | CLA | H11P26 | | 26560 |
| 0 | 4 | 0 | 227 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26570 |
| 0 | 4 | 0 | 230 | 5 | 0 | 14 | | 040 | | | CIC | 040 | RST 4 | 26580 |
| 0 | 4 | 0 | 231 | 12 | 0 | 14 | | 200 | | | PIC | 200 | SET 8 | 26590 |
| 0 | 4 | 0 | 232 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 26600 |
| 0 | 4 | 0 | 233 | 15 | 0 | 14 | | 227 | 002000000 | | XOR | =0002000000 | | 26610 |
| 0 | 4 | 0 | 234 | 4 | 0 | 14 | | 305 | | | TNZ | L11P28 | | 26620 |
| 0 | 4 | 0 | 235 | 17 | 0 | 14 | | 220 | | L11P27 | CLA | H11P27 | | 26630 |
| 0 | 4 | 0 | 236 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26640 |
| 0 | 4 | 0 | 237 | 5 | 0 | 14 | | 044 | | | CIC | 044 | RST 8 | 26650 |
| 0 | 4 | 0 | 240 | 12 | 0 | 14 | 1 | 000 | | | PIC | 400 | SET 9 | 26660 |
| 0 | 4 | 0 | 241 | 5 | 0 | 14 | | 154 | | | CIC | 154 | | 26670 |
| 0 | 4 | 0 | 242 | 15 | 0 | 14 | | 230 | 001000000 | | XOR | =0001000000 | | 26680 |
| 0 | 4 | 0 | 243 | 4 | 0 | 14 | | 305 | | | TNZ | L11P28 | | 26690 |
| 0 | 4 | 0 | 244 | 5 | 0 | 14 | | 050 | | | CIO | 050 | RST 9 | 26700 |
| | | | | | | | | | | * | CHECK | SERIAL DATA LINES AI3 + CIO DATA | | 26710 |
| 0 | 4 | 0 | 245 | 13 | 0 | 14 | 1 | 376 | | L11P29 | STO | 776 | | 26720 |
| 0 | 4 | 0 | 246 | 17 | 0 | 14 | 1 | 020 | | | CLA | ZERO | | 26730 |
| 0 | 4 | 0 | 247 | 13 | 0 | 14 | 1 | 073 | | | STO | VAR4 | | 26740 |
| 0 | 4 | 0 | 250 | 17 | 0 | 14 | | 351 | 252525252 | | CLA | =0252525252 | | 26750 |
| 0 | 4 | 0 | 251 | 5 | 0 | 14 | | 234 | | | CIC | 234 | | 26760 |
| 0 | 4 | 0 | 252 | 5 | 0 | 14 | | 001 | | | CIO | 001 | | 26770 |
| 0 | 4 | 0 | 253 | 15 | 0 | 14 | | 352 | 525252524 | | XOR | =0525252524 | | 26780 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 54)

| IM | IS | S | LOC | UP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 | 0 | 254 | 4 | 0 | 14 | | 307 | | | TNZ | L11P33 | | 26790 |
| 0 | 4 | 0 | 255 | 13 | 0 | 14 | 1 | 376 | | L11P30 | STO | 776 | | 26800 |
| 0 | 4 | 0 | 256 | 17 | 0 | 14 | | 352 | 525252524 | | CLA | =0525252524 | | 26810 |
| 0 | 4 | 0 | 257 | 5 | 0 | 14 | | 234 | | | CIO | 234 | | 26820 |
| 0 | 4 | 0 | 260 | 5 | 0 | 14 | | 001 | | | CIO | 001 | | 26830 |
| 0 | 4 | 0 | 261 | 15 | 0 | 14 | | 353 | 252525250 | | XOR | =0252525250 | | 26840 |
| 0 | 4 | 0 | 262 | 4 | 0 | 14 | | 307 | | | TNZ | L11P33 | | 26850 |
| | | | | | | | | | | * | CHECK PERS + PIO DATA LINES | | | 26860 |
| 0 | 4 | 0 | 263 | 13 | 0 | 14 | 1 | 376 | | L11P31 | STO | 776 | | 26870 |
| 0 | 4 | 0 | 264 | 17 | 0 | 14 | | 351 | 252525252 | | CLA | =0252525252 | | 26880 |
| 0 | 4 | 0 | 265 | 13 | 0 | 14 | 1 | 003 | | | STO | 403 | | 26890 |
| 0 | 4 | 0 | 266 | 17 | 0 | 14 | 1 | 020 | | | CLA | [illegible] | | 26900 |
| 0 | 4 | 0 | 267 | 5 | 0 | 14 | | 230 | | | CIO | 230 | | 26910 |
| 0 | 4 | 0 | 270 | 12 | 0 | 14 | 1 | 003 | | | PIO | 403 | | 26920 |
| 0 | 4 | 0 | 271 | 15 | 0 | 14 | | 352 | 525252524 | | XOR | =0525252524 | | 26930 |
| 0 | 4 | 0 | 272 | 4 | 0 | 14 | | 307 | | | TNZ | L11P33 | | 26940 |
| 0 | 4 | 0 | 273 | 13 | 0 | 14 | 1 | 376 | | L11P32 | STO | 776 | | 26950 |
| 0 | 4 | 0 | 274 | 17 | 0 | 14 | | 352 | 525252524 | | CLA | =0525252524 | | 26960 |
| 0 | 4 | 0 | 275 | 13 | 0 | 14 | 1 | 003 | | | STO | 403 | | 26970 |
| 0 | 4 | 0 | 276 | 17 | 0 | 14 | 1 | 020 | | | CLA | [illegible] | | 26980 |
| 0 | 4 | 0 | 277 | 5 | 0 | 14 | | 230 | | | CIO | 230 | | 26990 |
| 0 | 4 | 0 | 300 | 12 | 0 | 14 | 1 | 003 | | | PIO | 403 | | 27000 |
| 0 | 4 | 0 | 301 | 15 | 0 | 14 | | 353 | 252525250 | | XOR | =0252525250 | | 27010 |
| 0 | 4 | 0 | 302 | 4 | 0 | 14 | | 307 | | | TNZ | L11P33 | | 27020 |
| 0 | 4 | 0 | 303 | 0 | 0 | 14 | 1 | 023 | | | HOP | F9P3 | | 27030 |
| 0 | 4 | 0 | 304 | 00 | 0 | 14 | | 354 | 150000460 | | TRA* | L12P1 | | 27040 |
| 0 | 4 | 0 | 305 | 13 | 0 | 14 | 1 | 377 | | L11P29 | STO | 777 | | 27050 |
| 0 | 4 | 0 | 306 | 00 | 0 | 14 | | 355 | 140167620 | | TRA* | LPPA | | 27060 |
| 0 | 4 | 0 | 307 | 13 | 0 | 14 | 1 | 377 | | L11P33 | STO | 777 | | 27070 |
| 0 | 4 | 0 | 310 | 13 | 0 | 14 | 1 | 076 | | | STO | TEMP | | 27080 |
| 0 | 4 | 0 | 311 | 17 | 0 | 14 | 1 | 377 | | | CLA | 777 | | 27090 |
| 0 | 4 | 0 | 312 | 13 | 0 | 14 | 1 | 071 | | | STO | VAR2 | | 27100 |
| 0 | 4 | 0 | 313 | 17 | 0 | 14 | 1 | 376 | | | CLA | 776 | | 27110 |
| 0 | 4 | 0 | 314 | 13 | 0 | 14 | 1 | 070 | | | STO | VAR1 | | 27120 |
| 0 | 4 | 0 | 315 | 0 | 0 | 14 | 1 | 023 | | | HOP | F9P3 | | 27130 |
| 0 | 4 | 0 | 316 | 17 | 0 | 14 | 1 | 076 | | | CLA | TEMP | | 27140 |
| 0 | 4 | 0 | 317 | 0 | 0 | 14 | 1 | 026 | | | HOP | F95P1 | | 27150 |
| | | | | | 0 | 14 | | 170 | 140146630 | H11P1 | HPC | L11P1 | | 27170 |
| | | | | | 0 | 14 | | 171 | 140151630 | H11P2 | HPC | L11P2 | | 27180 |
| | | | | | 0 | 14 | | 172 | 140153630 | H11P3 | HPC | L11P3 | | 27190 |
| | | | | | 0 | 14 | | 173 | 140157230 | H11P4 | HPC | L11P4 | | 27200 |
| | | | | | 0 | 14 | | 174 | 140163630 | H11P5 | HPC | L11P5 | | 27210 |
| | | | | | 0 | 14 | | 175 | 140001040 | H11P6 | HPC | L11P6 | | 27220 |
| | | | | | 0 | 14 | | 176 | 140005440 | H11P7 | HPC | L11P7 | | 27230 |
| | | | | | 0 | 14 | | 177 | 140012040 | H11P8 | HPC | L11P8 | | 27240 |
| | | | | | 0 | 14 | | 200 | 140016440 | H11P9 | HPC | L11P9 | | 27250 |
| | | | | | 0 | 14 | | 201 | 140025440 | H11P10 | HPC | L11P10 | | 27260 |
| | | | | | 0 | 14 | | 202 | 140032040 | H11P11 | HPC | L11P11 | | 27270 |
| | | | | | 0 | 14 | | 203 | 140037040 | H11P12 | HPC | L11P12 | | 27280 |
| | | | | | 0 | 14 | | 204 | 140044040 | H11P13 | HPC | L11P13 | | 27290 |
| | | | | | 0 | 14 | | 205 | 140051040 | H11P14 | HPC | L11P14 | | 27300 |
| | | | | | 0 | 14 | | 206 | 140055440 | H11P15 | HPC | L11P15 | | 27310 |
| | | | | | 0 | 14 | | 207 | 140060440 | H11P18 | HPC | L11P18 | | 27320 |
| | | | | | 0 | 14 | | 210 | 140063040 | H11P19 | HPC | L11P19 | | 27330 |
| | | | | | 0 | 14 | | 211 | 140066040 | H11P20 | HPC | L11P20 | | 27340 |
| | | | | | 0 | 14 | | 212 | 140071440 | H11P21 | HPC | L11P21 | | 27350 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 55)

| IM IS S LOC | OP OM OS 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|
| | 0 14 | 213 | 140075040 | H11P22 | HPC | L11P22 | | 27360 |
| | 0 14 | 214 | 140100440 | H11P23 | HPC | L11P23 | | 27370 |
| | 0 14 | 215 | 140104040 | H11P24 | HPC | L11P24 | | 27380 |
| | 0 14 | 216 | 140107440 | H11P25 | HPC | L11P25 | | 27390 |
| | 0 14 | 217 | 140113040 | H11P26 | HPC | L11P26 | | 27400 |
| | 0 14 | 220 | 140116440 | H11P27 | HPC | L11P27 | | 27410 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 56)

```
IM IS S LOC  OP DM DS 9 ADR   OCT VAL     LHS    OPC   VARIABLE              COMMENT              SEQ NO

                                          *      TEST  PTC INTERRUPTS                               27430
0  6  0   1        0 15   0                      ORG   ,6,,1,,15,C                                  27440
                   0 15   0   150023060   H12P3  HPC   L12P3                                        27450
                   0 15   1   150032060   H12P5  HPC   L12P5                                        27460
                   0 15   2   150041060   H13P1  HPC   L13P1                                        27470
                   0 15   3   150050060   H13P3  HPC   L13P3                                        27480
                   0 15   4   150057060   H13P5  HPC   L13P5                                        27490
                   0 15   5   150066060   H14P1  HPC   L14P1                                        27500
                   0 15   6   150075060   H14P3  HPC   L14P3                                        27510
                   0 15   7   150104060   H14P5  HPC   L14P5                                        27520
                   0 15  10   150113060   H15P1  HPC   L15P1                                        27530
                   0 15  11   150122060   H15P3  HPC   L15P3                                        27540
                   0 15  12   150131060   H15P5  HPC   L15P5                                        27550
                   0 15  13   150140060   H16P1  HPC   L16P1                                        27560
                   0 15  14   150147060   H16P3  HPC   L16P3                                        27570
                   0 15  15   150156060   H16P5  HPC   L16P5                                        27580
                   0 15  16   150165060   H17P1  HPC   L17P1                                        27590
                   0 15  17   150000460   H12P1  HPC   L12P1                                        27600
                   0 15  20   150173060   H12P2  HPC   L12P2                                        27610
                   0 15  21   150174060   H12P4  HPC   L12P4                                        27620
                   0 15  22   150000260   H12P6  HPC   L12P6                                        27630
                   0 15  23   150004260   H13P2  HPC   L13P2                                        27640
                   0 15  24   150005260   H13P4  HPC   L13P4                                        27650
                   0 15  25   150006260   H13P6  HPC   L13P6                                        27660
                   0 15  26   150007260   H14P2  HPC   L14P2                                        27670
                   0 15  27   150010260   H14P4  HPC   L14P4                                        27680
                   0 15  30   150011260   H14P6  HPC   L14P6                                        27690
                   0 15  31   150012260   H15P2  HPC   L15P2                                        27700
                   0 15  32   150013260   H15P4  HPC   L15P4                                        27710
                   0 15  33   150014260   H15P6  HPC   L15P6                                        27720
                   0 15  34   150015260   H16P2  HPC   L16P2                                        27730
                   0 15  35   150016260   H16P4  HPC   L16P4                                        27740
                   0 15  36   150017260   H16P6  HPC   L16P6                                        27750

0  6  0   1   17   0 15    017            L12P1  CLA   H12P1                                        27770
0  6  0   2   13   0 15 1  073                   STO   VAR4                                         27780
0  6  0   3   17   0 15    020                   CLA   H12P2                                        27790
0  6  0   4   13   0 15 1  000                   STO   400                                          27800
0  6  0   5   17   0 15    021                   CLA   H12P4                                        27810
0  6  0   6   13   0 15 1  001                   STO   401                                          27820
0  6  0   7   17   0 15    022                   CLA   H12P6                                        27830
0  6  0  10   13   0 15 1  002                   STO   402                                          27840
0  6  0  11   17   0 15    023                   CLA   H13P2                                        27850
0  6  0  12   13   0 15 1  003                   STO   403                                          27860
0  6  0  13   17   0 15    024                   CLA   H13P4                                        27870
0  6  0  14   13   0 15 1  004                   STO   404                                          27880
0  6  0  15   17   0 15    025                   CLA   H13P6                                        27890
0  6  0  16   13   0 15 1  005                   STO   405                                          27900
0  6  0  17   17   0 15    026                   CLA   H14P2                                        27910
0  6  0  20   13   0 15 1  006                   STO   406                                          27920
0  6  0  21   17   0 15    027                   CLA   H14P4                                        27930
0  6  0  22   13   0 15 1  007                   STO   407                                          27940
0  6  0  23   17   0 15    030                   CLA   H14P6                                        27950
0  6  0  24   13   0 15 1  010                   STO   410                                          27960
0  6  0  25   17   0 15    031                   CLA   H15P2                                        27970
0  6  0  26   13   0 15 1  011                   STO   411                                          27980
0  6  0  27   17   0 15    032                   CLA   H15P4                                        27990
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 57)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL    LHS    OPC    VARIABLE          COMMENT                         SEQ NC

0  6 0  30    13  0 15 1 012                     STC    412                                               28000
0  6 0  31    17  0 15   033                     CLA    H15P6                                             28010
0  6 0  32    13  0 15 1 013                     STO    413                                               28020
0  6 0  33    17  0 15   034                     CLA    H16P2                                             28030
0  6 0  34    13  0 15 1 014                     STC    414                                               28040
0  6 0  35    17  0 15   035                     CLA    H16P4                                             28050
0  6 0  36    13  0 15 1 015                     STO    415                                               28060
0  6 0  37    17  0 15   036                     CLA    H16P6                                             28070
0  6 0  40    13  0 15 1 016                     STO    416                                               28080
0  6 0  41    17  0 15   037   777777776         CLA    =0777777776                                       28090
0  6 0  42     5  0 15   224                     CIC    224               SET ALL INT LATCHES             28100
                                          *                             CAL POINT NR  7                 28110
0  6 0  43     5  0 15   110                     CIO    110               RST MAIN PTC INT LATCH          28120
                                          *                             CAL POINT NR  8                 28130
0  6 0  44    17  0 15   040   000000002         CLA    =0000000002       REMOVE INH ON INT 1             28140
0  6 0  45     5  0 15   004                     CIC    004                                               28150
                                          *      SHOULD FORCE HOP 400 TO L12P2                            28160
0  6 0  46    13  0 15 1 377              L12P3  STO    777               SAVE PREVIOUS LOCN+1            28170
0  6 0  47    13  0 15 1 076                     STO    TEMP                                              28180
0  6 0  50    17  0 15 1 377                     CLA    777                                               28190
0  6 0  51    13  0 15 1 074                     STO    VAR5                                              28200
0  6 0  52    17  0 15 1 076                     CLA    TEMP                                              28210
0  6 0  53    15  0 15   054   200000000         XOR    =0200000000                                       28220
0  6 0  54     4  0 15 1 040                     TNZ    L15P1S                                            28230
0  6 0  55    17  0 15   000                     CLA    H12P3                                             28240
0  6 0  56    13  0 15 1 073                     STC    VAR4                                              28250
0  6 0  57    17  0 15   037   777777776         CLA    =0777777776                                       28260
0  6 0  60     5  0 15   000                     CIO    000               SET INT INHIBIT                 28270
0  6 0  61     5  0 15   110                     CIO    110               RST MAIN INT LATCH              28280
0  6 0  62    17  0 15   277   000000004         CLA    =0000000004       REMOVE INH ON INT 2             28290
0  6 0  63     5  0 15   004                     CIO    004                                               28300
                                          *      SHOULD FORCE HOP 401 TO L12P4                            28310
0  6 0  64    13  0 15 1 377              L12P5  STO    777                                               28320
0  6 0  65    13  0 15 1 076                     STO    TEMP                                              28330
0  6 0  66    17  0 15 1 377                     CLA    777                                               28340
0  6 0  67    13  0 15 1 074                     STO    VAR5                                              28350
0  6 0  70    17  0 15 1 076                     CLA    TEMP                                              28360
0  6 0  71    15  0 15   300   100000000         XOR    =0100000000                                       28370
0  6 0  72     4  0 15 1 040                     TNZ    L15P1S                                            28380
0  6 0  73    17  0 15   001                     CLA    H12P5                                             28390
0  6 0  74    13  0 15 1 073                     STC    VAR4                                              28400
0  6 0  75    17  0 15   037   777777776         CLA    =0777777776                                       28410
0  6 0  76     5  0 15   000                     CIC    000               SET INT INHIBIT                 28420
0  6 0  77     5  0 15   110                     CIO    110               RST MAIN INT LATCH              28430
0  6 0 100    17  0 15   301   000000010         CLA    =0000000010       REMOVE INH ON INT 3             28440
0  6 0 101     5  0 15   004                     CIC    004                                               28450
                                          *      SHOULD FORCE HOP 402 TO L12P6                            28460
0  6 0 102    13  0 15 1 377              L13P1  STC    777                                               28470
0  6 0 103    13  0 15 1 076                     STO    TEMP                                              28480
0  6 0 104    17  0 15 1 377                     CLA    777                                               28490
0  6 0 105    13  0 15 1 074                     STC    VAR5                                              28500
0  6 0 106    17  0 15 1 076                     CLA    TEMP                                              28510
0  6 0 107    15  0 15   302   040000000         XOR    =0040000000                                       28520
0  6 0 110     4  0 15 1 040                     TNZ    L15P1S                                            28530
0  6 0 111    17  0 15   002                     CLA    H13P1                                             28540
0  6 0 112    13  0 15 1 073                     STO    VAR4                                              28550
0  6 0 113    17  0 15   037   777777776         CLA    =0777777776                                       28560
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 58)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL.    LHS    OPC    VARIABLE                   COMMENT                            SEQ NO

0  6 0 114     5  0 15   000                      CIC    000                        SET INT INHIBIT                     28570
0  6 0 115     5  0 15   110                      CIC    110                        RST MAIN INT LATCH                  28580
0  6 0 116    17  0 15   303   000000020          CLA    =000000020                 REMOVE INH ON INT 4                 28590
0  6 0 117     5  0 15   004                      CIC    004                                                            28600
                                           *      SHOULD FORCE HOP 403 TO L13P2                                         28610
0  6 0 120    13  0 15 1 377               L13P3  STO    777                                                            28620
0  6 0 121    13  0 15 1 076                      STO    TEMP                                                           28630
0  6 0 122    17  0 15 1 377                      CLA    777                                                            28640
0  6 0 123    13  0 15 1 074                      STO    VAR5                                                           28650
0  6 0 124    17  0 15 1 076                      CLA    TEMP                                                           28660
0  6 0 125    15  0 15   304   020000000          XOR    =0020000000                                                    28670
0  6 0 126     4  0 15 1 040                      TNZ    L15P1S                                                         28680
0  6 0 127    17  0 15   003                      CLA    H13P3                                                          28690
0  6 0 130    13  0 15 1 073                      STO    VAR4                                                           28700
0  6 0 131    17  0 15   037   777777776          CLA    =0777777776                                                    28710
0  6 0 132     5  0 15   000                      CIO    000                        SET INT INHIBIT                     28720
0  6 0 133     5  0 15   110                      CIC    110                        RST MAIN INT LATCH                  28730
0  6 0 134    17  0 15   305   000000040          CLA    =000000040                 REMOVE INH ON INT 5                 28740
0  6 0 135     5  0 15   004                      CIC    004                                                            28750
                                           *      SHOULD FORCE HOP 404 TO L13P4                                         28760
0  6 0 136    13  0 15 1 377               L13P5  STO    777                                                            28770
0  6 0 137    13  0 15 1 076                      STO    TEMP                                                           28780
0  6 0 140    17  0 15 1 377                      CLA    777                                                            28790
0  6 0 141    13  0 15 1 074                      STO    VAR5                                                           28800
0  6 0 142    17  0 15 1 076                      CLA    TEMP                                                           28810
0  6 0 143    15  0 15   306   010000000          XOR    =0010000000                                                    28820
0  6 0 144     4  0 15 1 040                      TNZ    L15P1S                                                         28830
0  6 0 145    17  0 15   004                      CLA    H13P5                                                          28840
0  6 0 146    13  0 15 1 073                      STO    VAR4                                                           28850
0  6 0 147    17  0 15   037   777777776          CLA    =0777777776                                                    28860
0  6 0 150     5  0 15   000                      CIC    000                        SET INT INHIBIT                     28870
0  6 0 151     5  0 15   110                      CIO    110                        RST MAIN INT LATCH                  28880
0  6 0 152    17  0 15   307   000000100          CLA    =000000100                 REMOVE INH ON INT 6                 28890
0  6 0 153     5  0 15   004                      CIC    004                                                            28900
                                           *      SHOULD FORCE HOP 405 TO L13P6                                         28910
0  6 0 154    13  0 15 1 377               L14P1  STO    777                                                            28920
0  6 0 155    13  0 15 1 076                      STO    TEMP                                                           28930
0  6 0 156    17  0 15 1 377                      CLA    777                                                            28940
0  6 0 157    13  0 15 1 074                      STO    VAR5                                                           28950
0  6 0 160    17  0 15 1 076                      CLA    TEMP                                                           28960
0  6 0 161    15  0 15   310   004000000          XOR    =0004000000                                                    28970
0  6 0 162     4  0 15 1 040                      TNZ    L15P1S                                                         28980
0  6 0 163    17  0 15   005                      CLA    H14P1                                                          28990
0  6 0 164    13  0 15 1 073                      STO    VAR4                                                           29000
0  6 0 165    17  0 15   037   777777776          CLA    =0777777776                                                    29010
0  6 0 166     5  0 15   000                      CIC    000                        SET INT INHIBIT                     29020
0  6 0 167     5  0 15   110                      CIC    110                        RST MAIN INT LATCH                  29030
0  6 0 170    17  0 15   311   000000200          CLA    =0000000200                REMOVE INH ON INT 7                 29040
0  6 0 171     5  0 15   004                      CIO    004                                                            29050
                                           *      SHOULD FORCE HOP 406 TO L14P2                                         29060
0  6 0 172    13  0 15 1 377               L14P3  STO    777                                                            29070
0  6 0 173    13  0 15 1 076                      STO    TEMP                                                           29080
0  6 0 174    17  0 15 1 377                      CLA    777                                                            29090
0  6 0 175    13  0 15 1 074                      STO    VAR5                                                           29100
0  6 0 176    17  0 15 1 076                      CLA    TEMP                                                           29110
0  6 0 177    15  0 15   312   002000000          XOR    =0002000000                                                    29120
0  6 0 200     4  0 15 1 040                      TNZ    L15P1S                                                         29130
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 59)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL    LHS    OPC    VARIABLE        COMMENT                          SEQ NO

0  6 0 201    17  0 15   006                     CLA    H14P3                                             29140
0  6 0 202    13  0 15 1 073                     STO    VAR4                                              29150
0  6 0 203    17  0 15   037   777777776         CLA    =0777777776                                       29160
0  6 0 204     5  0 15   000                     CIO    000             SET INT INHIBIT                   29170
0  6 0 205     5  0 15   110                     CIO    110             RST MAIN INT LATCH                29180
0  6 0 206    17  0 15   313   000000400         CLA    =0000000400     REMOVE INH ON INT 8               29190
0  6 0 207     5  0 15   004                     CIO    004                                               29200
                                          *      SHOULD FORCE HOP 407 TO L14P4                            29210
0  6 0 210    13  0 15 1 377              L14P5  STO    777                                               29220
0  6 0 211    13  0 15 1 076                     STO    TEMP                                              29230
0  6 0 212    17  0 15 1 377                     CLA    777                                               29240
0  6 0 213    13  0 15 1 074                     STO    VAR5                                              29250
0  6 0 214    17  0 15 1 076                     CLA    TEMP                                              29260
0  6 0 215    15  0 15   314   001000000         XOR    =0001000000                                       29270
0  6 0 216     4  0 15 1 040                     TNZ    L15P1S                                            29280
0  6 0 217    17  0 15   007                     CLA    H14P5                                             29290
0  6 0 220    13  0 15 1 073                     STO    VAR4                                              29300
0  6 0 221    17  0 15   037   777777776         CLA    =0777777776                                       29310
0  6 0 222     5  0 15   000                     CIO    000             SET INT INHIBIT                   29320
0  6 0 223     5  0 15   110                     CIO    110             RST MAIN INT LATCH                29330
0  6 0 224    17  0 15   315   000001000         CLA    =0000001000     REMOVE INH ON INT 9               29340
0  6 0 225     5  0 15   004                     CIO    004                                               29350
                                          *      SHOULD FORCE HOP 410 TO L14P6                            29360
0  6 0 226    13  0 15 1 377              L15P1  STO    777                                               29370
0  6 0 227    13  0 15 1 076                     STO    TEMP                                              29380
0  6 0 230    17  0 15 1 377                     CLA    777                                               29390
0  6 0 231    13  0 15 1 074                     STO    VAR5                                              29400
0  6 0 232    17  0 15 1 076                     CLA    TEMP                                              29410
0  6 0 233    15  0 15   316   000400000         XOR    =0000400000                                       29420
0  6 0 234     4  0 15 1 040                     TNZ    L15P1S                                            29430
0  6 0 235    17  0 15   010                     CLA    H15P1                                             29440
0  6 0 236    13  0 15 1 073                     STO    VAR4                                              29450
0  6 0 237    17  0 15   037   777777776         CLA    =0777777776                                       29460
0  6 0 240     5  0 15   000                     CIO    000             SET INT INHIBIT                   29470
0  6 0 241     5  0 15   110                     CIO    110             RST MAIN INT LATCH                29480
0  6 0 242    17  0 15   317   000002000         CLA    =0000002000     REMOVE INH ON INT10               29490
0  6 0 243     5  0 15   004                     CIO    004                                               29500
                                          *      SHOULD FORCE HOP 411 TO L15P2                            29510
0  6 0 244    13  0 15 1 377              L15P3  STO    777                                               29520
0  6 0 245    13  0 15 1 076                     STO    TEMP                                              29530
0  6 0 246    17  0 15 1 377                     CLA    777                                               29540
0  6 0 247    13  0 15 1 074                     STO    VAR5                                              29550
0  6 0 250    17  0 15 1 076                     CLA    TEMP                                              29560
0  6 0 251    15  0 15   320   000200000         XOR    =0000200000                                       29570
0  6 0 252     4  0 15 1 040                     TNZ    L15P1S                                            29580
0  6 0 253    17  0 15   011                     CLA    H15P3                                             29590
0  6 0 254    13  0 15 1 073                     STO    VAR4                                              29600
0  6 0 255    17  0 15   037   777777776         CLA    =0777777776                                       29610
0  6 0 256     5  0 15   000                     CIO    000             SET INT INHIBIT                   29620
0  6 0 257     5  0 15   110                     CIO    110             RST MAIN INT LATCH                29630
0  6 0 260    17  0 15   321   000004000         CLA    =0000004000     REMOVE INH ON INT 11              29640
0  6 0 261     5  0 15   004                     CIO    004                                               29650
                                          *      SHOULD FORCE HOP 412 TO L15P4                            29660
0  6 0 262    13  0 15 1 377              L15P5  STO    777                                               29670
0  6 0 263    13  0 15 1 076                     STO    TEMP                                              29680
0  6 0 264    17  0 15 1 377                     CLA    777                                               29690
0  6 0 265    13  0 15 1 074                     STO    VAR5                                              29700
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 60)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL     LHS    OPC     VARIABLE          COMMENT                          SEQ NO

0  6 0 266    17  0 15 1 076               CLA     TEMP                                                  29710
0  6 0 267    15  0 15   322   000100000          XOR     =0000100000                                           29720
0  6 0 270     4  0 15 1 040               TNZ     L15P1S                                                29730
0  6 0 271    17  0 15   012               CLA     H15P5                                                 29740
0  6 0 272    13  0 15 1 073               STO     VAR4                                                  29750
0  6 0 273    17  0 15   037   777777776          CLA     =0777777776                                           29760
0  6 0 274     5  0 15   000               CIO     000               SET INT INHIBIT                     29770
0  6 0 275     5  0 15   110               CIO     110               RST MAIN INT LATCH                  29780
0  6 0 276    17  0 15   323   000010000          CLA     =0000010000       REMOVE INH ON INT 12                29790
0  6 0 277     5  0 15   004               CIO     004                                                   29800
                                      *    SHOULD FORCE HOP 413 TO L15P6                                   29810
0  6 0 300    13  0 15 1 377        L16P1  STO     777                                                   29820
0  6 0 301    13  0 15 1 076               STO     TEMP                                                  29830
0  6 0 302    17  0 15 1 377               CLA     777                                                   29840
0  6 0 303    13  0 15 1 074               STO     VAR5                                                  29850
0  6 0 304    17  0 15 1 076               CLA     TEMP                                                  29860
0  6 0 305    15  0 15   324   000040000          XOR     =0000040000                                           29870
0  6 0 306     4  0 15 1 040               TNZ     L15P1S                                                29880
0  6 0 307    17  0 15   013               CLA     H16P1                                                 29890
0  6 0 310    13  0 15 1 073               STO     VAR4                                                  29900
0  6 0 311    17  0 15   037   777777776          CLA     =0777777776                                           29910
0  6 0 312     5  0 15   000               CIO     000               SET INT INHIBIT                     29920
0  6 0 313     5  0 15   110               CIO     110               RST MAIN INT LATCH                  29930
0  6 0 314    17  0 15   325   000020000          CLA     =0000020000       REMOVE INH ON INT 13                29940
0  6 0 315     5  0 15   004               CIO     004                                                   29950
                                      *    SHOULD FORCE HOP 414 TO L16P2                                   29960
0  6 0 316    13  0 15 1 377        L16P3  STO     777                                                   29970
0  6 0 317    13  0 15 1 076               STO     TEMP                                                  29980
0  6 0 320    17  0 15 1 377               CLA     777                                                   29990
0  6 0 321    13  0 15 1 074               STO     VAR5                                                  30000
0  6 0 322    17  0 15 1 076               CLA     TEMP                                                  30010
0  6 0 323    15  0 15   325   000020000          XOR     =0000020000                                           30020
0  6 0 324     4  0 15 1 040               TNZ     L15P1S                                                30030
0  6 0 325    17  0 15   014               CLA     H16P3                                                 30040
0  6 0 326    13  0 15 1 073               STO     VAR4                                                  30050
0  6 0 327    17  0 15   037   777777776          CLA     =0777777776                                           30060
0  6 0 330     5  0 15   000               CIO     000               SET INT INHIBIT                     30070
0  6 0 331     5  0 15   110               CIO     110               RST MAIN INT LATCH                  30080
0  6 0 332    17  0 15   324   000040000          CLA     =0000040000       REMOVE INH ON INT 14                30090
0  6 0 333     5  0 15   004               CIO     004                                                   30100
                                      *    SHOULD FORCE HOP 415 TO L16P4                                   30110
0  6 0 334    13  0 15 1 377        L16P5  STO     777                                                   30120
0  6 0 335    13  0 15 1 076               STO     TEMP                                                  30130
0  6 0 336    17  0 15 1 377               CLA     777                                                   30140
0  6 0 337    13  0 15 1 074               STO     VAR5                                                  30150
0  6 0 340    17  0 15 1 076               CLA     TEMP                                                  30160
0  6 0 341    15  0 15   323   000010000          XOR     =0000010000                                           30170
0  6 0 342     4  0 15 1 040               TNZ     L15P1S                                                30180
0  6 0 343    17  0 15   015               CLA     H16P5                                                 30190
0  6 0 344    13  0 15 1 073               STO     VAR4                                                  30200
0  6 0 345    17  0 15   037   777777776          CLA     =0777777776                                           30210
0  6 0 346     5  0 15   000               CIO     000               SET INT INHIBIT                     30220
0  6 0 347     5  0 15   110               CIO     110               RST MAIN INT LATCH                  30230
0  6 0 350    17  0 15   322   000100000          CLA     =0000100000       REMOVE INH ON INT 15                30240
0  6 0 351     5  0 15   004               CIO     004                                                   30250
                                      *    SHOULD FORCE HOP 416 TO L16P6                                   30260
0  6 0 352    13  0 15 1 377        L17P1  STO     777                                                   30270
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 61)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL    LHS    OPC    VARIABLE        COMMENT                      SEQ.NO

0  6  0 353   13  0 15 1 076              STO    TEMP                                         30280
0  6  0 354   17  0 15 1 377              CLA    777                                          30290
0  6  0 355   13  0 15 1 074              STO    VAR5                                         30300
0  6  0 356   17  0 15 1 076              CLA    TEMP                                         30310
0  6  0 357   15  0 15   321   000004000         XOR    =0000004000                                  30320
0  6  0 360    4  0 15 1 040              TNZ    L15P1S                                       30330
0  6  0 361   17  0 15   037   777777776         CLA    =0777777776                                  30340
0  6  0 362    5  0 15   000              CIO    000             SET INT INHIBIT              30350
0  6  0 363    5  0 15   110              CIO    110             RST MAIN INT LATCH           30360
0  6  0 364   00  0 15   326   140066210         TRA*   L9P3            TO RESET INT REG             30370
0  6  0 365   10  0 15 1 060              TRA    L20P1                                        30380
0  6  0 366   17  0 15   054   200000000  L12P2  CLA    =0200000000                                  30390
                                          *                             CAL POINT NR  9              30400
0  6  0 367   10  0 15   046              TRA    L12P3                                        30410
0  6  0 370   17  0 15   300   100000000  L12P4  CLA    =0100000000                                  30420
                                          *                             CAL POINT NR 10              30430
0  6  0 371   10  0 15   064              TRA    L12P5                                        30440
0  6  1   0       0 15    37              ORG    ,6,1,0,,15,                                  30450
                                          *                             CAL POINT NR 11              30460
0  6  1   0   13  0 15 1 377        L12P6  STO    777                                          30470
0  6  1   1   17  0 15   022              CLA    H12P6                                        30480
0  6  1   2   13  0 15 1 073              STO    VAR4                                         30490
0  6  1   3   17  0 15 1 377              CLA    777                                          30500
0  6  1   4   15  0 15   002              XOR    H13P1                                        30510
0  6  1   5    4  0 15 1 040              TNZ    L15P1S                                       30520
0  6  1   6   17  0 15   302   040000000         CLA    =0040000000                                  30530
0  6  1   7   10  0 15   102              TRA    L13P1                                        30540
0  6  1  10   17  0 15   304   020000000  L13P2  CLA    =0020000000                                  30550
                                          *                             CAL POINT NR 12              30560
0  6  1  11   10  0 15   120              TRA    L13P3                                        30570
0  6  1  12   17  0 15   306   010000000  L13P4  CLA    =0010000000                                  30580
                                          *                             CAL POINT NR 13              30590
0  6  1  13   10  0 15   136              TRA    L13P5                                        30600
0  6  1  14   17  0 15   310   004000000  L13P6  CLA    =0004000000                                  30610
                                          *                             CAL POINT NR 14              30620
0  6  1  15   10  0 15   154              TRA    L14P1                                        30630
0  6  1  16   17  0 15   312   002000000  L14P2  CLA    =0002000000                                  30640
                                          *                             CAL POINT NR 15              30650
0  6  1  17   10  0 15   172              TRA    L14P3                                        30660
0  6  1  20   17  0 15   314   001000000  L14P4  CLA    =0001000000                                  30670
                                          *                             CAL POINT NR 16              30680
0  6  1  21   10  0 15   210              TRA    L14P5                                        30690
0  6  1  22   17  0 15   316   000400000  L14P6  CLA    =0000400000                                  30700
                                          *                             CAL POINT NR 17              30710
0  6  1  23   10  0 15   226              TRA    L15P1                                        30720
0  6  1  24   17  0 15   320   000200000  L15P2  CLA    =0000200000                                  30730
                                          *                             CAL POINT NR 18              30740
0  6  1  25   10  0 15   244              TRA    L15P3                                        30750
0  6  1  26   17  0 15   322   000100000  L15P4  CLA    =0000100000                                  30760
                                          *                             CAL POINT NR 19              30770
0  6  1  27   10  0 15   262              TRA    L15P5                                        30780
0  6  1  30   17  0 15   324   000040000  L15P6  CLA    =0000040000                                  30790
                                          *                             CAL POINT NR 20              30800
0  6  1  31   10  0 15   300              TRA    L16P1                                        30810
0  6  1  32   17  0 15   325   000020000  L16P2  CLA    =0000020000                                  30820
                                          *                             CAL POINT NR 21              30830
0  6  1  33   10  0 15   316              TRA    L16P3                                        30840
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 62)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL     LHS     OPC   VARIABLE                 COMMENT                        SEQ NC
 0  6 1  34   17  0 15   323   000010000   L16P4   CLA   =0000010000                                             30850
                                           *                                      CAL POINT NR 22                30860
 0  6 1  35   10  0 15   334                       TRA   L16P5                                                   30870
 0  6 1  36   17  0 15   321   000004000   L16P6   CLA   =0000004000                                             30880
                                           *                                      CAL POINT NR 23                30890
 0  6 1  37   10  0 15   352                       TRA   L17P1                                                   30900
 0  6 1  40   13  0 15 1 377               L15P1S  STO   777                                                     30910
 0  6 1  41   13  0 15 1 076                       STO   TEMP                                                    30920
 0  6 1  42   17  0 15 1 377                       CLA   777                                                     30930
 0  6 1  43   13  0 15 1 071                       STO   VAR2                                                    30940
 0  6 1  44   17  0 15   017                       CLA   H12P1                                                   30950
 0  6 1  45   13  0 15 1 070                       STO   VAR1                                                    30960
 0  6 1  46   17  0 15 1 076                       CLA   TEMP                                                    30970
 0  6 1  47    0  0 15 1 026                       HOP   H95P1                                                   30980

                                           *       TEST FOR PROPER OPERATION OF MANUAL INTERRUPT 16              31000
                                           *       PRESS MANUAL INTERRUPT                                        31010
                                           *       CLEAR AND ADD INTIND LOCATION AND INSPECT FOR BIT 16          31020
 0 13 0 310       0 13   250                       ORG   ,13,,310,,13,250                                        31030
 0 13 0 310   13  0 13 1 377               L17P2   STO   777                                                     31040
 0 13 0 311   13  0 13   237                       STO   SAVE                                                    31050
 0 13 0 312   17  0 13   240   000002000           CLA   =0000002000                                             31060
                                           *                                      CAL POINT NR 24                31070
 0 13 0 313   13  0 13 1 075                       STO   INTIND                                                  31080
 0 13 0 314    5  0 13   220                       CIO   220                      READ B SWITCHES                31090
 0 13 0 315   13  0 13   241                       STO   TEMP2                                                   31100
 0 13 0 316    6  0 13   242   020000000           AND   =0020000000              B4                             31110
 0 13 0 317    4  0 13   324                       TNZ   L17P3                                                   31120
 0 13 0 320    5  0 13   104               L17P3A  CIO   104                                                     31130
 0 13 0 321    5  0 13   110                       CIO   110                                                     31140
 0 13 0 322   17  0 13   237                       CLA   SAVE                                                    31150
 0 13 0 323    0  0 13 1 377                       HOP   777                                                     31160
                                           *       TO EXECUTE SELECTED CIO ON COMMAND                            31170
 0 13 0 324   17  0 13   353               L17P3   CLA   K17P3B                   RESTORE CLA ADDRESS            31180
 0 13 0 325    6  0 13 1 046                       AND   KX7                                                     31190
 0 13 0 326   13  0 13   243                       STO   TEMP3                                                   31200
 0 13 0 327   17  0 13   350                       CLA   L17P3B                                                  31210
 0 13 0 330    6  0 13 1 047                       ANC   KX8                                                     31220
 0 13 0 331   15  0 13   243                       XOR   TEMP3                                                   31230
 0 13 0 332   13  0 13   350                       STO   L17P3B                                                  31240
 0 13 0 333   17  0 13   241                       CLA   TEMP2                                                   31250
                                                   SHR   1                                                       31260
 0 13 0 334   16  0 13   101
 0 13 0 335    6  0 13 1 046                       ANC   KX7                                                     31270
 0 13 0 336   13  0 13   243                       STO   TEMP3                    CIO ADDRESS                    31280
 0 13 0 337   17  0 13   351                       CLA   L17P3C                                                  31290
 0 13 0 340    6  0 13 1 047                       ANC   KX8                      REMOVE OLD ADDRESS             31300
 0 13 0 341   15  0 13   243                       XOR   TEMP3                                                   31310
 0 13 0 342   13  0 13   351                       STO   L17P3C                                                  31320
 0 13 0 343   17  0 13   241                       CLA   TEMP2                                                   31330
 0 13 0 344    6  0 13   244   000000076           AND   =0000000076                                             31340
                                                   SHL   5                                                       31350
 0 13 0 345   16  0 13   020
 0 13 0 346    7  0 13   350                       ACC   L17P3B                                                  31360
 0 13 0 347   13  0 13   350                       STO   L17P3B                                                  31370
 0 13 0 350   17  0 13   250               L17P3B  CLA   BIT                                                     31380
 0 13 0 351    5  0 13   000               L17P3C  CIO   000                                                     31390
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 63)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 13 | 0 | 352 | 10 | 0 | 13 | | 320 | | | TRA | L17P3A | | 31400 |
| 0 | 13 | 0 | 353 | 17 | 0 | 13 | | 250 | | K17P3B | CLA | BIT | | 31410 |
| | | | | | 0 | 13 | | 250 | 0 | BIT | OCT | 0 | | 31420 |
| | | | | | 0 | 13 | | 251 | 400000000 | | OCT | 4 | | 31430 |
| | | | | | 0 | 13 | | 252 | 200000000 | | OCT | 2 | | 31440 |
| | | | | | 0 | 13 | | 253 | 100000000 | | OCT | 1 | | 31450 |
| | | | | | 0 | 13 | | 254 | 40000000 | | OCT | 04 | | 31460 |
| | | | | | 0 | 13 | | 255 | 20000000 | | OCT | 02 | | 31470 |
| | | | | | 0 | 13 | | 256 | 10000000 | | OCT | 01 | | 31480 |
| | | | | | 0 | 13 | | 257 | 4000000 | | OCT | 004 | | 31490 |
| | | | | | 0 | 13 | | 260 | 2000000 | | OCT | 002 | | 31500 |
| | | | | | 0 | 13 | | 261 | 1000000 | | OCT | 001 | | 31510 |
| | | | | | 0 | 13 | | 262 | 400000 | | OCT | 0004 | | 31520 |
| | | | | | 0 | 13 | | 263 | 200000 | | OCT | 0002 | | 31530 |
| | | | | | 0 | 13 | | 264 | 100000 | | OCT | 0001 | | 31540 |
| | | | | | 0 | 13 | | 265 | 40000 | | OCT | 00004 | | 31550 |
| | | | | | 0 | 13 | | 266 | 20000 | | OCT | 00002 | | 31560 |
| | | | | | 0 | 13 | | 267 | 10000 | | OCT | 00001 | | 31570 |
| | | | | | 0 | 13 | | 270 | 4000 | | OCT | 000004 | | 31580 |
| | | | | | 0 | 13 | | 271 | 2000 | | OCT | 000002 | | 31590 |
| | | | | | 0 | 13 | | 272 | 1000 | | OCT | 000001 | | 31600 |
| | | | | | 0 | 13 | | 273 | 400 | | OCT | 0000004 | | 31610 |
| | | | | | 0 | 13 | | 274 | 200 | | OCT | 0000002 | | 31620 |
| | | | | | 0 | 13 | | 275 | 100 | | OCT | 0000001 | | 31630 |
| | | | | | 0 | 13 | | 276 | 40 | | OCT | 00000004 | | 31640 |
| | | | | | 0 | 13 | | 277 | 20 | | OCT | 00000002 | | 31650 |
| | | | | | 0 | 13 | | 300 | 10 | | OCT | 00000C01 | | 31660 |
| | | | | | 0 | 13 | | 301 | 4 | | OCT | 000000004 | | 31670 |
| | | | | | 0 | 13 | | 302 | 2 | | OCT | 000000002 | | 31680 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 64)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC    VARIABLE              COMMENT                    SEQ NO
                                           *       BEGINNING OF ROUTINE FOUR                                31700
                                           *       CHECK TYPEWRITER LOGIC AND INTERFACE                     31710
0  6  1  60       0 15     40                      ORG    ,6,1,60,,15,                                      31720
0  6  1  60   17  0 15 1 057               L20P1   CLA    LCR4                                              31730
0  6  1  61   14  0 15 1 065                       TMI    L20P2                                             31740
0  6  1  62    4  0 15 1 064                       TNZ    L29P1A                                            31750
0  6  1  63   00  0 15   327   130007000           TRA*   L2P1                                              31760
0  6  1  64   00  0 15   330   120016100   L29P1A  TRA*   L29P1                                             31770
0  6  1  65   16  0 12   212               L20P2   CDS    0,12                                              31780
0  6  1  66   17  0 12   131                       CLA    H20P2                                             31790
0  6  1  67   13  0 12 1 073                       STO    VAR4                                              31800
0  6  1  70   17  0 12   132                       CLA    H20P3                                             31810
0  6  1  71   13  0 12 1 070                       STO    VAR1                                              31820
0  6  1  72   00  0 12   162   070003100           TRA*   L28P3                 RESTORE INSTRUCTIONS        31830
0  6  1  73   17  0 12 1 033                       CLA    K77                                               31840
0  6  1  74    5  0 12   000                       CIO    000                   INHIBIT ALL INT             31850
0  6  1  75   17  0 12 1 020                       CLA    ZERO                                              31860
0  6  1  76    5  0 12   130                       CIO    130                   SET LOWER CASE              31870
0  6  1  77   13  0 12 1 101                       STO    CTR                                               31880
0  6  1 100   17  0 12   163   000000132           CLA    =0000000132           EQUAL 45 DECIMAL            31890
0  6  1 101   13  0 12 1 100                       STO    STOP                                              31900
0  6  1 102   00  0 12   164   120000270           TRA*   L20P2A                                            31910
0  6  1 103   00  0 12   165   120002670           TRA*   L20P3                                             31920
0  7  1   0       0 12      0                      ORG    ,7,1,,,12,0                                       31930
0  7  1   0   13  0 12 1 376               L20P2A  STO    776                   DELAY 87.6 MSEC.            31940
0  7  1   1   17  0 12   166   000002040           CLA    =0000002040                                       31950
0  7  1   2    2  0 12   167   000000002   L20P2B  SUB    =0000000002                                       31960
0  7  1   3    4  0 12 1 002                       TNZ    L20P2B                                            31970
0  7  1   4    0  0 12 1 376                       HOP    776                                               31980
0  7  1   5   17  0 12   170   000000004   L20P3   CLA    =0000000004           SET DO 2                    31990
0  7  1   6    5  0 12   210                       CIO    210                                               32000
0  7  1   7   17  0 12 1 020                       CLA    ZERO                  RESET D.O.2                 32010
0  7  1  10    5  0 12   210                       CIO    210                                               32020
0  7  1  11   00  0 12   171   140066210           TRA*   L9P3                  RESET INT REG               32030
0  7  1  12   17  0 12 1 104               L20P4   CLA    CHAR                                              32040
0  7  1  13    5  0 12   120               L20P5   CIO    120                   TYPE CHAR                   32050
0  7  1  14   13  0 12 1 074                       STO    VAR5                  FOR ERROR INFO              32060
0  7  1  15   17  0 12   133                       CLA    H20P4                                             32070
0  7  1  16   13  0 12 1 073                       STO    VAR4                                              32080
0  7  1  17    5  0 12   154                       CIO    154                                               32090
0  7  1  20   15  0 12   001               L20P6   XOR    PATN                                              32100
0  7  1  21    4  0 12 1 354                       TNZ    L28P6                                             32110
0  7  1  22   17  0 12   134               L21P1   CLA    H21P1                                             32120
0  7  1  23   13  0 12 1 073                       STO    VAR4                                              32130
0  7  1  24    5  0 12   214                       CIO    214                                               32140
0  7  1  25    6  0 12 1 021                       AND    BB                    CHECK READY LINE            32150
0  7  1  26    4  0 12 1 030                       TNZ    L21P2                                             32160
0  7  1  27   10  0 12 1 354                       TRA    L28P6                                             32170
0  7  1  30   17  0 12   135               L21P2   CLA    H21P2                                             32180
0  7  1  31   13  0 12 1 073                       STO    VAR4                                              32190
0  7  1  32   17  0 12   170   000000004           CLA    =0000000004           SET + RESET DO 2            32200
0  7  1  33    5  0 12   210                       CIO    210                                               32210
0  7  1  34   17  0 12 1 020                       CLA    ZERO                                              32220
0  7  1  35    5  0 12   210                       CIO    210                                               32230
0  7  1  36    0  0 12 1 023                       HOP    H9P3                  RESET INT REG               32240
0  7  1  37    5  0 12   154                       CIO    154                                               32250
0  7  1  40    4  0 12 1 354                       TNZ    L28P6                                             32260
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 65)

| IM | IS | S | LOC | UP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 7 | 1 | 41 | 17 | 0 | 12 | | 136 | | L21P3 | CLA | H21P3 | | 32270 |
| 0 | 7 | 1 | 42 | 13 | 0 | 12 | 1 | 073 | | | STO | VAR4 | | 32280 |
| 0 | 7 | 1 | 43 | 5 | 0 | 12 | | 214 | | | CIO | 214 | | 32290 |
| 0 | 7 | 1 | 44 | 6 | 0 | 12 | 1 | 021 | | | ANC | BB | CHECK READY LINE | 32300 |
| 0 | 7 | 1 | 45 | 4 | 0 | 12 | 1 | 354 | | | TNZ | L28P6 | | 32310 |
| 0 | 7 | 1 | 46 | 16 | 0 | 7 | | 207 | | L21P4 | CDS | 0,07 | | 32320 |
| 0 | 7 | 1 | 47 | 17 | 0 | 7 | | 012 | | | CLA | L20P4 | | 32330 |
| 0 | 7 | 1 | 50 | 7 | 0 | 7 | 1 | 036 | | | ADC | KS1 | INCREMENT ADDRESS | 32340 |
| 0 | 7 | 1 | 51 | 13 | 0 | 7 | | 012 | | | STO | L20P4 | | 32350 |
| 0 | 7 | 1 | 52 | 17 | 0 | 7 | | 020 | | | CLA | L20P6 | XOR PATN + CTR | 32360 |
| 0 | 7 | 1 | 53 | 7 | 0 | 7 | 1 | 036 | | | ADD | KS1 | | 32370 |
| 0 | 7 | 1 | 54 | 13 | 0 | 7 | | 020 | | | STO | L20P6 | | 32380 |
| 0 | 7 | 1 | 55 | 16 | 0 | 12 | | 212 | | | CDS | 0,12 | | 32390 |
| 0 | 7 | 1 | 56 | 17 | 0 | 12 | 1 | 101 | | | CLA | CTR | | 32400 |
| 0 | 7 | 1 | 57 | 7 | 0 | 12 | 1 | 032 | | | ADD | K1 | | 32410 |
| 0 | 7 | 1 | 60 | 13 | 0 | 12 | 1 | 101 | | | STO | CTR | | 32420 |
| 0 | 7 | 1 | 61 | 2 | 0 | 12 | 1 | 100 | | | SUB | STOP | | 32430 |
| 0 | 7 | 1 | 62 | 4 | 0 | 12 | 1 | 012 | | | TNZ | L20P4 | CONTINUE LOOP | 32440 |
| 0 | 7 | 1 | 63 | 17 | 0 | 12 | 1 | 100 | | L21P5 | CLA | STOP | | 32450 |
| 0 | 7 | 1 | 64 | 2 | 0 | 12 | | 163 | 000000132 | | SUB | =0000000132 | IS STOP = 45 | 32460 |
| 0 | 7 | 1 | 65 | 4 | 0 | 12 | 1 | 067 | | | TNZ | L22P1 | | 32470 |
| 0 | 7 | 1 | 66 | 10 | 0 | 12 | 1 | 116 | | | TRA | L23P1 | IF YES | 32480 |
| 0 | 7 | 1 | 67 | 17 | 0 | 12 | 1 | 100 | | L22P1 | CLA | STOP | | 32490 |
| 0 | 7 | 1 | 70 | 2 | 0 | 12 | | 172 | 000000046 | | SUB | =0000000046 | IS STOP = 19 | 32500 |
| 0 | 7 | 1 | 71 | 4 | 0 | 12 | 1 | 073 | | | TNZ | L22P2 | | 32510 |
| 0 | 7 | 1 | 72 | 10 | 0 | 12 | 1 | 152 | | | TRA | L24P1 | IF YES | 32520 |
| 0 | 7 | 1 | 73 | 17 | 0 | 12 | 1 | 100 | | L22P2 | CLA | STOP | | 32530 |
| 0 | 7 | 1 | 74 | 2 | 0 | 12 | | 173 | 000000020 | | SUB | =0000000020 | IS STOP = 8 | 32540 |
| 0 | 7 | 1 | 75 | 4 | 0 | 12 | 1 | 077 | | | TNZ | L22P3 | | 32550 |
| 0 | 7 | 1 | 76 | 10 | 0 | 12 | 1 | 270 | | | TRA | L26P2 | IF YES | 32560 |
| 0 | 7 | 1 | 77 | 17 | 0 | 12 | 1 | 100 | | L22P3 | CLA | STOP | | 32570 |
| 0 | 7 | 1 | 100 | 2 | 0 | 12 | | 174 | 000000024 | | SUB | =0000000024 | IS STOP = 10 | 32580 |
| 0 | 7 | 1 | 101 | 4 | 0 | 12 | 1 | 304 | | | TNZ | L27P1 | | 32590 |
| 0 | 7 | 1 | 102 | 13 | 0 | 12 | 1 | 101 | | L22P4 | STO | CTR | RESET CTR | 32600 |
| 0 | 7 | 1 | 103 | 17 | 0 | 12 | | 175 | 000000014 | | CLA | =0000000014 | 6 | 32610 |
| 0 | 7 | 1 | 104 | 13 | 0 | 12 | 1 | 100 | | | STO | STOP | | 32620 |
| 0 | 7 | 1 | 105 | 16 | 0 | 7 | | 207 | | | CDS | 0,07 | | 32630 |
| 0 | 7 | 1 | 106 | 17 | 0 | 7 | | 013 | | | CLA | L20P5 | | 32640 |
| 0 | 7 | 1 | 107 | 6 | 0 | 7 | 1 | 040 | | | ANC | KX1 | REMOVE ADDRESS | 32650 |
| 0 | 7 | 1 | 110 | 15 | 0 | 7 | 1 | 041 | | | XOR | KX2 | = CIO 134 | 32660 |
| 0 | 7 | 1 | 111 | 13 | 0 | 7 | | 013 | | | STO | L20P5 | | 32670 |
| 0 | 7 | 1 | 112 | 16 | 0 | 12 | | 212 | | | CDS | 0,12 | | 32680 |
| 0 | 7 | 1 | 113 | 17 | 0 | 12 | | 137 | | | CLA | H22P4 | CARRIAGE CONTROL | 32690 |
| 0 | 7 | 1 | 114 | 13 | 0 | 12 | 1 | 073 | | | STO | VAR4 | | 32700 |
| 0 | 7 | 1 | 115 | 10 | 0 | 12 | 1 | 012 | | | TRA | L20P4 | | 32710 |
| 0 | 7 | 1 | 116 | 17 | 0 | 12 | | 140 | | L23P1 | CLA | H23P1 | | 32720 |
| 0 | 7 | 1 | 117 | 13 | 0 | 12 | 1 | 073 | | | STO | VAR4 | | 32730 |
| 0 | 7 | 1 | 120 | 17 | 0 | 12 | | 143 | | | CLA | H23P5 | | 32740 |
| 0 | 7 | 1 | 121 | 13 | 0 | 12 | 1 | 070 | | | STO | VAR1 | | 32750 |
| 0 | 7 | 1 | 122 | 17 | 0 | 12 | 1 | 161 | | | CLA | C45 | | 32760 |
| 0 | 7 | 1 | 123 | 5 | 0 | 12 | | 120 | | | CIO | 120 | FIRST UPPER CASE CHAR | 32770 |
| 0 | 7 | 1 | 124 | 13 | 0 | 12 | 1 | 074 | | | STO | VAR5 | | 32780 |
| 0 | 7 | 1 | 125 | 5 | 0 | 12 | | 154 | | | CIO | 154 | INT REG | 32790 |
| 0 | 7 | 1 | 126 | 15 | 0 | 12 | | 176 | 400000000 | | XOR | =0400000000 | | 32800 |
| 0 | 7 | 1 | 127 | 4 | 0 | 12 | 1 | 354 | | | TNZ | L28P6 | | 32810 |
| 0 | 7 | 1 | 130 | 17 | 0 | 12 | | 141 | | L23P2 | CLA | H23P2 | | 32820 |
| 0 | 7 | 1 | 131 | 13 | 0 | 12 | 1 | 073 | | | STO | VAR4 | | 32830 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 66)

| IM | IS | S | LOC | OP | OM | OS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 7 | 1 | 132 | 5 | 0 | 12 | | 214 | | | CIC | 214 | READY LINE | 32840 |
| 0 | 7 | 1 | 133 | 6 | 0 | 12 | 1 | 021 | | | ANC | BB | | 32850 |
| 0 | 7 | 1 | 134 | 4 | 0 | 12 | 1 | 136 | | | TNZ | L23P3 | | 32860 |
| 0 | 7 | 1 | 135 | 10 | 0 | 12 | 1 | 354 | | | TRA | L28P6 | | 32870 |
| 0 | 7 | 1 | 136 | 17 | 0 | 12 | | 142 | | L23P3 | CLA | H23P3 | | 32880 |
| 0 | 7 | 1 | 137 | 13 | 0 | 12 | 1 | 073 | | | STO | VAR4 | | 32890 |
| 0 | 7 | 1 | 140 | 10 | 0 | 12 | 1 | 000 | | | TRA | L20P2A | DELAY 87.6 MSEC. | 32900 |
| 0 | 7 | 1 | 141 | 5 | 0 | 12 | | 154 | | | CIC | 154 | | 32910 |
| 0 | 7 | 1 | 142 | 15 | 0 | 12 | | 056 | | | XOR | P45 | 1,5,6,9 | 32920 |
| 0 | 7 | 1 | 143 | 4 | 0 | 12 | 1 | 354 | | | TNZ | L28P6 | | 32930 |
| 0 | 7 | 1 | 144 | 13 | 0 | 12 | 1 | 101 | | L23P4 | STO | CTR | RESET CTR | 32940 |
| 0 | 7 | 1 | 145 | 17 | 0 | 12 | | 172 | 000000046 | | CLA | =0000000046 | 19 | 32950 |
| 0 | 7 | 1 | 146 | 13 | 0 | 12 | 1 | 100 | | | STO | STOP | | 32960 |
| 0 | 7 | 1 | 147 | 17 | 0 | 12 | | 132 | | | CLA | H20P3 | | 32970 |
| 0 | 7 | 1 | 150 | 13 | 0 | 12 | 1 | 070 | | | STC | VAR1 | | 32980 |
| 0 | 7 | 1 | 151 | 10 | 0 | 12 | 1 | 022 | | | TRA | L21P1 | | 32990 |
| 0 | 7 | 1 | 152 | 17 | 0 | 12 | | 144 | | L24P1 | CLA | H24P1 | | 33000 |
| 0 | 7 | 1 | 153 | 13 | 0 | 12 | 1 | 073 | | | STO | VAR4 | | 33010 |
| 0 | 7 | 1 | 154 | 17 | 0 | 12 | | 143 | | | CLA | H23P5 | | 33020 |
| 0 | 7 | 1 | 155 | 13 | 0 | 12 | 1 | 070 | | | STC | VAR1 | | 33030 |
| 0 | 7 | 1 | 156 | 17 | 0 | 12 | 1 | 104 | | L24P2 | CLA | CHAR | | 33040 |
| 0 | 7 | 1 | 157 | 5 | 0 | 12 | | 120 | | | CIC | 120 | SET LOWER CASE FROM UPPER CASE | 33050 |
| 0 | 7 | 1 | 160 | 13 | 0 | 12 | 1 | 074 | | | STO | VAR5 | | 33060 |
| 0 | 7 | 1 | 161 | 5 | 0 | 12 | | 154 | | | CIO | 154 | | 33070 |
| 0 | 7 | 1 | 162 | 15 | 0 | 12 | | 177 | 200000000 | | XOR | =0200000000 | | 33080 |
| 0 | 7 | 1 | 163 | 4 | 0 | 12 | 1 | 354 | | | TNZ | L28P6 | | 33090 |
| 0 | 7 | 1 | 164 | 17 | 0 | 12 | | 145 | | L24P3 | CLA | H24P3 | | 33100 |
| 0 | 7 | 1 | 165 | 13 | 0 | 12 | 1 | 073 | | | STC | VAR4 | | 33110 |
| 0 | 7 | 1 | 166 | 5 | 0 | 12 | | 214 | | | CIC | 214 | READY LINE | 33120 |
| 0 | 7 | 1 | 167 | 6 | 0 | 12 | 1 | 021 | | | ANC | BB | | 33130 |
| 0 | 7 | 1 | 170 | 4 | 0 | 12 | 1 | 172 | | | TNZ | L24P4 | | 33140 |
| 0 | 7 | 1 | 171 | 10 | 0 | 12 | 1 | 354 | | | TRA | L28P6 | | 33150 |
| 0 | 7 | 1 | 172 | 17 | 0 | 12 | | 146 | | L24P4 | CLA | H24P4 | | 33160 |
| 0 | 7 | 1 | 173 | 13 | 0 | 12 | 1 | 073 | | | STO | VAR4 | | 33170 |
| 0 | 7 | 1 | 174 | 10 | 0 | 12 | 1 | 000 | | | TRA | L20P2A | DELAY 87.6 MSEC. | 33180 |
| 0 | 7 | 1 | 175 | 5 | 0 | 12 | | 154 | | | CIO | 154 | | 33190 |
| 0 | 7 | 1 | 176 | 15 | 0 | 12 | | 200 | 371000000 | | XOR | =0371000000 | | 33200 |
| 0 | 7 | 1 | 177 | 4 | 0 | 12 | 1 | 354 | | | TNZ | L28P6 | | 33210 |
| 0 | 7 | 1 | 200 | 17 | 0 | 12 | | 147 | | L24P5 | CLA | H24P5 | | 33220 |
| 0 | 7 | 1 | 201 | 13 | 0 | 12 | 1 | 073 | | | STO | VAR4 | | 33230 |
| 0 | 7 | 1 | 202 | 17 | 0 | 12 | | 173 | 000000020 | | CLA | =0000000020 | SET AND RESET 004 | 33240 |
| 0 | 7 | 1 | 203 | 5 | 0 | 12 | | 210 | | | CIO | 210 | | 33250 |
| 0 | 7 | 1 | 204 | 17 | 0 | 12 | 1 | 020 | | | CLA | ZERO | | 33260 |
| 0 | 7 | 1 | 205 | 5 | 0 | 12 | | 210 | | | CIC | 210 | | 33270 |
| 0 | 7 | 1 | 206 | 00 | 0 | 12 | | 171 | 140066210 | | TRA* | L9P3 | RESET INT REG | 33280 |
| 0 | 7 | 1 | 207 | 5 | 0 | 12 | | 214 | | | CIO | 214 | READY LINE | 33290 |
| 0 | 7 | 1 | 210 | 6 | 0 | 12 | 1 | 021 | | | ANC | BB | | 33300 |
| 0 | 7 | 1 | 211 | 4 | 0 | 12 | 1 | 354 | | | TNZ | L28P6 | | 33310 |
| | | | | | | | | | | * | TEST | OCTAL MODE | | 33320 |
| 0 | 7 | 1 | 212 | 13 | 0 | 12 | 1 | 101 | | L25P1 | STO | CTR | RESET CTR | 33330 |
| 0 | 7 | 1 | 213 | 17 | 0 | 12 | | 150 | | | CLA | H25P1 | | 33340 |
| 0 | 7 | 1 | 214 | 13 | 0 | 12 | 1 | 073 | | | STO | VAR4 | | 33350 |
| 0 | 7 | 1 | 215 | 17 | 0 | 12 | | 173 | 000000020 | | CLA | =0000000020 | 8 | 33360 |
| 0 | 7 | 1 | 216 | 13 | 0 | 12 | 1 | 100 | | | STO | STOP | | 33370 |
| 0 | 7 | 1 | 217 | 16 | 0 | 7 | | 207 | | | CDS | 0,07 | | 33380 |
| 0 | 7 | 1 | 220 | 17 | 0 | 7 | | 013 | | | CLA | L20P5 | | 33390 |
| 0 | 7 | 1 | 221 | 6 | 0 | 7 | 1 | 040 | | | AND | KX1 | REMOVE ADDRESS | 33400 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 67)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL     LHS     OPC      VARIABLE        COMMENT                   SEQ NO

0  7  1 222   15  0  7 1 042                       XOR      KX3             = CIO 130                 33410
0  7  1 223   13  0  7   013                       STO      L20P5                                     33420
0  7  1 224   16  0 12   212                       CDS      0,12                                      33430
0  7  1 225   17  0 12 1 200                       CLA      C60             SET UPPER CASE            33440
0  7  1 226    5  0 12   120                       CIC      120                                       33450
0  7  1 227   13  0 12 1 074                       STO      VAR5                                      33460
0  7  1 230   10  0 12 1 000                       TRA      L20P2A          DELAY 87.6 MSEC.          33470
0  7  1 231    5  0 12   154                       CIO      154                                       33480
0  7  1 232   15  0 12   201   511000000           XOR      =0511000000     1,3,6,9                   33490
0  7  1 233    4  0 12 1 354                       TNZ      L28P6                                     33500
                                           *       BEGIN OCTAL                                        33510
0  7  1 234   17  0 12   151               L25P2   CLA      H25P2                                     33520
0  7  1 235   13  0 12 1 073                       STO      VAR4                                      33530
0  7  1 236   17  0 12   170   000000004           CLA      =0000000004     SET AND RESET DO 2        33540
0  7  1 237    5  0 12   210                       CIO      210                                       33550
0  7  1 240   17  0 12 1 020                       CLA      ZERO                                      33560
0  7  1 241    5  0 12   210                       CIO      210                                       33570
0  7  1 242   00  0 12   171   140066210           TRA*     L9P3            RESET INT REG             33580
0  7  1 243   17  0 12 1 204                       CLA      C64             OCTAL 1                   33590
0  7  1 244    5  0 12   130                       CIO      130                                       33600
0  7  1 245   13  0 12 1 074                       STO      VAR5                                      33610
0  7  1 246    5  0 12   154                       CIO      154                                       33620
0  7  1 247   15  0 12   177   200000000           XOR      =0200000000                               33630
0  7  1 250    4  0 12 1 354                       TNZ      L28P6                                     33640
0  7  1 251   17  0 12   152               L25P3   CLA      H25P3                                     33650
0  7  1 252   13  0 12 1 073                       STO      VAR4                                      33660
0  7  1 253    5  0 12   214                       CIO      214                                       33670
0  7  1 254    6  0 12 1 021                       ANC      BB              READY LINE                33680
0  7  1 255    4  0 12 1 257                       TNZ      L26P1                                     33690
0  7  1 256   10  0 12 1 354                       TRA      L28P6                                     33700
0  7  1 257   17  0 12   153               L26P1   CLA      H26P1                                     33710
0  7  1 260   13  0 12 1 073                       STO      VAR4                                      33720
0  7  1 261   10  0 12 1 000                       TRA      L20P2A          DELAY 87.6 MSEC.          33730
0  7  1 262   17  0 12   132                       CLA      H20P3                                     33740
0  7  1 263   13  0 12 1 070                       STO      VAR1                                      33750
0  7  1 264    5  0 12   154                       CIO      154                                       33760
0  7  1 265   15  0 12   202   377000000           XOR      =0377000000     2 THRU 9                  33770
0  7  1 266    4  0 12 1 354                       TNZ      L28P6                                     33780
0  7  1 267   10  0 12 1 022                       TRA      L21P1                                     33790
                                           *       TYPE DECIMAL                                       33800
0  7  1 270   13  0 12 1 101               L26P2   STO      CTR             RESET CTR                 33810
0  7  1 271   17  0 12   132                       CLA      H20P3                                     33820
0  7  1 272   13  0 12 1 070                       STO      VAR1                                      33830
0  7  1 273   17  0 12   174   000000024           CLA      =0000000024     10                        33840
0  7  1 274   13  0 12 1 100                       STO      STOP                                      33850
0  7  1 275   16  0  7   207                       CDS      0,07                                      33860
0  7  1 276   17  0  7   013                       CLA      L20P5                                     33870
0  7  1 277    6  0  7 1 040                       ANC      KX1             REMOVE ADDRESS            33880
0  7  1 300   15  0  7 1 043                       XOR      KX4             = CIO 124                 33890
0  7  1 301   13  0  7   013                       STO      L20P5                                     33900
0  7  1 302   16  0 12   212                       CDS      0,12                                      33910
0  7  1 303   10  0 12 1 012                       TRA      L20P4                                     33920
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 68)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC     VARIABLE              COMMENT                         SEQ NO
                                            *       TYPEWRITER CONTROL
0  7 1 304    17  0 12   154                L27P1   CLA     H27P1                                                 33940
0  7 1 305    13  0 12 1 073                        STO     VAR4                                                  33950
0  7 1 306    13  0 12 1 070                        STO     VAR1                                                  33960
0  7 1 307    17  0 12   203   000000010            CLA     =0C00000010           CARRIAGE AT RIGHT-              33970
0  7 1 310     5  0 12   210                        CIO     210                   HAND MARGIN                     33980
0  7 1 311     5  0 12   214                        CIO     214                                                   33990
0  7 1 312     6  0 12 1 021                        ANC     BB                                                    34000
0  7 1 313     4  0 12 1 315                        TNZ     L27P2                                                 34010
0  7 1 314    10  0 12 1 354                        TRA     L28P6                                                 34020
C  7 1 315    17  0 12   155                L27P2   CLA     H27P2                                                 34030
0  7 1 316    13  0 12 1 073                        STC     VAR4                                                  34040
0  7 1 317     5  0 12   154                        CIC     154                                                   34050
0  7 1 320    15  0 12   204   000020000            XOR     =0000020000                                           34060
0  7 1 321     4  0 12 1 354                        TNZ     L28P6                                                 34070
0  7 1 322    17  0 12   156                L27P3   CLA     H27P3                                                 34080
0  7 1 323    13  0 12 1 073                        STC     VAR4                                                  34090
0  7 1 324    17  0 12 1 032                        CLA     K1                    SET DO 1 AND RESET DC 3         34100
0  7 1 325     5  0 12   210                        CIO     210                                                   34110
0  7 1 326     5  0 12   074                        CIO     074                   RST INT 14                      34120
0  7 1 327     5  0 12   154                        CIC     154                                                   34130
0  7 1 330     4  0 12 1 354                        TNZ     L28P6                                                 34140
0  7 1 331    17  0 12   157                L28P1   CLA     H28P1                                                 34150
0  7 1 332    13  0 12 1 073                        STC     VAR4                                                  34160
0  7 1 333     5  0 12   214                        CIC     214                                                   34170
0  7 1 334     6  0 12 1 021                        ANC     BB                                                    34180
0  7 1 335     4  0 12 1 337                        TNZ     L28P2                                                 34190
0  7 1 336    10  0 12 1 354                        TRA     L28P6                                                 34200
0  7 1 337    17  0 12   160                L28P2   CLA     H28P2                                                 34210
0  7 1 340    13  0 12 1 073                        STO     VAR4                                                  34220
0  7 1 341    17  0 12 1 020                        CLA     ZERO                  RST D.O. 1                      34230
0  7 1 342     5  0 12   210                        CIC     210                                                   34240
0  7 1 343     5  0 12   214                        CIO     214                                                   34250
0  7 1 344     6  0 12 1 021                        ANC     BB                                                    34260
0  7 1 345     4  0 12 1 354                        TNZ     L28P6                                                 34270
C  7 1 346    13  0 12 1 073                        STO     VAR4                                                  34280
0  7 1 347    13  0 12 1 074                        STC     VAR5                                                  34290
0  7 1 350    00  0 12   162   070003100            TRA*    L28P3                                                 34300
0  7 1 351    00  0 12   205   120016100            TRA*    L29P1                 FINISHED                        34310
0  7 1 352    17  0 12 1 104                L28P4   CLA     CHAR                                                  34320
0  7 1 353    15  0 12   001                L28P5   XOR     PATN                                                  34330
0  7 1 354    13  0 12 1 376                L28P6   STC     776                                                   34340
0  7 1 355    00  0 12   206   070000500            TRA*    L28P6B                                                34350
0 10 0   0           0  7   376                     ORG     ,10,,0,,7,                                            34360
0 10 0   0    13  0  7 1 376                L28P6A  STO     776                                                   34370
0 10 0   1    13  0  7 1 076                L28P6B  STO     TEMP                                                  34380
0 10 0   2    17  0  7 1 376                        CLA     776                                                   34390
0 10 0   3    13  0  7 1 071                        STO     VAR2                                                  34400
0 10 0   4    17  0  7 1 076                        CLA     TEMP                                                  34410
0 10 0   5     0  0  7 1 026                        HOP     H95P1                                                 34420
                                            *       RESTORE ORIGINAL INSTRUCTIONS                                 34430
0 10 0   6    13  0  7 1 376                L28P3   STC     776                                                   34440
0 10 0   7    17  0  7   012                        CLA     L20P4                                                 34450
0 10 0  10     6  0  7 1 040                        ANC     KX1                   REMOVE ADDRESS                  34460
0 10 0  11    13  0  7 1 076                        STC     TEMP                                                  34470
0 10 0  12    17  0  7   352                        CLA     L28P4                                                 34480
0 10 0  13     6  0  7 1 045                        ANC     KX6                                                   34490
                                                                                                                  34500
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 69)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 10 | 0 | 14 | 15 | 0 | 7 | 1 | 076 | | | XOR | TEMP | | 34510 |
| 0 | 10 | 0 | 15 | 13 | 0 | 7 | | 012 | | | STO | L20P4 | | 34520 |
| 0 | 10 | 0 | 16 | 17 | 0 | 7 | | 013 | | | CLA | L20P5 | | 34530 |
| 0 | 10 | 0 | 17 | 6 | 0 | 7 | 1 | 040 | | | ANC | KX1 | REMOVE ADDRESS | 34540 |
| 0 | 10 | 0 | 20 | 15 | 0 | 7 | 1 | 044 | | | XOR | KX5 | = CIC 120 | 34550 |
| 0 | 10 | 0 | 21 | 13 | 0 | 7 | | 013 | | | STC | L20P5 | | 34560 |
| 0 | 10 | 0 | 22 | 17 | 0 | 7 | | 020 | | | CLA | L20P6 | | 34570 |
| 0 | 10 | 0 | 23 | 6 | 0 | 7 | 1 | 040 | | | ANC | KX1 | REMOVE ADDRESS | 34580 |
| 0 | 10 | 0 | 24 | 13 | 0 | 7 | 1 | 076 | | | STC | TEMP | | 34590 |
| 0 | 10 | 0 | 25 | 17 | 0 | 7 | | 353 | | | CLA | L28P5 | | 34600 |
| 0 | 10 | 0 | 26 | 6 | 0 | 7 | 1 | 045 | | | ANC | KX6 | | 34610 |
| 0 | 10 | 0 | 27 | 15 | 0 | 7 | 1 | 076 | | | XOR | TEMP | | 34620 |
| C | 10 | 0 | 30 | 13 | 0 | 7 | | 020 | | | STC | L20P6 | | 34630 |
| 0 | 10 | 0 | 31 | 0 | 0 | 7 | 1 | 376 | | | HOP | 776 | | 34640 |
| 0 | 10 | 0 | 31 | | 0 | 12 | | 1 | | | DOG | 0,12, | | 34650 |
| | | | | | | | | | | * | ERROR | RETURN | | 34660 |
| 0 | 10 | 0 | 32 | 00 | 0 | 12 | | 162 | 070003100 | L23P5 | TRA* | L28P3 | | 34670 |
| 0 | 10 | 0 | 33 | 00 | 0 | 12 | | 207 | 150032660 | | TRA* | L20P2 | | 34680 |
| | | | | | 0 | 12 | | 1 | 171000000 | PATN | OCT | 171000000 | INTERRUPTS SET-A | 34700 |
| | | | | | 0 | 12 | | 2 | 61000000 | | OCT | 061000000 | B | 34710 |
| | | | | | 0 | 12 | | 3 | 70000000 | | OCT | 070000000 | C | 34720 |
| | | | | | 0 | 12 | | 4 | 121000000 | | OCT | 121000000 | D | 34730 |
| | | | | | 0 | 12 | | 5 | 130000000 | | OCT | 130000000 | E | 34740 |
| | | | | | 0 | 12 | | 6 | 20000000 | | OCT | 020000000 | F | 34750 |
| | | | | | 0 | 12 | | 7 | 31000000 | | OCT | 031000000 | G | 34760 |
| | | | | | 0 | 12 | | 10 | 111000000 | | OCT | 111000000 | H | 34770 |
| | | | | | 0 | 12 | | 11 | 100000000 | | OCT | 100000000 | I | 34780 |
| | | | | | 0 | 12 | | 12 | 174000000 | | OCT | 174000000 | J | 34790 |
| | | | | | 0 | 12 | | 13 | 64000000 | | OCT | 064000000 | K | 34800 |
| | | | | | 0 | 12 | | 14 | 75000000 | | OCT | 075000000 | L | 34810 |
| | | | | | 0 | 12 | | 15 | 124000000 | | OCT | 124000000 | M | 34820 |
| | | | | | 0 | 12 | | 16 | 135000000 | | OCT | 135000000 | N | 34830 |
| | | | | | 0 | 12 | | 17 | 25000000 | | OCT | 025000000 | O | 34840 |
| | | | | | 0 | 12 | | 20 | 34000000 | | OCT | 034000000 | P | 34850 |
| | | | | | 0 | 12 | | 21 | 114000000 | | OCT | 114000000 | Q | 34860 |
| | | | | | 0 | 12 | | 22 | 105000000 | | OCT | 105000000 | R | 34870 |
| | | | | | 0 | 12 | | 23 | 62000000 | | OCT | 062000000 | S | 34880 |
| | | | | | 0 | 12 | | 24 | 73000000 | | OCT | 073000000 | T | 34890 |
| | | | | | 0 | 12 | | 25 | 122000000 | | OCT | 122000000 | U | 34900 |
| | | | | | 0 | 12 | | 26 | 133000000 | | OCT | 133000000 | V | 34910 |
| | | | | | 0 | 12 | | 27 | 23000000 | | OCT | 023000000 | W | 34920 |
| | | | | | 0 | 12 | | 30 | 32000000 | | OCT | 032000000 | X | 34930 |
| | | | | | 0 | 12 | | 31 | 112000000 | | OCT | 112000000 | Y | 34940 |
| | | | | | 0 | 12 | | 32 | 103000000 | | OCT | 103000000 | Z | 34950 |
| | | | | | 0 | 12 | | 33 | 177000000 | | OCT | 177000000 | 1 BCD | 34960 |
| | | | | | 0 | 12 | | 34 | 67000000 | | OCT | 067000000 | 2 | 34970 |
| | | | | | 0 | 12 | | 35 | 76000000 | | OCT | 076000000 | 3 | 34980 |
| | | | | | 0 | 12 | | 36 | 127000000 | | OCT | 127000000 | 4 | 34990 |
| | | | | | 0 | 12 | | 37 | 136000000 | | OCT | 136000000 | 5 | 35000 |
| | | | | | 0 | 12 | | 40 | 26000000 | | OCT | 026000000 | 6 | 35010 |
| | | | | | 0 | 12 | | 41 | 37000000 | | OCT | 037000000 | 7 | 35020 |
| | | | | | 0 | 12 | | 42 | 117000000 | | OCT | 117000000 | 8 | 35030 |
| | | | | | 0 | 12 | | 43 | 106000000 | | OCT | 106000000 | 9 | 35040 |
| | | | | | 0 | 12 | | 44 | 16000000 | | OCT | 016000000 | 0 | 35050 |
| | | | | | 0 | 12 | | 45 | 7000000 | | OCT | 007000000 | SPECIAL CHARS | 35060 |
| | | | | | 0 | 12 | | 46 | 163000000 | | OCT | 163000000 | | 35070 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 70)

| TM IS S LOC | OP DM DS 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|
| | 0 12 | 47 | 172000000 | | OCT | 172000000 | | 35080 |
| | 0 12 | 50 | 2000000 | | OCT | 002000000 | | 35090 |
| | 0 12 | 51 | 165000000 | | OCT | 165000000 | | 35100 |
| | 0 12 | 52 | 4000000 | | OCT | 004000000 | | 35110 |
| | 0 12 | 53 | 160000000 | | OCT | 160000000 | | 35120 |
| | 0 12 | 54 | 1000000 | | OCT | 001000000 | | 35130 |
| | 0 12 | 55 | 10000 | | OCT | 000010000 | SPACE | 35140 |
| | 0 12 | 56 | 517000000 | P45 | OCT | 517000000 | UPPER CASE | 35150 |
| | 0 12 | 57 | 106000000 | | OCT | 106000000 | | 35160 |
| | 0 12 | 60 | 16000000 | | OCT | 016000000 | | 35170 |
| | 0 12 | 61 | 7000000 | | OCT | 007000000 | | 35180 |
| | 0 12 | 62 | 32000000 | | OCT | 032000000 | | 35190 |
| | 0 12 | 63 | 112000000 | | OCT | 112000000 | | 35200 |
| | 0 12 | 64 | 103000000 | | OCT | 103000000 | | 35210 |
| | 0 12 | 65 | 163000000 | | OCT | 163000000 | | 35220 |
| | 0 12 | 66 | 2000000 | | OCT | 002000000 | | 35230 |
| | 0 12 | 67 | 34000000 | | OCT | 034000000 | | 35240 |
| | 0 12 | 70 | 114000000 | | OCT | 114000000 | | 35250 |
| | 0 12 | 71 | 105000000 | | OCT | 105000000 | | 35260 |
| | 0 12 | 72 | 165000000 | | OCT | 165000000 | | 35270 |
| | 0 12 | 73 | 4000000 | | OCT | 004000000 | | 35280 |
| | 0 12 | 74 | 31000000 | | OCT | 031000000 | | 35290 |
| | 0 12 | 75 | 111000000 | | OCT | 111000000 | | 35300 |
| | 0 12 | 76 | 100000000 | | OCT | 100000000 | | 35310 |
| | 0 12 | 77 | 160000000 | | OCT | 160000000 | | 35320 |
| | 0 12 | 100 | 1000000 | | OCT | 001000000 | | 35330 |
| | 0 12 | 101 | 177000000 | | OCT | 177000000 | 1 OCTAL | 35340 |
| | 0 12 | 102 | 67000000 | | OCT | 067000000 | 2 | 35350 |
| | 0 12 | 103 | 76000000 | | OCT | 076000000 | 3 | 35360 |
| | 0 12 | 104 | 127000000 | | OCT | 127000000 | 4 | 35370 |
| | 0 12 | 105 | 136000000 | | OCT | 136000000 | 5 | 35380 |
| | 0 12 | 106 | 26000000 | | OCT | 026000000 | 6 | 35390 |
| | 0 12 | 107 | 37000000 | | OCT | 037000000 | 7 | 35400 |
| | 0 12 | 110 | 16000000 | | OCT | 016000000 | C | 35410 |
| | 0 12 | 111 | 177000000 | | OCT | 177000000 | DECIMAL 1 | 35420 |
| | 0 12 | 112 | 67000000 | | OCT | 067000000 | 2 | 35430 |
| | 0 12 | 113 | 76000000 | | OCT | 076000000 | 3 | 35440 |
| | 0 12 | 114 | 127000000 | | OCT | 127000000 | 4 | 35450 |
| | 0 12 | 115 | 136000000 | | OCT | 136000000 | 5 | 35460 |
| | 0 12 | 116 | 26000000 | | OCT | 026000000 | 6 | 35470 |
| | 0 12 | 117 | 37000000 | | OCT | 037000000 | 7 | 35480 |
| | 0 12 | 120 | 117000000 | | OCT | 117000000 | 8 | 35490 |
| | 0 12 | 121 | 106000000 | | OCT | 106000000 | 9 | 35500 |
| | 0 12 | 122 | 16000000 | | OCT | 016000000 | C | 35510 |
| | 0 12 | 123 | 10000 | | OCT | 000010000 | SPACE - CNTRL OPNS | 35520 |
| | 0 12 | 124 | 400000 | | OCT | 000400000 | TAB | 35530 |
| | 0 12 | 125 | 20000 | | OCT | 000020000 | CARR RTN | 35540 |
| | 0 12 | 126 | 200000 | | OCT | 000200000 | INDEX | 35550 |
| | 0 12 | 127 | 100000 | | OCT | 000100000 | RED | 35560 |
| | 0 12 | 130 | 40000 | | OCT | 000040000 | BLACK | 35570 |
| | 0 12 | 131 | 150032660 | H20P2 | HPC | L20P2 | | 35580 |
| | 0 12 | 132 | 120002670 | H20P3 | HPC | L20P3 | | 35590 |
| | 0 12 | 133 | 120005270 | H20P4 | HPC | L20P4 | | 35600 |
| | 0 12 | 134 | 120011270 | H21P1 | HPC | L21P1 | | 35610 |
| | 0 12 | 135 | 120014270 | H21P2 | HPC | L21P2 | | 35620 |
| | 0 12 | 136 | 120020670 | H21P3 | HPC | L21P3 | | 35630 |
| | 0 12 | 137 | 120041270 | H22P4 | HPC | L22P4 | | 35640 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 71)

| IM | IS | S | LOC | OP | OM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | 12 | | 140 | 120047270 | H23P1 | HPC | L23P1 | | 35650 |
| | | | | | 0 | 12 | | 141 | 120054270 | H23P2 | HPC | L23P2 | | 35660 |
| | | | | | 0 | 12 | | 142 | 120057270 | H23P3 | HPC | L23P3 | | 35670 |
| | | | | | 0 | 12 | | 143 | 120015100 | H23P5 | HPC | L23P5 | | 35680 |
| | | | | | 0 | 12 | | 144 | 120065270 | H24P1 | HPC | L24P1 | | 35690 |
| | | | | | 0 | 12 | | 145 | 120072270 | H24P3 | HPC | L24P3 | | 35700 |
| | | | | | 0 | 12 | | 146 | 120075270 | H24P4 | HPC | L24P4 | | 35710 |
| | | | | | 0 | 12 | | 147 | 120100270 | H24P5 | HPC | L24P5 | | 35720 |
| | | | | | 0 | 12 | | 150 | 120105270 | H25P1 | HPC | L25P1 | | 35730 |
| | | | | | 0 | 12 | | 151 | 120116270 | H25P2 | HPC | L25P2 | | 35740 |
| | | | | | 0 | 12 | | 152 | 120124670 | H25P3 | HPC | L25P3 | | 35750 |
| | | | | | 0 | 12 | | 153 | 120127670 | H26P1 | HPC | L26P1 | | 35760 |
| | | | | | 0 | 12 | | 154 | 120142270 | H27P1 | HPC | L27P1 | | 35770 |
| | | | | | 0 | 12 | | 155 | 120146670 | H27P2 | HPC | L27P2 | | 35780 |
| | | | | | 0 | 12 | | 156 | 120151270 | H27P3 | HPC | L27P3 | | 35790 |
| | | | | | 0 | 12 | | 157 | 120154670 | H28P1 | HPC | L28P1 | | 35800 |
| | | | | | 0 | 12 | | 160 | 120157670 | H28P2 | HPC | L28P2 | | 35810 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 72)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE          COMMENT                                   SEQ NO
                                           *      BEGINNING OF ROUTINE FIVE                                         35830
                                           *      CHECK PRINTER LOGIC AND INTERFACE                                 35840
0 10 0  34    17  0 12 1 060               L29P1  CLA    LCR5                                                       35850
0 10 0  35    14  0 12   041                      TMI    L29P2                                                      35860
0 10 0  36     4  0 12   040                      TNZ    L45P1A                                                     35870
0 10 0  37    00  0 12   210   130007000          TRA*   L2P1                                                       35880
0 10 0  40    00  0 12   211   150000310   L45P1A TRA*   L45P1                                                      35890
0 10 0  41    17  0 12   161               L29P2  CLA    H29P2                                                      35900
0 10 0  42    13  0 12 1 070                      STO    V1                                                         35910
                  0 12   161   120020500   H29P2  HPC    L29P2                                                      35920
                                           V1     SYN    VAR1                                                       35930
                                           V2     SYN    VAR2                                                       35940
                                           V3     SYN    VAR3                                                       35950
                                           V4     SYN    VAR4                                                       35960
                                           V5     SYN    VAR5                                                       35970
0 10 0  43    16  0 15   215                      CDS    0,15                                                       35980
0 10 0  44    17  0 15   056                      CLA    H29P4                                                      35990
0 10 0  45    13  0 15 1 071                      STO    V2                                                         36000
0 10 0  46    10  0 15 1 242                      TRA    L43P1                                                      36010
0 10 0  47    17  0 15 1 020                      CLA    ZERO                                                       36020
0 10 0  50     5  0 15   170                      CIC    170                                                        36030
0 10 0  51     1  0 15 1 375                      PRS    775                                                        36040
0 10 0  52     5  0 15   164                      CIC    164                                                        36050
0 10 0  53     1  0 15 1 375                      PRS    775                                                        36060
0 10 0  54    13  0 15 1 101                      STO    CTR                                                        36070
0 10 0  55    17  0 15   311   000000200          CLA    =000000020O       64 DECIMAL                               36080
0 10 0  56    13  0 15 1 100                      STO    STOP                                                       36090
0 10 0  57     0  0 15 1 023                      HOP    H9P3              RST INT REG                              36100
0 10 0  60    17  0 15   305   000000040          CLA    =000000004O       SET DO 5   PRINTER NOT RUNNING           36110
0 10 0  61     5  0 15   210                      CIC    210                                                        36120
0 10 0  62     5  0 15   214                      CIO    214                                                        36130
0 10 0  63     6  0 15 1 032                      AND    K1                PRTR READY                               36140
0 10 0  64     4  0 15   066                      TNZ    L29P3                                                      36150
0 10 0  65    10  0 15 1 240                      TRA    L42P4                                                      36160
0 10 0  66    17  0 15   055               L29P3  CLA    H29P3                                                      36170
0 10 0  67    13  0 15 1 070                      STO    V1                                                         36180
0 10 0  70    17  0 15 1 020                      CLA    ZERO                                                       36190
0 10 0  71     5  0 15   210                      CIO    210               RST DO 5                                 36200
0 10 0  72    17  0 15   303   000000020          CLA    =000000002O                                                36210
0 10 0  73     5  0 15   210                      CIC    210               SET DO 4                                 36220
0 10 0  74     5  0 15   214                      CIO    214                                                        36230
0 10 0  75     6  0 15 1 032                      AND    K1                                                         36240
0 10 0  76     4  0 15   100                      TNZ    L29P4                                                      36250
0 10 0  77    10  0 15 1 240                      TRA    L42P4                                                      36260
0 10 0 100    17  0 15   056               L29P4  CLA    H29P4                                                      36270
0 10 0 101    13  0 15 1 070                      STO    V1                                                         36280
0 10 0 102    17  0 15   057                      CLA    H30P1                                                      36290
0 10 0 103    13  0 15 1 071                      STO    V2                                                         36300
0 10 0 104    17  0 15 1 020                      CLA    ZERO                                                       36310
0 10 0 105     5  0 15   210                      CIC    210               RST DO 4                                 36320
0 10 0 106     5  0 15   214                      CIO    214                                                        36330
0 10 0 107     6  0 15 1 032                      AND    K1                                                         36340
0 10 0 110     4  0 15 1 232                      TNZ    L42P3                                                      36350
0 10 0 111    17  0 15   057               L30P1  CLA    H30P1                                                      36360
0 10 0 112    13  0 15 1 070                      STO    V1                                                         36370
0 10 0 113    17  0 15   060                      CLA    H30P2                                                      36380
0 10 0 114    13  0 15 1 071                      STO    V2                                                         36390
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 73)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL    LHS     OPC    VARIABLE              COMMENT                          SEQ NO

0 10 0 115     5  0 15   170                      CIC    170                   BCD MODE                          36400
0 10 0 116    17  0 15 1 104                      CLA    CHAR                                                    36410
0 10 0 117    13  0 15 1 074                      STO    V5                                                      36420
0 10 0 120     1  0 15 1 375                      PRS    775                                                     36430
                                          *       TEST PRS 775                                                   36440
0 10 0 121     5  0 15   154                      CIO    154                   READ INT REG                      36450
0 10 0 122    15  0 15   116                      XOR    PATN1                                                   36460
0 10 0 123     4  0 15 1 232                      TNZ    L42P3                                                   36470
0 10 0 124    17  0 15   060              L30P2   CLA    H30P2                                                   36480
0 10 0 125    13  0 15 1 070                      STO    V1                                                      36490
0 10 0 126    17  0 15 1 321                      CLA    H30P2A                                                  36500
0 10 0 127    13  0 15 1 071                      STO    V2                                                      36510
0 10 0 130     0  0 15 1 023                      HOP    H9P3                  RST INT REG                       36520
0 10 0 131     5  0 15   154                      CIO    154                                                     36530
0 10 0 132     4  0 15 1 240                      TNZ    L42P4                                                   36540
                                          *       ENTER BCD LOOP                                                 36550
0 10 0 133    17  0 15   062              L30P2A  CLA    H31P4                                                   36560
0 10 0 134    13  0 15 1 070                      STO    V1                                                      36570
0 10 0 135    17  0 15   061                      CLA    H31P3                                                   36580
0 10 0 136    13  0 15 1 071                      STO    V2                                                      36590
0 10 0 137    10  0 15   145                      TRA    L31P3                                                   36600
                                          *       TEST PRS MEMORY AND DECODE LOGIC                               36610
0 10 0 140     1  0 15 1 104              L31P1   PRS    CHAR                                                    36620
0 10 0 141    13  0 15 1 074                      STO    V5                                                      36630
0 10 0 142     5  0 15   154                      CIO    154                   READ INT REG                      36640
0 10 0 143    15  0 15   116              L31P2   XOR    PATN1                                                   36650
0 10 0 144     4  0 15 1 240                      TNZ    L42P4                                                   36660
0 10 0 145    17  0 15 1 101              L31P3   CLA    CTR                                                     36670
0 10 0 146     7  0 15 1 032                      ADD    K1                                                      36680
0 10 0 147    13  0 15 1 101                      STO    CTR                                                     36690
0 10 0 150    16  0 10   210                      CDS    0,10                                                    36700
0 10 0 151    17  0 10   140                      CLA    L31P1                                                   36710
0 10 0 152     7  0 10 1 037                      ADD    KS2                                                     36720
0 10 0 153    13  0 10   140                      STO    L31P1                                                   36730
0 10 0 154    17  0 10   143                      CLA    L31P2                                                   36740
0 10 0 155     7  0 10 1 037                      ADD    KS2                                                     36750
0 10 0 156    13  0 10   143                      STO    L31P2                                                   36760
0 10 0 157    16  0 15   215                      CDS    0,15                                                    36770
0 10 0 160     0  0 15 1 023              L31P4   HOP    H9P3                  RST INT REG                       36780
0 10 0 161    17  0 15 1 101                      CLA    CTR                                                     36790
0 10 0 162     2  0 15 1 100                      SUB    STOP                                                    36800
0 10 0 163     4  0 15   140                      TNZ    L31P1                 NOT EQUAL - CONTINUE              36810
                                          *       TEST BCD DIGITS 2,3,4                                          36820
0 10 0 164     1  0 15   331   007700000  L32P1   PRS    =0007700000                                             36830
0 10 0 165    13  0 15 1 074                      STO    V5                                                      36840
0 10 0 166    17  0 15   041                      CLA    H32P1                                                   36850
0 10 0 167    13  0 15 1 070                      STO    V1                                                      36860
                 0 15    41    150072100  H32P1   HPC    L32P1                                                   36870
0 10 0 170     5  0 15   154                      CIO    154                                                     36880
0 10 0 171    15  0 15   332   774300000          XOR    =0774300000           1-7,11,12                         36890
0 10 0 172     4  0 15 1 232                      TNZ    L42P3                                                   36900
0 10 0 173    17  0 15   063              L32P2   CLA    H32P2                                                   36910
0 10 0 174    13  0 15 1 070                      STO    V1                                                      36920
0 10 0 175     0  0 15 1 023                      HOP    H9P3                  RST INT REG                       36930
0 10 0 176     1  0 15   333   000077000          PRS    =0000077000                                             36940
0 10 0 177    13  0 15 1 074                      STO    V5                                                      36950
0 10 0 200     5  0 15   154                      CIO    154                                                     36960
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 74)

```
JM IS S LOC  DP DM DS 9 ADR   OCT VAL    LHS    OPC    VARIABLE              COMMENT                 SEQ NO

0 10 0 201   15  0 15   332   774300000         XOR    =0774300000                                   36970
0 10 0 202    4  0 15 1 232                     TNZ    L42P3                                         36980
0 10 0 203   17  0 15   064              L32P3  CLA    H32P3                                         36990
0 10 0 204   13  0 15 1 070                     STO    V1                                            37000
0 10 0 205    0  0 15 1 023                     HOP    H9P3                  RST INT REG             37010
0 10 0 206    1  0 15   334   000000770         PRS    =0000000770                                   37020
0 10 0 207   13  0 15 1 074                     STO    V5                                            37030
0 10 0 210    5  0 15   154                     CIO    154                                           37040
0 10 0 211   15  0 15   332   774300000         XOR    =0774300000                                   37050
0 10 0 212    4  0 15 1 232                     TNZ    L42P3                                         37060
                                         *      TEST PRS 774                                         37070
0 10 0 213   17  0 15   065              L32P4  CLA    H32P4                                         37080
0 10 0 214   13  0 15 1 070                     STO    V1                                            37090
0 10 0 215    0  0 15 1 023                     HOP    H9P3                  RST INT REG             37100
0 10 0 216   17  0 15 1 020                     CLA    ZERO                                          37110
0 10 0 217    1  0 15 1 374                     PRS    774                                           37120
0 10 0 220   13  0 15 1 074                     STO    V5                                            37130
0 10 0 221    5  0 15   154                     CIO    154                                           37140
0 10 0 222   15  0 15   335   004700000         XOR    =0004700000           7,10,11,12              37150
0 10 0 223    4  0 15 1 232                     TNZ    L42P3                                         37160
0 10 0 224   17  0 15   066              L33P1  CLA    H33P1                                         37170
0 10 0 225   13  0 15 1 070                     STO    V1                                            37180
0 10 0 226   17  0 15 1 032                     CLA    K1                    SET DO 1                37190
0 10 0 227    5  0 15   210                     CIO    210                                           37200
0 10 0 230    5  0 15   214                     CIO    214                                           37210
0 10 0 231    6  0 15 1 032                     ANC    K1                                            37220
0 10 0 232    4  0 15   234                     TNZ    L33P2                                         37230
0 10 0 233   10  0 15 1 232                     TRA    L42P3                                         37240
0 10 0 234   17  0 15   067              L33P2  CLA    H33P2                                         37250
0 10 0 235   13  0 15 1 070                     STO    V1                                            37260
0 10 0 236   17  0 15 1 020                     CLA    ZERO                                          37270
0 10 0 237    5  0 15   210                     CIO    210                   RESET DO 1              37280
0 10 0 240    5  0 15   214                     CIO    214                                           37290
0 10 0 241    6  0 15 1 032                     AND    K1                                            37300
0 10 0 242    4  0 15 1 232                     TNZ    L42P3                                         37310
0 10 0 243   17  0 15   070              L33P3  CLA    H33P3                                         37320
0 10 0 244   13  0 15 1 070                     STO    V1                                            37330
0 10 0 245    0  0 15 1 023                     HOP    H9P3                  RST INT REG             37340
0 10 0 246    5  0 15   154                     CIO    154                                           37350
0 10 0 247    4  0 15 1 232                     TNZ    L42P3                                         37360
                                         *      TEST OCTAL MODE DECODING                             37370
0 10 0 250   17  0 15 1 020              L34P1  CLA    ZERO                                          37380
0 10 0 251   13  0 15 1 101                     STO    CTR                                           37390
0 10 0 252   16  0 10   210                     CDS    0,10                                          37400
0 10 0 253   17  0 10   372                     CLA    K34P2                                         37410
0 10 0 254    6  0 10 1 046                     ANC    KX7                   RETAIN ADDRESS          37420
0 10 0 255   13  0 10 1 076                     STC    TEMP                                          37430
0 10 0 256   17  0 10   301                     CLA    L34P2                                         37440
0 10 0 257    6  0 10 1 047                     ANC    KX8                   REMOVE ADDRESS          37450
0 10 0 260   15  0 10 1 076                     XOR    TEMP                                          37460
0 10 0 261   13  0 10   301                     STO    L34P2                                         37470
0 10 0 262   17  0 10   373                     CLA    K34P3                                         37480
0 10 0 263    6  0 10 1 046                     ANC    KX7                                           37490
0 10 0 264   13  0 10 1 076                     STO    TEMP                                          37500
0 10 0 265   17  0 10   304                     CLA    L34P3                                         37510
0 10 0 266    6  0 10 1 047                     ANC    KX8                                           37520
0 10 0 267   15  0 10 1 076                     XOR    TEMP                                          37530
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 75)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC   VARIABLE        COMMENT                                  SEQ NC

0 10 0 270    13  0 10   304                      STO   L34P3                                                    37540
0 10 0 271    16  0 15   215                      CDS   0,15                                                     37550
0 10 0 272     5  0 15   164                      CIO   164             SET OCTAL MODE                           37560
0 10 0 273    17  0 15   072                      CLA   H34P5                                                    37570
0 10 0 274    13  0 15 1 070                      STO   V1                                                       37580
0 10 0 275    17  0 15   071                      CLA   H34P4                                                    37590
0 10 0 276    13  0 15 1 071                      STO   V2                                                       37600
0 10 0 277    17  0 15   336   400000000          CLA   =04             INHIBIT CHECK BIT AT 10,11,12 TIME       37610
0 10 0 300     5  0 15   250                      CIO   250                                                      37620
0 10 0 301     1  0 15   042               L34P2  PRS   PRSC                                                     37630
0 10 0 302    13  0 15 1 074                      STO   V5                                                       37640
0 10 0 303     5  0 15   154                      CIO   154                                                      37650
0 10 0 304    15  0 15   216               L34P3  XOR   PATN4                                                    37660
0 10 0 305     4  0 15 1 240                      TNZ   L42P4                                                    37670
0 10 0 306    17  0 15 1 101               L34P4  CLA   CTR                                                      37680
0 10 0 307     7  0 15 1 036                      ADD   KS1                                                      37690
0 10 0 310    13  0 15 1 101                      STO   CTR                                                      37700
0 10 0 311    16  0 10   210                      CDS   0,10                                                     37710
0 10 0 312    17  0 10   301                      CLA   L34P2                                                    37720
0 10 0 313     7  0 10 1 037                      ADD   KS2                                                      37730
0 10 0 314    13  0 10   301                      STO   L34P2                                                    37740
0 10 0 315    17  0 10   304                      CLA   L34P3                                                    37750
0 10 0 316     7  0 10 1 037                      ADD   KS2                                                      37760
0 10 0 317    13  0 10   304                      STO   L34P3                                                    37770
0 10 0 320    16  0 15   215                      CDS   0,15                                                     37780
0 10 0 321     0  0 15 1 023               L34P5  HOP   H9P3                                                     37790
0 10 0 322    17  0 15 1 101                      CLA   CTR                                                      37800
0 10 0 323     2  0 15 1 137                      SUB   C27             =8                                       37810
0 10 0 324     4  0 15   301                      TNZ   L34P2                                                    37820
                  0 15    42           0   PRSC   OCT   0                                                        37830
                  0 15    43   111111112          OCT   111111112                                                37840
                  0 15    44   222222222          OCT   222222222                                                37850
                  0 15    45   333333332          OCT   333333332                                                37860
                  0 15    46   444444444          OCT   444444444                                                37870
                  0 15    47   555555554          OCT   555555554                                                37880
                  0 15    50   666666666          OCT   666666666                                                37890
                  0 15    51   777777774          OCT   777777774                                                37900

                                           *      TEST DIGITS 2 THRU 9 DECODE                                    37920
0 10 0 325    17  0 15   073               L34P6  CLA   H34P6                                                    37930
0 10 0 326    13  0 15 1 070                      STO   V1                                                       37940
0 10 0 327     1  0 15   337   411111114          PRS   =0411111114                                              37950
0 10 0 330     7  0 15 1 020                      ADD   ZERO                                                     37960
0 10 0 331     5  0 15   154                      CIO   154                                                      37970
0 10 0 332    15  0 15   340   170300000          XOR   =0170300000     3-6,11,12                                37980
0 10 0 333     4  0 15 1 232                      TNZ   L42P3                                                    37990
0 10 0 334    17  0 15   074               L34P7  CLA   H34P7                                                    38000
0 10 0 335    13  0 15 1 070                      STO   V1                                                       38010
0 10 0 336     0  0 15 1 023                      HOP   H9P3                                                     38020
0 10 0 337     1  0 15   341   122222222          PRS   =0122222222                                              38030
0 10 0 340     7  0 15 1 020                      ADD   ZERO                                                     38040
0 10 0 341     5  0 15   154                      CIO   154                                                      38050
0 10 0 342    15  0 15 1 034                      XOR   K1303           3,5,6,11,12                              38060
0 10 0 343     4  0 15 1 232                      TNZ   L42P3                                                    38070
0 10 0 344    17  0 15   075               L34P8  CLA   H34P8                                                    38080
0 10 0 345    13  0 15 1 070                      STO   V1                                                       38090
0 10 0 346     0  0 15 1 023                      HOP   H9P3                                                     38100
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 76)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE                COMMENT                       SEQ NO

0 10 0 347     1  0 15   342   244444444          PRS    =0244444444                                            38110
0 10 0 350     7  0 15 1 020                      ADC    ZERO                                                   38120
0 10 0 351     5  0 15   154                      CIC    154                                                    38130
0 10 0 352    15  0 15   343   160300000          XOR    =0160300000             3-5,11,12                      38140
0 10 0 353     4  0 15 1 232                      TNZ    L42P3                                                  38150
                                            *     TEST CHECK BIT FOR 10,11,12 TIME OCTAL MODE                   38160
0 10 0 354    17  0 15   076               L34P9  CLA    H34P9                                                  38170
0 10 0 355    13  0 15 1 070                      STO    V1                                                     38180
0 10 0 356     0  0 15 1 023                      HOP    H9P3                                                   38190
0 10 0 357    17  0 15   054   200000000          CLA    =02                                                    38200
0 10 0 360     5  0 15   250                      CIU    250                     RESET CHECK BIT INHIBIT        38210
0 10 0 361     1  0 15   344   411111140          PRS    =041111114                                             38220
0 10 0 362     7  0 15 1 020                      ADC    ZERO                                                   38230
0 10 0 363     5  0 15   154                      CIU    154                                                    38240
0 10 0 364    15  0 15   345   174300000          XOR    =0174300000             3-7,11,12                      38250
0 10 0 365     4  0 15 1 232                      TNZ    L42P3                                                  38260
0 10 0 366     0  0 15 1 023                      HOP    H9P3                                                   38270
0 10 0 367    00  0 15   346   150130110          TRA*   L35P2                                                  38280
0 10 0 370     1  0 15 1 104               K31P1  PRS    CHAR                                                   38290
0 10 0 371    15  0 15   116               K31P2  XOR    PATN1                                                  38300
0 10 0 372     1  0 15   042               K34P2  PRS    PRSC                                                   38310
0 10 0 373    15  0 15   216               K34P3  XOR    PATN4                                                  38320

                                            *     CARRIAGE CONTROL TESTS                                        38340
                                            *     IMMEDIATE SKIP                                                38350
0 11 0 260        0 15    52                      ORG    ,11,,260,,15,                                          38360
0 11 0 260    17  0 15   052               L35P2  CLA    H36P2                                                  38370
                  0 15    52   150147510   H36P2  HPC    L36P2                                                  38380
0 11 0 261    13  0 15 1 070                      STU    V1                                                     38390
0 11 0 262    17  0 15   053                      CLA    H36P1                                                  38400
                  0 15    53   150140110   H36P1  HPC    L36P1                                                  38410
0 11 0 263    13  0 15 1 071                      STC    V2                                                     38420
0 11 0 264    17  0 15 1 020                      CLA    ZERO                                                   38430
0 11 0 265    13  0 15 1 101                      STU    CTR                                                    38440
0 11 0 266    17  0 15   347   000000030          CLA    =0000000030             =12                            38450
0 11 0 267    13  0 15 1 100                      STO    STOP                                                   38460
0 11 0 270    17  0 15 1 136                      CLA    C26                     =010C00000                     38470
0 11 0 271    13  0 15 1 076                      STU    TEMP                                                   38480
0 11 0 272    17  0 15 1 076               L35P3  CLA    TEMP                                                   38490
0 11 0 273    13  0 15 1 074                      STC    VAR5                                                   38500
0 11 0 274     5  0 15   160                      CIU    160                     CARR CTL                       38510
0 11 0 275     5  0 15   154                      CIO    154                                                    38520
0 11 0 276    15  0 15   226               L35P4  XOR    PATN2                                                  38530
0 11 0 277     4  0 15   343                      TNZ    L42P4A                                                 38540
0 11 0 300    17  0 15 1 101               L36P1  CLA    CTR                                                    38550
0 11 0 301     7  0 15 1 032                      ADU    K1                                                     38560
0 11 0 302    13  0 15 1 101                      STU    CTR                                                    38570
0 11 0 303    17  0 15 1 032                      CLA    K1                                                     38580
0 11 0 304     5  0 15   210                      CIU    210                     SET + RESET D.O.1              38590
0 11 0 305    17  0 15 1 020                      CLA    ZERO                                                   38600
0 11 0 306     5  0 15   210                      CIO    210                                                    38610
0 11 0 307    17  0 15 1 076                      CLA    TEMP                                                   38620
0 11 0 310     7  0 15 1 136                      ACC    C26                     =010C00000                     38630
0 11 0 311    13  0 15 1 076                      STO    TEMP                                                   38640
0 11 0 312    16  0 11   211                      CDS    0,11                                                   38650
0 11 0 313    17  0 11   276                      CLA    L35P4                                                  38660
0 11 0 314     7  0 11 1 037                      ADD    KS2                                                    38670
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 77)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC    VARIABLE          COMMENT                     SEQ NO

0 11 0 315    13  0 11    276                      STO    L35P4                                         38680
0 11 0 316    16  0 15    215                      CDS    0,15                                          38690
0 11 0 317     0  0 15 1 023               L36P2   HOP    H9P3              RST INT REG                 38700
0 11 0 320    17  0 15 1 101                       CLA    CTR                                           38710
0 11 0 321     2  0 15 1 100                       SUB    STOP                                          38720
0 11 0 322     4  0 15    272                      TNZ    L35P3             CONTINUE IN LOOP            38730
0 11 0 323    17  0 15 1 100               L36P3   CLA    STOP                                          38740
0 11 0 324     2  0 15    347  000000030           SUB    =0000000030       IS STOP = 12                38750
0 11 0 325     4  0 15    334                      TNZ    L37P1                                         38760
                                           *       IMMEDIATE SPACE                                      38770
0 11 0 326    13  0 15 1 101               L36P4   STO    CTR               RST CTR                     38780
0 11 0 327    17  0 15    350  000000006           CLA    =0000000006       =3                          38790
0 11 0 330    13  0 15 1 100                       STO    STOP                                          38800
0 11 0 331    17  0 15 1 115                       CLA    C9                =410CC0000                  38810
0 11 0 332    13  0 15 1 076                       STO    TEMP                                          38820
0 11 0 333    10  0 15    272                      TRA    L35P3                                         38830
                                           *       SKIP AFTER PRINT                                     38840
0 11 0 334    17  0 15    100              L37P1   CLA    H37P5                                         38850
0 11 0 335    13  0 15 1 070                       STO    V1                                            38860
0 11 0 336    17  0 15    077                      CLA    H37P4                                         38870
0 11 0 337    13  0 15 1 071                       STO    V2                                            38880
0 11 0 340    17  0 15 1 020                       CLA    ZERO                                          38890
0 11 0 341    13  0 15 1 101                       STO    CTR                                           38900
0 11 0 342    00  0 15    351  150000300           TRA*   L37P1A                                        38910
0 11 0 343     0  0 15 1 026               L42P4A  HOP    H95P1                                         38920
0 11 0 344    15  0 15    226              K35P4   XOR    PATN2                                         38930

C 10 1   0        0 15     54                      ORG    ,10,1,,,15,                                   38950
0 10 1   0    17  0 15    347  000000030   L37P1A  CLA    =0000000030       =12                         38960
0 10 1   1    13  0 15 1 100                       STO    STOP                                          38970
0 10 1   2    17  0 15 1 104                       CLA    CHAR              =610C00000                  38980
0 10 1   3    13  0 15 1 076                       STO    TEMP                                          38990
0 10 1   4    17  0 15 1 076               L37P2   CLA    TEMP                                          39000
0 10 1   5    13  0 15 1 074                       STO    V5                                            39010
0 10 1   6     5  0 15    160                      CIO    160                                           39020
0 10 1   7    17  0 15 1 032                       CLA    K1                                            39030
0 10 1  10     5  0 15    210                      CIO    210               SET DO 1                    39040
0 10 1  11    17  0 15 1 020                       CLA    ZERO                                          39050
0 10 1  12     5  0 15    210                      CIO    210               RST DO 1                    39060
0 10 1  13     5  0 15    154                      CIO    154                                           39070
0 10 1  14    15  0 15    245              L37P3   XOR    PATN3                                         39080
0 10 1  15     4  0 15 1 240                       TNZ    L42P4                                         39090
C 10 1  16    17  0 15 1 101               L37P4   CLA    CTR                                           39100
0 10 1  17     7  0 15 1 032                       ADD    K1                                            39110
0 10 1  20    13  0 15 1 101                       STO    CTR                                           39120
0 10 1  21    17  0 15 1 076                       CLA    TEMP                                          39130
0 10 1  22     7  0 15 1 136                       ADD    C26               =010C00000                  39140
0 10 1  23    13  0 15 1 076                       STO    TEMP                                          39150
0 10 1  24    16  0 10    210                      CDS    0,10                                          39160
0 10 1  25    17  0 10    014                      CLA    L37P3                                         39170
0 10 1  26     7  0 10 1 036                       ADD    KS1                                           39180
0 10 1  27    13  0 10    014                      STO    L37P3                                         39190
0 10 1  30    16  0 15    215                      CDS    0,15                                          39200
0 10 1  31     0  0 15 1 023               L37P5   HOP    H9P3              RST INT REG                 39210
0 10 1  32    17  0 15 1 101               L38P1   CLA    CTR                                           39220
0 10 1  33     2  0 15 1 100                       SUB    STOP                                          39230
0 10 1  34     4  0 15 1 004                       TNZ    L37P2                                         39240
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 78)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL    LHS     OPC    VARIABLE         COMMENT                              SEQ NO

0 10 1  35    17  0 15 1 100              L38P2   CLA    STOP                                                   39250
0 10 1  36     7  0 15   347   000000030          SUB    =0000000030      =12                                   39260
0 10 1  37     4  0 15 1 046                      TNZ    L38P4                                                  39270
0 10 1  40    13  0 15 1 101              L38P3   STC    CTR              =ZERO                                 39280
0 10 1  41    17  0 15   350   000000006          CLA    =0000000006      =3                                    39290
0 10 1  42    13  0 15 1 100                      STC    STOP                                                   39300
0 10 1  43    17  0 15 1 152                      CLA    C38              =210000000                            39310
0 10 1  44    13  0 15 1 076                      STO    TEMP                                                   39320
0 10 1  45    10  0 15 1 004                      TRA    L37P2                                                  39330

                                          *       AUTOMATIC CARRIAGE SKIP AND PRINTER READY LINE CHECK          39350
0 10 1  46    17  0 15   101              L38P4   CLA    H38P4                                                  39360
0 10 1  47    13  0 15 1 070                      STC    V1                                                     39370
0 10 1  50    17  0 15 1 020                      CLA    ZERO                                                   39380
0 10 1  51    13  0 15 1 074                      STC    VAR5                                                   39390
0 10 1  52    17  0 15   352   000000110          CLA    =0000000110      DO 3 CARR BUSY                        39400
                                          *                               DO 6 CHANNEL 12 INDICATOR             39410
0 10 1  53     5  0 15   210                      CIO    210                                                    39420
0 10 1  54     5  0 15   214                      CIO    214                                                    39430
0 10 1  55     6  0 15 1 032                      ANC    K1               READY LINE                            39440
0 10 1  56     4  0 15 1 060                      TNZ    L39P1                                                  39450
0 10 1  57    10  0 15 1 232                      TRA    L42P3                                                  39460
0 10 1  60    17  0 15   102              L39P1   CLA    H39P1                                                  39470
0 10 1  61    13  0 15 1 070                      STO    V1                                                     39480
0 10 1  62    17  0 15 1 020                      CLA    ZERO             RESET DO 3,6                          39490
0 10 1  63     5  0 15   210                      CIO    210                                                    39500
0 10 1  64    17  0 15 1 032                      CLA    K1               SET DO 1 (PRINTING)                   39510
0 10 1  65     5  0 15   210                      CIO    210                                                    39520
0 10 1  66     5  0 15   154                      CIC    154                                                    39530
0 10 1  67    15  0 15   353   612020000          XOR    =0612020000      1,2,6,8,14                            39540
0 10 1  70     4  0 15 1 232                      TNZ    L42P3                                                  39550
0 10 1  71    17  0 15   103              L39P2   CLA    H39P2                                                  39560
0 10 1  72    13  0 15 1 070                      STO    V1                                                     39570
0 10 1  73    13  0 15 1 073                      STO    V4                                                     39580
0 10 1  74    17  0 15 1 020                      CLA    ZERO                                                   39590
0 10 1  75     5  0 15   210                      CIC    210              RESET DO1,DO3                         39600
0 10 1  76    10  0 15 1 100                      TRA**                   GENERATED TRANSFER
0 10 1 100     5  0 15   154                      CIC    154                                                    39610
0 10 1 101    15  0 15   353   612020000  L39P2A  XOR    =0612020000      1,2,6,8,14                            39620
0 10 1 102     4  0 15 1 232                      TNZ    L42P3                                                  39630
0 10 1 103    17  0 15   104              L39P3   CLA    H39P3                                                  39640
0 10 1 104    13  0 15 1 073              L39P3A  STO    V4                                                     39650
0 10 1 105     5  0 15   214                      CIO    214                                                    39660
0 10 1 106     6  0 15 1 032                      ANC    K1                                                     39670
0 10 1 107     4  0 15 1 232                      TNZ    L42P3                                                  39680
0 10 1 110    17  0 15   105              L39P4   CLA    H39P4                                                  39690
0 10 1 111    13  0 15 1 070                      STO    V1                                                     39700
0 10 1 112    17  0 15 1 020                      CLA    ZERO                                                   39710
0 10 1 113    13  0 15 1 073                      STO    VAR4                                                   39720
0 10 1 114     0  0 15 1 023                      HOP    H9P3             RST INT REG                           39730
0 10 1 115     5  0 15   154                      CIO    154                                                    39740
0 10 1 116     4  0 15 1 232                      TNZ    L42P3                                                  39750

                                          *       BCD MODE PARITY ERROR                                         39770
0 10 1 117    17  0 15   106              L40P1   CLA    H40P1                                                  39780
0 10 1 120    13  0 15 1 070                      STO    V1                                                     39790
0 10 1 121     5  0 15   170                      CIO    170              SET BCD MODE                          39800
```

Figure 7-13.  PTC ADAPT Self-Test Program (Sheet 79)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC   VARIABLE        COMMENT                            SEQ NO

0 10 1 122    17  0 15   301   000000010          CLA   =0000000010     SET DO 3 (CARR BUSY)               39810
0 10 1 123     5  0 15   210                      CIO   210                                                39820
0 10 1 124    17  0 15   354   000000014          CLA   =0000000014                                        39830
0 10 1 125     5  0 15   210                      CIO   210             SET DO 2 (PARITY ERROR)            39840
0 10 1 126    17  0 15   355   000000016          CLA   =0000000016                                        39850
0 10 1 127     5  0 15   210                      CIO   210             SET DO 1 (PROCESSOR RELEASE)       39860
0 10 1 130     5  0 15   264                      CIO   264                                                39870
0 10 1 131     5  0 15   154                      CIO   154                                                39880
0 10 1 132    15  0 15   356   001020000          XOR   =0001020000     9,14                               39890
0 10 1 133     4  0 15 1 232                      TNZ   L42P3                                              39900
0 10 1 134    17  0 15   107               L40P2  CLA   H40P2                                              39910
0 10 1 135    13  0 15 1 070                      STO   V1                                                 39920
0 10 1 136    17  0 15   301   000000010          CLA   =0000000010     RST DO1, DO2                       39930
0 10 1 137     5  0 15   210                      CIO   210                                                39940
0 10 1 140     1  0 15 1 020                      PRS   ZERO                                               39950
0 10 1 141     5  0 15   154                      CIO   154                                                39960
0 10 1 142    15  0 15   357   005320000          XOR   =0005320000     7,9,11,12,14                       39970
0 10 1 143     4  0 15 1 232                      TNZ   L42P3                                              39980
0 10 1 144    17  0 15   110               L40P3  CLA   H40P3                                              39990
0 10 1 145    13  0 15 1 070                      STO   V1                                                 40000
0 10 1 146    17  0 15 1 020                      CLA   ZERO                                               40010
0 10 1 147     5  0 15   210                      CIO   210             RST DO 3                           40020
0 10 1 150     1  0 15 1 375                      PRS   775                                                40030
0 10 1 151     5  0 15   154                      CIO   154                                                40040
0 10 1 152    15  0 15   360   205320000          XOR   =0205320000     2,7,9,11,12,14                     40050
0 10 1 153     4  0 15 1 232                      TNZ   L42P3                                              40060
0 10 1 154    17  0 15   111               L41P1  CLA   H41P1                                              40070
0 10 1 155    13  0 15 1 070                      STO   V1                                                 40080
0 10 1 156     0  0 15 1 023                      HOP   H9P3            RST INT REG                        40090
0 10 1 157     5  0 15   154                      CIO   154                                                40100
0 10 1 160     4  0 15 1 232                      TNZ   L42P3                                              40110

                                           *      OCTAL MODE - PARITY ERROR DURING PRINT                   40130
0 10 1 161    17  0 15   112               L41P2  CLA   H41P2                                              40140
0 10 1 162    13  0 15 1 070                      STO   V1                                                 40150
0 10 1 163     5  0 15   164                      CIO   164             SET OCTAL MODE                     40160
0 10 1 164    17  0 15 1 032                      CLA   K1              SET DO 1 (PROC. RELEASE)           40170
0 10 1 165     5  0 15   210                      CIO   210                                                40180
0 10 1 166    17  0 15   350   000000006          CLA   =0000000006     SET DO 2 (PTY ERROR)               40190
0 10 1 167     5  0 15   210                      CIO   210                                                40200
0 10 1 170     5  0 15   264                      CIO   264                                                40210
0 10 1 171    17  0 15 1 032                      CLA   K1              RST DO 2                           40220
0 10 1 172     5  0 15   210                      CIO   210                                                40230
0 10 1 173    17  0 15 1 020                      CLA   ZERO                                               40240
0 10 1 174     5  0 15   210                      CIO   210             RST DO 1                           40250
0 10 1 175     1  0 15 1 375                      PRS   775                                                40260
0 10 1 176     7  0 15 1 020                      ACC   ZERO                                               40270
0 10 1 177     5  0 15   154                      CIO   154                                                40280
0 10 1 200    15  0 15   361   725300000          XOR   =0725300000     1,2,3,5,7,9,11,12                  40290
0 10 1 201     4  0 15 1 232                      TNZ   L42P3                                              40300
0 10 1 202    17  0 15   113               L41P3  CLA   H41P3                                              40310
0 10 1 203    13  0 15 1 070                      STO   V1                                                 40320
0 10 1 204     0  0 15 1 023                      HOP   H9P3                                               40330
0 10 1 205     5  0 15   154                      CIO   154                                                40340
0 10 1 206     4  0 15 1 232                      TNZ   L42P3                                              40350

                                           *      OCTAL MODE - PARITY ERROR DURING BUFFER LOAD             40370
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 80)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE          COMMENT                     SEQ NO

0 10 1 207    17  0 15   114               L42P1  CLA    H42P1                                         40380
0 10 1 210    13  0 15 1 070                      STO    V1                                            40390
0 10 1 211    17  0 15   277   000000004          CLA    =000000004        SET DC 2                    40400
0 10 1 212     5  0 15   210                      CIC    210                                           40410
0 10 1 213     5  0 15   264                      CIC    264                                           40420
0 10 1 214    17  0 15 1 020                      CLA    ZERO              RST                         40430
0 10 1 215     5  0 15   210                      CIC    210                                           40440
0 10 1 216     1  0 15 1 375                      PRS    775                                           40450
0 10 1 217     7  0 15 1 020                      ACC    ZERO                                          40460
0 10 1 220     5  0 15   154                      CIC    154                                           40470
0 10 1 221    15  0 15   362   525300000          XOR    =0525300000       1,3,5,7,9,11,12             40480
0 10 1 222     4  0 15 1 232                      TNZ    L42P3                                         40490
0 10 1 223    17  0 15   115               L42P2  CLA    H42P2                                         40500
0 10 1 224    13  0 15 1 070                      STO    V1                                            40510
0 10 1 225     0  0 15 1 023                      HOP    H9P3                                          40520
0 10 1 226     5  0 15   154                      CIO    154                                           40530
0 10 1 227     4  0 15 1 232                      TNZ    L42P3                                         40540
0 10 1 230    10  0 15 1 242                      TRA    L43P1                                         40550
0 10 1 231    00  0 15   363   150000310          TRA*   L45P1             TO ROUTINE 6                40560
                                           *      TO ERROR ROUTINE                                     40570
0 10 1 232    13  0 15 1 376               L42P3  STO    776                                           40580
0 10 1 233    13  0 15 1 077                      STO    TEMP1                                         40590
0 10 1 234    17  0 15 1 376                      CLA    776                                           40600
0 10 1 235    13  0 15 1 071                      STO    VAR2                                          40610
0 10 1 236     0  0 15 1 023                      HOP    H9P3                                          40620
0 10 1 237    17  0 15 1 077                      CLA    TEMP1                                         40630
0 10 1 240    00  0 15   364   160000560   L42P4  TRA*   L95P1                                         40640
0 10 1 241    15  0 15   245               K37P3  XOR    PATN3                                         40650

                  0 15    55   150033100   H29P3  HPC    L29P3                                         40670
                  0 15    56   150040100   H29P4  HPC    L29P4                                         40680
                  0 15    57   150044500   H30P1  HPC    L30P1                                         40690
                  0 15    60   150052100   H30P2  HPC    L30P2                                         40700
                  0 15    61   150062500   H31P3  HPC    L31P3                                         40710
                  0 15    62   150070100   H31P4  HPC    L31P4                                         40720
                  0 15    63   150075500   H32P2  HPC    L32P2                                         40730
                  0 15    64   150101500   H32P3  HPC    L32P3                                         40740
                  0 15    65   150105500   H32P4  HPC    L32P4                                         40750
                  0 15    66   150112100   H33P1  HPC    L33P1                                         40760
                  0 15    67   150116100   H33P2  HPC    L33P2                                         40770
                  0 15    70   150121500   H33P3  HPC    L33P3                                         40780
                  0 15    71   150143100   H34P4  HPC    L34P4                                         40790
                  0 15    72   150150500   H34P5  HPC    L34P5                                         40800
                  0 15    73   150152500   H34P6  HPC    L34P6                                         40810
                  0 15    74   150156100   H34P7  HPC    L34P7                                         40820
                  0 15    75   150162100   H34P8  HPC    L34P8                                         40830
                  0 15    76   150166100   H34P9  HPC    L34P9                                         40840
                  0 15    77   150007300   H37P4  HPC    L37P4                                         40850
                  0 15   100   150014700   H37P5  HPC    L37P5                                         40860
                  0 15   101   150023300   H38P4  HPC    L38P4                                         40870
                  0 15   102   150030300   H39P1  HPC    L39P1                                         40880
                  0 15   103   150034700   H39P2  HPC    L39P2                                         40890
                  0 15   104   150041700   H39P3  HPC    L39P3                                         40900
                  0 15   105   150044300   H39P4  HPC    L39P4                                         40910
                  0 15   106   150047700   H40P1  HPC    L40P1                                         40920
                  0 15   107   150056300   H40P2  HPC    L40P2                                         40930
                  0 15   110   150062300   H40P3  HPC    L40P3                                         40940
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 81)

| IM IS S LOC | UP DM DS 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|
| | 0 15 | 111 | 150066300 | H41P1 | HPC | L41P1 | | 40950 |
| | 0 15 | 112 | 150070700 | H41P2 | HPC | L41P2 | | 40960 |
| | C 15 | 113 | 150101300 | H41P3 | HPC | L41P3 | | 40970 |
| | 0 15 | 114 | 150103700 | H42P1 | HPC | L42P1 | | 40980 |
| | 0 15 | 115 | 150111700 | H42P2 | HPC | L42P2 | | 40990 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 82)

| IM IS S LOC | OP CM DS 9 ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|
| | 0 15 116 | 614300000 | PATN1 | OCT | 614300000 | A PRTR | 41010 |
| | 0 15 117 | 624300000 | | OCT | 624300000 | B | 41020 |
| | 0 15 120 | 634300000 | | OCT | 634300000 | C | 41030 |
| | 0 15 121 | 644300000 | | OCT | 644300000 | D | 41040 |
| | 0 15 122 | 654300000 | | OCT | 654300000 | E | 41050 |
| | 0 15 123 | 664300000 | | OCT | 664300000 | F | 41060 |
| | 0 15 124 | 674300000 | | OCT | 674300000 | G | 41070 |
| | 0 15 125 | 704300000 | | OCT | 704300000 | H | 41080 |
| | 0 15 126 | 714300000 | | OCT | 714300000 | I | 41090 |
| | 0 15 127 | 414300000 | | OCT | 414300000 | J | 41100 |
| | 0 15 130 | 424300000 | | OCT | 424300000 | K | 41110 |
| | 0 15 131 | 434300000 | | OCT | 434300000 | L | 41120 |
| | 0 15 132 | 444300000 | | OCT | 444300000 | M | 41130 |
| | 0 15 133 | 454300000 | | OCT | 454300000 | N | 41140 |
| | 0 15 134 | 464300000 | | OCT | 464300000 | O | 41150 |
| | 0 15 135 | 474300000 | | OCT | 474300000 | P | 41160 |
| | 0 15 136 | 504300000 | | OCT | 504300000 | Q | 41170 |
| | 0 15 137 | 514300000 | | OCT | 514300000 | R | 41180 |
| | 0 15 140 | 224300000 | | OCT | 224300000 | S | 41190 |
| | 0 15 141 | 234300000 | | OCT | 234300000 | T | 41200 |
| | 0 15 142 | 244300000 | | OCT | 244300000 | U | 41210 |
| | 0 15 143 | 254300000 | | OCT | 254300000 | V | 41220 |
| | 0 15 144 | 264300000 | | OCT | 264300000 | W | 41230 |
| | 0 15 145 | 274300000 | | OCT | 274300000 | X | 41240 |
| | 0 15 146 | 304300000 | | OCT | 304300000 | Y | 41250 |
| | 0 15 147 | 310300000 | | OCT | 310300000 | Z | 41260 |
| | 0 15 150 | 14300000 | | OCT | 014300000 | 1 BCD | 41270 |
| | 0 15 151 | 24300000 | | OCT | 024300000 | 2 | 41280 |
| | 0 15 152 | 34300000 | | OCT | 034300000 | 3 | 41290 |
| | 0 15 153 | 44300000 | | OCT | 044300000 | 4 | 41300 |
| | 0 15 154 | 54300000 | | OCT | 054300000 | 5 | 41310 |
| | 0 15 155 | 64300000 | | OCT | 064300000 | 6 | 41320 |
| | 0 15 156 | 74300000 | | OCT | 074300000 | 7 | 41330 |
| | 0 15 157 | 104300000 | | OCT | 104300000 | 8 | 41340 |
| | 0 15 160 | 114300000 | | OCT | 114300000 | 9 | 41350 |
| | 0 15 161 | 124300000 | | OCT | 124300000 | 0 | 41360 |
| | 0 15 162 | 134300000 | | OCT | 134300000 | SPCL CHARS | 41370 |
| | 0 15 163 | 204300000 | | OCT | 204300000 | | 41380 |
| | 0 15 164 | 214300000 | | OCT | 214300000 | | 41390 |
| | 0 15 165 | 334300000 | | OCT | 334300000 | | 41400 |
| | 0 15 166 | 404300000 | | OCT | 404300000 | | 41410 |
| | 0 15 167 | 534300000 | | OCT | 534300000 | | 41420 |
| | 0 15 170 | 604300000 | | OCT | 604300000 | | 41430 |
| | 0 15 171 | 734300000 | | OCT | 734300000 | | 41440 |
| | 0 15 172 | 4300000 | | OCT | 004300000 | | 41450 |
| | 0 15 173 | 144300000 | | OCT | 144300000 | | 41460 |
| | 0 15 174 | 154300000 | | OCT | 154300000 | | 41470 |
| | 0 15 175 | 164300000 | | OCT | 164300000 | | 41480 |
| | 0 15 176 | 174300000 | | OCT | 174300000 | | 41490 |
| | 0 15 177 | 324300000 | | OCT | 324300000 | | 41500 |
| | 0 15 200 | 344300000 | | OCT | 344300000 | | 41510 |
| | 0 15 201 | 354300000 | | OCT | 354300000 | | 41520 |
| | 0 15 202 | 364300000 | | OCT | 364300000 | | 41530 |
| | 0 15 203 | 374300000 | | OCT | 374300000 | | 41540 |
| | 0 15 204 | 524300000 | | OCT | 524300000 | | 41550 |
| | 0 15 205 | 544300000 | | OCT | 544300000 | | 41560 |
| | 0 15 206 | 554300000 | | OCT | 554300000 | | 41570 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 83)

```
IM IS S LOC   OP DM DS 9 ADR    OCT VAL    LHS    OPC     VARIABLE          COMMENT                       SEQ NO

                   0 15   207   564300000         OCT     564300000                                      41580
                   0 15   210   574300000         OCT     574300000                                      41590
                   0 15   211   724300000         OCT     724300000                                      41600
                   0 15   212   744300000         OCT     744300000                                      41610
                   0 15   213   754300000         OCT     754300000                                      41620
                   0 15   214   764300000         OCT     764300000                                      41630
                   0 15   215   774300000         OCT     774300000         END BCD                      41640
                   0 15   216   124300000  PATN4  OCT     124300000         0 OCTAL                      41650
                   0 15   217   130300000         OCT     130300000         1                            41660
                   0 15   220   120300000         OCT     120300000         2                            41670
                   0 15   221   134300000         OCT     134300000         3                            41680
                   0 15   222   160300000         OCT     160300000         4                            41690
                   0 15   223   174300000         OCT     174300000         5                            41700
                   0 15   224   164300000         OCT     164300000         6                            41710
                   0 15   225   170300000         OCT     170300000         7                            41720
                   0 15   226    12100000  PATN2  OCT     012100000         CHNL.1 - IMMED.SKIP          41730
                   0 15   227    22100000         OCT     022100000              2                       41740
                   0 15   230    36100000         OCT     036100000              3                       41750
                   0 15   231    42100000         OCT     042100000              4                       41760
                   0 15   232    56100000         OCT     056100000              5                       41770
                   0 15   233    66100000         OCT     066100000              6                       41780
                   0 15   234    72100000         OCT     072100000              7                       41790
                   0 15   235   102100000         OCT     102100000              8                       41800
                   0 15   236   116100000         OCT     116100000              9                       41810
                   0 15   237   126100000         OCT     126100000              10                      41820
                   0 15   240   132100000         OCT     132100000              11                      41830
                   0 15   241   146100000         OCT     146100000              12                      41840
                   0 15   242   416100000         OCT     416100000         1 IMMED. SPACE               41850
                   0 15   243   426100000         OCT     426100000         2                            41860
                   0 15   244   432100000         OCT     432100000         3                            41870
                                           *      SKIP AFTER PRINT          CHANNEL                      41880
                   0 15   245   612100000  PATN3  OCT     612100000         1                            41890
                   0 15   246   622100000         OCT     622100000         2                            41900
                   0 15   247   636100000         OCT     636100000         3                            41910
                   0 15   250   642100000         OCT     642100000         4                            41920
                   0 15   251   656100000         OCT     656100000         5                            41930
                   0 15   252   666100000         OCT     666100000         6                            41940
                   0 15   253   672100000         OCT     672100000         7                            41950
                   0 15   254   702100000         OCT     702100000         8                            41960
                   0 15   255   716100000         OCT     716100000         9                            41970
                   0 15   256   726100000         OCT     726100000         10                           41980
                   0 15   257   732100000         OCT     732100000         11                           41990
                   0 15   260   746100000         OCT     746100000         12                           42000
                                           *      SPACE AFTER PRINT                                      42010
                   0 15   261   216100000         OCT     216100000         1                            42020
                   0 15   262   226100000         OCT     226100000         2                            42030
                   0 15   263   232100000         OCT     232100000         3                            42040
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 84)

```
IM IS S LOC   UP OP DS 9 ADR   OCT VAL     LHS     OPC      VARIABLE               COMMENT                    SEQ NO

                                           *       RESTORE  ORIGINAL INSTRUCTIONS
0 10 1 242    13  0 15 1 376               L43P1   STO      776                                               42060
0 10 1 243    17  0 15 1 376                       CLA      776                                               42070
0 10 1 244    13  0 15 1 103                       STO      HRTRN                                             42080
0 10 1 245    16  0 10   210                       CDS      0,10                                              42090
0 10 1 246    17  0 10   370                       CLA      K31P1                                             42100
0 10 1 247    13  0 10 1 076                       STO      TEMP                                              42110
0 10 1 250    17  0 10   140                       CLA      L31P1                                             42120
0 10 1 251    00  0 10   376   160000360           TRA*     L1P1C                                             42130
0 10 1 252    13  0 10   140                       STO      L31P1                                             42140
0 10 1 253    17  0 10   371                       CLA      K31P2                                             42150
0 10 1 254    13  0 10 1 076                       STO      TEMP                                              42160
0 10 1 255    17  0 10   143                       CLA      L31P2                                             42170
0 10 1 256    00  0 10   376   160000360           TRA*     L1P1C                                             42180
0 10 1 257    13  0 10   143                       STO      L31P2                                             42190
0 10 1 260    16  0 11   211                       CDS      0,11                                              42200
0 10 1 261    17  0 11   344                       CLA      K35P4                                             42210
0 10 1 262    13  0 11 1 076                       STO      TEMP                                              42220
0 10 1 263    17  0 11   276                       CLA      L35P4                                             42230
0 10 1 264    00  0 11   345   160000360           TRA*     L1P1C                                             42240
0 10 1 265    13  0 11   276                       STO      L35P4                                             42250
0 10 1 266    16  0 10   210                       CDS      0,10                                              42260
0 10 1 267    17  0 10   241                       CLA      K37P3                                             42270
0 10 1 270    13  0 10 1 076                       STO      TEMP                                              42280
0 10 1 271    17  0 10   014                       CLA      L37P3                                             42290
0 10 1 272    10  0 10 1 275                       TRA      L43P2                                             42300
0 10 1 273    13  0 10   014                       STO      L37P3                                             42310
0 10 1 274     0  0 10 1 103                       HOP      HRTRN                                             42320
                                           *       RESTORE  SYLLABLE 1 INSTRUCTION                            42330
0 10 1 275    13  0 10 1 376               L43P2   STO      776                                               42340
0 10 1 276     6  0 10 1 040                       AND      KX1                    REMOVE ADDRESS             42350
0 10 1 277    13  0 10 1 077                       STO      TEMP1                                             42360
0 10 1 300    17  0 10 1 076                       CLA      TEMP                                              42370
0 10 1 301     6  0 10 1 045                       AND      KX6                    KEEP ADDRESS               42380
0 10 1 302    15  0 10 1 077                       XOR      TEMP1                                             42390
0 10 1 303     0  0 10 1 376                       HOP      776                                               42400
                                                                                                              42410
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 85)

```
IM IS S LOC   OP DM DS 9 ADR    OCT VAL     LHS     OPC    VARIABLE               COMMENT                         SEQ NO

                                            *       BEGINNING OF ROUTINE SIX                                      42430
                                            *       EXERCISE CALCOMP DIGITAL INCREMENTAL PLOTTER                  42440
0 11 1   0       0 15   264                         ORG    ,11,1,,,15,                                            42450
0 11 1   0    17 0 15 1 061                 L45P1   CLA    LCR6                                                   42460
0 11 1   1    14 0 15 1 005                         TMI    L45P2                                                  42470
0 11 1   2     4 0 15 1 004                         TNZ    L50P1A                                                 42480
0 11 1   3    00 0 15   327    130007000            TRA*   L2P1                                                   42490
0 11 1   4    00 0 15   365    110000110    L50P1A  TRA*   L50P1                                                  42500
                 0 15   264    150002710    H45P2   HPC    L45P2                                                  42510
0 11 1   5    17 0 15   264                 L45P2   CLA    H45P2                                                  42520
0 11 1   6    13 0 15 1 070                         STC    VAR1                                                   42530
0 11 1   7    17 0 15   265                         CLA    H50P1                                                  42540
                 0 15   265    110000110    H50P1   HPC    L50P1                                                  42550
0 11 1  10    13 0 15 1 071                         STC    VAR2                                                   42560
0 11 1  11    17 0 15 1 032                         CLA    K1                                                     42570
0 11 1  12     5 0 15   150                         CIO    150                    RAISE PEN                       42580
0 11 1  13    10 0 15 1 126                         TRA    L47P1B                 DELAY 0.11 SEC                  42590
0 11 1  14     5 0 15   214                         CIC    214                                                    42600
0 11 1  15     6 0 15   270                         ANC    K2                                                     42610
0 11 1  16     4 0 15 1 043                         TNZ    L45P3A                                                 42620
0 11 1  17    13 0 15 1 073                         STO    V4                     =0                              42630
0 11 1  20    17 0 15   266                         CLA    KMAXMA                                                 42640
                 0 15   266    400003774    KMAXMA  OCT    400003774                                              42650
                 0 15   267    400001774    KMAXM   OCT    400001774                                              42660
0 11 1  21     5 0 15   144                         CIO    144                    CARR RIGHT                      42670
0 11 1  22    10 0 15 1 264                         TRA    L47P3                                                  42680
0 11 1  23     5 0 15   214                         CIC    214                                                    42690
0 11 1  24     6 0 15   270                         AND    K2                                                     42700
                 0 15   270            4    K2      OCT    000000004                                              42710
0 11 1  25     4 0 15 1 043                         TNZ    L45P3A                                                 42720
0 11 1  26    17 0 15   270                 L45P3   CLA    K2                                                     42730
0 11 1  27     5 0 15   150                         CIO    150                    LOWER PEN                       42740
0 11 1  30    10 0 15 1 126                         TRA    L47P1B                 DELAY 0.11 SEC                  42750
0 11 1  31     5 0 15   214                         CIO    214                                                    42760
0 11 1  32     6 0 15   270                         ANC    K2                                                     42770
0 11 1  33     4 0 15 1 043                         TNZ    L45P3A                                                 42780
0 11 1  34    17 0 15   271                         CLA    KMAXPA                                                 42790
                 0 15   271         3774    KMAXPA  OCT    000003774                                              42800
                 0 15   272         1774    KMAXP   OCT    000001774                                              42810
0 11 1  35     5 0 15   140                         CIO    140                    DRUM DOWN                       42820
0 11 1  36    17 0 15 1 020                         CLA    ZERO                                                   42830
0 11 1  37     5 0 15   144                         CIC    144                    PLOT                            42840
0 11 1  40     5 0 15   214                         CIC    214                                                    42850
0 11 1  41     6 0 15   270                         AND    K2                     CHECK READY                     42860
0 11 1  42     4 0 15 1 051                         TNZ    L45P3B                                                 42870
0 11 1  43    13 0 15 1 376                 L45P3A  STC    776                                                    42880
0 11 1  44    13 0 15 1 076                         STC    TEMP                                                   42890
0 11 1  45    17 0 15 1 376                         CLA    776                                                    42900
0 11 1  46    13 0 15 1 073                         STC    V4                                                     42910
0 11 1  47    17 0 15 1 076                         CLA    TEMP                                                   42920
0 11 1  50     0 0 15 1 026                         HOP    H95P1                                                  42930
0 11 1  51    10 0 15 1 264                 L45P3B  TRA    L47P3                                                  42940
0 11 1  52    17 0 15   272                 L45P4   CLA    KMAXP                                                  42950
0 11 1  53     5 0 15   144                         CIC    144                    CARR LEFT                       42960
0 11 1  54    10 0 15 1 271                         TRA    L47P4                                                  42970
0 11 1  55    17 0 15   273                 L45P5   CLA    KHP                                                    42980
                 0 15   273          776    KHP     OCT    000000776                                              42990
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 86)

| IM | IS | S | LOC | UP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 11 | 1 | 56 | 5 | 0 | 15 | | 140 | | | CIC | 140 | DRUM DOWN | 43000 |
| 0 | 11 | 1 | 57 | 17 | 0 | 15 | | 274 | | | CLA | KHM | | 43010 |
| | | | | | 0 | 15 | | 274 | 400000776 | KHM | OCI | 400000776 | | 43020 |
| 0 | 11 | 1 | 60 | 5 | 0 | 15 | | 144 | | | CIC | 144 | CARR RIGHT | 43030 |
| 0 | 11 | 1 | 61 | 10 | 0 | 15 | 1 | 276 | | | TRA | L47P5 | | 43040 |
| 0 | 11 | 1 | 62 | 17 | 0 | 15 | | 274 | | L46P1 | CLA | KHM | | 43050 |
| 0 | 11 | 1 | 63 | 5 | 0 | 15 | | 140 | | | CIC | 140 | DRUM UP | 43060 |
| 0 | 11 | 1 | 64 | 17 | 0 | 15 | | 274 | | | CLA | KHM | | 43070 |
| 0 | 11 | 1 | 65 | 5 | 0 | 15 | | 144 | | | CIC | 144 | CARR RIGHT | 43080 |
| 0 | 11 | 1 | 66 | 10 | 0 | 15 | 1 | 276 | | | TRA | L47P5 | | 43090 |
| 0 | 11 | 1 | 67 | 17 | 0 | 15 | | 267 | | L46P2 | CLA | KMAXM | | 43100 |
| 0 | 11 | 1 | 70 | 5 | 0 | 15 | | 140 | | | CIC | 140 | DRUM UP | 43110 |
| 0 | 11 | 1 | 71 | 17 | 0 | 15 | | 272 | | | CLA | KMAXP | | 43120 |
| 0 | 11 | 1 | 72 | 5 | 0 | 15 | | 144 | | | CIC | 144 | CARR LEFT | 43130 |
| 0 | 11 | 1 | 73 | 10 | 0 | 15 | 1 | 271 | | | TRA | L47P4 | | 43140 |
| 0 | 11 | 1 | 74 | 17 | 0 | 15 | | 267 | | L46P3 | CLA | KMAXM | | 43150 |
| 0 | 11 | 1 | 75 | 5 | 0 | 15 | | 144 | | | CIC | 144 | CARR RIGHT | 43160 |
| 0 | 11 | 1 | 76 | 10 | 0 | 15 | 1 | 271 | | | TRA | L47P4 | | 43170 |
| 0 | 11 | 1 | 77 | 17 | 0 | 15 | | 272 | | L46P4 | CLA | KMAXP | | 43180 |
| 0 | 11 | 1 | 100 | 5 | 0 | 15 | | 140 | | | CIC | 140 | DRUM DOWN | 43190 |
| 0 | 11 | 1 | 101 | 5 | 0 | 15 | | 144 | | | CIO | 144 | CARR LEFT | 43200 |
| 0 | 11 | 1 | 102 | 10 | 0 | 15 | 1 | 271 | | | TRA | L47P4 | | 43210 |
| 0 | 11 | 1 | 103 | 17 | 0 | 15 | | 267 | | L46P5 | CLA | KMAXM | | 43220 |
| 0 | 11 | 1 | 104 | 5 | 0 | 15 | | 140 | | | CIC | 140 | DRUM UP | 43230 |
| 0 | 11 | 1 | 105 | 17 | 0 | 15 | 1 | 020 | | | CLA | ZERO | | 43240 |
| 0 | 11 | 1 | 106 | 5 | 0 | 15 | | 144 | | | CIC | 144 | | 43250 |
| 0 | 11 | 1 | 107 | 10 | 0 | 15 | 1 | 271 | | | TRA | L47P4 | | 43260 |
| 0 | 11 | 1 | 110 | 17 | 0 | 15 | 1 | 032 | | L46P6 | CLA | K1 | | 43270 |
| 0 | 11 | 1 | 111 | 5 | 0 | 15 | | 150 | | | CIC | 150 | RAISE PEN | 43280 |
| 0 | 11 | 1 | 112 | 17 | 0 | 15 | | 274 | | | CLA | KHM | CARR RIGHT | 43290 |
| 0 | 11 | 1 | 113 | 5 | 0 | 15 | | 144 | | | CIC | 144 | | 43300 |
| 0 | 11 | 1 | 114 | 10 | 0 | 15 | 1 | 276 | | | TRA | L47P5 | | 43310 |
| 0 | 11 | 1 | 115 | 17 | 0 | 15 | | 273 | | L46P7 | CLA | KHP | DRUM DOWN | 43320 |
| 0 | 11 | 1 | 116 | 5 | 0 | 15 | | 140 | | | CIC | 140 | | 43330 |
| 0 | 11 | 1 | 117 | 17 | 0 | 15 | 1 | 020 | | | CLA | ZERO | | 43340 |
| 0 | 11 | 1 | 120 | 5 | 0 | 15 | | 144 | | | CIO | 144 | | 43350 |
| 0 | 11 | 1 | 121 | 10 | 0 | 15 | 1 | 276 | | | TRA | L47P5 | | 43360 |
| 0 | 11 | 1 | 122 | 17 | 0 | 15 | | 270 | | L47P1 | CLA | K2 | | 43370 |
| 0 | 11 | 1 | 123 | 5 | 0 | 15 | | 150 | | | CIC | 150 | LOWER PEN | 43380 |
| 0 | 11 | 1 | 124 | 10 | 0 | 15 | 1 | 126 | | | TRA | L47P1B | DELAY 0.11 SEC | 43390 |
| 0 | 11 | 1 | 125 | 10 | 0 | 15 | 1 | 133 | | | TRA | L47P1C | | 43400 |
| 0 | 11 | 1 | 126 | 13 | 0 | 15 | 1 | 377 | | L47P1B | STO | 777 | | 43410 |
| 0 | 11 | 1 | 127 | 17 | 0 | 15 | | 366 | 000002466 | | CLA | =O000002466 | DELAY 110 MSEC. | 43420 |
| 0 | 11 | 1 | 130 | 2 | 0 | 15 | 1 | 032 | | L47P1A | SUB | K1 | | 43430 |
| 0 | 11 | 1 | 131 | 4 | 0 | 15 | 1 | 130 | | | TNZ | L47P1A | | 43440 |
| 0 | 11 | 1 | 132 | 0 | 0 | 15 | 1 | 377 | | | HOP | 777 | | 43450 |
| 0 | 11 | 1 | 133 | 17 | 0 | 15 | | 275 | | L47P1C | CLA | H47P1 | | 43460 |
| | | | | | 0 | 15 | | 275 | 150051310 | H47P1 | HPC | L47P1 | | 43470 |
| 0 | 11 | 1 | 134 | 13 | 0 | 15 | 1 | 070 | | | STO | VAR1 | | 43480 |
| 0 | 11 | 1 | 135 | 17 | 0 | 15 | | 276 | | | CLA | H47P2 | | 43490 |
| | | | | | 0 | 15 | | 276 | 150061310 | H47P2 | HPC | L47P2 | | 43500 |
| 0 | 11 | 1 | 136 | 13 | 0 | 15 | 1 | 071 | | | STO | VAR2 | | 43510 |
| 0 | 11 | 1 | 137 | 5 | 0 | 15 | | 214 | | | CIC | 214 | CHECK READY | 43520 |
| 0 | 11 | 1 | 140 | 6 | 0 | 15 | | 270 | | | ANL | K2 | | 43530 |
| 0 | 11 | 1 | 141 | 4 | 0 | 15 | 1 | 043 | | | TNZ | L45P3A | | 43540 |
| 0 | 11 | 1 | 142 | 17 | 0 | 15 | | 274 | | L47P2 | CLA | KHM | | 43550 |
| 0 | 11 | 1 | 143 | 5 | 0 | 15 | | 144 | | | CIC | 144 | CARR RIGHT | 43560 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 87)

```
IM IS S LOC   OP DM OS 9 ADR   OCT VAL     LHS    OPC   VARIABLE        COMMENT                SEQ NO

0 11 1 144    10  0 15 1 276                      TRA   L47P5                                  43570
0 11 1 145    17  0 15 1 032                      CLA   K1                                     43580
0 11 1 146     5  0 15   150                      CIC   150             RAISE PEN              43590
0 11 1 147    17  0 15   367   000002260          CLA   =0000002260     600 DEC.               43600
0 11 1 150     5  0 15   140                      CIC   140             DRUM DOWN              43610
0 11 1 151    17  0 15   370   000002400          CLA   =0000002400     640 DEC.               43620
0 11 1 152     5  0 15   144                      CIC   144             CARR. LEFT             43630
0 11 1 153    17  0 15   354   000000014          CLA   =0000000014                            43640
0 11 1 154    13  0 15 1 101                      STO   CTR                                    43650
0 11 1 155    10  0 15 1 303               L48P2  TRA   L48P1           WAIT                   43660
0 11 1 156    17  0 15   270                      CLA   K2              LOWER PEN              43670
0 11 1 157     5  0 15   150                      CIO   150                                    43680
0 11 1 160    10  0 15 1 303                      TRA   L48P1           WAIT                   43690
0 11 1 161    17  0 15   270                      CLA   K2              DRUM DOWN 2            43700
0 11 1 162     5  0 15   140                      CIC   140                                    43710
0 11 1 163    17  0 15 1 020                      CLA   ZERO                                   43720
0 11 1 164     5  0 15   144                      CIC   144                                    43730
0 11 1 165    10  0 15 1 303                      TRA   L48P1                                  43740
0 11 1 166    17  0 15 1 032                      CLA   K1                                     43750
0 11 1 167     5  0 15   150                      CIC   150             RAISE PEN              43760
0 11 1 170    10  0 15 1 303                      TRA   L48P1                                  43770
0 11 1 171    17  0 15   371   400000010          CLA   =0400000010     DRUM UP 4              43780
0 11 1 172     5  0 15   140                      CIO   140                                    43790
0 11 1 173    17  0 15 1 020                      CLA   ZERO                                   43800
0 11 1 174     5  0 15   144                      CIO   144                                    43810
0 11 1 175    10  0 15 1 303                      TRA   L48P1                                  43820
0 11 1 176    17  0 15   270                      CLA   K2              LOWER PEN              43830
0 11 1 177     5  0 15   150                      CIO   150                                    43840
0 11 1 200    10  0 15 1 303                      TRA   L48P1                                  43850
0 11 1 201    17  0 15   372   400000004          CLA   =0400000004     CARR. RIGHT 2          43860
0 11 1 202     5  0 15   144                      CIO   144                                    43870
0 11 1 203    10  0 15 1 303                      TRA   L48P1                                  43880
0 11 1 204    17  0 15 1 032                      CLA   K1              RAISE PEN              43890
0 11 1 205     5  0 15   150                      CIC   150                                    43900
0 11 1 206    10  0 15 1 303                      TRA   L48P1                                  43910
0 11 1 207    17  0 15 1 021                      CLA   BB              CARR LEFT 4            43920
0 11 1 210     5  0 15   144                      CIC   144                                    43930
0 11 1 211    17  0 15 1 101                      CLA   CTR                                    43940
0 11 1 212     2  0 15 1 032                      SUB   K1                                     43950
0 11 1 213    13  0 15 1 101                      STO   CTR                                    43960
0 11 1 214     4  0 15 1 155                      TNZ   L48P2                                  43970
0 11 1 215    10  0 15 1 303                      TRA   L48P1           WAIT                   43980
0 11 1 216    17  0 15   270                      CLA   K2              LOWER PEN              43990
0 11 1 217     5  0 15   150                      CIC   150                                    44000
0 11 1 220    17  0 15   354   000000014          CLA   =0000000014                            44010
0 11 1 221    13  0 15 1 101                      STO   CTR                                    44020
0 11 1 222    10  0 15 1 303               L48P3  TRA   L48P1           WAIT                   44030
0 11 1 223    17  0 15   270                      CLA   K2              DRUM DOWN 2            44040
0 11 1 224     5  0 15   140                      CIO   140                                    44050
0 11 1 225     5  0 15   144                      CIC   144             CARR LEFT 2            44060
0 11 1 226    10  0 15 1 303                      TRA   L48P1           WAIT                   44070
0 11 1 227    17  0 15   372   400000004          CLA   =0400000004     DRUM UP 2              44080
0 11 1 230     5  0 15   140                      CIC   140                                    44090
0 11 1 231    17  0 15   270                      CLA   K2              CARR LEFT 2            44100
0 11 1 232     5  0 15   144                      CIC   144                                    44110
0 11 1 233    10  0 15 1 303                      TRA   L48P1           WAIT                   44120
0 11 1 234    17  0 15   372   400000004          CLA   =0400000004                            44130
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 88)

| IM | IS | S | LOC | UP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEC NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 11 | 1 | 235 | 5 | 0 | 15 | | 140 | | | CIC | 140 | DRUM UP 2 | 44140 |
| 0 | 11 | 1 | 236 | 5 | 0 | 15 | | 144 | | | CIC | 144 | CARR RIGHT 2 | 44150 |
| 0 | 11 | 1 | 237 | 10 | 0 | 15 | 1 | 303 | | | TRA | L48P1 | WAIT | 44160 |
| 0 | 11 | 1 | 240 | 17 | 0 | 15 | | 372 | 400000004 | | CLA | =0400000004 | DRUM UP 2 | 44170 |
| 0 | 11 | 1 | 241 | 5 | 0 | 15 | | 140 | | | CIC | 140 | | 44180 |
| 0 | 11 | 1 | 242 | 17 | 0 | 15 | | 270 | | | CLA | K2 | CARR LEFT 2 | 44190 |
| 0 | 11 | 1 | 243 | 5 | 0 | 15 | | 144 | | | CIO | 144 | | 44200 |
| 0 | 11 | 1 | 244 | 17 | 0 | 15 | 1 | 101 | | | CLA | CTR | | 44210 |
| 0 | 11 | 1 | 245 | 2 | 0 | 15 | 1 | 032 | | | SUB | K1 | | 44220 |
| 0 | 11 | 1 | 246 | 13 | 0 | 15 | 1 | 101 | | | STO | CTR | | 44230 |
| 0 | 11 | 1 | 247 | 4 | 0 | 15 | 1 | 222 | | | TNZ | L48P3 | | 44240 |
| 0 | 11 | 1 | 250 | 10 | 0 | 15 | 1 | 303 | | | TRA | L48P1 | WAIT | 44250 |
| 0 | 11 | 1 | 251 | 17 | 0 | 15 | 1 | 032 | | | CLA | K1 | RAISE PEN | 44260 |
| 0 | 11 | 1 | 252 | 5 | 0 | 15 | | 150 | | | CIC | 150 | | 44270 |
| 0 | 11 | 1 | 253 | 10 | 0 | 15 | 1 | 303 | | | TRA | L48P1 | WAIT | 44280 |
| 0 | 11 | 1 | 254 | 17 | 0 | 15 | 1 | 035 | | | CLA | K324 | 424 DECIMAL | 44290 |
| 0 | 11 | 1 | 255 | 5 | 0 | 15 | | 144 | | | CIC | 144 | | 44300 |
| 0 | 11 | 1 | 256 | 10 | 0 | 15 | 1 | 260 | | | TRA** | | GENERATED TRANSFER | |
| 0 | 11 | 1 | 260 | 10 | 0 | 15 | 1 | 303 | | | TRA | L48P1 | WAIT | 44310 |
| 0 | 11 | 1 | 261 | 00 | 0 | 15 | | 365 | 110000110 | | TRA* | L50P1 | | 44320 |
| 0 | 11 | 1 | 264 | | 0 | 15 | | 277 | | | ORG | ,11,1,264,,15, | | 44330 |
| 0 | 11 | 1 | 264 | 13 | 0 | 15 | 1 | 376 | | L47P3 | STC | 776 | | 44340 |
| 0 | 11 | 1 | 265 | 17 | 0 | 15 | | 373 | 000131002 | | CLA | =0000131002 | DELAY 3.76 SEC. | 44350 |
| 0 | 11 | 1 | 266 | 2 | 0 | 15 | 1 | 032 | | L47P3A | SUB | K1 | | 44360 |
| 0 | 11 | 1 | 267 | 4 | 0 | 15 | 1 | 266 | | | TNZ | L47P3A | | 44370 |
| 0 | 11 | 1 | 270 | 0 | 0 | 15 | 1 | 376 | | | HOP | 776 | | 44380 |
| 0 | 11 | 1 | 271 | 13 | 0 | 15 | 1 | 376 | | L47P4 | STC | 776 | | 44390 |
| 0 | 11 | 1 | 272 | 17 | 0 | 15 | | 374 | 000054402 | | CLA | =0000054402 | DELAY 1.88 SEC. | 44400 |
| 0 | 11 | 1 | 273 | 2 | 0 | 15 | 1 | 032 | | L47P4A | SUB | K1 | | 44410 |
| 0 | 11 | 1 | 274 | 4 | 0 | 15 | 1 | 273 | | | TNZ | L47P4A | | 44420 |
| 0 | 11 | 1 | 275 | 0 | 0 | 15 | 1 | 376 | | | HOP | 776 | | 44430 |
| 0 | 11 | 1 | 276 | 13 | 0 | 15 | 1 | 376 | | L47P5 | STO | 776 | | 44440 |
| 0 | 11 | 1 | 277 | 17 | 0 | 15 | | 377 | 000026202 | | CLA | =0000026202 | DELAY .94 SEC. | 44450 |
| 0 | 11 | 1 | 300 | 2 | 0 | 15 | 1 | 032 | | L47P5A | SUB | K1 | | 44460 |
| 0 | 11 | 1 | 301 | 4 | 0 | 15 | 1 | 300 | | | TNZ | L47P5A | | 44470 |
| 0 | 11 | 1 | 302 | 0 | 0 | 15 | 1 | 376 | | | HOP | 776 | | 44480 |
| 0 | 11 | 1 | 303 | 13 | 0 | 15 | 1 | 376 | | L48P1 | STC | 776 | | 44490 |
| 0 | 11 | 1 | 304 | 5 | 0 | 15 | | 214 | | | CIO | 214 | WAIT FOR READY | 44500 |
| 0 | 11 | 1 | 305 | 6 | 0 | 15 | | 270 | | | ANL | K2 | | 44510 |
| 0 | 11 | 1 | 306 | 4 | 0 | 15 | 1 | 304 | | | TNZ | *-2 | | 44520 |
| 0 | 11 | 1 | 307 | 0 | 0 | 15 | 1 | 376 | | | HCP | 776 | | 44530 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 89)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL    LHS    OPC    VARIABLE          COMMENT                          SEQ NO

                                          •      BEGINNING OF ROUTINE SEVEN                                 44550
                                          •      EXERCISE TYPEWRITER                                        44560
0 11 0   0         0 11   260                    ORG    ,11,,,,11,260                                       44570
0 11 C   C    17   0 11 1 062             L50P1  CLA    LCR7                                                44580
0 11 0   1    14   C 11   012                    TMI    L50P2                                               44590
0 11 0   2     4   0 11   136                    TNZ    L60P1                                               44600
0 11 C   3    00   0 11   346  130007000         TRA•   L2P1                                                44610
                                          •      SET RIGHT MARGIN BETWEEN 120 AND 124                       44620
                                          •      SET LEFT MARGIN AT C                                       44630
                                          •      SET TAB AT 10                                              44640
0 11 0   4    17   0 11 1 234             KL1    CLA    LINE1                                               44650
0 11 0   5    17   0 11 1 244             KL2    CLA    LINE2                                               44660
0 11 0   6    17   C 11 1 254             KL3    CLA    LINE3                                               44670
0 11 0   7    17   0 11 1 266             KL4    CLA    LINE4                                               44680
0 11 0  10    17   0 11 1 300             KL5    CLA    LINE5                                               44690
0 11 0  11    17   0 11 1 307             KL6    CLA    LINE6                                               44700
0 11 C  12    00   0 11   347  160064760  L50P2  TRA•   L98P4             CARR RTN                          44710
0 11 C  13    10   0 11   107                    TRA    L52P1             TAB                               44720
C 11 0  14     5   0 11   214                    CIC    214                                                 44730
0 11 C  15     6   0 11 1 021                    ANC    88                                                  44740
0 11 0  16     4   0 11   014                    TNZ    •-2                                                 44750
0 11 0  17    17   0 11   350  200000000         CLA    =0200CC0000       SET BLACK RIBBON                  44760
C 11 0  20     5   0 11   134                    CIC    134                                                 44770
0 11 0  21    17   0 11   351  000000020         CLA    =0000000020                                         44780
0 11 C  22    13   0 11 1 100                    STC    STOP                                                44790
C 11 0  23    17   0 11   004                    CLA    KL1                                                 44800
0 11 0  24    00   0 11   352  160065160         TRA•   L98P3             TYPE LINE 1                       44810
0 11 0  25    00   0 11   347  160064760  L50P3  TRA•   L98P4             CARR RTN                          44820
C 11 0  26    00   0 11   353  160070360         TRA•   L98P5             INDEX                             44830
0 11 0  27    10   0 11   107                    TRA    L52P1             TAB                               44840
0 11 0  30    17   0 11   351  000000020         CLA    =0000000020                                         44850
0 11 0  31    13   C 11 1 100                    STO    STOP                                                44860
0 11 0  32    17   0 11   005                    CLA    KL2                                                 44870
0 11 0  33    00   C 11   352  160065160         TRA•   L98P3             TYPE LINE 2                       44880
0 11 0  34    00   0 11   347  160064760  L50P4  TRA•   L98P4             CARR RTN                          44890
C 11 0  35    00   0 11   353  160070360         TRA•   L98P5             INDEX                             44900
0 11 0  36    1C   0 11   107                    TRA    L52P1             TAB                               44910
0 11 0  37    17   C 11   354  000000024         CLA    =000CCC0024                                         44920
0 11 0  40    13   0 11 1 100                    STO    STOP                                                44930
0 11 0  41    17   0 11   006                    CLA    KL3                                                 44940
C 11 0  42    00   C 11   352  160065160         TRA•   L98P3             TYPE LINE 3                       44950
0 11 0  43    17   0 11   355  000000240  L51P1  CLA    =0000000240       80 SPACES                         44960
0 11 0  44    00   0 11   356  160044760         TRA•   L98P1             SPACE                             44970
                                          •      SHOULD HIT RIGHT MARGIN AND EXECUTE AUTOMATIC CARRIAGE RETURN  44980
                                          •      ANC COMPLETE SPACING                                       44990
0 11 0  45    10   0 11   107                    TRA    L52P1                                               45000
0 11 0  46    17   0 11   357  000000016         CLA    =0000000016                                         45010
0 11 0  47    13   0 11 1 100                    STC    STOP                                                45020
0 11 0  50    17   C 11   007                    CLA    KL4                                                 45030
0 11 0  51    0C   0 11   352  160065160         TRA•   L98P3             TYPE LINE 4                       45040
0 11 0  52    00   0 11   347  160064760  L51P2  TRA•   L98P4             CARR RTN                          45050
0 11 0  53    0C   C 11   353  160070360         TRA•   L98P5             INDEX                             45060
C 11 0  54    10   0 11   107                    TRA    L52P1             TAB                               45070
0 11 0  55    17   0 11   360  000000014         CLA    =0C00C0C014                                         45080
0 11 0  56    13   C 11 1 100                    STO    STOP                                                45090
0 11 0  57    17   0 11   010                    CLA    KL5                                                 45100
C 11 0  60    00   C 11   352  160065160         TRA•   L98P3             TYPE 1ST PART LINE 5              45110
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 90)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL     LHS     OPC    VARIABLE           COMMENT                      SEQ NO

0 11 0  61    17  0 11 1 306                       CLA    LINE5A                                          45120
0 11 0  62    00  0 11   361   160052760           TRA*   L98P2                                           45130
0 11 0  63    00  0 11   347   160064760   L51P3   TRA*   L98P4              CARR RTN                     45140
0 11 0  64    00  0 11   353   160070360           TRA*   L98P5              INDEX                        45150
0 11 0  65    10  0 11   107                       TRA    L52P1              TAB                          45160
0 11 0  66    17  0 11   357   000000016           CLA    =0C00000016                                     45170
0 11 0  67    13  0 11 1 100                       STO    STOP                                            45180
0 11 0  70    17  0 11   011                       CLA    KL6                                             45190
0 11 0  71    00  0 11   352   160065160           TRA*   L98P3              TYPE 1ST PART LINE 6         45200
0 11 0  72     5  0 11   214                       CIC    214                                             45210
0 11 0  73     6  0 11 1 021                       ANC    BB                                              45220
0 11 0  74     4  0 11   072                       TNZ    *-2                                             45230
0 11 0  75    17  0 11   362   100000000           CLA    =01CCCCC000        SET RED RIBBON               45240
0 11 0  76     5  0 11   134                       CIC    134                                             45250
0 11 0  77    17  0 11   363   000000006           CLA    =00000CC006        SPACE 3                      45260
0 11 0 100    0C  0 11   356   160044760           TRA*   L98P1                                           45270
0 11 0 101    17  0 11 1 317                       CLA    LINE6A             TYPE 2ND PART LINE 6         45280
0 11 0 102    10  0 11   116                       TRA    L52P2                                           45290
0 11 0 103    17  0 11 1 320                       CLA    LINE6B                                          45300
0 11 0 104    10  0 11   116                       TRA    L52P2                                           45310
0 11 0 105    00  0 11   347   160064760           TRA*   L98P4              CARR RTN                     45320
0 11 0 106    10  0 11   136                       TRA    L60P1                                           45330

                                           *       TAB CONTROL                                            45350
0 11 0 107    13  0 11 1 376               L52P1   STO    776                                             45360
0 11 0 110     5  0 11   214                       CIO    214                                             45370
0 11 0 111     6  0 11 1 021                       ANC    BB                                              45380
0 11 0 112     4  0 11   110                       TNZ    *-2                                             45390
0 11 0 113    17  0 11   364   010000000           CLA    =0010000000                                     45400
0 11 0 114     5  0 11   134                       CIC    134                                             45410
0 11 0 115     0  0 11 1 376                       HOP    776                                             45420

                                           *       TYPE DECIMAL NUMBER                                    45440
0 11 0 116    13  0 11 1 376               L52P2   STO    776                                             45450
0 11 0 117    13  0 11 1 076                       STO    TEMP                                            45460
0 11 0 120    17  0 11   360   000000014           CLA    =000000C014                                     45470
0 11 0 121    13  0 11 1 100                       STO    STOP                                            45480
0 11 0 122     5  0 11   214               L52P2A  CIO    214                                             45490
0 11 0 123     6  0 11 1 021                       ANC    BB                                              45500
0 11 0 124     4  0 11   122                       TNZ    *-2                                             45510
0 11 0 125    17  0 11 1 C76                       CLA    TEMP                                            45520
0 11 0 126     5  0 11   124                       CIO    124                                             45530
                                                   SHL    4                                               45540
0 11 0 127    16  0 11   010
0 11 0 130    13  0 11 1 076                       STO    TEMP                                            45550
0 11 0 131    17  0 11 1 100                       CLA    STOP                                            45560
0 11 0 132     2  0 11 1 032                       SUB    K1                                              45570
0 11 0 133    13  0 11 1 100                       STO    STOP                                            45580
0 11 0 134     4  0 11   122                       TNZ    L52P2A                                          45590
0 11 0 135     0  0 11 1 376                       HOP    776                                             45600
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 91)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL    LHS    OPC   VARIABLE            COMMENT                 SEQ NO

                                          *      BEGINNING OF ROUTINE EIGHT                     45620
                                          *      EXERCISE PRINTER                               45630
0 11 0 136    17  0 11 1 063              L60P1  CLA   LCR8                                     45640
0 11 0 137    14  0 11   142                     TMI   L60P2B                                   45650
0 11 0 140     4  0 11   143                     TNZ   NAB1B                                    45660
0 11 0 141    00  0 11   346   130007000         TRA*  L2P1                                     45670
0 11 0 142    00  0 11   365   050001240  L60P2B TRA*  L60P2                                    45680
0 11 0 143    00  0 11   366   531020270  NAB1B  TRA*  NAB1                                     45690
0  4 1   2        0  5    11                     ORG   ,4,1,2,,5,11                             45700
0  4 1   2    17  0  5 1 136              L60P2  CLA   C26                 IMMED SKIP CH. 1     45710
0  4 1   3     5  0  5   160                     CIO   160                                      45720
0  4 1   4    17  0  5 1 020                     CLA   ZERO                                     45730
0  4 1   5    13  0  5   000                     STO   CTR2                                     45740
0  4 1   6    13  0  5 1 102                     STO   CTR3                                     45750
0  4 1   7    13  0  5   001                     STO   PGNR                                     45760
0  4 1  10    10  0  5 1 233                     TRA   L61P5                                    45770
0  4 1  11    17  0  5 1 020              L60P2A CLA   ZERO                                     45780
0  4 1  12    13  0  5 1 101                     STO   CTR                                      45790
0  4 1  13    13  0  5   C02                     STO   CTR1                                     45800
0  4 1  14    17  0  5   001                     CLA   PGNR                                     45810
0  4 1  15     7  0  5   004   000001000         ADD   =0000001                                 45820
0  4 1  16    13  0  5   001                     STO   PGNR                                     45830
C  4 1  17     5  C  5   214                     CIO   214                                      45840
0  4 1  20     6  0  5 1 032                     ANC   K1                                       45850
0  4 1  21     4  0  5 1 017                     TNZ   *-2                                      45860
                                          *      PRINT PAGE NUMBER AND HEADING                  45870
0  4 1  22     5  0  5   170                     CIO   170                 SET BCD MODE         45880
0  4 1  23    17  0  5   005   000000024         CLA   =000000024          TEN                  45890
0  4 1  24    13  0  5 1 100              L60P2J STO   STOP                                     45900
0  4 1  25     1  0  5 1 020                     PRS   ZERO                                     45910
0  4 1  26    17  C  5 1 100                     CLA   STOP                                     45920
0  4 1  27     2  0  5 1 C32                     SUB   K1                                       45930
0  4 1  30     4  0  5 1 024                     TNZ   L60P2J                                   45940
0  4 1  31     1  0  5   234                     PRS   KK                                       45950
0  4 1  32     1  0  5   235                     PRS   KK+1                                     45960
0  4 1  33     1  C  5   236                     PRS   KK+2                                     45970
0  4 1  34     1  0  5   237                     PRS   KK+3                                     45980
0  4 1  35     1  0  5   240                     PRS   KK+4                                     45990
0  4 1  36     1  0  5   241                     PRS   KK+5                                     46000
0  4 1  37     1  0  5   242                     PRS   KK+6                                     46010
0  4 1  40     1  C  5   243                     PRS   KK+7                                     46020
C  4 1  41     1  0  5   244                     PRS   KK+8                                     46030
0  4 1  42    17  0  5   006   000000020         CLA   =0000C0002C         =8                   46040
0  4 1  43    13  0  5 1 100              L60P2C STO   STOP                                     46050
0  4 1  44     1  0  5 1 020                     PRS   ZERO                                     46060
0  4 1  45    17  0  5 1 100                     CLA   STOP                                     46070
0  4 1  46     2  0  5 1 032                     SUB   K1                                       46080
0  4 1  47     4  0  5 1 043                     TNZ   L60P2C                                   46090
0  4 1  50     1  0  5   245                     PRS   KL                                       46100
0  4 1  51     1  0  5   246                     PRS   KL+1                                     46110
0  4 1  52    17  0  5   001                     CLA   PGNR                                     46120
0  4 1  53     2  0  5   007   000012000         SUB   =0C00012            TEN                  46130
0  4 1  54    14  0  5 1 101                     TMI   L60P2E                                   46140
0  4 1  55    17  0  5   001                     CLA   PGNR                                     46150
0  4 1  56     2  C  5   011   000024000         SUB   =0000024            20                   46160
0  4 1  57    14  0  5 1 103                     TMI   L60P2F                                   46170
C  4 1  60     4  0  5 1 062                     TNZ   *+2                                      46180
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 92)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 | 1 | 61 | 17 | 0 | 5 | | 007 | 000012000 | | CLA | =0000012 | | 46190 |
| 0 | 4 | 1 | 62 | 15 | 0 | 5 | | 250 | 000200000 | | XOR | =00002 | 1ST DIGIT = 2 | 46200 |
| 0 | 4 | 1 | 63 | 1 | 0 | 5 | 1 | 375 | | L60P2C | PRS | 775 | | 46210 |
| 0 | 4 | 1 | 64 | 17 | 0 | 5 | | 001 | | | CLA | PGNR | | 46220 |
| 0 | 4 | 1 | 65 | 2 | 0 | 5 | | 251 | 000013000 | | SUB | =0000013 | = 11 | 46230 |
| 0 | 4 | 1 | 66 | 14 | 0 | 5 | 1 | 111 | | | TMI | L60P2G | | 46240 |
| 0 | 4 | 1 | 67 | 13 | 0 | 5 | 1 | 076 | | | STO | TEMP | | 46250 |
| 0 | 4 | 1 | 70 | 2 | 0 | 5 | | 007 | 000012000 | | SUB | =0000012 | TEN | 46260 |
| 0 | 4 | 1 | 71 | 14 | 0 | 5 | 1 | 123 | | | TMI | L60P2H | | 46270 |
| 0 | 4 | 1 | 72 | 1 | 0 | 5 | 1 | 374 | | | PRS | 774 | | 46280 |
| 0 | 4 | 1 | 73 | 5 | 0 | 5 | | 214 | | | CIO | 214 | | 46290 |
| 0 | 4 | 1 | 74 | 6 | 0 | 5 | 1 | 032 | | | ANC | K1 | | 46300 |
| 0 | 4 | 1 | 75 | 4 | 0 | 5 | 1 | 073 | | | TNZ | *-2 | | 46310 |
| 0 | 4 | 1 | 76 | 17 | 0 | 5 | | 252 | 130000000 | | CLA | =013 | IMMED SKIP CH 11 | 46320 |
| 0 | 4 | 1 | 77 | 5 | 0 | 5 | | 160 | | | CIC | 160 | | 46330 |
| 0 | 4 | 1 | 100 | 10 | 0 | 5 | 1 | 133 | | | TRA | L60P3 | | 46340 |
| 0 | 4 | 1 | 101 | 17 | 0 | 5 | | 001 | | L60P2E | CLA | PGNR | | 46350 |
| 0 | 4 | 1 | 102 | 10 | 0 | 5 | 1 | 063 | | | TRA | L60P2D | | 46360 |
| 0 | 4 | 1 | 103 | 17 | 0 | 5 | | 001 | | L60P2F | CLA | PGNR | | 46370 |
| 0 | 4 | 1 | 104 | 2 | 0 | 5 | | 007 | 000012000 | | SUB | =0000012 | TEN | 46380 |
| 0 | 4 | 1 | 105 | 4 | 0 | 5 | 1 | 107 | | | TNZ | *+2 | | 46390 |
| 0 | 4 | 1 | 106 | 17 | 0 | 5 | | 007 | 000012000 | | CLA | =0000012 | | 46400 |
| 0 | 4 | 1 | 107 | 15 | 0 | 5 | | 253 | 000100000 | | XOR | =00001 | | 46410 |
| 0 | 4 | 1 | 110 | 10 | 0 | 5 | 1 | 063 | | | TRA | L60P2C | | 46420 |
| 0 | 4 | 1 | 111 | 1 | 0 | 5 | 1 | 374 | | L60P2G | PRS | 774 | | 46430 |
| 0 | 4 | 1 | 112 | 5 | 0 | 5 | | 214 | | | CIC | 214 | | 46440 |
| 0 | 4 | 1 | 113 | 6 | 0 | 5 | 1 | 032 | | | ANC | K1 | | 46450 |
| 0 | 4 | 1 | 114 | 4 | 0 | 5 | 1 | 112 | | | TNZ | *-2 | | 46460 |
| 0 | 4 | 1 | 115 | 17 | 0 | 5 | | 001 | | | CLA | PGNR | | 46470 |
| 0 | 4 | 1 | 116 | 7 | 0 | 5 | | 004 | 000001000 | | ACC | =0000001 | | 46480 |
| | | | | | | | | | | | SHL | 12 | | 46490 |
| 0 | 4 | 1 | 117 | 16 | 0 | 5 | | 040 | | | | | | |
| 0 | 4 | 1 | 120 | 16 | 0 | 5 | | 040 | | | | | | |
| 0 | 4 | 1 | 121 | 5 | 0 | 5 | | 160 | | | CIO | 160 | IMMED SKIP CH 2- 11 | 46500 |
| 0 | 4 | 1 | 122 | 10 | 0 | 5 | 1 | 133 | | | TRA | L60P3 | | 46510 |
| 0 | 4 | 1 | 123 | 17 | 0 | 5 | 1 | 076 | | L60P2H | CLA | TEMP | | 46520 |
| 0 | 4 | 1 | 124 | 7 | 0 | 5 | | 254 | 000002000 | | ACC | =0000002 | | 46530 |
| | | | | | | | | | | | SHL | 12 | | 46540 |
| 0 | 4 | 1 | 125 | 16 | 0 | 5 | | 040 | | | | | | |
| 0 | 4 | 1 | 126 | 16 | 0 | 5 | | 040 | | | | | | |
| 0 | 4 | 1 | 127 | 15 | 0 | 5 | | 255 | 600000000 | | XOR | =06 | | 46550 |
| 0 | 4 | 1 | 130 | 5 | 0 | 5 | | 160 | | | CIC | 160 | SKIP AFTER PRINT CH 2-11 | 46560 |
| 0 | 4 | 1 | 131 | 1 | 0 | 5 | 1 | 374 | | | PRS | 774 | | 46570 |
| 0 | 4 | 1 | 132 | 10 | 0 | 5 | 1 | 133 | | | TRA | L60P3 | | 46580 |
| 0 | 4 | 1 | 133 | 5 | 0 | 5 | | 214 | | L60P3 | CIO | 214 | | 46590 |
| 0 | 4 | 1 | 134 | 6 | 0 | 5 | 1 | 032 | | | ANC | K1 | CHECK PRINTER READY | 46600 |
| 0 | 4 | 1 | 135 | 4 | 0 | 5 | 1 | 133 | | | TNZ | L60P3 | | 46610 |
| 0 | 4 | 1 | 136 | 1 | 0 | 5 | | 012 | | L60P3A | PRS | KA | | 46620 |
| 0 | 4 | 1 | 137 | 17 | 0 | 5 | | 002 | | | CLA | CTR1 | | 46630 |
| 0 | 4 | 1 | 140 | 7 | 0 | 5 | 1 | 036 | | | ACC | KS1 | | 46640 |
| 0 | 4 | 1 | 141 | 13 | 0 | 5 | | 002 | | | STO | CTR1 | | 46650 |
| 0 | 4 | 1 | 142 | 16 | 0 | 4 | | 204 | | | CCS | 0,4 | | 46660 |
| 0 | 4 | 1 | 143 | 17 | 0 | 4 | | 136 | | | CLA | L60P3A | | 46670 |
| 0 | 4 | 1 | 144 | 7 | 0 | 4 | 1 | 036 | | | ACC | KS1 | | 46680 |
| 0 | 4 | 1 | 145 | 13 | 0 | 4 | | 136 | | | STO | L60P3A | | 46690 |
| 0 | 4 | 1 | 146 | 16 | 0 | 5 | | 205 | | | CCS | 0,5 | | 46700 |
| 0 | 4 | 1 | 147 | 17 | 0 | 5 | 1 | 101 | | | CLA | CTR | | 46710 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 93)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 | 1 | 150 | 7 | C | 5 | 1 | 036 | | | ACC | KS1 | | 46720 |
| 0 | 4 | 1 | 151 | 13 | 0 | 5 | 1 | 101 | | | STO | CTR | | 46730 |
| 0 | 4 | 1 | 152 | 2 | 0 | 5 | 1 | 141 | | | SUB | C29 | = 16 | 46740 |
| 0 | 4 | 1 | 153 | 4 | C | 5 | 1 | 156 | | | TNZ | L60P5 | | 46750 |
| 0 | 4 | 1 | 154 | 13 | 0 | 5 | 1 | 101 | | L60P4 | STC | CTR | | 46760 |
| 0 | 4 | 1 | 155 | 10 | 0 | 5 | 1 | 233 | | | TRA | L61P5 | | 46770 |
| 0 | 4 | 1 | 156 | 17 | C | 5 | | 002 | | L60P5 | CLA | CTR1 | | 46780 |
| 0 | 4 | 1 | 157 | 2 | 0 | 5 | | 256 | 074000000 | | SUB | =0074000000 | = 30 | 46790 |
| 0 | 4 | 1 | 160 | 4 | 0 | 5 | 1 | 133 | | | TNZ | L60P3 | | 46800 |
| 0 | 4 | 1 | 161 | 13 | 0 | 5 | | C02 | | L61P1 | STO | CTR1 | | 46810 |
| 0 | 4 | 1 | 162 | 1 | 0 | 5 | 1 | 374 | | | PRS | 774 | PRINT LINE | 46820 |
| 0 | 4 | 1 | 163 | 5 | C | 5 | | 214 | | | CIO | 214 | | 46830 |
| 0 | 4 | 1 | 164 | 6 | 0 | 5 | 1 | 032 | | | ANC | K1 | | 46840 |
| C | 4 | 1 | 165 | 4 | C | 5 | 1 | 163 | | | TNZ | *-2 | | 46850 |
| C | 4 | 1 | 166 | 17 | 0 | 5 | | C00 | | | CLA | CTR2 | | 46860 |
| 0 | 4 | 1 | 167 | 7 | 0 | 5 | 1 | 036 | | | ADC | KS1 | | 46870 |
| C | 4 | 1 | 170 | 13 | 0 | 5 | | 000 | | | STO | CTR2 | | 46880 |
| 0 | 4 | 1 | 171 | 2 | 0 | 5 | | 257 | 016000000 | | SUB | =0016000000 | =7 | 46890 |
| 0 | 4 | 1 | 172 | 14 | 0 | 5 | 1 | 175 | | | TMI | L61P1C | | 46900 |
| C | 4 | 1 | 173 | 4 | 0 | 5 | 1 | 221 | | | TNZ | L61P4 | | 46910 |
| 0 | 4 | 1 | 174 | 10 | 0 | 5 | 1 | 213 | | | TRA | L61P2A | | 46920 |
| C | 4 | 1 | 175 | 17 | 0 | 5 | | 000 | | L61P1C | CLA | CTR2 | | 46930 |
| 0 | 4 | 1 | 176 | 6 | 0 | 5 | 1 | 136 | | | ANC | C26 | =010C00CC0 | 46940 |
| 0 | 4 | 1 | 177 | 4 | 0 | 5 | 1 | 205 | | | TNZ | L61P1A | | 46950 |
| 0 | 4 | 1 | 200 | 17 | C | 5 | | 000 | | | CLA | CTR2 | | 46960 |
| | | | | | | | | | | | SHL | 2 | | 46970 |
| 0 | 4 | 1 | 201 | 16 | 0 | 5 | | 002 | | | | | | |
| 0 | 4 | 1 | 202 | 15 | 0 | 5 | 1 | 154 | | | XOR | C40 | | 46980 |
| 0 | 4 | 1 | 203 | 5 | 0 | 5 | | 160 | | | CIO | 160 | SPACE | 46990 |
| 0 | 4 | 1 | 204 | 10 | 0 | 5 | 1 | 133 | | | TRA | L60P3 | | 47000 |
| 0 | 4 | 1 | 205 | 17 | 0 | 5 | | 000 | | L61P1A | CLA | CTR2 | | 47010 |
| 0 | 4 | 1 | 206 | 2 | 0 | 5 | | 260 | 006000000 | | SUB | =0006CCC000 | | 47020 |
| | | | | | | | | | | | SHL | 2 | | 47030 |
| 0 | 4 | 1 | 2C7 | 16 | 0 | 5 | | C02 | | | | | | |
| 0 | 4 | 1 | 210 | 15 | 0 | 5 | 1 | 151 | | | XOR | C37 | =2C0C00000 | 47040 |
| 0 | 4 | 1 | 211 | 5 | 0 | 5 | | 160 | | | CIO | 160 | | 47050 |
| 0 | 4 | 1 | 212 | 10 | 0 | 5 | 1 | 133 | | | TRA | L60P3 | | 47060 |
| 0 | 4 | 1 | 213 | 17 | 0 | 5 | | 001 | | L61P2A | CLA | PGNR | | 47070 |
| 0 | 4 | 1 | 214 | 2 | 0 | 5 | | 261 | 000025000 | | SUB | =0C00025 | = 21 | 47080 |
| C | 4 | 1 | 215 | 4 | 0 | 5 | 1 | 133 | | | TNZ | L60P3 | | 47090 |
| 0 | 4 | 1 | 216 | 17 | C | 5 | | 262 | 740000000 | | CLA | =074 | SKIP AFTER PRINT CH 12 | 47100 |
| 0 | 4 | 1 | 217 | 5 | 0 | 5 | | 160 | | | CIO | 160 | | 47110 |
| C | 4 | 1 | 220 | 10 | C | 5 | 1 | 133 | | | TRA | L60P3 | | 47120 |
| 0 | 4 | 1 | 221 | 17 | 0 | 5 | 1 | C20 | | L61P4 | CLA | ZERO | | 47130 |
| 0 | 4 | 1 | 222 | 13 | 0 | 5 | | 000 | | | STO | CTR2 | | 47140 |
| 0 | 4 | 1 | 223 | 17 | 0 | 5 | 1 | 102 | | | CLA | CTR3 | | 47150 |
| C | 4 | 1 | 224 | 7 | 0 | 5 | 1 | 036 | | | ADC | KS1 | | 47160 |
| 0 | 4 | 1 | 225 | 13 | 0 | 5 | 1 | 102 | | | STO | CTR3 | | 47170 |
| 0 | 4 | 1 | 226 | 2 | C | 5 | | 263 | 020000000 | | SUB | =002 | | 47180 |
| 0 | 4 | 1 | 227 | 4 | 0 | 5 | 1 | 231 | | | TNZ | *+2 | | 47190 |
| C | 4 | 1 | 230 | 13 | C | 5 | 1 | 102 | | | STO | CTR3 | | 47200 |
| 0 | 4 | 1 | 231 | 10 | 0 | 5 | 1 | 233 | | | TRA | L61P5 | | 47210 |
| 0 | 4 | 1 | 232 | 10 | 0 | 5 | 1 | 266 | | | TRA | L62P1 | | 47220 |
| 0 | 4 | 1 | 233 | 13 | C | 5 | 1 | 376 | | L61P5 | STO | 776 | | 47230 |
| 0 | 4 | 1 | 234 | 16 | 0 | 4 | | 204 | | | CCS | 0,4 | | 47240 |
| C | 4 | 1 | 235 | 17 | C | 4 | | 255 | | | CLA | K61P3A | | 47250 |
| C | 4 | 1 | 236 | 6 | 0 | 4 | 1 | 045 | | | ANC | KX6 | RETAIN ADDRESS | 47260 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 94)

```
IM IS S LOC   OP CM DS 9 ADR   OCT VAL     LHS      OPC   VARIABLE        COMMENT                            SEQ NO

0  4  1 237    7  0  4 1 102                        ACC   CTR3            = CLA C(LA + CTR3)                  47270
0  4  1 240   13  0  4 1 076                        STO   TEMP                                                47280
0  4  1 241   17  0  4   245                        CLA   L61P3A                                              47290
0  4  1 242    6  0  4 1 040                        ANC   KX1             REMOVE ADDRESS                      47300
0  4  1 243   15  0  4 1 076                        XOR   TEMP                                                47310
0  4  1 244   13  0  4   245                        STC   L61P3A                                              47320
0  4  1 245   17  0  4   256               L61P3A   CLA   LA                                                  47330
0  4  1 246    6  0  4 1 045                        ANC   KX6             RETAIN ADDRESS                      47340
0  4  1 247   13  0  4 1 076                        STC   TEMP                                                47350
0  4  1 250   17  0  4   136                        CLA   L60P3A          PRS INSTRUCTION                     47360
0  4  1 251    6  0  4 1 040                        ANC   KX1             REMOVE ADDRESS                      47370
0  4  1 252   15  0  4 1 076                        XOR   TEMP            COMBINE ADDRESS AND OP CODE         47380
0  4  1 253   13  0  4   136                        STC   L60P3A                                              47390
0  4  1 254    0  0  4 1 376                        HOP   776                                                 47400
0  4  1 255   17  0  4   256               K61P3A   CLA   LA                                                  47410
0  4  1 255       0  5    12                        DOG   0,5,                                                47420
0  4  1 256    1  0  5   012               LA       PRS   KA                                                  47430
0  4  1 257    1  0  5   033                        PRS   KB                                                  47440
0  4  1 260    1  0  5   054                        PRS   KC                                                  47450
0  4  1 261    1  0  5   075                        PRS   KD                                                  47460
0  4  1 262    1  0  5   116                        PRS   KE                                                  47470
0  4  1 263    1  0  5   137                        PRS   KF                                                  47480
0  4  1 264    1  0  5   160                        PRS   KG                                                  47490
0  4  1 265    1  0  5   201                        PRS   KH                                                  47500
0  4  1 266   17  0  5   001               L62P1    CLA   PGNR                                                47510
0  4  1 267    2  0  5   251   000013000            SUB   =0000013        = 11                                47520
0  4  1 270   14  0  5 1 306                        TMI   L62P5                                               47530
0  4  1 271    4  0  5 1 300                        TNZ   L62P2                                               47540
0  4  1 272   17  0  5   264   140000000            CLA   =014            IMMED SKIP CH 12                    47550
0  4  1 273    5  0  5   160                        CIC   160                                                 47560
0  4  1 274    5  0  5   214                        CIC   214                                                 47570
0  4  1 275    6  0  5 1 032                        ANC   K1                                                  47580
0  4  1 276    4  0  5 1 274                        TNZ   *-2                                                 47590
0  4  1 277   10  0  5 1 306                        TRA   L62P5                                               47600
0  4  1 300   17  0  5   001               L62P2    CLA   PGNR                                                47610
0  4  1 301    2  0  5   261   000025000            SUB   =0000025        =21                                 47620
0  4  1 302    4  0  5 1 304                        TNZ   L62P3                                               47630
0  4  1 303   10  0  5 1 306                        TRA   L62P5                                               47640
0  4  1 304   17  0  5   265   610000000   L62P3    CLA   =061            SKIP AFTER PRINT CH 1               47650
0  4  1 305    5  0  5   160                        CIC   160                                                 47660

                                           *        PRINT OCTAL LINE                                          47680
0  4  1 306    5  0  5   164               L62P5    CIO   164             SET OCTAL MODE                      47690
0  4  1 307    1  0  5   222                        PRS   KJ              LOAD BUFFERS                        47700
0  4  1 310    7  0  5 1 020                        ACC   ZERO                                                47710
0  4  1 311    1  0  5   223                        PRS   KJ+1                                                47720
0  4  1 312    7  0  5 1 020                        ACC   ZERO                                                47730
0  4  1 313    1  0  5   224                        PRS   KJ+2                                                47740
0  4  1 314    7  0  5 1 020                        ACC   ZERO                                                47750
0  4  1 315    1  0  5   225                        PRS   KJ+3                                                47760
0  4  1 316    7  0  5 1 020                        ACC   ZERO                                                47770
0  4  1 317    1  0  5   226                        PRS   KJ+4                                                47780
0  4  1 320    7  0  5 1 020                        ACC   ZERO                                                47790
0  4  1 321    1  0  5   227                        PRS   KJ+5                                                47800
0  4  1 322    7  0  5 1 020                        ADD   ZERO                                                47810
0  4  1 323    1  0  5   230                        PRS   KJ+6                                                47820
0  4  1 324    7  0  5 1 020                        ACC   ZERO                                                47830
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 95)

| IM | IS | S | LOC | OP | OM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 | 1 | 325 | 1 | 0 | 5 | | 231 | | | PRS | KJ+7 | | 47840 |
| 0 | 4 | 1 | 326 | 7 | 0 | 5 | 1 | 020 | | | ACC | ZERO | | 47850 |
| C | 4 | 1 | 327 | 1 | 0 | 5 | | 232 | | | PRS | KJ+8 | | 47860 |
| 0 | 4 | 1 | 330 | 7 | C | 5 | 1 | 020 | | | ACC | ZERO | | 47870 |
| C | 4 | 1 | 331 | 1 | C | 5 | | 233 | | | PRS | KJ+9 | | 47880 |
| 0 | 4 | 1 | 332 | 7 | 0 | 5 | 1 | 020 | | | ACC | ZERO | | 47890 |
| 0 | 4 | 1 | 333 | 1 | 0 | 5 | 1 | 374 | | | PRS | 774 | | 47900 |
| C | 4 | 1 | 334 | 5 | 0 | 5 | | 214 | | | CIU | 214 | CHECK READY LINE | 47910 |
| C | 4 | 1 | 335 | 6 | 0 | 5 | 1 | 032 | | | ANC | K1 | | 47920 |
| 0 | 4 | 1 | 336 | 4 | 0 | 5 | 1 | 334 | | | TNZ | *-2 | | 47930 |
| 0 | 4 | 1 | 337 | 17 | 0 | 5 | | C01 | | | CLA | PGNR | | 47940 |
| 0 | 4 | 1 | 340 | 2 | 0 | 5 | | 251 | 000013000 | | SUB | =0000013 | = 11 | 47950 |
| C | 4 | 1 | 341 | 14 | C | 5 | 1 | 345 | | | TMI | L62P4 | LESS THAN 11 | 47960 |
| 0 | 4 | 1 | 342 | 2 | 0 | 5 | | 007 | 000012000 | | SUB | =0000012 | =10 | 47970 |
| 0 | 4 | 1 | 343 | 4 | 0 | 5 | 1 | 011 | | | TNZ | L60P2A | | 47980 |
| C | 4 | 1 | 344 | C0 | C | 5 | | 266 | 531020270 | | TRA* | NAB1 | FINISHED | 47990 |
| 0 | 4 | 1 | 345 | 17 | 0 | 5 | | 267 | 010000000 | L62P4 | CLA | =001 | IMMED SKIP CH 1 | 48000 |
| 0 | 4 | 1 | 346 | 5 | C | 5 | | 160 | | | CIC | 160 | | 48010 |
| 0 | 4 | 1 | 347 | 10 | 0 | 5 | 1 | 011 | | | TRA | L60P2A | | 48020 |
| | | | | | 0 | 5 | | 12 | 141516170 | KA | OCT | 141516170 | | 48040 |
| | | | | | 0 | 5 | | 13 | 323536370 | | OCT | 323536370 | | 48050 |
| | | | | | 0 | 5 | | 14 | 525556570 | | OCT | 525556570 | | 48060 |
| | | | | | 0 | 5 | | 15 | 727576770 | | OCT | 727576770 | | 48070 |
| | | | | | 0 | 5 | | 16 | 132040530 | | OCT | 132040530 | | 48080 |
| | | | | | 0 | 5 | | 17 | 336021340 | | OCT | 336021340 | | 48090 |
| | | | | | 0 | 5 | | 20 | 745473000 | | OCT | 745473000 | | 48100 |
| | | | | | | | | | | | BCI | ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789$ | | 48110 |
| | | | | | C | 5 | | 21 | /STU | | | | | |
| | | | | | 0 | 5 | | 22 | VWXY | | | | | |
| | | | | | C | 5 | | 23 | ZJKL | | | | | |
| | | | | | 0 | 5 | | 24 | MNOP | | | | | |
| | | | | | 0 | 5 | | 25 | QRBC | | | | | |
| | | | | | 0 | 5 | | 26 | DEFG | | | | | |
| | | | | | 0 | 5 | | 27 | HI01 | | | | | |
| | | | | | C | 5 | | 30 | 2345 | | | | | |
| | | | | | 0 | 5 | | 31 | 6789 | | | | | |
| | | | | | 0 | 5 | | 32 | 0000 | | | | | |
| | | | | | 0 | 5 | | 33 | 111415160 | KB | OCT | 111415160 | | 48120 |
| | | | | | 0 | 5 | | 34 | 173235360 | | OCT | 173235360 | | 48130 |
| | | | | | 0 | 5 | | 35 | 375255560 | | OCT | 375255560 | | 48140 |
| | | | | | C | 5 | | 36 | 577275760 | | OCT | 577275760 | | 48150 |
| | | | | | 0 | 5 | | 37 | 771320400 | | OCT | 771320400 | | 48160 |
| | | | | | 0 | 5 | | 40 | 533360210 | | OCT | 533360210 | | 48170 |
| | | | | | C | 5 | | 41 | 347454730 | | OCT | 347454730 | | 48180 |
| | | | | | | | | | | | BCI | ABCDEFGHIJKLMNOPQRSTUVWXYZ012345678$ | | 48190 |
| | | | | | C | 5 | | 42 | 0/ST | | | | | |
| | | | | | 0 | 5 | | 43 | UVWX | | | | | |
| | | | | | 0 | 5 | | 44 | YZJK | | | | | |
| | | | | | C | 5 | | 45 | LMNO | | | | | |
| | | | | | 0 | 5 | | 46 | PQRB | | | | | |
| | | | | | C | 5 | | 47 | CDEF | | | | | |
| | | | | | C | 5 | | 50 | GHI0 | | | | | |
| | | | | | 0 | 5 | | 51 | 1234 | | | | | |
| | | | | | C | 5 | | 52 | 5678 | | | | | |
| | | | | | 0 | 5 | | 53 | 0000 | | | | | |
| | | | | | 0 | 5 | | 54 | 101114150 | KC | OCT | 101114150 | | 48200 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 96)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL    LHS   OPC   VARIABLE        COMMENT                                  SEC NC
                  0  5    55   161732350         OCT   161732350                                                48210
                  0  5    56   363752550         OCT   363752550                                                48220
                  0  5    57   565772750         OCT   565772750                                                48230
                  0  5    60   767713200         OCT   767713200                                                48240
                  0  5    61   405333600         OCT   405333600                                                48250
                  0  5    62   213474540         OCT   213474540                                                48260
                                                 BCI   . ABCDEFGHIJKLMNOPQRSTUVWXYZ01234567$                    48270
                  0  5    63   ,0/S
                  0  5    64   TUVW
                  0  5    65   XYZJ
                  0  5    66   KLMN
                  0  5    67   OPQR
                  0  5    70   BCDE
                  0  5    71   FGHI
                  0  5    72   0123
                  0  5    73   4567
                  0  5    74   0000
                  0  5    75    71011140   KD    OCT   071011140                                                48280
                  0  5    76   151617320         OCT   151617320                                                48290
                  0  5    77   353637520         OCT   353637520                                                48300
                  0  5   100   555657720         OCT   555657720                                                48310
                  0  5   101   757677130         OCT   757677130                                                48320
                  0  5   102   204053330         OCT   204053330                                                48330
                  0  5   103   602134740         OCT   602134740                                                48340
                                                 BCI   *. ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456$                    48350
                  0  5   104   *,0/
                  0  5   105   STUV
                  0  5   106   WXYZ
                  0  5   107   JKLM
                  0  5   110   NOPQ
                  0  5   111   RBCD
                  0  5   112   EFGH
                  0  5   113   I012
                  0  5   114   3456
                  0  5   115   0000
                  0  5   116    60710110   KE    OCT   060710110                                                48360
                  0  5   117   141516170         OCT   141516170                                                48370
                  0  5   120   323536370         OCT   323536370                                                48380
                  0  5   121   525556570         OCT   525556570                                                48390
                  0  5   122   727576770         OCT   727576770                                                48400
                  0  5   123   132040530         OCT   132040530                                                48410
                  0  5   124   336021340         OCT   336021340                                                48420
                                                 BCI   )*. ABCDEFGHIJKLMNOPQRSTUVWXYZ012345$                    48430
                  0  5   125   (*,0
                  0  5   126   /STU
                  0  5   127   VWXY
                  0  5   130   ZJKL
                  0  5   131   MNOP
                  0  5   132   QRBC
                  0  5   133   DEFG
                  0  5   134   HI01
                  0  5   135   2345
                  0  5   136   0000
                  0  5   137    50607100   KF    OCT   050607100                                                48440
                  0  5   140   111415160         OCT   111415160                                                48450
                  0  5   141   173235360         OCT   173235360                                                48460
                  0  5   142   375255560         OCT   375255560                                                48470
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 97)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL     LHS   CPC   VARIABLE          COMMENT                                  SEQ NO

                 0  5   143   577275760          OCT   577275760                                                  48480
                 0  5   144   771320400          CCT   771320400                                                  48490
                 0  5   145   533360210          OCT   533360210                                                  48500
                                                 BCI   ()*. ABCDEFGHIJKLMNOPQRSTUVWXYZ01234$                      48510
                 C  5   146   )(*,
                 0  5   147   0/ST
                 C  5   150   UVWX
                 0  5   151   YZJK
                 0  5   152   LMNC
                 C  5   153   PQRB
                 C  5   154   CDEF
                 C  5   155   GHIO
                 0  5   156   1234
                 0  5   157   0000
                 C  5   160    40506070   KG     OCT   040506070                                                  48520
                 0  5   161   101114150          OCT   101114150                                                  48530
                 C  5   162   161732350          OCT   161732350                                                  48540
                 C  5   163   363752550          OCT   363752550                                                  48550
                 0  5   164   565772750          OCT   565772750                                                  48560
                 0  5   165   767713200          OCT   767713200                                                  48570
                 0  5   166   405333600          OCT   405333600                                                  48580
                                                 BCI   /()*. ABCDEFGHIJKLMNOPQRSTUVWXYZ0123$                      48590
                 C  5   167   A)(*
                 0  5   170   ,0/S
                 0  5   171   TUVW
                 C  5   172   XYZJ
                 0  5   173   KLPN
                 C  5   174   OPQR
                 0  5   175   BCDE
                 0  5   176   FGHI
                 0  5   177   0123
                 0  5   200   0000
                 0  5   201    30405060   KH     OCT   030405060                                                  48600
                 0  5   202    71011140          OCT   071011140                                                  48610
                 0  5   203   151617320          OCT   151617320                                                  48620
                 0  5   204   353637520          OCT   353637520                                                  48630
                 0  5   205   555657720          OCT   555657720                                                  48640
                 0  5   206   757677130          OCT   757677130                                                  48650
                 0  5   207   204053330          OCT   204053330                                                  48660
                                                 BCI   +/()*. ABCDEFGHIJKLMNOPQRSTUVWXYZ012$                      48670
                 0  5   210    A)(
                 0  5   211   *,0/
                 0  5   212   STUV
                 0  5   213   WXYZ
                 0  5   214   JKLM
                 C  5   215   NOPQ
                 0  5   216   RBCD
                 0  5   217   EFGH
                 C  5   220   I012
                 0  5   221   0000
                 0  5   222    12345670   KJ     OCT   012345670                                                  48680
                 0  5   223   123456700          OCT   123456700                                                  48690
                 0  5   224   234567012          OCT   234567012                                                  48700
                 0  5   225   345670122          OCT   345670122                                                  48710
                 0  5   226   456701234          OCT   456701234                                                  48720
                 0  5   227   567012344          OCT   567012344                                                  48730
                 C  5   230   670123456          OCT   670123456                                                  48740
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 98)

| IM IS S LOC | OP DM DS 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|
| | 0 5 | 231 | 701234566 | | OCT | 701234566 | | 48750 |
| | 0 5 | 232 | 12345670 | | OCT | 012345670 | | 48760 |
| | 0 5 | 233 | 123456700 | | OCT | 123456700 | | 48770 |
| | | | | KK | BCI | ROUTINE 8 | EXERCISE 1443 PRINTERS | 48780 |
| | 0 5 | 234 | ROCC | | | | | |
| | 0 5 | 235 | ZNVO | | | | | |
| | 0 5 | 236 | 8000 | | | | | |
| | 0 5 | 237 | VGVR | | | | | |
| | 0 5 | 240 | TZBV | | | | | |
| | 0 5 | 241 | 0144 | | | | | |
| | 0 5 | 242 | 30PR | | | | | |
| | 0 5 | 243 | ZNCV | | | | | |
| | 0 5 | 244 | R000 | | | | | |
| | | | | KL | BCI | PAGE NR $ | | 48790 |
| | 0 5 | 245 | P/XV | | | | | |
| | 0 5 | 246 | ONRO | | | | | |
| | 0 5 | 247 | 0000 | | | | | |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 99)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC   VARIABLE              COMMENT                        SEQ NO

                                            *       ERROR ROUTINE                                                48810
0 16 0    1         0 16   212                      ORG   ,16,,1,,16,212                                         48820
                    0 16   212              ERR     BSS   50                                                     48830
0 16 0    1     5   0 16   240              L95P1   CIO   240                   SET PTC ERROR LAMP               48840
0 16 0    2    13   0 16   214              L95P7   STO   ERR+2                                                  48850
0 16 0    3    17   0 16 1 070                      CLA   VAR1                                                   48860
0 16 0    4    13   0 16   213              L95P2   STO   ERR+1                                                  48870
0 16 0    5    17   0 16 1 072                      CLA   VAR3                                                   48880
0 16 0    6    13   0 16   212              L95P3   STO   ERR                                                    48890
0 16 0    7    17   0 16 1 073                      CLA   VAR4                                                   48900
0 16 0   10    13   0 16   215              L95P4   STO   ERR+3                                                  48910
0 16 0   11    17   0 16 1 074                      CLA   VAR5                                                   48920
0 16 0   12    13   0 16   216              L95P5   STO   ERR+4                                                  48930
0 16 0   13    17   0 16 1 052                      CLA   LC5                                                    48940
0 16 0   14     4   0 16   020                      TNZ   *+4                                                    48950
0 16 0   15    17   0 16 1 072                      CLA   VAR3                                                   48960
0 16 0   16    13   0 16   210                      STO   LC9                                                    48970
0 16 0   17    17   0 16 1 052                      CLA   LC5                                                    48980
0 16 0   20     7   0 16 1 032                      ACC   K1                                                     48990
0 16 0   21    13   0 16 1 052                      STO   LC5                                                    49000
0 16 0   22     2   0 16   211   000000024          SUB   =0000000024                                            49010
0 16 0   23     4   0 16   026                      TNZ   L95P6                                                  49020
0 16 0   24    17   0 16 1 033                      CLA   K77                                                    49030
0 16 0   25    13   0 16   274                      STO   LC6                                                    49040
0 16 0   26    17   0 16 1 072              L95P6   CLA   VAR3                                                   49050
0 16 0   27    15   0 16   210                      XOR   LC9                                                    49060
0 16 0   30     4   0 16   033                      TNZ   L96P1                                                  49070
0 16 0   31    17   0 16 1 052                      CLA   LC5                                                    49080
0 16 0   32    13   0 16 1 053                      STO   LC7                   ERROR COUNT FIRST PASS           49090
0 16 0   33    17   0 16   274              L96P1   CLA   LC6                                                    49100
0 16 0   34    14   0 16   054                      TMI   L96P2                                                  49110
0 16 0   35    17   0 16   002                      CLA   L95P7                                                  49120
0 16 0   36     7   0 16   275   000000500          ACC   =0000000500                                            49130
0 16 0   37    13   0 16   002                      STO   L95P7                                                  49140
0 16 0   40    17   0 16   004                      CLA   L95P2                                                  49150
0 16 0   41     7   0 16   275   000000500          ACC   =0000000500                                            49160
0 16 0   42    13   0 16   004                      STO   L95P2                                                  49170
0 16 0   43    17   0 16   006                      CLA   L95P3                                                  49180
0 16 0   44     7   0 16   275   000000500          ACC   =0000000500                                            49190
0 16 0   45    13   0 16   006                      STO   L95P3                                                  49200
0 16 0   46    17   0 16   010                      CLA   L95P4                                                  49210
0 16 0   47     7   0 16   275   000000500          ACC   =0000000500                                            49220
0 16 0   50    13   0 16   010                      STO   L95P4                                                  49230
0 16 0   51    17   0 16   012                      CLA   L95P5                                                  49240
0 16 0   52     7   0 16   275   000000500          ACC   =0000000500                                            49250
0 16 0   53    13   0 16   012                      STO   L95P5                                                  49260
0 16 0   54    17   0 16 1 050              L96P2   CLA   LC2                                                    49270
0 16 0   55    14   0 16   057                      TMI   L96P3                                                  49280
0 16 0   56     0   0 16 1 071                      HOP   VAR2                                                   49290
0 16 0   57     0   0 16 1 070              L96P3   HOP   VAR1                                                   49300
0 16 0   60    17   0 16   144              L1P1A1  CLA   K95P3                                                  49310
0 16 0   61    13   0 16 1 076                      STO   TEMP                                                   49320
0 16 0   62    17   0 16   070                      CLA   L1P1B                                                  49330
0 16 0   63    10   0 16 1 000                      TRA   L1P1C                                                  49340
0 16 0   64    13   0 16   070                      STO   L1P1B                                                  49350
0 16 0   65    17   0 16   332   000000144          CLA   =0000000144                                            49360
0 16 0   66    13   0 16 1 100                      STO   STOP                                                   49370
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 100)

| IM | IS | S | LOC | OP | OM | OS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 16 | 0 | 67 | 17 | 0 | 16 | 1 | 020 | | | CLA | ZERO | | 49380 |
| 0 | 16 | 0 | 70 | 13 | 0 | 16 | | 212 | | L1P1B | STO | ERR | | 49390 |
| 0 | 16 | 0 | 71 | 17 | 0 | 16 | | 070 | | | CLA | L1P1B | | 49400 |
| 0 | 16 | 0 | 72 | 7 | 0 | 16 | | 333 | 000000100 | | ADD | =000000010O | | 49410 |
| 0 | 16 | 0 | 73 | 13 | 0 | 16 | | 070 | | | STO | L1P1B | | 49420 |
| 0 | 16 | 0 | 74 | 17 | 0 | 16 | 1 | 100 | | | CLA | STOP | | 49430 |
| 0 | 16 | 0 | 75 | 2 | 0 | 16 | 1 | 032 | | | SUB | K1 | | 49440 |
| 0 | 16 | 0 | 76 | 13 | 0 | 16 | 1 | 100 | | | STO | STOP | | 49450 |
| 0 | 16 | 0 | 77 | 4 | 0 | 16 | | 067 | | | TNZ | L1P1B-1 | | 49460 |
| 0 | 16 | 0 | 100 | 13 | 0 | 16 | 1 | 072 | | | STO | VAR3 | | 49470 |
| 0 | 16 | 0 | 101 | 13 | 0 | 16 | 1 | 052 | | | STO | LC5 | | 49480 |
| 0 | 16 | 0 | 102 | 13 | 0 | 16 | | 274 | | | STO | LC6 | | 49490 |
| 0 | 16 | 0 | 103 | 13 | 0 | 16 | 1 | 053 | | | STO | LC7 | | 49500 |
| 0 | 16 | 0 | 104 | 5 | 0 | 16 | | 210 | | | CIO | 210 | | 49510 |
| 0 | 16 | 0 | 105 | 17 | 0 | 16 | | 142 | | | CLA | K95P1 | | 49520 |
| 0 | 16 | 0 | 106 | 13 | 0 | 16 | 1 | 076 | | | STO | TEMP | | 49530 |
| 0 | 16 | 0 | 107 | 17 | 0 | 16 | | 002 | | | CLA | L95P7 | | 49540 |
| 0 | 16 | 0 | 110 | 10 | 0 | 16 | 1 | 000 | | | TRA | L1P1C | | 49550 |
| 0 | 16 | 0 | 111 | 13 | 0 | 16 | | 002 | | | STO | L95P7 | | 49560 |
| 0 | 16 | 0 | 112 | 17 | 0 | 16 | | 143 | | | CLA | K95P2 | | 49570 |
| 0 | 16 | 0 | 113 | 13 | 0 | 16 | 1 | 076 | | | STO | TEMP | | 49580 |
| 0 | 16 | 0 | 114 | 17 | 0 | 16 | | 004 | | | CLA | L95P2 | | 49590 |
| 0 | 16 | 0 | 115 | 10 | 0 | 16 | 1 | 000 | | | TRA | L1P1C | | 49600 |
| 0 | 16 | 0 | 116 | 13 | 0 | 16 | | 004 | | | STO | L95P2 | | 49610 |
| 0 | 16 | 0 | 117 | 17 | 0 | 16 | | 144 | | | CLA | K95P3 | | 49620 |
| 0 | 16 | 0 | 120 | 13 | 0 | 16 | 1 | 076 | | | STO | TEMP | | 49630 |
| 0 | 16 | 0 | 121 | 17 | 0 | 16 | | 006 | | | CLA | L95P3 | | 49640 |
| 0 | 16 | 0 | 122 | 10 | 0 | 16 | 1 | 000 | | | TRA | L1P1C | | 49650 |
| 0 | 16 | 0 | 123 | 13 | 0 | 16 | | 006 | | | STO | L95P3 | | 49660 |
| 0 | 16 | 0 | 124 | 17 | 0 | 16 | | 145 | | | CLA | K95P4 | | 49670 |
| 0 | 16 | 0 | 125 | 13 | 0 | 16 | 1 | 076 | | | STO | TEMP | | 49680 |
| 0 | 16 | 0 | 126 | 17 | 0 | 16 | | 010 | | | CLA | L95P4 | | 49690 |
| 0 | 16 | 0 | 127 | 10 | 0 | 16 | 1 | 000 | | | TRA | L1P1C | | 49700 |
| 0 | 16 | 0 | 130 | 13 | 0 | 16 | | 010 | | | STO | L95P4 | | 49710 |
| 0 | 16 | 0 | 131 | 17 | 0 | 16 | | 146 | | | CLA | K95P5 | | 49720 |
| 0 | 16 | 0 | 132 | 13 | 0 | 16 | 1 | 076 | | | STO | TEMP | | 49730 |
| 0 | 16 | 0 | 133 | 17 | 0 | 16 | | 012 | | | CLA | L95P5 | | 49740 |
| 0 | 16 | 0 | 134 | 10 | 0 | 16 | 1 | 000 | | | TRA | L1P1C | | 49750 |
| 0 | 16 | 0 | 135 | 13 | 0 | 16 | | 012 | | | STO | L95P5 | | 49760 |
| 0 | 16 | 0 | 136 | 0 | 0 | 16 | 1 | 022 | | | HOP | H2P1 | | 49770 |
| 0 | 16 | 1 | 0 | | 0 | 16 | | 274 | | | ORG | ,16,1,,,16, | | 49780 |
| 0 | 16 | 1 | 0 | 13 | 0 | 16 | 1 | 376 | | L1P1C | STO | 776 | | 49790 |
| 0 | 16 | 1 | 1 | 6 | 0 | 16 | | 334 | 777740036 | | AND | =0777740036 | | 49800 |
| 0 | 16 | 1 | 2 | 13 | 0 | 16 | 1 | 077 | | | STO | TEMP1 | | 49810 |
| 0 | 16 | 1 | 3 | 17 | 0 | 16 | 1 | 076 | | | CLA | TEMP | | 49820 |
| 0 | 16 | 1 | 4 | 6 | 0 | 16 | | 335 | 000037740 | | AND | =0000037740 | | 49830 |
| 0 | 16 | 1 | 5 | 15 | 0 | 16 | 1 | 077 | | | XOR | TEMP1 | | 49840 |
| 0 | 16 | 1 | 6 | 0 | 0 | 16 | 1 | 376 | | | HOP | 776 | | 49850 |
| 0 | 16 | 0 | 142 | | 0 | 16 | | 275 | | | ORG | ,16,0,142,,16, | | 49860 |
| 0 | 16 | 0 | 142 | 13 | 0 | 16 | | 214 | | K95P1 | STO | ERR+2 | | 49870 |
| 0 | 16 | 0 | 143 | 13 | 0 | 16 | | 213 | | K95P2 | STO | ERR+1 | | 49880 |
| 0 | 16 | 0 | 144 | 13 | 0 | 16 | | 212 | | K95P3 | STO | ERR | | 49890 |
| 0 | 16 | 0 | 145 | 13 | 0 | 16 | | 215 | | K95P4 | STO | ERR+3 | | 49900 |
| 0 | 16 | 0 | 146 | 13 | 0 | 16 | | 216 | | K95P5 | STO | ERR+4 | | 49910 |
| 0 | 16 | 0 | 147 | 17 | 0 | 16 | | 276 | | K97P3 | CLA | KHDG | | 49920 |
| 0 | 16 | 0 | 150 | 17 | 0 | 16 | | 314 | | K97P5 | CLA | KHDG1 | | 49930 |
| 0 | 16 | 0 | 151 | 17 | 0 | 16 | | 323 | | K97P5A | CLA | KHDG2 | | 49940 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 101)

```
IM IS S LOC   OP CM DS 9 ADR    OCT VAL    LHS     OPC     VARIABLE            COMMENT                                      SEQ NO

                                            *       TYPE BCD WORDS                                                        49950
0 16 0 152    13  0 16 1 376               L98P3   STC     776                                                           49960
0 16 0 153     6  0 16   336   000037776           ANC     =0000037776         SAVE SYLL 0                               49970
0 16 0 154    13  0 16 1 076                       STC     TEMP                                                          49980
0 16 0 155    17  0 16   163                       CLA     L98P3A                                                        49990
0 16 0 156     6  0 16   337   777740000           ANC     =077774CCCC         SAVE SYLL 1                               50000
0 16 0 157    15  0 16 1 076                       XCR     TEMP                COMBINE SYLLABLES                         50010
0 16 0 160    13  0 16   163                       STC     L98P3A                                                        50020
0 16 0 161    17  0 16   340   000000010   L98P3C  CLA     =0C0CCCC01C                                                   50030
0 16 0 162    13  0 16 1 077                       STO     TEMP1                                                         50040
0 16 0 163    17  0 16   341               L98P3A  CLA     WORC                                                          50050
0 16 0 164    13  0 16 1 076                       STC     TEMP                                                          50060
0 16 0 165     5  0 16   214               L98P3B  CIC     214                                                           50070
0 16 C 166     6  0 16 1 021                       ANC     BB                                                            50080
0 16 0 167     4  0 16   165                       TNZ     L98P3B                                                        50090
0 16 0 170    17  0 16 1 076                       CLA     TEMP                                                          50100
0 16 0 171     5  0 16   120                       CIC     120                                                           50110
                                                   SHL     6                                                             50120
0 16 0 172    16  0 16   040
0 16 0 173    13  0 16 1 076                       STC     TEMP                                                          50130
0 16 0 174    17  0 16 1 077                       CLA     TEMP1                                                         50140
0 16 0 175     2  0 16 1 032                       SUB     K1                                                            50150
0 16 C 176    13  0 16 1 077                       STC     TEMP1                                                         50160
0 16 0 177     4  0 16   165                       TNZ     L98P3B                                                        50170
0 16 0 200    17  C 16   163                       CLA     L98P3A                                                        50180
0 16 0 201     7  0 16 1 037                       ADC     KS2                 INCREMENT ADDRESS                         50190
0 16 0 202    13  0 16   163                       STC     L98P3A                                                        50200
0 16 0 203    17  0 16 1 100                       CLA     STOP                                                          50210
0 16 0 204     2  C 16 1 032                       SUB     K1                                                            50220
0 16 0 205    13  C 16 1 100                       STC     STOP                                                          50230
0 16 0 206     4  0 16   161                       TNZ     L98P3C                                                        50240
0 16 0 207     0  0 16 1 376                       HOP     776                                                           50250
0 16 1   7        0 16   276                       ORG     ,16,1,7,,16,                                                  50260
                                            *       ERROR READOUT                                                         50270
0 16 1   7    17  0 16 1 051               L97P1   CLA     LC3                                                           50280
0 16 1  10    14  C 16 1 013                       TMI     L97P2                                                         50290
0 16 1  11    00  0 16   342   160142300           TRA*    L99P1                                                         50300
0 16 1  12    00  0 16   343   160050260   L90P1A  TRA*    L90P1               TO PRINTER ROUTINE                        50310
                                            *       TYPE ERROR INFORMATION                                                50320
0 16 1  13     5  0 16   220               L97P2   CIC     220                 B SWITCHES                                50330
C 16 1  14    14  0 16 1 012                       TMI     L90P1A              USE PRINTER                               50340
0 16 1  15    10  0 16 1 151                       TRA     L98P4               CARRIAGE RETURN                           50350
0 16 1  16    17  0 16   110                       CLA     K97P4A                                                        50360
C 16 1  17    13  C 16 1 076                       STC     TEMP                                                          50370
C 16 1  20    17  0 16   041                       CLA     L97P4A                                                        50380
0 16 1  21     0  0 16 1 024                       HOP     H43P2                                                         50390
0 16 1  22    13  0 16   041                       STO     L97P4A                                                        50400
                                            *       TYPE HEADING                                                          50410
C 16 1  23    17  0 16   211   000000024   L97P3   CLA     =0000000024         INDENT 10 SPACES                          50420
0 16 1  24    10  0 16 1 111                       TRA     L98P1                                                         50430
0 16 1  25    17  0 16   344   000000034           CLA     =0000CCC034         14 4-CHAR WORDS                           50440
C 16 1  26    13  0 16 1 100                       STC     STOP                                                          50450
C 16 1  27    17  0 16   147                       CLA     K97P3               ADDRESS OF HEADING                        50460
0 16 1  30    10  C 16   152                       TRA     L98P3                                                         50470
0 16 1  31    10  C 16 1 151                       TRA     L98P4               CARR RTN                                  50480
0 16 1  32    10  0 16 1 160                       TRA     L98P5               INDEX 1                                   50490
                                            *       TYPE OCTAL ERROR INFORMATION                                          50500
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 102)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC    VARIABLE             COMMENT                                    SEQ NO

0 16 1  33    17  0 16   211   000000024           CLA    =0000000024          10 LINES                                    50510
0 16 1  34    13  0 16 1 101                       STC    CTR                                                              50520
0 16 1  35    17  0 16   211   000000024   L97P4   CLA    =0000000024          INDENT 10                                   50530
0 16 1  36    10  0 16 1 111                       TRA    L98P1                                                            50540
0 16 1  37    17  0 16   345   000000012           CLA    =0000000012          5 WORDS PER LINE                            50550
0 16 1  40    13  0 16 1 077                       STO    TEMP1                                                            50560
0 16 1  41    17  0 16   212               L97P4A  CLA    ERR                                                              50570
0 16 1  42    10  0 16 1 125                       TRA    L98P2                                                            50580
0 16 1  43    17  0 16   041                       CLA    L97P4A                                                           50590
0 16 1  44     7  0 16 1 C36                       ACC    KS1                  INCREMENT ADDRESS                           50600
0 16 1  45    13  0 16   041                       STO    L97P4A                                                           50610
0 16 1  46    17  0 16 1 C77                       CLA    TEMP1                                                            50620
0 16 1  47     2  0 16 1 032                       SUB    K1                                                               50630
0 16 1  50    13  0 16 1 C77                       STO    TEMP1                                                            50640
0 16 1  51     4  0 16 1 041                       TNZ    L97P4A                                                           50650
0 16 1  52    10  0 16 1 151                       TRA    L98P4                CARR RTN                                    50660
0 16 1  53    10  0 16 1 160                       TRA    L98P5                INDEX 1                                     50670
0 16 1  54    17  0 16 1 101                       CLA    CTR                                                              50680
0 16 1  55     2  0 16 1 032                       SUB    K1                                                               50690
0 16 1  56    13  0 16 1 101                       STO    CTR                                                              50700
0 16 1  57     4  0 16 1 035                       TNZ    L97P4                                                            50710
                                           *       TYPE ERROR COUNT                                                        50720
0 16 1  60    17  0 16   211   000000024   L97P5   CLA    =0000000024          INDENT 10                                   50730
0 16 1  61    10  0 16 1 111                       TRA    L98P1                                                            50740
0 16 1  62    17  0 16   346   000000014           CLA    =0000000014          6 4-CHAR WORDS                              50750
0 16 1  63    13  0 16 1 100                       STC    STOP                                                             50760
0 16 1  64    17  0 16   150                       CLA    K97P5                ADDRESS OF FIRST WORD                       50770
0 16 1  65    10  0 16   152                       TRA    L98P3                                                            50780
0 16 1  66    17  0 16 1 052                       CLA    LC5                                                              50790
0 16 1  67    10  0 16 1 125                       TRA    L98P2                                                            50800
0 16 1  70    10  0 16 1 151                       TRA    L98P4                CARR RTN                                    50810
0 16 1  71    10  0 16 1 160                       TRA    L98P5                INDEX 1                                     50820
0 16 1  72    17  0 16   211   000000024           CLA    =0000000024          INDENT 10                                   50830
0 16 1  73    10  0 16 1 111                       TRA    L98P1                                                            50840
0 16 1  74    17  0 16   346   000000014           CLA    =0000000014          6 4-CHAR WORDS                              50850
0 16 1  75    13  0 16 1 100                       STO    STOP                                                             50860
0 16 1  76    17  0 16   151                       CLA    K97P5A               ADDRESS OF FIRST WORD                       50870
0 16 1  77    10  0 16   152                       TRA    L98P3                                                            50880
0 16 1 100    17  0 16 1 053                       CLA    LC7                                                              50890
0 16 1 101    10  0 16 1 125                       TRA    L98P2                                                            50900
0 16 1 102    10  0 16 1 151                       TRA    L98P4                CARR RTN                                    50910
0 16 1 103    10  0 16 1 160                       TRA    L98P5                INDEX                                       50920
0 16 1 104     5  0 16   214                       CIC    214                                                              50930
0 16 1 105     6  0 16   347   000004000           ANC    =0000004000          B15                                         50940
0 16 1 106     4  0 16 1 013                       TNZ    L97P2                                                            50950
0 16 1 107    00  0 16   350   130000000           TRA*   L1P1                                                             50960
0 16 1 110    17  0 16   212               K97P4A  CLA    ERR                                                              50970
                                           KHOG    BCI     PASS NR     LOCATION       ACCUM       VAR4        VAR5$        50980
                  0 16   276   OP/B
                  0 16   277   BONR
                  0 16   300   0000
                  0 16   301   LOT/
                  0 16   302   CZON
                  0 16   303   0000
                  0 16   304   000/
                  0 16   305   TTDM
                  0 16   306   0000
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 103)

```
IM IS.S LOC   OP OM OS 9 ADR   OCT VAL     LHS     OPC    VARIABLE          COMMENT                  SEQ NO

                  0 16   307   00E/
                  0 16   310   R400
                  0 16   311   0000
                  0 16   312   00E/
                  0 16   313   R500
                                           KHDG1   BCI    TOTAL ERROR COUNT        $                 50990
                  0 16   314   COC/
                  0 16   315   LOVR
                  0 16   316   RORO
                  0 16   317   TODN
                  0 16   320   C000
                  0 16   321   0000
                  0 16   322   0000
                                           KHDG2   BCI    ERROR COUNT FIRST PASS   $                 51000
                  0 16   323   VRRO
                  0 16   324   ROTO
                  0 16   325   DNCO
                  0 16   326   WZRB
                  0 16   327   COP/
                  0 16   330   BB00
                  0 16   331   0000
                                           *       SPACE PER NUMBER IN ACCUMULATOR                   51010
0 16 1 111    13  0 16 1 376               L98P1   STC    776                                        51020
0 16 1 112    13  0 16   351                       STC    N                                          51030
0 16 1 113     5  0 16   214               L98P1A  CIO    214                                        51040
0 16 1 114     6  0 16 1 021                       ANC    BB                                         51050
0 16 1 115     4  0 16 1 113                       TNZ    *-2                                        51060
0 16 1 116    17  0 16   352   400000000           CLA    =0400C00000                                51070
0 16 1 117     5  0 16   134                       CIC    134                                        51080
0 16 1 120    17  0 16   351                       CLA    N                                          51090
0 16 1 121     2  0 16 1 032                       SUB    K1                                         51100
0 16 1 122    13  0 16   351                       STO    N                                          51110
0 16 1 123     4  0 16 1 113                       TNZ    L98P1A                                     51120
0 16 1 124     0  0 16 1 376                       HOP    776                                        51130
                                           *       TYPE OCTAL WORD IN ACCUMULATOR                    51140
0 16 1 125    13  0 16 1 376               L98P2   STO    776                                        51150
0 16 1 126    13  0 16   341                       STO    WORD                                       51160
0 16 1 127    17  0 16 1 376                       CLA    776                                        51170
0 16 1 130    13  0 16 1 103                       STC    HRTRN                                      51180
0 16 1 131    17  0 16   353   000000022           CLA    =0000C00022                                51190
0 16 1 132    13  0 16   354                       STO    NINE                                       51200
0 16 1 133     5  0 16   214               L98P2A  CIC    214                                        51210
0 16 1 134     6  0 16 1 021                       ANC    BB                                         51220
0 16 1 135     4  0 16 1 133                       TNZ    *-2                                        51230
0 16 1 136    17  0 16   341                       CLA    WORD                                       51240
C 16 1 137     5  0 16   130                       CIO    130                                        51250
                                                   SHL    3                                          51260
C 16 1 140    16  0 16   004
C 16 1 141    13  0 16   341                       STO    WORD                                       51270

0 16 1 142    17  0 16   354                       CLA    NINE                                       51310
0 16 1 143     2  0 16 1 032                       SUB    K1                                         51320
0 16 1 144    13  0 16   354                       STO    NINE                                       51330
0 16 1 145     4  0 16 1 133                       TNZ    L98P2A                                     51340
0 16 1 146    17  0 16   355   000000006           CLA    =00C0000006                                51350
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 104)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE               COMMENT                 SEQ NO

0 16 1 147    10  0 16 1 111                      TRA    L98P1                  TO SPACE 3 PLACES        51360
0 16 1 150     0  0 16 1 103                      HOP    HRTRN                                           51370
                                           *      CARRIAGE RETURN                                        51380
0 16 1 151    13  0 16 1 376               L98P4  STC    776                                             51390

0 16 1 152     5  0 16   214                      CIO    214                                             51420
0 16 1 153     6  0 16 1 021                      ANC    BB                                              51430
0 16 1 154     4  0 16 1 152                      TNZ    *-2                                             51440
0 16 1 155    17  0 16   356   020000000          CLA    =0020000000                                     51450
0 16 1 156     5  0 16   134                      CIO    134                                             51460
0 16 1 157     0  0 16 1 376                      HOP    776                                             51470
                                           *      INDEX CARRIAGE ONE LINE                                51480
0 16 1 160    13  0 16 1 376               L98P5  STC    776                                             51490

0 16 1 161     5  0 16   214                      CIO    214                                             51520
0 16 1 162     6  0 16 1 021                      ANC    BB                                              51530
0 16 1 163     4  0 16 1 161                      TNZ    *-2                                             51540
0 16 1 164    17  0 16   357   040000000          CLA    =0040000000                                     51550
0 16 1 165     5  0 16   134                      CIO    134                                             51560
0 16 1 166     0  0 16 1 376                      HOP    776                                             51570
0 16 1 167     1  0 16   276               K90P3  PRS    KHDG                                            51580
0 16 1 170     1  0 16   314               K90P5  PRS    KHDG1                                           51590
0 16 1 171     1  0 16   323               K90P6  PRS    KHDG2                                           51600
0 10 1 304        0 16   332                      ORG    ,10,1,304,,16,                                  51610
0 10 1 304     5  0 16   114               L99P1  CIO    114                    SET SINGLE STEP          51620
0 10 1 305    17  0 16   212                      CLA    ERR                                             51630
0 10 1 306    17  0 16   213                      CLA    ERR+1                                           51640
0 10 1 307    17  0 16   214                      CLA    ERR+2                                           51650
0 10 1 310    17  0 16   215                      CLA    ERR+3                                           51660
0 10 1 311    17  0 16   216                      CLA    ERR+4                                           51670
0 10 1 312    17  0 16   217                      CLA    ERR+5                                           51680
0 10 1 313    17  0 16   220                      CLA    ERR+6                                           51690
0 10 1 314    17  0 16   221                      CLA    ERR+7                                           51700
0 10 1 315    17  0 16   222                      CLA    ERR+8                                           51710
0 10 1 316    17  0 16   223                      CLA    ERR+9                                           51720
0 10 1 317    17  0 16   224                      CLA    ERR+10                                          51730
0 10 1 320    17  0 16   225                      CLA    ERR+11                                          51740
0 10 1 321    17  0 16   226                      CLA    ERR+12                                          51750
0 10 1 322    17  0 16   227                      CLA    ERR+13                                          51760
0 10 1 323    17  0 16   230                      CLA    ERR+14                                          51770
0 10 1 324    17  0 16   231                      CLA    ERR+15                                          51780
0 10 1 325    17  0 16   232                      CLA    ERR+16                                          51790
0 10 1 326    17  0 16   233                      CLA    ERR+17                                          51800
0 10 1 327    17  0 16   234                      CLA    ERR+18                                          51810
0 10 1 330    17  0 16   235                      CLA    ERR+19                                          51820
0 10 1 331    17  0 16   236                      CLA    ERR+20                                          51830
0 10 1 332    17  0 16   237                      CLA    ERR+21                                          51840
0 10 1 333    17  0 16   240                      CLA    ERR+22                                          51850
0 10 1 334    17  0 16   241                      CLA    ERR+23                                          51860
0 10 1 335    17  0 16   242                      CLA    ERR+24                                          51870
0 10 1 336    17  0 16   243                      CLA    ERR+25                                          51880
0 10 1 337    17  0 16   244                      CLA    ERR+26                                          51890
0 10 1 340    17  0 16   245                      CLA    ERR+27                                          51900
0 10 1 341    17  0 16   246                      CLA    ERR+28                                          51910
0 10 1 342    17  0 16   247                      CLA    ERR+29                                          51920
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 105)

```
IM IS S LOC   OP DM DS 9 ADR    OCT VAL     LHS     OPC     VARIABLE            COMMENT                                SEQ NC

0 10 1 343   17  0 16   250                         CLA     ERR+30                                                     51930
0 10 1 344   17  0 16   251                         CLA     ERR+31                                                     51940
0 10 1 345   17  0 16   252                         CLA     ERR+32                                                     51950
0 10 1 346   17  0 16   253                         CLA     ERR+33                                                     51960
0 10 1 347   17  0 16   254                         CLA     ERR+34                                                     51970
0 10 1 350   17  0 16   255                         CLA     ERR+35                                                     51980
0 10 1 351   17  0 16   256                         CLA     ERR+36                                                     51990
0 10 1 352   17  0 16   257                         CLA     ERR+37                                                     52000
0 10 1 353   17  0 16   260                         CLA     ERR+38                                                     52010
0 10 1 354   17  0 16   261                         CLA     ERR+39                                                     52020
0 10 1 355   17  0 16   262                         CLA     ERR+40                                                     52030
0 10 1 356   17  0 16   263                         CLA     ERR+41                                                     52040
0 10 1 357   17  0 16   264                         CLA     ERR+42                                                     52050
0 10 1 360   17  0 16   265                         CLA     ERR+43                                                     52060
0 10 1 361   17  0 16   266                         CLA     ERR+44                                                     52070
0 10 1 362   17  0 16   267                         CLA     ERR+45                                                     52080
0 10 1 363   17  0 16   270                         CLA     ERR+46                                                     52090
0 10 1 364   17  0 16   271                         CLA     ERR+47                                                     52100
0 10 1 365   17  0 16   272                         CLA     ERR+48                                                     52110
0 10 1 366   17  0 16   273                         CLA     ERR+49                                                     52120
0 10 1 367   10  0 16 1 304                         TRA     L99P1                                                      52130
                                                *       TO RESUME NORMAL OPERATION HIT MACHINE RESET                   52140
0  6 1 120       0 16   333                         ORG     ,6,1,120,,16,                                              52150
                                                *       PRINT ERROR INFORMATION                                        52160
0  6 1 120   10  0 16 1 272             L90P1   TRA     L94P3               CHECK READY                            52170
0  6 1 121    1  0 16 1 374                     PRS     774                 CLEAR BUFFERS                          52180
0  6 1 122   10  0 16 1 272                     TRA     L94P3               CHECK READY                            52190
0  6 1 123   17  0 16 1 136                     CLA     C26                 SKIP TO CHANNEL 1                      52200
0  6 1 124    5  0 16   160                     CIO     160                                                        52210
0  6 1 125    5  0 16   170                     CIO     170                                                        52220
0  6 1 126   10  0 16 1 272             L90P2   TRA     L94P3                                                      52230
0  6 1 127    1  0 16 1 020                     PRS     ZERO                                                       52240
0  6 1 130    1  0 16 1 020                     PRS     ZERO                                                       52250
0  6 1 131    1  0 16 1 020                     PRS     ZERO                                                       52260
                                                *       PRINT HEADING                                                  52270
0  6 1 132   17  0 16   344   000000034 L90P3   CLA     =0000000034                                                52280
0  6 1 133   13  0 16 1 100                     STO     STOP                                                       52290
0  6 1 134   17  0 16   167                     CLA     K90P3                                                      52300
0  6 1 135   10  0 16 1 245                     TRA     L94P1               LOAD BUFFERS                           52310
0  6 1 136    1  0 16 1 374                     PRS     774                                                        52320
0  6 1 137   10  0 16 1 272                     TRA     L94P3               CHECK READY                            52330
0  6 1 140   17  0 16   360   410000000         CLA     =0410000000         SPACE 1                                52340
0  6 1 141    5  0 16   160                     CIC     160                                                        52350
0  6 1 142   16  0  6   206                     CDS     0,6                                                        52360
0  6 1 143   17  0  6   244                     CLA     K90P4A                                                     52370
0  6 1 144    6  0  6 1 045                     ANC     KX6                                                        52380
0  6 1 145   13  0  6 1 076                     STO     TEMP                                                       52390
0  6 1 146   17  0  6   164                     CLA     L90P4A                                                     52400
0  6 1 147    6  0  6 1 040                     ANC     KX1                                                        52410
0  6 1 150   15  0  6 1 076                     XOR     TEMP                                                       52420
0  6 1 151   13  0  6   164                     STO     L90P4A              RESTORE ORIGINAL ADDRESS               52430
0  6 1 152   16  0 16   216                     CDS     0,16                                                       52440
0  6 1 153   17  0 16   211   000000024         CLA     =0000000024         TEN                                    52450
0  6 1 154   13  0 16 1 100                     STC     STOP                                                       52460
0  6 1 155    5  0 16   170             L90P4   CIO     170                 SET BCD MODE                           52470
0  6 1 156   17  0 16   345   000000012         CLA     =0000000012         FIVE                                   52480
0  6 1 157   13  0 16 1 076                     STO     TEMP                                                       52490
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 106)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC   VARIABLE       COMMENT                          SEQ NO

0  6  1 160    1  0 16 1 020                       PRS   ZERO                                            52500
0  6  1 161    1  0 16 1 020                       PRS   ZERO                                            52510
C  6  1 162    1  0 16 1 020                       PRS   ZERO                                            52520
0  6  1 163    5  0 16   164                       CIO   164            SET OCTAL MODE                   52530
0  6  1 164    1  0 16   212               L90P4A  PRS   ERR                                             52540
C  6  1 165   16  C  6   206                       CDS   0,6                                             52550
0  6  1 166   17  0  6   164                       CLA   L90P4A                                          52560
C  6  1 167    7  0  6 1 036                       ADC   KS1                                             52570
0  6  1 170   13  0  6   164                       STC   L90P4A                                          52580
0  6  1 171   16  0 16   216                       CCS   0,16                                            52590
0  6  1 172   17  0 16 1 076                       CLA   TEMP                                            52600
0  6  1 173    2  0 16 1 032                       SUB   K1                                              52610
0  6  1 174   13  0 16 1 076                       STC   TEMP                                            52620
0  6  1 175    4  0 16 1 164                       TNZ   L90P4A                                          52630
0  6  1 176    1  0 16 1 374                       PRS   774            PRINT OCTAL LINE                 52640
C  6  1 177   10  C 16 1 272                       TRA   L94P3                                           52650
0  6  1 200   17  0 16   360   410000000           CLA   =0410000000                                     52660
0  6  1 201    5  0 16   160                       CIO   160                                             52670
C  6  1 202   10  0 16 1 272                       TRA   L94P3                                           52680
0  6  1 203   17  0 16 1 1C0                       CLA   STOP                                            52690
0  6  1 204    2  0 16 1 032                       SUB   K1                                              52700
0  6  1 205   13  0 16 1 100                       STO   STOP                                            52710
0  6  1 206    4  0 16 1 155                       TNZ   L90P4                                           52720
0  6  1 207    5  0 16   170                       CIC   170            SET BCD MODE                     52730
0  6  1 210    1  0 16 1 020                       PRS   ZERO                                            52740
0  6  1 211    1  0 16 1 020                       PRS   ZERO                                            52750
0  6  1 212    1  0 16 1 020                       PRS   ZERO                                            52760
0  6  1 213   17  0 16   346   000000014           CLA   =0000000014    SIX                              52770
0  6  1 214   13  0 16 1 100                       STO   STOP                                            52780
0  6  1 215   17  0 16   170                       CLA   K90P5                                           52790
0  6  1 216   10  0 16 1 245                       TRA   L94P1                                           52800
0  6  1 217    5  0 16   164                       CIO   164            SET OCTAL MODE                   52810
0  6  1 220    1  0 16 1 052                       PRS   LC5                                             52820
0  6  1 221    7  0 16 1 020                       ACD   ZERO                                            52830
0  6  1 222    1  0 16 1 374                       PRS   774            PRINT TOTAL ERROR COUNT          52840
0  6  1 223   10  0 16 1 272                       TRA   L94P3                                           52850
C  6  1 224   17  0 16   360   410000000           CLA   =0410C00000                                     52860
0  6  1 225    5  0 16   160                       CIO   160                                             52870
C  6  1 226    5  0 16   170                       CIO   170            SET BCD MODE                     52880
0  6  1 227   10  0 16 1 272                       TRA   L94P3          CHECK READY                      52890
0  6  1 230    1  0 16 1 020               L90P6   PRS   ZERO                                            52900
C  6  1 231    1  C 16 1 020                       PRS   ZERO                                            52910
0  6  1 232    1  0 16 1 020                       PRS   ZERO                                            52920
0  6  1 233   17  0 16   346   000000014           CLA   =000C0C0014    SIX                              52930
0  6  1 234   13  0 16 1 100                       STO   STOP                                            52940
0  6  1 235   17  0 16   171                       CLA   K90P6                                           52950
0  6  1 236   10  0 16 1 245                       TRA   L94P1                                           52960
0  6  1 237    5  0 16   164                       CIO   164            SET OCTAL MODE                   52970
0  6  1 240    1  0 16 1 053                       PRS   LC7                                             52980
0  6  1 241    7  0 16 1 020                       ADD   ZERO                                            52990
0  6  1 242    1  0 16 1 374                       PRS   774            PRINT ERROR COUNT FIRST PASS     53000
0  6  1 243    0  0 16 1 022                       HOP   H2P1           FINISHED                         53010
0  6  1 244    1  0 16   212               K90P4A  PRS   ERR                                             53020

                                           *       LCAD BUFFERS WITH BCD LINE OF PRINT                   53040
0  6  1 245   13  0 16 1 376               L94P1   STO   776                                             53050
0  6  1 246    6  0 16 1 045                       ANC   KX6                                             53060
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 107)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | CCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 6 | 1 | 247 | 13 | 0 | 16 | 1 | 076 | | | STO | TEMP | | 53070 |
| 0 | 6 | 1 | 250 | 16 | 0 | 6 | | 206 | | | CDS | 0,6 | | 53080 |
| 0 | 6 | 1 | 251 | 17 | 0 | 6 | | 256 | | | CLA | L94P2 | | 53090 |
| 0 | 6 | 1 | 252 | 6 | 0 | 6 | 1 | 040 | | | AND | KX1 | | 53100 |
| 0 | 6 | 1 | 253 | 15 | 0 | 6 | 1 | 076 | | | XOR | TEMP | | 53110 |
| 0 | 6 | 1 | 254 | 13 | 0 | 6 | | 256 | | | STO | L94P2 | | 53120 |
| 0 | 6 | 1 | 255 | 16 | 0 | 16 | | 216 | | | CDS | 0,16 | | 53130 |
| 0 | 6 | 1 | 256 | 1 | 0 | 16 | | 341 | | L94P2 | PRS | WORD | | 53140 |
| 0 | 6 | 1 | 257 | 17 | 0 | 16 | 1 | 100 | | | CLA | STOP | | 53150 |
| 0 | 6 | 1 | 260 | 2 | 0 | 16 | 1 | 032 | | | SUB | K1 | | 53160 |
| 0 | 6 | 1 | 261 | 13 | 0 | 16 | 1 | 100 | | | STO | STOP | | 53170 |
| 0 | 6 | 1 | 262 | 4 | 0 | 16 | 1 | 264 | | | TNZ | *+2 | | 53180 |
| 0 | 6 | 1 | 263 | 0 | 0 | 16 | 1 | 376 | | | HOP | 776 | | 53190 |
| 0 | 6 | 1 | 264 | 16 | 0 | 6 | | 206 | | | CDS | 0,6 | | 53200 |
| 0 | 6 | 1 | 265 | 17 | 0 | 6 | | 256 | | | CLA | L94P2 | | 53210 |
| 0 | 6 | 1 | 266 | 7 | 0 | 6 | 1 | 036 | | | ADD | KS1 | | 53220 |
| 0 | 6 | 1 | 267 | 13 | 0 | 6 | | 256 | | | STO | L94P2 | | 53230 |
| 0 | 6 | 1 | 270 | 16 | 0 | 16 | | 216 | | | CDS | 0,16 | | 53240 |
| 0 | 6 | 1 | 271 | 10 | 0 | 16 | 1 | 256 | | | TRA | L94P2 | | 53250 |
| 0 | 6 | 1 | 272 | 13 | 0 | 16 | 1 | 376 | | L94P3 | STO | 776 | | 53260 |
| 0 | 6 | 1 | 273 | 5 | 0 | 16 | | 214 | | | CIO | 214 | | 53270 |
| 0 | 6 | 1 | 274 | 6 | 0 | 16 | 1 | 032 | | | AND | K1 | | 53280 |
| 0 | 6 | 1 | 275 | 4 | 0 | 16 | 1 | 273 | | | TNZ | *-2 | | 53290 |
| 0 | 6 | 1 | 276 | 0 | 0 | 16 | 1 | 376 | | | HOP | 776 | | 53300 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 108)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE          COMMENT                              SEC NO

1  0 0  10        1 10    30                      ORG    1,,,10,1,10,                                           53320
1  0 0  10    17  1 10 1 064               JAB1   CLA    LCR9                                                   53330
1  0 0  11    14  1 10   015                      TMI    JAC1                                                   53340
1  0 0  12     4  1 10   014                      TNZ    MAB1B                                                  53350
1  0 0  13    00  1 10   000   130007000          TRA*   L2P1                                                   53360
1  0 0  14    00  1 10   001   511010050   MAB1B  TRA*   MAB1                                                   53370

                                           *      ROUTINE NINE - ADAPT I/O SELF TEST                            53390
                                           *      PART ONE - TEST OUTPUT REGISTERS                              53400

1  0 0  15    17  1 10 1 020               JAC1   CLA    ZERO                                                   53420
1  0 0  16    13  1 10 1 376                      STO    776                                                    53430
1  0 0  17     5  1 10   066                      CIO    066               RESET COMPARE LATCH                  53440
1  0 0  20    17  1 10   002   777777776          CLA    =0777777776                                            53450
1  0 0  21     5  1 10   000                      CIO    000               SET INT INHIBITS                     53460
1  0 0  22    17  1 10   003   000152204          CLA    =0000152204       RESET                                53470
1  0 0  23     5  1 10 1 223                      CIO    623                                                    53480
1  0 0  24    17  1 10   004   000020000          CLA    =00C002                                                53490
1  0 0  25     5  1 10 1 213                      CIO    613                                                    53500
1  0 0  26    17  1 10   005   000000040          CLA    =0000000040                                            53510
1  0 0  27     5  1 10   030                      CIO    030               RST INT 5 LATCH                      53520
1  0 0  30     5  1 10   004                      CIO    004               RST INT 5 INHIBIT                    53530
1  0 0  31     5  1 10   110                      CIO    110               RST MAIN INT LATCH                   53540
1  0 0  32    17  1 10 1 033                      CLA    K77               INHIBIT ACCEL. SUBTRACTS             53550
1  0 0  33     5  1 10   126                      CIO    126                                                    53560
                                           *      LOAD ALL OUTPUT REGISTERS                                     53570
1  0 0  34     5  1 10   006                      CIO    006               SSFB                                 53580
1  0 0  35     5  1 10   012                      CIO    012               RCA GC DATA                          53590
1  0 0  36     5  1 10   026                      CIO    026               DIS REG                              53600
1  0 0  37     5  1 10   032                      CIO    032               NASA DISCRETES                       53610
1  0 0  40     5  1 10   136                      CIO    136               LOAD ACCEL. DELAY LINES              53620
1  0 0  41     5  1 10   142                      CIO    142               LOAD ACCEL. DELAY LINES              53630
1  0 0  42     5  1 10   146                      CIO    146               LOAD ACCEL. DELAY LINES              53640
1  0 0  43     5  1 10   046                      CIO    046               INT REG                              53650
1  0 0  44     5  1 10   052                      CIO    052               OPTISYN REG                          53660
1  0 0  45     5  1 10   056                      CIO    056               COD SHIFT REG                        53670
1  0 0  46    12  1 10 1 377                      PIO    777               ADDRESS REG                          53680
1  0 0  47    17  1 10 1 054                      CLA    LC8                                                    53690
1  0 0  50    14  1 10   055                      TMI    JAF1                                                   53700
1  0 0  51    17  1 10   002   777777776          CLA    =0777777776                                            53710
1  0 0  52     5  1 10   022                      CIO    022               LOAD DIN REG                         53720
1  0 0  53     5  1 10   036                      CIO    036                                                    53730
1  0 0  54     5  1 10   042                      CIO    042                                                    53740
                                           *      TEST GC DATA REGISTER FOR ONES                                53750
1  0 0  55    13  1 10 1 377               JAF1   STO    777                                                    53760
1  0 0  56    17  1 10 1 377                      CLA    777               LOCN OF FAILED TEST                  53770
1  0 0  57    13  1 10 1 073                      STO    V4                                                     53780
1  0 0  60    17  1 10 1 020                      CLA    ZERO                                                   53790
1  0 0  61     5  1 10   061                      CIO    061               RD GC DATA                           53800
1  0 0  62    15  1 10   006   777760000          XOR    =0777760000                                            53810
1  0 0  63     4  1 10 1 116                      TNZ    JAJ5                                                   53820
                                           *      TEST CR DATA FOR COMPLEMENT OF GC                             53830
1  0 0  64    13  1 10 1 377               JAG1   STO    777                                                    53840
1  0 0  65    17  1 10 1 377                      CLA    777                                                    53850
1  0 0  66    13  1 10 1 073                      STO    V4                                                     53860
1  0 0  67     5  1 10   065                      CIO    065               RD CR DATA                           53870
1  0 0  70     4  1 10 1 116                      TNZ    JAJ5                                                   53880
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 109)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL    LHS     OPC     VARIABLE            COMMENT                                   SEQ NO

                                          *       GC REG  ALTERNATE PATTERNS                                            53890
1  0 0  71    13  1 10 1 377              JAH1    STO     777                                                           53900
1  0 0  72    17  1 10 1 377                      CLA     777                                                           53910
1  0 0  73    13  1 10 1 073                      STO     V4                                                            53920
1  0 0  74    17  1 10   007   525240000          CLA     =0525240000                                                   53930
1  0 0  75     5  1 10   012                      CIO     012                  LOAD GC DATA                             53940
1  0 0  76    17  1 10 1 020                      CLA     ZERO                                                          53950
1  0 0  77     5  1 10   061                      CIO     061                                                           53960
1  0 0 100    15  1 10   007   525240000          XOR     =0525240000                                                   53970
1  0 0 101     4  1 10 1 116                      TNZ     JAJ5                                                          53980
                                          *       CHECK CR DATA FOR COMPLEMENT PATTERN                                  53990
1  0 0 102    13  1 10 1 377              JAJ1    STO     777                                                           54000
1  0 0 103    17  1 10 1 377                      CLA     777                                                           54010
1  0 0 104    13  1 10 1 073                      STO     V4                                                            54020
1  0 0 105     5  1 10   065                      CIO     065                                                           54030
1  0 0 106    15  1 10   010   252520000          XOR     =0252520000                                                   54040
1  0 0 107     4  1 10 1 116                      TNZ     JAJ5                                                          54050
1  0 0 110    13  1 10 1 377              JAK1    STO     777                                                           54060
1  0 0 111    17  1 10 1 377                      CLA     777                                                           54070
1  0 0 112    13  1 10 1 073                      STO     V4                                                            54080
1  0 0 113    17  1 10   010   252520000          CLA     =0252520000                                                   54090
1  0 0 114     5  1 10   012                      CIO     012                                                           54100
1  0 0 115    17  1 10 1 020                      CLA     ZERO                                                          54110
1  0 0 116     5  1 10   061                      CIO     061                                                           54120
1  0 0 117    15  1 10   010   252520000          XOR     =0252520000                                                   54130
1  0 0 120     4  1 10 1 116                      TNZ     JAJ5                                                          54140
                                          *       TEST COMPARE LATCH                                                    54150
1  0 0 121    13  1 10 1 376              JAA2    STO     776                                                           54160
1  0 0 122    17  1 10 1 020                      CLA     ZERO                                                          54170
1  0 0 123    13  1 10 1 073                      STO     V4                                                            54180
1  0 0 124    17  1 10   011   400000000          CLA     =0400000000                                                   54190
1  0 0 125     5  1 10   066                      CIO     066                  ENABLE COMPARE                           54200
1  0 0 126    17  1 10   030                      CLA     HJAD2                                                         54210
                  1 10    30   501056000  HJAD2   HPC     JAD2                                                          54220
1  0 0 127    13  1 10 1 004                      STO     404                  INT 5 WILL HOP TO NEXT TEST              54230
                                          *       TEST COMPARE WITH ACC BIT =1, GC BIT =0                               54240
1  0 0 130    13  1 10 1 376              JAC2    STO     776                                                           54250
1  0 0 131    17  1 10   012   652520000          CLA     =0652520000                                                   54260
1  0 0 132     5  1 10   061                      CIO     061                                                           54270
1  0 0 133    10  1 10 1 116              JAC2A   TRA     JAJ5                                                          54280
                                          *       TEST COMPARE WITH ACC BIT =0, GC BIT =1                               54290
1  0 0 134    13  1 10 1 376              JAD2    STO     776                                                           54300
1  0 0 135     5  1 10   030                      CIO     030                  RST INT 5                                54310
1  0 0 136     5  1 10   110                      CIO     110                  RST MAIN INT LATCH                       54320
                                          *       CHECK HOP SAVE AFTER INT 5                                            54330
1  0 0 137    17  1 10 1 376                      CLA     776                                                           54340
1  0 0 140    15  1 10   031                      XOR     HJAC2A                                                        54350
                  1 10    31   501055400  HJAC2A  HPC     JAC2A                                                         54360
1  0 0 141     4  1 10 1 116                      TNZ     JAJ5                                                          54370
1  0 0 142    13  1 10 1 376                      STO     776                                                           54380
1  0 0 143    17  1 10   032                      CLA     HJAF2                                                         54390
1  0 0 144    13  1 10 1 004                      STO     404                                                           54400
                  1 10    32   501064000  HJAF2   HPC     JAF2                                                          54410
1  0 0 145    17  1 10   013   212520000          CLA     =0212520000                                                   54420
1  0 0 146     5  1 10   061                      CIO     061                                                           54430
1  0 0 147    10  1 10 1 116                      TRA     JAJ5                                                          54440
1  0 0 150    17  1 10 1 030              JAF2    CLA     HJAJ5                                                         54450
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 110)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC     VARIABLE            COMMENT                           SEQ NC

1  0 0 151    13  1 10 1 004                       STO     404                                                   54460
1  0 0 152     5  1 10   030                       CIO     030                 RESET INT 5                       54470
1  0 0 153     5  1 10   110                       CIO     110                 RESET MAIN INT LATCH              54480
1  0 0 154    17  1 10 1 020                       CLA     ZERO                                                  54490
1  0 0 155     5  1 10   006                       CIO     006                                                   54500
1  0 0 156     5  1 10   026                       CIO     026                                                   54510
1  0 0 157     5  1 10   032                       CIO     032                                                   54520
1  0 0 160     5  1 10   046                       CIO     046                                                   54530
1  0 0 161     5  1 10   052                       CIO     052                                                   54540
1  0 0 162     5  1 10   056                       CIO     056                                                   54550
1  0 0 163    17  1 10 1 054                       CLA     LC8                                                   54560
1  0 0 164    14  1 10   171                       TMI     JWE1                                                  54570
1  0 0 165    17  1 10 1 020                       CLA     ZERO                                                  54580
1  0 0 166     5  1 10   022                       CIO     022                                                   54590
1  0 0 167     5  1 10   036                       CIO     036                 DDAS REG                          54600
1  0 0 170     5  1 10   042                       CIO     042                 EM REG                            54610
                                           *       CHECK COMPARE LATCH WITH ENABLE COMPARE RESET                 54620
1  0 0 171    13  1 10 1 376               JWB1    STO     776                                                   54630
1  0 0 172    17  1 10   014   253500000           CLA     =025350CC00                                           54640
1  0 0 173     5  1 10   066                       CIO     066                 DISABLE COMPARE                   54650
1  0 0 174     5  1 10   061                       CIO     061                 READ GC                           54660
                                           *       NO INT 5 SHOULD OCCUR                                         54670
                                           *       PIC GRP 5 WITH TRS NOT EQUAL TO ACCUM                         54680
1  0 0 175    13  1 10 1 376               JWD1    STO     776                                                   54690
1  0 0 176    17  1 10   015   002000002           CLA     =0002000002                                           54700
1  0 0 177    13  1 10 1 373                       STO     773                                                   54710
1  0 0 200    17  1 10   016   000000100           CLA     =000000C10C                                           54720
1  0 0 201    12  1 10 1 373                       PIO     773                                                   54730
                                           *       NO INT 5 SHOULD OCCUR                                         54740
                                           *       CHECK COMPARE WITH PIO GRP 5                                  54750
                                           *       CORRECT DATA                                                  54760
1  0 0 202    13  1 10 1 376               JWF1    STO     776                                                   54770
1  0 0 203    17  1 10 1 033                       CLA     K77                                                   54780
1  0 0 204     5  1 10   066                       CIO     066                                                   54790
1  0 0 205    17  1 10   015   002000002           CLA     =0002C00002                                           54800
1  0 0 206    12  1 10 1 373                       PIO     773                                                   54810
                                           *       NO INT 5 SHOULD OCCUR                                         54820
                                           *       INCORRECT DATA WITH PIO GRP 5                                 54830
1  0 0 207    13  1 10 1 376               JWH1    STO     776                                                   54840
1  0 0 210    17  1 10   033                       CLA     HJWK1                                                 54850
                  1 10    33   501106400   HJWK1   HPC     JWK1                                                  54860
1  0 0 211    13  1 10 1 004                       STO     404                                                   54870
1  0 0 212    17  1 10 1 020                       CLA     ZERO                                                  54880
1  0 0 213    12  1 10 1 373                       PIO     773                                                   54890
                                           *       INT 5 SHOULD OCCUR HERE                                       54900
1  0 0 214    10  1 10 1 116                       TRA     JAJ5                                                  54910
1  0 0 215     5  1 10   030               JWK1    CIO     030                 RESET INT 5                       54920
1  0 0 216     5  1 10   110                       CIO     110                                                   54930
1  0 0 217    13  1 10 1 376               JWB3    STO     776                                                   54940
1  0 0 220    17  1 10   034                       CLA     HJWE3                                                 54950
                  1 10    34   501113400   HJWE3   HPC     JWE3                                                  54960
1  0 0 221    13  1 10 1 004                       STO     404                                                   54970
1  0 0 222    17  1 10   017   002000000           CLA     =0002000000                                           54980
1  0 0 223    13  1 10 1 373                       STO     773                                                   54990
1  0 0 224    17  1 10   015   002000002           CLA     =0002CC0002                                           55000
1  0 0 225    12  1 10 1 373                       PIO     773                                                   55010
                                           *       INT 5 SHOULD OCCUR HERE                                       55020
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 111)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE         COMMENT                                  SEQ NO

1  0  0 226   10  1 10 1 116                      TRA    JAJ5                                                      55030
1  0  0 227   17  1 10 1 030               JWE3   CLA    HJAJ5                                                     55040
1  0  0 230   13  1 10 1 004                      STO    404                                                       55050
1  0  0 231    5  1 10   030                      CIU    030                                                       55060
1  0  0 232    5  1 10   110                      CIU    110                                                       55070
                                           *      TEST COMPARE WITH CORRECT ACCUMULATOR                            55080
1  0  0 233   13  1 10 1 376               JAG2   STO    776                                                       55090
1  0  0 234   17  1 10   010   252520000          CLA    =0252520000                                               55100
1  0  0 235    5  1 10   061                      CIO    061                                                       55110
                                           *      TEST   SSFB REG FOR ZERO                                         55120
1  0  0 236   13  1 10 1 377               JAH2   STO    777                                                       55130
1  0  0 237   17  1 10 1 377                      CLA    777                                                       55140
1  0  0 240   13  1 10 1 073                      STO    V4                                                        55150
1  0  0 241   17  1 10 1 020                      CLA    ZERO                                                      55160
1  0  0 242    5  1 10   055                      CIU    055                                                       55170
                                           *      TEST CR REG FOR COMPLIMENT OF GC                                 55180
1  0  0 243   13  1 10 1 377               JAJ2   STU    777                                                       55190
1  0  0 244   17  1 10 1 377                      CLA    777                                                       55200
1  0  0 245   13  1 10 1 073                      STO    V4                                                        55210
1  0  0 246   17  1 10   007   525240000          CLA    =0525240000                                               55220
1  0  0 247    5  1 10   065                      CIO    065                                                       55230
                                           *      TEST DISCRETE INPUT SPARES   (DIS) FOR ZERO                      55240
1  0  0 250   13  1 10 1 377               JAK2   STC    777                                                       55250
1  0  0 251   17  1 10 1 377                      CLA    777                                                       55260
1  0  0 252   13  1 10 1 073                      STU    V4                                                        55270
1  0  0 253   17  1 10 1 020                      CLA    ZERO                                                      55280
1  0  0 254    5  1 10   075                      CIC    075                                                       55290
                                           *      TEST NASA DISCRETES (NA DIS) FOR ZERO                            55300
1  0  0 255   13  1 10 1 377               JAC3   STO    777                                                       55310
1  0  0 256   17  1 10 1 377                      CLA    777                                                       55320
1  0  0 257   13  1 10 1 073                      STC    V4                                                        55330
1  0  0 260   17  1 10 1 020                      CLA    ZERO                                                      55340
1  0  0 261    5  1 10   101                      CIO    101                                                       55350
1  0  0 262   17  1 10 1 054                      CLA    LC8                                                       55360
1  0  0 263   14  1 10   313                      TMI    JAG3                                                      55370
                                           *      TEST CIU REG FOR ZERO                                            55380
1  0  0 264   13  1 10 1 377               JAD3   STO    777                                                       55390
1  0  0 265   17  1 10 1 377                      CLA    777                                                       55400
1  0  0 266   13  1 10 1 073                      STC    V4                                                        55410
1  0  0 267   17  1 10 1 020                      CLA    ZERO                                                      55420
1  0  0 270    5  1 10   105                      CIU    105                                                       55430
                                           *      TEST INT 1 NOT SET BY CIU 4,5,6 VIA INTCV                        55440
1  0  0 271    7  1 10 1 020                      ACD    ZERO                                                      55450
1  0  0 272    0  1 10 1 023                      HOP    H9P3                                                      55460
1  0  0 273   13  1 10 1 377                      STU    777                                                       55470
1  0  0 274   17  1 10 1 377                      CLA    777                                                       55480
1  0  0 275   13  1 10 1 073                      STC    V4                                                        55490
1  0  0 276    5  1 10   154                      CIU    154                                                       55500
1  0  0 277    4  1 10 1 116                      TNZ    JAJ5                                                      55510
1  0  0 300    7  1 10 1 020                      ACD    ZERO                                                      55520
                                           *      TEST EM REG FOR ZERO                                             55530
1  0  0 301   13  1 10 1 377               JAE3   STU    777                                                       55540
1  0  0 302   17  1 10 1 377                      CLA    777                                                       55550
1  0  0 303   13  1 10 1 073                      STO    V4                                                        55560
1  0  0 304   17  1 10 1 020                      CLA    ZERO                                                      55570
1  0  0 305    5  1 10   111                      CIO    111                                                       55580
                                           *      TEST DISCRETE INPUTS (DIN REG) FOR ZERO                          55590
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 112)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS   OPC   VARIABLE                  COMMENT                SEQ NO

1  0  0 306   13  1 10 1 377               JAF3  STO   777                                              55600
1  0  0 307   17  1 10 1 377                     CLA   777                                              55610
1  0  0 310   13  1 10 1 073                     STO   V4                                               55620
1  0  0 311   17  1 10 1 020                     CLA   ZERO                                             55630
1  0  0 312    5  1 10   071                     CIO   071                                              55640
                                           *     TEST OPTISYN REG FOR ZERO                              55650
1  0  0 313   13  1 10 1 377               JAG3  STO   777                                              55660
1  0  0 314   17  1 10 1 377                     CLA   777                                              55670
1  0  0 315   13  1 10 1 073                     STO   V4                                               55680
1  0  0 316   17  1 10 1 020                     CLA   ZERO                                             55690
1  0  0 317    5  1 10   121                     CIO   121                                              55700
                                           *     TEST INT SIGNAL REG FOR ZERO                           55710
1  0  0 320   13  1 10 1 377               JAH3  STO   777                                              55720
1  0  0 321   17  1 10 1 377                     CLA   777                                              55730
1  0  0 322   13  1 10 1 073                     STO   V4                                               55740
1  0  0 323   17  1 10 1 020                     CLA   ZERO                                             55750
1  0  0 324    5  1 10   115                     CIO   115                                              55760
                                           *     TEST COD SHIFT REGISTER FOR ZERO                       55770
1  0  0 325   13  1 10 1 377               JAJ3  STO   777                                              55780
1  0  0 326   17  1 10 1 377                     CLA   777                                              55790
1  0  0 327   13  1 10 1 073                     STO   V4                                               55800
1  0  0 330   17  1 10 1 020                     CLA   ZERO                                             55810
1  0  0 331    5  1 10   131                     CIO   131                       TE3A                   55820
1  0  0 332    5  1 10   141                     CIO   141                       TE3B                   55830
1  0  0 333   10  1 10 1 010                     TRA   JAK3                                             55840
                                           *     LOAD ALL OUTPUT REGISTERS EXCEPT CR ALL ONES           55850
1  0  1  10       1 10    35                     ORG   1,,1,10,1,10,                                    55860
1  0  1  10   17  1 10 1 020               JAK3  CLA   ZERO                                             55870
1  0  1  11   13  1 10 1 073                     STO   V4                                               55880
1  0  1  12   17  1 10   002   777777776         CLA   =0777777776                                      55890
1  0  1  13    5  1 10   012                     CIO   012                                              55900
1  0  1  14    5  1 10   026                     CIO   026                                              55910
1  0  1  15    5  1 10   032                     CIO   032                                              55920
1  0  1  16    5  1 10   046                     CIO   046                                              55930
1  0  1  17    5  1 10   052                     CIO   052                                              55940
1  0  1  20    5  1 10   056                     CIO   056                                              55950
1  0  1  21    5  1 10   006                     CIO   006                                              55960
1  0  1  22   17  1 10 1 054                     CLA   LCH                                              55970
1  0  1  23   14  1 10 1 030                     TMI   JAC4                                             55980
1  0  1  24   17  1 10   002   777777776         CLA   =0777777776                                      55990
1  0  1  25    5  1 10   022                     CIO   022                                              56000
1  0  1  26    5  1 10   036                     CIO   036                                              56010
1  0  1  27    5  1 10   042                     CIO   042                                              56020
                                           *     TEST CR REG                                            56030
1  0  1  30   13  1 10 1 376               JAC4  STO   776                                              56040
1  0  1  31   17  1 10   020   002520000         CLA   =0002520000                                      56050
1  0  1  32    5  1 10   016                     CIO   016                                              56060
1  0  1  33    5  1 10   065                     CIO   065                                              56070
1  0  1  34   13  1 10 1 376               JAD4  STO   776                                              56080
1  0  1  35   17  1 10   021   001240000         CLA   =0001240000                                      56090
1  0  1  36    5  1 10   016                     CIO   016                                              56100
1  0  1  37    5  1 10   065                     CIO   065                                              56110
1  0  1  40   13  1 10 1 376               JAE4  STO   776                                              56120
1  0  1  41   17  1 10   006   777760000         CLA   =0777760000                                      56130
1  0  1  42    5  1 10   016                     CIO   016                                              56140
1  0  1  43    5  1 10   065                     CIO   065                                              56150
                                           *     TEST GC FOR COMPLEMENT OF CR                           56160
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 113)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC   VARIABLE              COMMENT                      SEQ NO

1  0  1  44   13  1 10 1 376               JAF4   STC   776                                                56170
1  0  1  45   17  1 10 1 020                      CLA   ZERO                                               56180
1  0  1  46    5  1 10   061                      CIO   061                                                56190
                                           *      TEST SSFB REGISTER                                       56200
1  0  1  47   13  1 10 1 376               JAG4   STO   776                                                56210
1  0  1  50   17  1 10   020   002520000          CLA   =0002520000                                        56220
1  0  1  51    5  1 10   006                      CIO   006                                                56230
1  0  1  52    5  1 10   055                      CIO   055                                                56240
1  0  1  53   13  1 10 1 376               JAH4   STO   776                                                56250
1  0  1  54   17  1 10   022   001250000          CLA   =0001250000                                        56260
1  0  1  55    5  1 10   006                      CIO   006                                                56270
1  0  1  56    5  1 10   055                      CIO   055                                                56280
1  0  1  57   13  1 10 1 376               JAJ4   STC   776                                                56290
1  0  1  60   17  1 10   023   003770000          CLA   =0003770000                                        56300
1  0  1  61    5  1 10   006                      CIO   006                                                56310
1  0  1  62    5  1 10   055                      CIO   055                                                56320
                                           *      TEST DIS REGISTER                                        56330
1  0  1  63   13  1 10 1 376               JAK4   STO   776                                                56340
1  0  1  64   17  1 10   024   524000000          CLA   =0524000000                                        56350
1  0  1  65    5  1 10   026                      CIO   026                                                56360
1  0  1  66    5  1 10   075                      CIC   075                                                56370
1  0  1  67   13  1 10 1 376               JAC5   STO   776                                                56380
1  0  1  70   17  1 10   025   252000000          CLA   =0252000000                                        56390
1  0  1  71    5  1 10   026                      CIO   026                                                56400
1  0  1  72    5  1 10   075                      CIO   075                                                56410
1  0  1  73   13  1 10 1 376               JAD5   STO   776                                                56420
1  0  1  74   17  1 10   026   776000000          CLA   =0776000000                                        56430
1  0  1  75    5  1 10   026                      CIO   026                                                56440
1  0  1  76    5  1 10   075                      CIO   075                                                56450

                                           *      TEST NA DIS REGISTER                                     56480
1  0  1  77   13  1 10 1 376               JAE5   STC   776                                                56490
1  0  1 100   17  1 10   035   000000524          CLA   =0000000524                                        56500
1  0  1 101    5  1 10   032                      CIO   032                                                56510
1  0  1 102    5  1 10   101                      CIO   101                                                56520
1  0  1 103   13  1 10 1 376               JAF5   STC   776                                                56530
1  0  1 104   17  1 10   036   000000252          CLA   =0000000252                                        56540
1  0  1 105    5  1 10   032                      CIO   032                                                56550
1  0  1 106    5  1 10   101                      CIO   101                                                56560
1  0  1 107   13  1 10 1 376               JAG5   STC   776                                                56570
1  0  1 110   17  1 10   037   000000776          CLA   =0000000776                                        56580
1  0  1 111    5  1 10   032                      CIO   032                                                56590
1  0  1 112    5  1 10   101                      CIC   101                                                56600
1  0  1 113   17  1 10 1 054                      CLA   LCH                                                56610
1  0  1 114   14  1 10 1 220                      TMI   JBA2                                               56620
1  0  1 115   10  1 10 1 131                      TRA   JBA1                                               56630
1  0  1 116   13  1 10 1 377               JAJ5   STO   777                                                56640
1  0  1 117   13  1 10 1 076               JAJ5A  STO   TEMP                                               56650
1  0  1 120   17  1 10 1 377                      CLA   777                                                56660
1  0  1 121   13  1 10 1 071                      STO   VAR2                                               56670
1  0  1 122   17  1 10 1 376                      CLA   776                                                56680
1  0  1 123   13  1 10 1 070                      STO   VAR1                                               56690
1  0  1 124   17  1 10   040   000000400   JAJ5B  CLA   =0000000400                                        56700
1  0  1 125    5  1 10 1 203                      CIO   603                   SET LTE ERROR LAMP           56710
1  0  1 126    0  1 10 1 023                      HOP   H9P3                  RESET ALL INT LATCHES        56720
1  0  1 127   17  1 10 1 076                      CLA   TEMP                                               56730
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 114)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL     LHS    OPC     VARIABLE                  COMMENT                  SEQ NO

1  0  1 130    0  1 10 1 027                      HOP     H95P7                     TO ERROR ROUTINE          56740
                                           *      TEST CIU REGISTER                                           56750
1  0  1 131   13  1 10 1 376               JBA1   STO     776                                                 56760
1  0  1 132   17  1 10   041   525000000          CLA     =0525000000                                         56770
1  0  1 133    5  1 10   036                      CIO     036                                                 56780
1  0  1 134    5  1 10   105                      CIO     105                                                 56790
1  0  1 135   13  1 10 1 376               JBB1   STO     776                                                 56800
1  0  1 136   17  1 10   042   252400000          CLA     =0252400000                                         56810
1  0  1 137    5  1 10   036                      CIO     036                                                 56820
1  0  1 140    5  1 10   105                      CIO     105                                                 56830
1  0  1 141   13  1 10 1 376               JBC1   STO     776                                                 56840
1  0  1 142   17  1 10   043   777400000          CLA     =0777400000                                         56850
1  0  1 143    5  1 10   036                      CIO     036                                                 56860
1  0  1 144    5  1 10   105                      CIO     105                                                 56870
                                           *      TEST INT 1 SET BY CIU VIA INTCV                             56880
1  0  1 145    7  1 10 1 020                      ADD     ZERO                                                56890
1  0  1 146   13  1 10 1 376                      STO     776                                                 56900
1  0  1 147    5  1 10   154                      CIO     154                                                 56910
1  0  1 150    6  1 10   011   400000000          AND     =0400000000                                         56920
1  0  1 151    4  1 10 1 153                      TNZ     *+2                                                 56930
1  0  1 152   10  1 10 1 116                      TRA     JAJ5                                                56940
1  0  1 153    5  1 10   010                      CIO     010                       RESET INT 1               56950
1  0  1 154    5  1 10   110                      CIO     110                                                 56960
                                           *      TEST EM REGISTER                                            56970
1  0  1 155   13  1 10 1 376               JBD1   STO     776                                                 56980
1  0  1 156   17  1 10   044   525250000          CLA     =0525250000                                         56990
1  0  1 157    5  1 10   042                      CIO     042                                                 57000
1  0  1 160    5  1 10   111                      CIO     111                                                 57010
1  0  1 161   13  1 10 1 376               JBE1   STO     776                                                 57020
1  0  1 162   17  1 10   045   252524000          CLA     =0252524000                                         57030
1  0  1 163    5  1 10   042                      CIO     042                                                 57040
1  0  1 164    5  1 10   111                      CIO     111                                                 57050
1  0  1 165   13  1 10 1 376               JBF1   STO     776                                                 57060
1  0  1 166   17  1 10   046   777774000          CLA     =0777774000                                         57070
1  0  1 167    5  1 10   042                      CIO     042                                                 57080
1  0  1 170    5  1 10   111                      CIO     111                                                 57090
1  0  1 171   10  1 10 1 210                      TRA     JBG1                                                57100
                                           *      TEST DIN REGISTER                                           57110
1  0  1 210       1 10    36                      ORG     1,,1,210,1,10,                                      57120
1  0  1 210   17  1 10   047   252525252   JBG1   CLA     =0252525252                                         57130
1  0  1 211   13  1 10 1 376                      STO     776                                                 57140
                                           *                                        CAL POINT NR 25           57150
1  0  1 212    5  1 10   022                      CIO     022                                                 57160
1  0  1 213    5  1 10   071                      CIO     071                                                 57170
1  0  1 214   13  1 10 1 376               JBH1   STO     776                                                 57180
1  0  1 215   17  1 10   050   525252524          CLA     =0525252524                                         57190
1  0  1 216    5  1 10   022                      CIO     022                                                 57200
1  0  1 217    5  1 10   071                      CIO     071                                                 57210
                                           *      TEST OPTISYN REGISTER                                       57220
1  0  1 220   13  1 10 1 376               JBA2   STO     776                                                 57230
1  0  1 221   17  1 10   051   000012524          CLA     =0000012524                                         57240
1  0  1 222    5  1 10   052                      CIO     052                                                 57250
1  0  1 223    5  1 10   121                      CIO     121                                                 57260
1  0  1 224   13  1 10 1 376               JBB2   STO     776                                                 57270
1  0  1 225   17  1 10   052   000005252          CLA     =0000005252                                         57280
1  0  1 226    5  1 10   052                      CIO     052                                                 57290
1  0  1 227    5  1 10   121                      CIO     121                                                 57300
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 115)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE          COMMENT                      SEQ NO

1  0 1 230    13  1 10 1 376               JRC2   STO    776                                            57310
1  0 1 231    17  1 10   053   000017776          CLA    =0000017776                                    57320
1  0 1 232     5  1 10   052                      CIO    052                                            57330
1  0 1 233     5  1 10   121                      CIO    121                                            57340
                                           *      TEST INF SIGNAL REGISTER                              57350
1  0 1 234    13  1 10 1 376               JBD2   STO    776                                            57360
1  0 1 235    17  1 10   054   125200000          CLA    =0125200000                                    57370
1  0 1 236     5  1 10   046                      CIO    046                                            57380
1  0 1 237     5  1 10   115                      CIO    115                                            57390
1  0 1 240    13  1 10 1 376               JBE2   STO    776                                            57400
1  0 1 241    17  1 10   055   052500000          CLA    =0052500000                                    57410
1  0 1 242     5  1 10   046                      CIO    046                                            57420
1  0 1 243     5  1 10   115                      CIC    115                                            57430
1  0 1 244    13  1 10 1 376               JBF2   STO    776                                            57440
1  0 1 245    17  1 10   056   177700000          CLA    =0177700000                                    57450
1  0 1 246     5  1 10   046                      CIO    046                                            57460
1  0 1 247     5  1 10   115                      CIO    115                                            57470
                                           *      LOAD AND TEST GC REG ALL ONES                         57480
1  0 1 250    13  1 10 1 376               JBG2   STO    776                                            57490
1  0 1 251    17  1 10   006   777760000          CLA    =0777760000                                    57500
1  0 1 252     5  1 10   012                      CIO    012                                            57510
1  0 1 253     5  1 10   061                      CIO    061                                            57520
                                           *      TEST COD REGISTER                                     57530
1  0 1 254    13  1 10 1 376               JBH2   STO    776                                            57540
1  0 1 255    17  1 10   057   252505252          CLA    =0252505252                                    57550
1  0 1 256     5  1 10   056                      CIO    056                                            57560
1  0 1 257     5  1 10   131                      CIO    131                                            57570
1  0 1 260     5  1 10   141                      CIO    141                                            57580
1  0 1 261    13  1 10 1 376               JBJ2   STC    776                                            57590
1  0 1 262     5  1 10   062                      CIO    062               SET COD ENABLE  TE2A,B       57600
1  0 1 263    17  1 10   060   125202524          CLA    =0125202524                                    57610
1  0 1 264     5  1 10   056                      CIO    056                                            57620
1  0 1 265     5  1 10   131                      CIO    131                                            57630
1  0 1 266     5  1 10   141                      CIO    141                                            57640
1  0 1 267    13  1 10 1 376               JBK2   STO    776                                            57650
1  0 1 270    17  1 10   061   377707776          CLA    =0377707776                                    57660
1  0 1 271     5  1 10   056                      CIO    056                                            57670
1  0 1 272     5  1 10   131                      CIO    131                                            57680
1  0 1 273     5  1 10   141                      CIO    141                                            57690
1  0 1 274    17  1 10   062   000000004          CLA    =0000000004       RESET COD ENABLE TE2A,B      57700
1  0 1 275     5  1 10 1 223                      CIC    623                                            57710
1  0 1 276    17  1 10 1 054                      CLA    LCH                                            57720
1  0 1 277    14  1 10 1 301                      TMI    JEC1A           CHL SWITCHING IN PROGRESS      57730
1  0 1 300    00  1 10   063   501034060          TRA*   JBM2                                           57740
1  0 1 301    00  1 10   064   501045410   JEC1A  TRA*   JEC1                                           57750
1  6 0  70        1 10    37                      ORG    1,6,,70,1,10,                                  57760
                                           *      TEST DIN REG FOR ZERO                                 57770
1  6 0  70    17  1 10 1 020               JBM2   CLA    ZERO                                           57780
1  6 0  71    13  1 10 1 376                      STO    776                                            57790
1  6 0  72     5  1 10   022                      CIC    022                                            57800
1  6 0  73     5  1 10   071                      CIO    071                                            57810
                                           *      CHECK DA INPUTS AND MULTIPLEXER                       57820
1  6 0  74    13  1 10 1 376               JBA3   STO    776                                            57830
1  6 0  75    17  1 10   050   525252524          CLA    =0525252524                                    57840
1  6 0  76     5  1 10   022                      CIO    022               LOAD DIN REG                 57850
1  6 0  77     5  1 10   071                      CIO    071               DIN REG                      57860
1  6 0 100    13  1 10 1 376               JBB3   STO    776                                            57870
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 116)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6 | 0 | 101 | 17 | 1 | 10 | | 047 | 252525252 | | CLA | =0252525252 | | 57880 |
| 1 | 6 | 0 | 102 | 5 | 1 | 10 | | 005 | | | CIO | 005 | GC A DATA IN | 57890 |
| 1 | 6 | 0 | 103 | 13 | 1 | 10 | 1 | 376 | | JBC3 | STO | 776 | | 57900 |
| 1 | 6 | 0 | 104 | 17 | 1 | 10 | | 044 | 525250000 | | CLA | =0525250000 | | 57910 |
| 1 | 6 | 0 | 105 | 5 | 1 | 10 | | 011 | | | CIO | 011 | GC B DATA IN | 57920 |
| 1 | 6 | 0 | 106 | 13 | 1 | 10 | 1 | 376 | | JBD3 | STO | 776 | | 57930 |
| 1 | 6 | 0 | 107 | 17 | 1 | 10 | 1 | 020 | | | CLA | ZERO | | 57940 |
| 1 | 6 | 0 | 110 | 5 | 1 | 10 | | 015 | | | CIO | 015 | ORBITAL CHECKOUT | 57950 |
| 1 | 6 | 0 | 111 | 13 | 1 | 10 | 1 | 376 | | JBE3 | STO | 776 | | 57960 |
| 1 | 6 | 0 | 112 | 17 | 1 | 10 | | 044 | 525250000 | | CLA | =0525250000 | | 57970 |
| 1 | 6 | 0 | 113 | 5 | 1 | 10 | | 021 | | | CIO | 021 | DOR IN | 57980 |
| 1 | 6 | 0 | 114 | 13 | 1 | 10 | 1 | 376 | | JBF3 | STO | 776 | | 57990 |
| 1 | 6 | 0 | 115 | 17 | 1 | 10 | | 010 | 252520000 | | CLA | =0252520000 | | 58000 |
| 1 | 6 | 0 | 116 | 5 | 1 | 10 | | 031 | | | CIO | 031 | SSR IN | 58010 |
| 1 | 6 | 0 | 117 | 13 | 1 | 10 | 1 | 376 | | JBG3 | STO | 776 | | 58020 |
| 1 | 6 | 0 | 120 | 17 | 1 | 10 | | 050 | 525252524 | | CLA | =0525252524 | | 58030 |
| 1 | 6 | 0 | 121 | 5 | 1 | 10 | | 035 | | | CIO | 035 | TEL DATA A | 58040 |
| 1 | 6 | 0 | 122 | 13 | 1 | 10 | 1 | 376 | | JBH3 | STO | 776 | | 58050 |
| 1 | 6 | 0 | 123 | 17 | 1 | 10 | | 010 | 252520000 | | CLA | =0252520000 | | 58060 |
| 1 | 6 | 0 | 124 | 5 | 1 | 10 | | 041 | | | CIO | 041 | TEL DATA B | 58070 |
| 1 | 6 | 0 | 125 | 13 | 1 | 10 | 1 | 376 | | JBB4 | STO | 776 | | 58080 |
| 1 | 6 | 0 | 126 | 17 | 1 | 10 | | 044 | 525250000 | | CLA | =0525250000 | | 58090 |
| 1 | 6 | 0 | 127 | 5 | 1 | 10 | | 045 | | | CIO | 045 | DDAS (CIU) DATA IN | 58100 |
| 1 | 6 | 0 | 130 | 13 | 1 | 10 | 1 | 376 | | JBC4 | STO | 776 | | 58110 |
| 1 | 6 | 0 | 131 | 17 | 1 | 10 | | 047 | 252525252 | | CLA | =0252525252 | | 58120 |
| 1 | 6 | 0 | 132 | 5 | 1 | 10 | | 051 | | | CIO | 051 | NA SIM LAB IN | 58130 |
| | | | | | | | | | | * | LOAD DIN REG | | | 58140 |
| 1 | 6 | 0 | 133 | 13 | 1 | 10 | 1 | 376 | | JBG4 | STO | 776 | | 58150 |
| 1 | 6 | 0 | 134 | 17 | 1 | 10 | | 047 | 252525252 | | CLA | =0252525252 | | 58160 |
| 1 | 6 | 0 | 135 | 5 | 1 | 10 | | 022 | | | CIO | 022 | | 58170 |
| 1 | 6 | 0 | 136 | 5 | 1 | 10 | | 071 | | | CIO | 071 | READ | 58180 |
| 1 | 6 | 0 | 137 | 13 | 1 | 10 | 1 | 376 | | JBB5 | STO | 776 | | 58190 |
| 1 | 6 | 0 | 140 | 17 | 1 | 10 | | 050 | 525252524 | | CLA | =0525252524 | | 58200 |
| 1 | 6 | 0 | 141 | 5 | 1 | 10 | | 005 | | | CIO | 005 | GC A | 58210 |
| 1 | 6 | 0 | 142 | 13 | 1 | 10 | 1 | 376 | | JBC5 | STO | 776 | | 58220 |
| 1 | 6 | 0 | 143 | 17 | 1 | 10 | | 010 | 252520000 | | CLA | =0252520000 | | 58230 |
| 1 | 6 | 0 | 144 | 5 | 1 | 10 | | 011 | | | CIO | 011 | GC B | 58240 |
| 1 | 6 | 0 | 145 | 13 | 1 | 10 | 1 | 376 | | JBD5 | STO | 776 | | 58250 |
| 1 | 6 | 0 | 146 | 17 | 1 | 10 | | 065 | 000000002 | | CLA | =0000000002 | | 58260 |
| 1 | 6 | 0 | 147 | 5 | 1 | 10 | | 015 | | | CIO | 015 | OCV | 58270 |
| 1 | 6 | 0 | 150 | 13 | 1 | 10 | 1 | 376 | | JBE5 | STO | 776 | | 58280 |
| 1 | 6 | 0 | 151 | 17 | 1 | 10 | | 066 | 252500000 | | CLA | =0252500000 | | 58290 |
| 1 | 6 | 0 | 152 | 5 | 1 | 10 | | 021 | | | CIO | 021 | DOR | 58300 |
| 1 | 6 | 0 | 153 | 13 | 1 | 10 | 1 | 376 | | JBF5 | STO | 776 | | 58310 |
| 1 | 6 | 0 | 154 | 17 | 1 | 10 | | 044 | 525250000 | | CLA | =0525250000 | | 58320 |
| 1 | 6 | 0 | 155 | 5 | 1 | 10 | | 031 | | | CIO | 031 | SSR | 58330 |
| 1 | 6 | 0 | 156 | 13 | 1 | 10 | 1 | 376 | | JBG5 | STO | 776 | | 58340 |
| 1 | 6 | 0 | 157 | 17 | 1 | 10 | | 047 | 252525252 | | CLA | =0252525252 | | 58350 |
| 1 | 6 | 0 | 160 | 5 | 1 | 10 | | 035 | | | CIO | 035 | TEL A | 58360 |
| 1 | 6 | 0 | 161 | 13 | 1 | 10 | 1 | 376 | | JBH5 | STO | 776 | | 58370 |
| 1 | 6 | 0 | 162 | 17 | 1 | 10 | | 067 | 125250000 | | CLA | =0125250000 | | 58380 |
| 1 | 6 | 0 | 163 | 5 | 1 | 10 | | 041 | | | CIO | 041 | TEL B | 58390 |
| 1 | 6 | 0 | 164 | 13 | 1 | 10 | 1 | 376 | | JCB1 | STO | 776 | | 58400 |
| 1 | 6 | 0 | 165 | 17 | 1 | 10 | | 010 | 252520000 | | CLA | =0252520000 | | 58410 |
| 1 | 6 | 0 | 166 | 5 | 1 | 10 | | 045 | | | CIO | 045 | DDAS IN | 58420 |
| 1 | 6 | 0 | 167 | 13 | 1 | 10 | 1 | 376 | | JCC1 | STO | 776 | | 58430 |
| 1 | 6 | 0 | 170 | 17 | 1 | 10 | | 050 | 525252524 | | CLA | =0525252524 | | 58440 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 117)

```
IM IS|S LOC   OP DM DS 9 ADR   OCT VAL     LHS   OPC    VARIABLE          COMMENT                  SEQ NO

1  6 0 171     5  1 10   051                     CIO    051               NA SIM                   58450
                                           *     LOAD DIN REG                                      58460
1  6 0 172    13  1 10 1 376               JCH1  STO    776                                        58470
1  6 0 173    17  1 10   070  631463146          CLA    =0631463146                                58480
1  6 0 174     5  1 10   022                     CIO    022                                        58490
1  6 0 175     5  1 10   071                     CIO    071               DIN                      58500
1  6 0 176    13  1 10 1 376               JCB2  STO    776                                        58510
1  6 0 177    17  1 10   071  714631462          CLA    =0714631462                                58520
1  6 0 200     5  1 10   005                     CIO    005               GC A                     58530
1  6 0 201    13  1 10 1 376               JCC2  STO    776                                        58540
1  6 0 202    17  1 10   072  746310000          CLA    =0746310000                                58550
1  6 0 203     5  1 10   011                     CIO    011               GC B                     58560
1  6 0 204    13  1 10 1 376               JCD2  STO    776                                        58570
1  6 0 205    17  1 10 1 020                     CLA    ZERO                                       58580
1  6 0 206     5  1 10   015                     CIO    015               OCV                      58590
1  6 0 207    13  1 10 1 376               JCE2  STO    776                                        58600
1  6 0 210    17  1 10   073  171440000          CLA    =0171440000                                58610
1  6 0 211     5  1 10   021                     CIO    021               DOR                      58620
1  6 0 212    13  1 10 1 376               JCF2  STO    776                                        58630
1  6 0 213    17  1 10   074  474630000          CLA    =0474630000                                58640
1  6 0 214     5  1 10   031                     CIO    031               SSR                      58650
1  6 0 215    13  1 10 1 376               JCG2  STO    776                                        58660
1  6 0 216    17  1 10   075  636314630          CLA    =0636314630                                58670
1  6 0 217     5  1 10   035                     CIO    035               TEL A                    58680
1  6 0 220    13  1 10 1 376               JCH2  STO    776                                        58690
1  6 0 221    17  1 10   076  317140000          CLA    =0317140000                                58700
1  6 0 222     5  1 10   041                     CIO    041               TEL B                    58710
1  6 0 223    13  1 10 1 376               JCJ2  STO    776                                        58720
1  6 0 224    17  1 10   077  147460000          CLA    =0147460000                                58730
1  6 0 225     5  1 10   045                     CIO    045               DDAS                     58740
1  6 0 226    13  1 10 1 376               JCK2  STO    776                                        58750
1  6 0 227    17  1 10   143  363146314          CLA    =0363146314                                58760
1  6 0 230     5  1 10   051                     CIO    051               NA SIM                   58770
                                           *     LOAD DIN REGISTER                                 58780
1  6 0 231    13  1 10 1 376               JCB4  STO    776                                        58790
1  6 0 232    17  1 10   144  741703606          CLA    =0741703606                                58800
1  6 0 233     5  1 10   022                     CIO    022                                        58810
1  6 0 234     5  1 10   071                     CIO    071                                        58820
1  6 0 235    13  1 10 1 376               JCE4  STO    776                                        58830
1  6 0 236    17  1 10   145  760741702          CLA    =0760741702                                58840
1  6 0 237     5  1 10   005                     CIO    005               GC A                     58850
1  6 0 240    13  1 10 1 376               JCF4  STO    776                                        58860
1  6 0 241    17  1 10   146  770360000          CLA    =0770360000                                58870
1  6 0 242     5  1 10   011                     CIO    011               GC B                     58880
1  6 0 243    13  1 10 1 376               JCG4  STO    776                                        58890
1  6 0 244    17  1 10 1 020                     CLA    ZERO                                       58900
1  6 0 245     5  1 10   015                     CIO    015               OCV                      58910
1  6 0 246    13  1 10 1 376               JCH4  STO    776                                        58920
1  6 0 247    17  1 10   147  176050000          CLA    =0176050000                                58930
1  6 0 250     5  1 10   021                     CIO    021               DOR                      58940
1  6 0 251    13  1 10 1 376               JCJ4  STO    776                                        58950
1  6 0 252    17  1 10   150  077030000          CLA    =0077030000                                58960
1  6 0 253     5  1 10   031                     CIO    031               SSR                      58970
1  6 0 254    13  1 10 1 376               JCB5  STO    776                                        58980
1  6 0 255    17  1 10   151  037417036          CLA    =0037417036                                58990
1  6 0 256     5  1 10   035                     CIO    035               TEL A                    59000
1  6 0 257    13  1 10 1 376               JCC5  STO    776                                        59010
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 118)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC     VAPIABLE                COMMENT    SEQ NO

1  6  0 260   17  1 10    152  017600000          CLA     =0017600000                        59020
1  6  0 261    5  1 10    041                     CIO     041                     TEL B      59030
1  6  0 262   13  1 10 1  376              JCD5   STO     776                                59040
1  6  0 263   17  1 10    153  607700000          CLA     =0607700000                        59050
1  6  0 264    5  1 10    045                     CIO     045                     ODAS       59060
1  6  0 265   13  1 10 1  376              JCE5   STO     776                                59070
1  6  0 266   17  1 10    154  374170360          CLA     =0374170360                        59080
1  6  0 267    5  1 10    051                     CIO     051                     NA SIM     59090
1  6  0 270   00  1 10    155  501005010          TRA*    JDB1                               59100
1  1  0  12       1 10     40                     ORG     1,1,0,12,1,10,                     59110
                                           *      LOAD DIN REGISTER                          59120
1  1  0  12   17  1 10    156  776003770   JDB1   CLA     =0776003770                        59130
1  1  0  13   13  1 10 1  376                     STO     776                                59140
1  1  0  14    5  1 10    022                     CIO     022                                59150
1  1  0  15    5  1 10    071                     CIO     071                                59160
1  1  0  16   13  1 10 1  376              JDE1   STO     776                                59170
1  1  0  17   17  1 10    157  377001774          CLA     =0377001774                        59180
1  1  0  20    5  1 10    005                     CIO     005                     GC A       59190
1  1  0  21   13  1 10 1  376              JDF1   STO     776                                59200
1  1  0  22   17  1 10    160  177400000          CLA     =0177400000                        59210
1  1  0  23    5  1 10    011                     CIO     011                     GC B       59220
1  1  0  24   13  1 10 1  376              JDG1   STO     776                                59230
1  1  0  25   17  1 10    065  000000002          CLA     =0000000002                        59240
1  1  0  26    5  1 10    015                     CIO     015                     OCV        59250
1  1  0  27   13  1 10 1  376              JDH1   STO     776                                59260
1  1  0  30   17  1 10    161  637700000          CLA     =0637700000                        59270
1  1  0  31    5  1 10    021                     CIO     021                     DOR        59280
1  1  0  32   13  1 10 1  376              JDJ1   STO     776                                59290
1  1  0  33   17  1 10    162  717740000          CLA     =0717740000                        59300
1  1  0  34    5  1 10    031                     CIO     031                     SSR        59310
1  1  0  35   13  1 10 1  376              JDB2   STO     776                                59320
1  1  0  36   17  1 10    163  747760036          CLA     =0747760036                        59330
1  1  0  37    5  1 10    035                     CIO     035                     TEL A      59340
1  1  0  40   13  1 10 1  376              JDC2   STO     776                                59350
1  1  0  41   17  1 10    164  363770000          CLA     =0363770000                        59360
1  1  0  42    5  1 10    041                     CIO     041                     TEL B      59370
1  1  0  43   13  1 10 1  376              JDD2   STO     776                                59380
1  1  0  44   17  1 10    165  771770000          CLA     =0771770000                        59390
1  1  0  45    5  1 10    045                     CIO     045                     ODAS       59400
1  1  0  46   13  1 10 1  376              JDE2   STO     776                                59410
1  1  0  47   17  1 10    166  477600376          CLA     =0477600376                        59420
1  1  0  50    5  1 10    051                     CIO     051                     NA SIM     59430
                                           *      LOAD DIN REGISTER                          59440
1  1  0  51   13  1 10 1  376              JDB3   STO     776                                59450
1  1  0  52   17  1 10    046  777774000          CLA     =0777774000                        59460
1  1  0  53    5  1 10    022                     CIO     022                                59470
1  1  0  54    5  1 10    071                     CIO     071                                59480
1  1  0  55   13  1 10 1  376              JDE3   STO     776                                59490
1  1  0  56   17  1 10    167  377776000          CLA     =0377776000                        59500
1  1  0  57    5  1 10    005                     CIO     005                     GC A       59510
1  1  0  60   13  1 10 1  376              JDF3   STO     776                                59520
1  1  0  61   17  1 10    170  177770000          CLA     =0177770000                        59530
1  1  0  62    5  1 10    011                     CIO     011                     GC B       59540
1  1  0  63   13  1 10 1  376              JDG3   STO     776                                59550
1  1  0  64   17  1 10 1  020                     CLA     ZERO                               59560
1  1  0  65    5  1 10    015                     CIO     015                     OCV        59570
1  1  0  66   13  1 10 1  376              JDH3   STO     776                                59580
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 119)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC   VARIABLE          COMMENT                         SEQ NC

1  1  0  67   17  1 10   171   037750000          CLA   =0037750000                                       59590
1  1  0  70    5  1 10   021                      CIO   021                DUR                            59600
1  1  0  71   13  1 10 1 376               JDJ3   STO   776                                               59610
1  1  0  72   17  1 10   172   017770000          CLA   =0017770000                                       59620
1  1  0  73    5  1 10   031                      CIO   031                SSR                            59630
1  1  0  74   13  1 10 1 376               JDB4   STO   776                                               59640
1  1  0  75   17  1 10   173   007777740          CLA   =0007777740                                       59650
1  1  0  76    5  1 10   035                      CIO   035                TEL A                          59660
1  1  0  77   13  1 10 1 376               JDC4   STO   776                                               59670
1  1  0 100   17  1 10   023   003770000          CLA   =0003770000                                       59680
1  1  0 101    5  1 10   041                      CIO   041                TEL B                          59690
1  1  0 102   13  1 10 1 376               JDC4   STO   776                                               59700
1  1  0 103   17  1 10   174   001770000          CLA   =0001770000                                       59710
1  1  0 104    5  1 10   045                      CIO   045                DDAS                           59720
1  1  0 105   13  1 10 1 376               JDE4   STO   776                                               59730
1  1  0 106   17  1 10   175   077777400          CLA   =0077777400                                       59740
1  1  0 107    5  1 10   051                      CIO   051                NA SIM                         59750
                                           *      TEST PIO ADDRESS REGISTER AND MPLXR GATES               59760
1  1  0 110   17  1 10   002   777777776   JEB1   CLA   =0777777776                                       59770
1  1  0 111    5  1 10   022                      CIO   022                LOAD DIN REG                   59780
1  1  0 112    5  1 10   071                      CIO   071                READ DIN REG                   59790
                                           *      TEST PIO ADDRESS REGISTER                               59800
1  1  0 113   13  1 10 1 376               JEC1   STO   776                                               59810
1  1  0 114   12  1 10   000                      PIO   000                                               59820
1  1  0 115   17  1 10 1 020                      CLA   ZERO                                              59830
1  1  0 116    5  1 10   125                      CIO   125                READ ADDRESS REG               59840
1  1  0 117   13  1 10 1 376               JEE1   STO   776                                               59850
1  1  0 120   12  1 10 1 376                      PIO   776                                               59860
1  1  0 121   17  1 10   176   000001774          CLA   =0000001774                                       59870
1  1  0 122    5  1 10   125                      CIO   125                                               59880
1  1  0 123   13  1 10 1 376               JEG1   STO   776                                               59890
1  1  0 124   12  1 10 1 125                      PIO   525                                               59900
1  1  0 125   17  1 10   177   000001252          CLA   =0000001252                                       59910
1  1  0 126    5  1 10   125                      CIO   125                                               59920
1  1  0 127   13  1 10 1 376               JEJ1   STO   776                                               59930
1  1  0 130   12  1 10   252                      PIO   252                                               59940
1  1  0 131   17  1 10   035   000000524          CLA   =0000000524                                       59950
1  1  0 132    5  1 10   125                      CIO   125                                               59960
                                           *      TEST AI3 AND LDATAV INTERFACE                           59970
                                           *      DISABLE COMPARE LATCH                                   59980
1  1  0 133   17  1 10 1 054               JEA2   CLA   LCB                                               59990
1  1  0 134   14  1 10   205                      TMI   JEB4                                              60000
1  1  0 135   17  1 10 1 020               JEB2   CLA   ZERO                                              60010
1  1  0 136    5  1 10   066                      CIO   066                                               60020
1  1  0 137   13  1 10 1 376               JEC2   STO   776                                               60030
1  1  0 140   17  1 10   050   525252524          CLA   =0525252524                                       60040
1  1  0 141   12  1 10   137                      PIO   137                LOAD EM REG                    60050
1  1  0 142    5  1 10   111                      CIO   111                READ EM REG                    60060
1  1  0 143   15  1 10   200   525200000          XOR   =0525200000                                       60070
1  1  0 144    4  1 10   266                      TNZ   JEJ5                                              60080
1  1  0 145   13  1 10 1 376               JEE2   STO   776                                               60090
1  1  0 146   17  1 10   047   252525252          CLA   =0252525252                                       60100
1  1  0 147   12  1 10   137                      PIO   137                                               60110
1  1  0 150    5  1 10   111                      CIO   111                                               60120
1  1  0 151   15  1 10   066   252500000          XOR   =0252500000                                       60130
1  1  0 152    4  1 10   266                      TNZ   JEJ5                                              60140
1  1  0 153   13  1 10 1 376               JEG2   STO   776                                               60150
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 120)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE          COMMENT                          SEC NO

1  1 0 154    17  1 10   201   036077776          CLA    =0036077776                                         60160
1  1 0 155    12  1 10   137                      PIO    137                                                 60170
1  1 0 156     5  1 10   111                      CIO    111                                                 60180
1  1 0 157    15  1 10   202   036000000          XOR    =0036000000                                         60190
1  1 0 160     4  1 10   266                      TNZ    JEJ5                                                60200
1  1 0 161    13  1 10 1 376               JEB3   STO    776                                                 60210
1  1 0 162    17  1 10   203   741777776          CLA    =0741777776                                         60220
1  1 0 163    12  1 10   137                      PIO    137                                                 60230
1  1 0 164     5  1 10   111                      CIO    111                                                 60240
1  1 0 165    15  1 10   204   741700000          XOR    =0741700000                                         60250
1  1 0 166     4  1 10   266                      TNZ    JEJ5                                                60260
1  1 0 167    13  1 10 1 376               JED3   STO    776                                                 60270
1  1 0 170    17  1 10   205   770077776          CLA    =0770077776                                         60280
1  1 0 171    12  1 10   137                      PIO    137                                                 60290
1  1 0 172     5  1 10   111                      CIO    111                                                 60300
1  1 0 173    15  1 10   206   770000000          XOR    =0770000000                                         60310
1  1 0 174     4  1 10   266                      TNZ    JEJ5                                                60320
1  1 0 175    13  1 10 1 376               JEF3   STO    776                                                 60330
1  1 0 176    17  1 10   207   007777776          CLA    =0007777776                                         60340
1  1 0 177    12  1 10   137                      PIO    137                                                 60350
1  1 0 200     5  1 10   111                      CIO    111                                                 60360
1  1 0 201    15  1 10   210   007700000          XOR    =0007700000                                         60370
1  1 0 202     4  1 10   266                      TNZ    JEJ5                                                60380
1  1 0 203    17  1 10   002   777777776   JEH3   CLA    =0777777776                                         60390
1  1 0 204     5  1 10   042                      CIO    042               LOAD EM REG                       60400
                                           *      TEST TRS AND DATAVC INPUT TO MPLXR                         60410
1  1 0 205     5  1 10   066               JEB4   CIO    066               ENABLE COMPARE                    60420
1  1 0 206    13  1 10 1 376               JEC4   STO    776                                                 60430
1  1 0 207    17  1 10   050   525252524          CLA    =0525252524                                         60440
1  1 0 210    13  1 10 1 003                      STO    403                                                 60450
1  1 0 211    12  1 10 1 003                      PIO    403               ACC AND INPUT COMPARE             60460
1  1 0 212    13  1 10 1 376               JED4   STO    776                                                 60470
1  1 0 213    17  1 10   047   252525252          CLA    =0252525252                                         60480
1  1 0 214    13  1 10 1 003                      STO    403                                                 60490
1  1 0 215    12  1 10 1 003                      PIO    403                                                 60500
1  1 0 216    13  1 10 1 376               JEE4   STO    776                                                 60510
1  1 0 217    17  1 10   070   631463146          CLA    =0631463146                                         60520
1  1 0 220    13  1 10 1 003                      STO    403                                                 60530
1  1 0 221    12  1 10 1 003                      PIO    403                                                 60540
1  1 0 222    13  1 10 1 376               JEF4   STO    776                                                 60550
1  1 0 223    17  1 10   211   146314630          CLA    =0146314630                                         60560
1  1 0 224    13  1 10 1 003                      STO    403                                                 60570
1  1 0 225    12  1 10 1 003                      PIO    403                                                 60580
1  1 0 226    13  1 10 1 376               JEG4   STO    776                                                 60590
1  1 0 227    17  1 10   144   741703606          CLA    =0741703606                                         60600
1  1 0 230    13  1 10 1 003                      STO    403                                                 60610
1  1 0 231    12  1 10 1 003                      PIO    403                                                 60620
1  1 0 232    13  1 10 1 376               JEH4   STO    776                                                 60630
1  1 0 233    17  1 10   212   036074170          CLA    =0036074170                                         60640
1  1 0 234    13  1 10 1 003                      STO    403                                                 60650
1  1 0 235    12  1 10 1 003                      PIO    403                                                 60660
1  1 0 236    13  1 10 1 376               JEB5   STO    776                                                 60670
1  1 0 237    17  1 10   156   776003770          CLA    =0776003770                                         60680
1  1 0 240    13  1 10 1 003                      STO    403                                                 60690
1  1 0 241    12  1 10 1 003                      PIO    403                                                 60700
1  1 0 242    13  1 10 1 376               JEC5   STO    776                                                 60710
1  1 0 243    17  1 10   213   001774006          CLA    =0001774006                                         60720
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 121)

```
IM IS S LOC   UP UM DS 9 ADR    OCT VAL    LHS    OPC     VARIABLE              COMMENT                                 SEQ NC

1  1 0 244    13  1 10 1 003                      STO     403                                                          60730
1  1 0 245    12  1 10 1 003                      PIO     403                                                          60740
1  1 0 246    13  1 10 1 376               JED5   STO     776                                                          60750
1  1 0 247    17  1 10   046   777774000          CLA     =0777774000                                                  60760
1  1 0 250    13  1 10 1 003                      STO     403                                                          60770
1  1 0 251    12  1 10 1 003                      PIO     403                                                          60780
1  1 0 252    13  1 10 1 376               JEE5   STO     776                                                          60790
1  1 0 253    17  1 10   214   000003776          CLA     =0000003776                                                  60800
1  1 0 254    13  1 10 1 003                      STO     403                                                          60810
1  1 0 255    12  1 10 1 003                      PIO     403                                                          60820
1  1 0 256    17  1 10 1 020                      CLA     ZERO                                                         60830
1  1 0 257    13  1 10 1 003                      STO     403                                                          60840
1  1 0 260     5  1 10   032                      CIO     032                   CLEAR NA DIS                           60850
1  1 0 261    17  1 10 1 054                      CLA     LC8                                                          60860
1  1 0 262    14  1 10 1 012                      TMI     JFB1                                                         60870
1  1 0 263    17  1 10 1 020                      CLA     ZERO                                                         60880
1  1 0 264     5  1 10   036                      CIO     036                   CLEAR DDAS (CIU)                       60890
1  1 0 265    10  1 10 1 012                      TRA     JFB1                                                         60900
1  1 0 266    13  1 10 1 377               JEJ5   STO     777                                                          60910
1  1 0 267    00  1 10   215   501047600          TRA*    JAJ5A                                                        60920
                                           *      TEST    PIO DECODING AND INTERRUPTS                                  60930
1  1 1  12        1 10    41                      ORG     1,1,1,12,1,10,                                               60940
1  1 1  12     0  1 10 1 023               JFB1   HOP     H9P3                  RESET ALL INT LATCHES                  60950
1  1 1  13    17  1 10 1 020                      CLA     ZERO                                                         60960
1  1 1  14     5  1 10   066                      CIO     066                   DISABLE COMPARE                        60970
                                           *      INHIBIT ALL INTERRUPTS                                               60980
1  1 1  15    17  1 10   002   777777776          CLA     =0777777776                                                  60990
1  1 1  16     5  1 10   000                      CIO     000                                                          61000
1  1 1  17    17  1 10 1 054                      CLA     LC8                                                          61010
1  1 1  20    14  1 10 1 022                      TMI     JJB1A                                                        61020
1  1 1  21    10  1 10 1 023                      TRA     *+2                                                          61030
1  1 1  22    00  1 10   216   501066420   JJB1A  TRA*    JJB1                                                         61040
1  1 1  23    13  1 10 1 376                      STO     776                                                          61050
1  1 1  24     5  1 10   154                      CIO     154                                                          61060
1  1 1  25     4  1 10   266                      TNZ     JEJ5                                                         61070
                                           *      CHECK PIO GROUP 1 OR 3 SET INT 6                                     61080
1  1 1  26    13  1 10 1 376               JFE1   STO     776                                                          61090
1  1 1  27    12  1 10   010                      PIO     010                   GROUP 1                                61100
1  1 1  30     7  1 10 1 020                      ACC     ZERO                                                         61110
1  1 1  31     5  1 10   154                      CIO     154                   READ INTERRUPT REG.                    61120
1  1 1  32    15  1 10   217   010000000          XOR     =0010000000                                                  61130
1  1 1  33     4  1 10   266                      TNZ     JEJ5                                                         61140
1  1 1  34    13  1 10 1 376               JFG1   STO     776                                                          61150
1  1 1  35     5  1 10   034                      CIO     034                   RST INT 6                              61160
1  1 1  36    12  1 10   001                      PIO     001                   GROUP 3                                61170
1  1 1  37     7  1 10 1 020                      ADD     ZERO                                                         61180
1  1 1  40     5  1 10   154                      CIO     154                                                          61190
1  1 1  41    15  1 10   217   010000000          XOR     =0010000000                                                  61200
1  1 1  42     4  1 10   266                      TNZ     JEJ5                                                         61210
1  1 1  43    13  1 10 1 376               JFJ1   STO     776                                                          61220
1  1 1  44     5  1 10   034                      CIO     034                   RST INT 6                              61230
1  1 1  45    12  1 10   006                      PIO     006                   GRP 2                                  61240
1  1 1  46    12  1 10   277                      PIO     277                                                          61250
1  1 1  47     5  1 10   000                      CIO     000                                                          61260
1  1 1  50     7  1 10 1 020                      ACC     ZERO                                                         61270
1  1 1  51     5  1 10   154                      CIO     154                                                          61280
1  1 1  52     4  1 10   266                      TNZ     JEJ5                                                         61290
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 122)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC     VARIABLE              COMMENT                          SEQ NO

                                           *      CHECK PIO LOAD SW SEL REG SETS INT 2                           61300
1  1 1  53    13  1 10 1 376               JFB2   STO     776                                                    61310
1  1 1  54    12  1 10   036                      PIO     036                                                    61320
1  1 1  55     7  1 10 1 020                      ACC     ZERO                                                   61330
1  1 1  56     5  1 10   154                      CIO     154                                                    61340
1  1 1  57    15  1 10   220   200000000          XOR     =0200000000                                            61350
1  1 1  60     4  1 10   266                      TNZ     JEJ5                                                   61360
                                           *      PERFORM DIODF TESTS                                            61370
1  1 1  61    13  1 10 1 376               JFD2   STO     776                                                    61380
1  1 1  62     5  1 10   014                      CIO     014                   RST INT 2                        61390
1  1 1  63    12  1 10   037                      PIO     037                                                    61400
1  1 1  64    12  1 10   034                      PIO     034                                                    61410
1  1 1  65    12  1 10   032                      PIO     032                                                    61420
1  1 1  66    12  1 10   026                      PIO     026                                                    61430
1  1 1  67    12  1 10   016                      PIO     016                                                    61440
1  1 1  70    12  1 10   076                      PIO     076                                                    61450
1  1 1  71    12  1 10   136                      PIO     136                                                    61460
1  1 1  72    17  1 10 1 054                      CLA     LC8                                                    61470
1  1 1  73    14  1 10 1 076                      TMI     *+3                                                    61480
1  1 1  74    17  1 10 1 020                      CLA     ZERO                                                   61490
1  1 1  75     5  1 10   036                      CIO     036                                                    61500
1  1 1  76     5  1 10   034                      CIO     034                   RESET INT 6                      61510
1  1 1  77     5  1 10   154                      CIO     154                                                    61520
1  1 1 100     4  1 10   266                      TNZ     JEJ5                                                   61530
                                           *      CHECK PIO READ INTERRUPT REGISTER SET INT 8                    61540
1  1 1 101    13  1 10 1 376               JFF2   STO     776                                                    61550
1  1 1 102    12  1 10   137                      PIO     137                                                    61560
1  1 1 103     7  1 10 1 020                      ACC     ZERO                                                   61570
1  1 1 104     5  1 10   154                      CIO     154                                                    61580
1  1 1 105    15  1 10   017   002000000          XOR     =0002000000                                            61590
1  1 1 106     4  1 10   266                      TNZ     JEJ5                                                   61600
                                           *      PERFORM NEGATIVE TESTS                                         61610
1  1 1 107    13  1 10 1 376               JFH2   STO     776                                                    61620
1  1 1 110     5  1 10   044                      CIO     044                   RST INT 8                        61630
1  1 1 111    12  1 10   135                      PIO     135                                                    61640
1  1 1 112    12  1 10   133                      PIO     133                                                    61650
1  1 1 113    12  1 10   127                      PIO     127                                                    61660
1  1 1 114    12  1 10   117                      PIO     117                                                    61670
1  1 1 115    12  1 10   177                      PIO     177                                                    61680
1  1 1 116     5  1 10   137                      CIO     137                                                    61690
1  1 1 117     5  1 10   034                      CIO     034                   RESET INT 6                      61700
1  1 1 120     5  1 10   154                      CIO     154                                                    61710
1  1 1 121     4  1 10   266                      TNZ     JEJ5                                                   61720
                                           *      CHECK PIO READ FINE GIMBAL SETS INT 9                          61730
1  1 1 122    13  1 10 1 376               JFB3   STO     776                                                    61740
1  1 1 123    12  1 10   223                      PIO     223                                                    61750
1  1 1 124     7  1 10 1 020                      ADC     ZERO                                                   61760
1  1 1 125     5  1 10   154                      CIO     154                                                    61770
1  1 1 126    15  1 10   221   001000000          XOR     =0001000000                                            61780
1  1 1 127     4  1 10   266                      TNZ     JEJ5                                                   61790
1  1 1 130    13  1 10 1 376               JFD3   STO     776                                                    61800
1  1 1 131     5  1 10   050                      CIO     050                   RST INT 9                        61810
1  1 1 132    12  1 10   227                      PIO     227                                                    61820
1  1 1 133     7  1 10 1 020                      ADC     ZERO                                                   61830
1  1 1 134     5  1 10   154                      CIO     154                                                    61840
1  1 1 135    15  1 10   221   001000000          XOR     =0001000000                                            61850
1  1 1 136     4  1 10   266                      TNZ     JEJ5                                                   61860
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 123)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL     LHS    OPC      VARIABLE            COMMENT                  SEQ NO

1  1  1 137   13  1 10 1 376               JFF3   STO      776                                          61870
1  1  1 140    5  1 10   050                      CIO      050                 RST INT 9                61880
1  1  1 141   12  1 10   353                      PIO      353                                          61890
1  1  1 142    7  1 10 1 020                      ADC      ZERO                                         61900
1  1  1 143    5  1 10   154                      CIO      154                                          61910
1  1  1 144   15  1 10   221   001000000          XOR      =0001000000                                  61920
1  1  1 145    4  1 10   266                      TNZ      JEJ5                                         61930
1  1  1 146   13  1 10 1 376               JFH3   STO      776                                          61940
1  1  1 147    5  1 10   050                      CIO      050                 RST INT 9                61950
1  1  1 150   12  1 10   363                      PIO      363                                          61960
1  1  1 151    7  1 10 1 020                      ADC      ZERO                                         61970
1  1  1 152    5  1 10   154                      CIO      154                                          61980
1  1  1 153   15  1 10   221   001000000          XOR      =0001000000                                  61990
1  1  1 154    4  1 10   266                      TNZ      JEJ5                                         62000
                                           *      PERFORM DIODE TESTS                                   62010
1  1  1 155   13  1 10 1 376               JFB4   STO      776                                          62020
1  1  1 156    5  1 10   050                      CIO      050                 RST INT 9                62030
1  1  1 157   12  1 10   222                      PIO      222                                          62040
1  1  1 160   12  1 10   221                      PIO      221                                          62050
1  1  1 161    5  1 10   223                      CIO      223                                          62060
1  1  1 162   12  1 10   303                      PIO      303                                          62070
1  1  1 163   12  1 10   313                      PIO      313                                          62080
1  1  1 164   12  1 10   317                      PIO      317                                          62090
1  1  1 165   12  1 10   253                      PIO      253                                          62100
1  1  1 166   12  1 10   263                      PIO      263                                          62110
1  1  1 167   12  1 10   373                      PIO      373                                          62120
1  1  1 170   12  1 10   357                      PIO      357                                          62130
1  1  1 171   12  1 10   323                      PIO      323                                          62140
1  1  1 172   12  1 10   367                      PIO      367                                          62150
1  1  1 173   12  1 10   203                      PIO      203                                          62160
1  1  1 174   12  1 10   213                      PIO      213                                          62170
1  1  1 175    5  1 10   034                      CIO      034                 RESET INT 6              62180
1  1  1 176    5  1 10   154                      CIO      154                                          62190
1  1  1 177    4  1 10   266                      TNZ      JEJ5                                         62200
                                           *      CHECK PIO READ COARSE GIMBAL SETS INT 10              62210
1  1  1 200   13  1 10 1 376               JFF4   STO      776                                          62220
1  1  1 201   12  1 10   243                      PIO      243                                          62230
1  1  1 202    7  1 10 1 020                      ADC      ZERO                                         62240
1  1  1 203    5  1 10   154                      CIO      154                                          62250
1  1  1 204   15  1 10   222   000400000          XOR      =0000400000                                  62260
1  1  1 205    4  1 10   266                      TNZ      JEJ5                                         62270
1  1  1 206   13  1 10 1 376               JFH4   STO      776                                          62280
1  1  1 207    5  1 10   054                      CIO      054                 RST INT 10               62290
1  1  1 210   12  1 10   343                      PIO      343                                          62300
1  1  1 211    7  1 10 1 020                      ADC      ZERO                                         62310
1  1  1 212    5  1 10   154                      CIO      154                                          62320
1  1  1 213   15  1 10   222   000400000          XOR      =0000400000                                  62330
1  1  1 214    4  1 10   266                      TNZ      JEJ5                                         62340
1  1  1 215   13  1 10 1 376               JFB5   STO      776                                          62350
1  1  1 216    5  1 10   054                      CIO      054                 RST INT 10               62360
1  1  1 217   12  1 10   233                      PIO      233                                          62370
1  1  1 220    7  1 10 1 020                      ACC      ZERO                                         62380
1  1  1 221    5  1 10   154                      CIO      154                                          62390
1  1  1 222   15  1 10   222   000400000          XOR      =0000400000                                  62400
1  1  1 223    4  1 10   266                      TNZ      JEJ5                                         62410
1  1  1 224   13  1 10 1 376               JFD5   STO      776                                          62420
1  1  1 225    5  1 10   054                      CIO      054                 RST INT 10               62430
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 124)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC      VARIABLE            COMMENT                  SEQ NO

1  1  1 226   12  1 10   333                      PIO      333                                          62440
1  1  1 227    7  1 10 1 020                      ADD      ZERO                                         62450
1  1  1 230    5  1 10   154                      CIO      154                                          62460
1  1  1 231   15  1 10   222   000400000          XOR      =0000400000                                  62470
1  1  1 232    4  1 10   266                      TNZ      JEJ5                                         62480
                                           *      PERFORM DIODE TESTS                                   62490
1  1  1 233   13  1 10 1 376               JFF5   STO      776                                          62500
1  1  1 234    5  1 10   054                      CIO      054                 RST INT 10               62510
1  1  1 235   12  1 10   247                      PIO      247                                          62520
1  1  1 236   12  1 10   347                      PIO      347                                          62530
1  1  1 237   12  1 10   237                      PIO      237                                          62540
1  1  1 240   12  1 10   273                      PIO      273                                          62550
1  1  1 241   12  1 10   340                      PIO      340                                          62560
1  1  1 242   12  1 10   337                      PIO      337                                          62570
1  1  1 243   12  1 10   043                      PIO      043                                          62580
1  1  1 244    5  1 10   034                      CIO      034                 RESET INT 6              62590
1  1  1 245    5  1 10   154                      CIO      154                                          62600
1  1  1 246    4  1 10   266                      TNZ      JEJ5                                         62610

                                           *      CHECK PIO READ SW SEL REG SETS INT 11                 62650
1  1  1 247   13  1 10 1 376               JGB1   STO      776                                          62660
1  1  1 250   12  1 10   077                      PIO      077                                          62670
1  1  1 251    7  1 10 1 020                      ADD      ZERO                                         62680
1  1  1 252    5  1 10   154                      CIO      154                                          62690
1  1  1 253   15  1 10   223   000200000          XOR      =0000200000                                  62700
1  1  1 254    4  1 10   266                      TNZ      JEJ5                                         62710
                                           *      CHECK PIO READ DIN REG SETS INT 12                    62720
1  1  1 255   13  1 10 1 376               JGD1   STO      776                                          62730
1  1  1 256    5  1 10   060                      CIO      060                 RST INT 11               62740
1  1  1 257   12  1 10   057                      PIO      057                                          62750
1  1  1 260    7  1 10 1 020                      ACC      ZERO                                         62760
1  1  1 261    5  1 10   154                      CIO      154                                          62770
1  1  1 262   15  1 10   224   000100000          XOR      =0000100000                                  62780
1  1  1 263    4  1 10   266                      TNZ      JEJ5                                         62790
                                           *      CHECK PIO READ EM REG SETS INT 13                     62800
1  1  1 264   13  1 10 1 376               JGF1   STO      776                                          62810
1  1  1 265    5  1 10   064                      CIO      064                 RST INT 12               62820
1  1  1 266   12  1 10   023                      PIO      023                                          62830
1  1  1 267    7  1 10 1 020                      ACC      ZERO                                         62840
1  1  1 270    5  1 10   154                      CIO      154                                          62850
1  1  1 271   15  1 10   225   000040000          XOR      =0000040000                                  62860
1  1  1 272    4  1 10   266                      TNZ      JEJ5                                         62870
                                           *      CHECK PIO READ TEL SCANNER SETS INT 14                62880
1  1  1 273   13  1 10 1 376               JGH1   STO      776                                          62890
1  1  1 274    5  1 10   070                      CIO      070                 RST INT 13               62900
1  1  1 275    5  1 10   220                      CIO      220                 READ B SWITCHES          62910
1  1  1 276    6  1 10   226   100000000          ANC      =0100000000         B2                       62920
1  1  1 277    4  1 10 1 305                      TNZ      JGB2                                         62930
1  1  1 300   12  1 10   067                      PIO      067                                          62940
1  1  1 301    7  1 10 1 020                      ADD      ZERO                                         62950
1  1  1 302    5  1 10   154                      CIO      154                                          62960
1  1  1 303   15  1 10   004   000020000          XOR      =0000020000                                  62970
1  1  1 304    4  1 10   266                      TNZ      JEJ5                                         62980
                                           *      PERFORM DIODE TESTS                                   62990
1  1  1 305   13  1 10 1 376               JGB2   STO      776                                          63000
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 125)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL    LHS    OPC     VARIABLE               COMMENT              SEQ NO

 1  1 1 306    5  1 10   074                     CIO     074                    RST INT 14            63010

 1  1 1 307   12  1 10   073                     PIO     073                                          63030
 1  1 1 310   12  1 10   075                     PIO     075                    SETS INT 6            63040
 1  1 1 311   12  1 10   157                     PIO     157                                          63050
 1  1 1 312   12  1 10   257                     PIO     257                                          63060
 1  1 1 313   12  1 10   047                     PIO     047                                          63070
 1  1 1 314   12  1 10   017                     PIO     017                                          63080
 1  1 1 315   12  1 10   053                     PIO     053                                          63090
 1  1 1 316   12  1 10   056                     PIO     056                                          63100
 1  1 1 317   12  1 10   123                     PIO     123                                          63110
 1  1 1 320   12  1 10   003                     PIO     003                                          63120
 1  1 1 321   12  1 10   063                     PIO     063                                          63130
 1  1 1 322   12  1 10   033                     PIO     033                                          63140
 1  1 1 323   12  1 10   021                     PIO     021                    SETS INT 6            63150
 1  1 1 324   12  1 10   022                     PIO     022                                          63160
 1  1 1 325   12  1 10   027                     PIO     027                                          63170
 1  1 1 326   12  1 10   167                     PIO     167                                          63180
 1  1 1 327   12  1 10   267                     PIO     267                                          63190
 1  1 1 330   12  1 10   047                     PIO     047                                          63200
 1  1 1 331   12  1 10   027                     PIO     027                                          63210
 1  1 1 332   12  1 10   066                     PIO     066                                          63220
 1  1 1 333   12  1 10   065                     PIO     065                    SET INT 6             63230
 1  1 1 334   12  1 10   063                     PIO     063                                          63240
 1  1 1 335    5  1 10   034                     CIO     034                    RST INT 6             63250
 1  1 1 336    5  1 10   023                     CIO     023                                          63260
 1  1 1 337    7  1 10 1 020                     ADD     ZERO                                         63270
 1  1 1 340    5  1 10   154                     CIO     154                                          63280
 1  1 1 341    4  1 10   266                     TNZ     JEJ5                                         63290
 1  1 1 342   00  1 10   227   501006020         TRA*    JHB1                                         63300
 1  2 0  14       1 10    42                     ORG     1,2,0,14,1,10,                               63310
                                          *      CHECK NASA INT 1 AND 2, NDI 1-6                      63320
 1  2 0  14   17  1 10 1 020              JHB1   CLA     ZERO                                         63330
 1  2 0  15   13  1 10 1 376                     STO     776                                          63340
 1  2 0  16    5  1 10   032                     CIO     032                    LOAD NA DIS REG       63350
 1  2 0  17   13  1 10 1 377              JHC1   STO     777                                          63360
 1  2 0  20   17  1 10 1 377                     CLA     777                                          63370
 1  2 0  21   13  1 10 1 073                     STO     VAR4                                         63380
 1  2 0  22    7  1 10 1 020                     ADD     ZERO                                         63390
 1  2 0  23    5  1 10   154                     CIO     154                                          63400
 1  2 0  24    4  1 10   153                     TNZ     JHJ5                                         63410
 1  2 0  25   13  1 10 1 377              JHD1   STO     777                                          63420
 1  2 0  26   17  1 10 1 377                     CLA     777                                          63430
 1  2 0  27   13  1 10 1 073                     STO     V4                                           63440
 1  2 0  30    5  1 10   214                     CIO     214                                          63450
 1  2 0  31    6  1 10   230   000001760         AND     =0000001760                                  63460
 1  2 0  32    4  1 10   153                     TNZ     JHJ5                                         63470
 1  2 0  33   13  1 10 1 376              JHE1   STO     776                                          63480
 1  2 0  34   17  1 10   035   000000524         CLA     =0000000524                                  63490
 1  2 0  35    5  1 10   032                     CIO     032                                          63500
 1  2 0  36   13  1 10 1 377              JHF1   STO     777                                          63510
 1  2 0  37   17  1 10 1 377                     CLA     777                                          63520
 1  2 0  40   13  1 10 1 073                     STO     V4                                           63530
 1  2 0  41    7  1 10 1 020                     ADD     ZERO                                         63540
 1  2 0  42    5  1 10   154                     CIO     154                                          63550
 1  2 0  43   15  1 10   231   040000000         XOR     =0040000000            INT 4                 63560
 1  2 0  44    4  1 10   153                     TNZ     JHJ5                                         63570
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 126)

| IM | IS | S | LOC | UP | OM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 0 | 45 | 13 | 1 | 10 | 1 | 377 | | JHG1 | STO | 777 | | 63580 |
| 1 | 2 | 0 | 46 | 17 | 1 | 10 | 1 | 377 | | | CLA | 777 | | 63590 |
| 1 | 2 | 0 | 47 | 13 | 1 | 10 | 1 | 073 | | | STO | V4 | | 63600 |
| 1 | 2 | 0 | 50 | 5 | 1 | 10 | | 214 | | | CIO | 214 | | 63610 |
| 1 | 2 | 0 | 51 | 6 | 1 | 10 | | 230 | 000001760 | | AND | =0000001760 | | 63620 |
| 1 | 2 | 0 | 52 | 15 | 1 | 10 | | 232 | 000001240 | | XOR | =0000001240 | DI 2,4,6 | 63630 |
| 1 | 2 | 0 | 53 | 4 | 1 | 10 | | 153 | | | TNZ | JHJ5 | | 63640 |
| 1 | 2 | 0 | 54 | 13 | 1 | 10 | 1 | 376 | | JHB2 | STO | 776 | | 63650 |
| 1 | 2 | 0 | 55 | 17 | 1 | 10 | 1 | 020 | | | CLA | ZERO | | 63660 |
| 1 | 2 | 0 | 56 | 5 | 1 | 10 | | 032 | | | CIO | 032 | | 63670 |
| 1 | 2 | 0 | 57 | 5 | 1 | 10 | | 024 | | | CIO | 024 | RST 4 | 63680 |
| 1 | 2 | 0 | 60 | 17 | 1 | 10 | | 036 | 000000252 | | CLA | =0000000252 | | 63690 |
| 1 | 2 | 0 | 61 | 5 | 1 | 10 | | 032 | | | CIO | 032 | | 63700 |
| 1 | 2 | 0 | 62 | 13 | 1 | 10 | 1 | 377 | | JHC2 | STO | 777 | | 63710 |
| 1 | 2 | 0 | 63 | 17 | 1 | 10 | 1 | 377 | | | CLA | 777 | | 63720 |
| 1 | 2 | 0 | 64 | 13 | 1 | 10 | 1 | 073 | | | STO | V4 | | 63730 |
| 1 | 2 | 0 | 65 | 7 | 1 | 10 | 1 | 020 | | | ADD | ZERO | | 63740 |
| 1 | 2 | 0 | 66 | 5 | 1 | 10 | | 154 | | | CIO | 154 | | 63750 |
| 1 | 2 | 0 | 67 | 15 | 1 | 10 | | 226 | 100000000 | | XOR | =0100000000 | INT 3 | 63760 |
| 1 | 2 | 0 | 70 | 4 | 1 | 10 | | 153 | | | TNZ | JHJ5 | | 63770 |
| 1 | 2 | 0 | 71 | 13 | 1 | 10 | 1 | 377 | | JHD2 | STO | 777 | | 63780 |
| 1 | 2 | 0 | 72 | 17 | 1 | 10 | 1 | 377 | | | CLA | 777 | | 63790 |
| 1 | 2 | 0 | 73 | 13 | 1 | 10 | 1 | 073 | | | STO | V4 | | 63800 |
| 1 | 2 | 0 | 74 | 5 | 1 | 10 | | 214 | | | CIO | 214 | | 63810 |
| 1 | 2 | 0 | 75 | 6 | 1 | 10 | | 230 | 000001760 | | AND | =0000001760 | | 63820 |
| 1 | 2 | 0 | 76 | 15 | 1 | 10 | | 233 | 000000520 | | XOR | =0000000520 | DI 1,3,5 | 63830 |
| 1 | 2 | 0 | 77 | 4 | 1 | 10 | | 153 | | | TNZ | JHJ5 | | 63840 |
| 1 | 2 | 0 | 100 | 13 | 1 | 10 | 1 | 376 | | JHE2 | STO | 776 | | 63850 |
| 1 | 2 | 0 | 101 | 17 | 1 | 10 | 1 | 020 | | | CLA | ZERO | | 63860 |
| 1 | 2 | 0 | 102 | 5 | 1 | 10 | | 032 | | | CIO | 032 | | 63870 |
| 1 | 2 | 0 | 103 | 5 | 1 | 10 | | 020 | | | CIO | 020 | RESET INT 3 | 63880 |
| 1 | 2 | 0 | 104 | 17 | 1 | 10 | | 234 | 000000630 | | CLA | =0000000630 | | 63890 |
| 1 | 2 | 0 | 105 | 5 | 1 | 10 | | 032 | | | CIO | 032 | | 63900 |
| 1 | 2 | 0 | 106 | 13 | 1 | 10 | 1 | 377 | | JHF2 | STO | 777 | | 63910 |
| 1 | 2 | 0 | 107 | 17 | 1 | 10 | 1 | 377 | | | CLA | 777 | | 63920 |
| 1 | 2 | 0 | 110 | 13 | 1 | 10 | 1 | 073 | | | STO | V4 | | 63930 |
| 1 | 2 | 0 | 111 | 7 | 1 | 10 | 1 | 020 | | | ADD | ZERO | | 63940 |
| 1 | 2 | 0 | 112 | 5 | 1 | 10 | | 154 | | | CIO | 154 | | 63950 |
| 1 | 2 | 0 | 113 | 4 | 1 | 10 | | 153 | | | TNZ | JHJ5 | | 63960 |
| 1 | 2 | 0 | 114 | 13 | 1 | 10 | 1 | 377 | | JHG2 | STO | 777 | | 63970 |
| 1 | 2 | 0 | 115 | 17 | 1 | 10 | 1 | 377 | | | CLA | 777 | | 63980 |
| 1 | 2 | 0 | 116 | 13 | 1 | 10 | 1 | 073 | | | STO | V4 | | 63990 |
| 1 | 2 | 0 | 117 | 5 | 1 | 10 | | 214 | | | CIO | 214 | | 64000 |
| 1 | 2 | 0 | 120 | 6 | 1 | 10 | | 230 | 000001760 | | AND | =0000001760 | | 64010 |
| 1 | 2 | 0 | 121 | 15 | 1 | 10 | | 235 | 000001460 | | XOR | =0000001460 | DI 1,2,5,6 | 64020 |
| 1 | 2 | 0 | 122 | 4 | 1 | 10 | | 153 | | | TNZ | JHJ5 | | 64030 |
| 1 | 2 | 0 | 123 | 13 | 1 | 10 | 1 | 376 | | JHB3 | STO | 776 | | 64040 |
| 1 | 2 | 0 | 124 | 17 | 1 | 10 | | 236 | 000000146 | | CLA | =0000000146 | | 64050 |
| 1 | 2 | 0 | 125 | 5 | 1 | 10 | | 032 | | | CIO | 032 | | 64060 |
| 1 | 2 | 0 | 126 | 13 | 1 | 10 | 1 | 377 | | JHC3 | STO | 777 | | 64070 |
| 1 | 2 | 0 | 127 | 17 | 1 | 10 | 1 | 377 | | | CLA | 777 | | 64080 |
| 1 | 2 | 0 | 130 | 13 | 1 | 10 | 1 | 073 | | | STO | V4 | | 64090 |
| 1 | 2 | 0 | 131 | 7 | 1 | 10 | 1 | 020 | | | ADD | ZERO | | 64100 |
| 1 | 2 | 0 | 132 | 5 | 1 | 10 | | 154 | | | CIO | 154 | | 64110 |
| 1 | 2 | 0 | 133 | 15 | 1 | 10 | | 237 | 140000000 | | XOR | =0140000000 | INT 3,4 | 64120 |
| 1 | 2 | 0 | 134 | 4 | 1 | 10 | | 153 | | | TNZ | JHJ5 | | 64130 |
| 1 | 2 | 0 | 135 | 13 | 1 | 10 | 1 | 377 | | JHD3 | STO | 777 | | 64140 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 127)

```
IM IS S LOC  OP DM DS 9 ADR   OCT VAL    LHS   OPC    VARIABLE          COMMENT                                        SEQ NO

1  2 0 136   17  1 10 1 377                     CLA    777                                                              64150
1  2 0 137   13  1 10 1 073                     STO    V4                                                               64160
1  2 0 140    5  1 10   214                     CIO    214                                                              64170
1  2 0 141    6  1 10   230   000001760         AND    =0000001760                                                      64180
1  2 0 142   15  1 10   240   000000300         XOR    =0000000300         DI 3,4                                       64190
1  2 0 143    4  1 10   153                     TNZ    JHJ5                                                             64200
1  2 0 144   17  1 10 1 020              JHE3   CLA    ZERO                                                             64210
1  2 0 145    5  1 10   032                     CIO    032                                                              64220
1  2 0 146   13  1 10 1 073                     STO    V4                                                               64230
1  2 0 147    5  1 10   020                     CIO    020                                                              64240
1  2 0 150    5  1 10   024                     CIO    024                                                              64250
1  2 0 151    5  1 10   110                     CIO    110                                                              64260
1  2 0 152   10  1 10   155                     TRA    JJB1                                                             64270
1  2 0 153   13  1 10 1 377              JHJ5   STO    777                                                              64280
1  2 0 154   00  1 10   215   501047600         TRA*   JAJ5A                                                            64290
                                         *      CHECK OF TSYNC/GCSYNC CIRCUITRY                                         64300
                                         *      CORRECT OPERATION MONITORED BY OSCILLOSCOPE ONLY                        64310

1  2 0 155   17  1 10   241   677777776  JJB1   CLA    =0677777776                                                      64330
1  2 0 156    5  1 10   072                     CIO    072               SET 1 TSYNC PULSE                              64340
1  2 0 157   17  1 10   242   000000014         CLA    =0000000014                                                      64350
1  2 0 160    2  1 10 1 032                     SUB    K1                                                               64360
1  2 0 161    4  1 10   160                     TNZ    *-1                                                              64370
1  2 0 162   17  1 10   243   277777776         CLA    =0277777776                                                      64380
1  2 0 163    5  1 10   072                     CIO    072               ATTEMPT SOLID TSYNC RESET - DIODE CHK          64390
1  2 0 164   17  1 10   242   000000014         CLA    =0000000014                                                      64400
1  2 0 165    2  1 10 1 032                     SUB    K1                                                               64410
1  2 0 166    4  1 10   165                     TNZ    *-1                                                              64420
1  2 0 167   17  1 10   241   677777776         CLA    =0677777776                                                      64430
1  2 0 170    5  1 10   072                     CIO    072               SELECT TSYNC MODE                              64440
1  2 0 171    5  1 10   102                     CIO    102               SET 240 PPS ON TSYNC                           64450
1  2 0 172   17  1 10   242   000000014         CLA    =0000000014                                                      64460
1  2 0 173    2  1 10 1 032                     SUB    K1                                                               64470
1  2 0 174    4  1 10   173                     TNZ    *-1                                                              64480
1  2 0 175   17  1 10   243   277777776         CLA    =0277777776                                                      64490
1  2 0 176    5  1 10   072                     CIO    072               ATTEMPT EARLY RESET -DIODE CHK                 64500
1  2 0 177   17  1 10   244   000000334         CLA    =0000000334                                                      64510
1  2 0 200    2  1 10 1 032                     SUB    K1                                                               64520
1  2 0 201    4  1 10   200                     TNZ    *-1                  COUNT 220 DEC WORD  TIMES                   64530
1  2 0 202   17  1 10   241   677777776         CLA    =0677777776                                                      64540
1  2 0 203    5  1 10   072                     CIO    072               RESET 240 PPS ON TSYNC                         64550
1  2 0 204   17  1 10   242   000000014         CLA    =0000000014                                                      64560
1  2 0 205    2  1 10 1 032                     SUB    K1                                                               64570
1  2 0 206    4  1 10   205                     TNZ    *-1                                                              64580
1  2 0 207   17  1 10   002   777777776         CLA    =0777777776                                                      64590
1  2 0 210    5  1 10   072                     CIO    072               SET SOLID TSYNC                                64600
1  2 0 211   17  1 10   062   000000004         CLA    =0000000004                                                      64610
1  2 0 212    5  1 10   076              JJB3   CIO    076               ATTEMPT SOLID TSYNC RESET - DIODE CHK          64620
1  2 0 213    2  1 10 1 032                     SUB    K1                                                               64630
1  2 0 214    4  1 10   213                     TNZ    *-1               COUNT 6 DEC WORD TIMES                         64640
1  2 0 215   17  1 10   243   277777776         CLA    =0277777776                                                      64650
1  2 0 216    5  1 10   072                     CIO    072               RESET SOLID TSYNC                              64660
1  2 0 217    7  1 10 1 020                     ADD    ZERO                                                             64670
1  2 0 220   17  1 10   245   537777776         CLA    =0537777776                                                      64680
1  2 0 221    5  1 10   076                     CIO    076               DIODE CHK                                      64690
1  2 0 222    7  1 10 1 020                     ADD    ZERO                                                             64700
1  2 0 223    7  1 10 1 020                     ADD    ZERO                                                             64710
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 128)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE           COMMENT                                SEQ NO

                                           *      TO LOOP ON TSYNC PLACE 85 SWITCH UP                              64720
 1  2 0 224    5  1 10    220                     CIO    220                                                       64730
 1  2 0 225    6  1 10    217  010000000          ANC    =001                                                      64740
 1  2 0 226    4  1 10    155                     TNZ    JJB1                                                      64750
 1  2 0 227   17  1 10    246  737777776   JKB1   CLA    =0737777776                                               64760
 1  2 0 230    5  1 10    076                     CIO    076                SET 1 GCSYNC PULSE                     64770
 1  2 0 231   17  1 10    242  000000014          CLA    =0000000014                                               64780
 1  2 0 232    2  1 10 1  032                     SUB    K1                                                        64790
 1  2 0 233    4  1 10    232                     TNZ    *-1                                                       64800
 1  2 0 234   17  1 10    245  537777776          CLA    =0537777776                                               64810
 1  2 0 235    5  1 10    076                     CIO    076                ATTEMPT SOLID GCSYNC RESET -DIODE CHK  64820
 1  2 0 236   17  1 10    242  000000014          CLA    =0000000014                                               64830
 1  2 0 237    2  1 10 1  032                     SUB    K1                                                        64840
 1  2 0 240    4  1 10    237                     TNZ    *-1                                                       64850
 1  2 0 241   17  1 10    246  737777776          CLA    =0737777776                                               64860
 1  2 0 242    5  1 10    076                     CIO    076                SELECT GCSYNC MODE                     64870
 1  2 0 243    5  1 10    102                     CIO    102                SET 240 PPS ON GCSYNC                  64880
 1  2 0 244   17  1 10    242  000000014          CLA    =0000000014                                               64890
 1  2 0 245    2  1 10 1  032                     SUB    K1                                                        64900
 1  2 0 246    4  1 10    245                     TNZ    *-1                                                       64910
 1  2 0 247   17  1 10    245  537777776          CLA    =0537777776                                               64920
 1  2 0 250    5  1 10    076                     CIO    076                ATTEMPT EARLY RESET - DIODE CHK        64930
 1  2 0 251   17  1 10    244  000000334          CLA    =0000000334                                               64940
 1  2 0 252    2  1 10 1  032                     SUB    K1                                                        64950
 1  2 0 253    4  1 10    252                     TNZ    *-1                  COUNT 220 DECIMAL WORD TIMES         64960
 1  2 0 254   17  1 10    246  737777776          CLA    =0737777776                                               64970
 1  2 0 255    5  1 10    076                     CIO    076                RESET 240 PPS ON GCSYNC                64980
 1  2 0 256   17  1 10    242  000000014          CLA    =0000000014                                               64990
 1  2 0 257    2  1 10 1  032                     SUB    K1                                                        65000
 1  2 0 260    4  1 10    257                     TNZ    *-1                                                       65010
 1  2 0 261   17  1 10    002  777777776          CLA    =0777777776                                               65020
 1  2 0 262    5  1 10    076                     CIO    076                SET SOLID GCSYNC                       65030
 1  2 0 263   17  1 10    062  000000004   JKB3   CLA    =0000000004                                               65040
 1  2 0 264    5  1 10    072                     CIO    072                ATTEMPT SOLID GCSYNC RESET -DIODE CHK  65050
 1  2 0 265    2  1 10 1  032                     SUB    K1                                                        65060
 1  2 0 266    4  1 10    265                     TNZ    *-1                COUNT 6 DEC WORD TIMES                 65070
 1  2 0 267   17  1 10    245  537777776          CLA    =0537777776                                               65080
 1  2 0 270    5  1 10    076                     CIO    076                RESET SOLID GCSYNC                     65090
 1  2 0 271    7  1 10 1  020                     ADC    ZERO                                                      65100
 1  2 0 272   17  1 10    243  277777776          CLA    =0277777776                                               65110
 1  2 0 273    5  1 10    072                     CIO    072                DIODE CHK                              65120
                                           *      TO LOOP ON GCSYNC PLACE 86 SWITCH UP                             65130
 1  2 0 274    5  1 10    220                     CIO    220                                                       65140
 1  2 0 275    6  1 10    247  004000000          AND    =0004                                                     65150
 1  2 0 276    4  1 10    227                     TNZ    JKB1                                                      65160
 1  2 0 277   00  1 10    250  511006220          TRA*   JLB1                                                      65170

 1  2 1  14       1 11     40                     ORG    1,2,1,14,1,11,                                            65190
                                           *      CHECK ACCELEROMETER SIMULATOR                                    65200
                                           *      CHECK PLUS STEP FROM Q+R=0                                       65210
 1  2 1  14   17  1 11    040              JLB1   CLA    HJMB1                                                     65220
 1  2 1  15   13  1 11 1  376                     STO    776                                                       65230
                  1 11     40  511055620   HJMB1  HPC    JMB1                                                      65240
 1  2 1  16   13  1 11 1  071                     STO    V2                                                        65250
 1  2 1  17   17  1 11    000  777777776          CLA    =0777777776                                               65260
 1  2 1  20    5  1 11    066                     CIO    066                ENABLE COMPARE                         65270
 1  2 1  21    5  1 11    132                     CIO    132                SET ACCEL SIGNS PLUS                   65280
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 129)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 1 | 22 | 5 | 1 | 11 | | 126 | | | CIO | 126 | SET SUBTRACT INHIBIT | 65290 |
| 1 | 2 | 1 | 23 | 17 | 1 | 11 | 1 | 030 | | | CLA | HJAJ5 | | 65300 |
| 1 | 2 | 1 | 24 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 65310 |
| 1 | 2 | 1 | 25 | 17 | 1 | 11 | 1 | 020 | | | CLA | ZERO | | 65320 |
| 1 | 2 | 1 | 26 | 5 | 1 | 11 | | 052 | | | CIO | 052 | LOAD OPT REG Q+R=0 | 65330 |
| 1 | 2 | 1 | 27 | 5 | 1 | 11 | | 121 | | | CIO | 121 | CHECK OPT REG LOAD | 65340 |
| 1 | 2 | 1 | 30 | 17 | 1 | 11 | | 001 | 001500016 | | CLA | =0001500016 | | 65350 |
| 1 | 2 | 1 | 31 | 5 | 1 | 11 | | 136 | | | CIO | 136 | LOAD X CHAN CTR | 65360 |
| 1 | 2 | 1 | 32 | 5 | 1 | 11 | | 142 | | | CIO | 142 | LOAD Y CHAN CTR | 65370 |
| 1 | 2 | 1 | 33 | 17 | 1 | 11 | | 002 | 002540000 | | CLA | =0002540000 | | 65380 |
| 1 | 2 | 1 | 34 | 5 | 1 | 11 | | 146 | | | CIO | 146 | LOAD Z CHAN CTR | 65390 |
| 1 | 2 | 1 | 35 | 5 | 1 | 11 | | 126 | | | CIO | 126 | RESET SUBTRACT INHIBIT | 65400 |
| 1 | 2 | 1 | 36 | 17 | 1 | 11 | | 003 | 000000040 | | CLA | =0000000040 | RST INT 5 INHIBIT | 65410 |
| 1 | 2 | 1 | 37 | 5 | 1 | 11 | | 004 | | | CIO | 004 | | 65420 |
| 1 | 2 | 1 | 40 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 65430 |
| 1 | 2 | 1 | 41 | 17 | 1 | 11 | | 041 | | | CLA | HJLB2 | | 65440 |
| | | | | | 1 | 11 | | 41 | 511023620 | HJLB2 | HPC | JLB2 | | 65450 |
| 1 | 2 | 1 | 42 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 65460 |
| 1 | 2 | 1 | 43 | 17 | 1 | 11 | 1 | 020 | | | CLA | ZERO | | 65470 |
| 1 | 2 | 1 | 44 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 65480 |
| 1 | 2 | 1 | 45 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 65490 |
| 1 | 2 | 1 | 46 | 10 | 1 | 11 | 1 | 131 | | JLK1 | TRA | JLJ5 | | 65500 |
| 1 | 2 | 1 | 47 | 13 | 1 | 11 | 1 | 377 | | JLB2 | STO | 777 | | 65510 |
| 1 | 2 | 1 | 50 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 65520 |
| 1 | 2 | 1 | 51 | 17 | 1 | 11 | 1 | 021 | | | CLA | BB | | 65530 |
| 1 | 2 | 1 | 52 | 5 | 1 | 11 | | 126 | | | CIO | 126 | INH X CHAN SUBTRACT | 65540 |
| 1 | 2 | 1 | 53 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 65550 |
| 1 | 2 | 1 | 54 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 65560 |
| 1 | 2 | 1 | 55 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 65570 |
| 1 | 2 | 1 | 56 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 65580 |
| 1 | 2 | 1 | 57 | 15 | 1 | 11 | | 042 | | | XOR | HJLK1 | CORRECT ENTRY LOCATION | 65590 |
| | | | | | 1 | 11 | | 42 | 511023220 | HJLK1 | HPC | JLK1 | | 65600 |
| 1 | 2 | 1 | 60 | 4 | 1 | 11 | 1 | 132 | | | TNZ | JLB3 | | 65610 |
| 1 | 2 | 1 | 61 | 17 | 1 | 11 | 1 | 076 | | | CLA | TEMP | | 65620 |
| 1 | 2 | 1 | 62 | 15 | 1 | 11 | | 004 | 000012000 | | XOR | =0000012000 | X CHAN STEP FROM 00 TO 10 | 65630 |
| 1 | 2 | 1 | 63 | 4 | 1 | 11 | 1 | 131 | | | TNZ | JLJ5 | | 65640 |
| 1 | 2 | 1 | 64 | 17 | 1 | 11 | | 043 | | | CLA | HJLB4 | | 65650 |
| | | | | | 1 | 11 | | 43 | 511035220 | HJLB4 | HPC | JLB4 | | 65660 |
| 1 | 2 | 1 | 65 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 65670 |
| 1 | 2 | 1 | 66 | 17 | 1 | 11 | | 004 | 000012000 | | CLA | =000001200 | | 65680 |
| 1 | 2 | 1 | 67 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 65690 |
| 1 | 2 | 1 | 70 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 65700 |
| 1 | 2 | 1 | 71 | 10 | 1 | 11 | 1 | 131 | | JLJ2 | TRA | JLJ5 | | 65710 |
| 1 | 2 | 1 | 72 | 13 | 1 | 11 | 1 | 377 | | JLB4 | STO | 777 | | 65720 |
| 1 | 2 | 1 | 73 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 65730 |
| 1 | 2 | 1 | 74 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 65740 |
| 1 | 2 | 1 | 75 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 65750 |
| 1 | 2 | 1 | 76 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 65760 |
| 1 | 2 | 1 | 77 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 65770 |
| 1 | 2 | 1 | 100 | 15 | 1 | 11 | | 044 | | | XOR | HJLJ2 | CORRECT ENTRY LOCATION | 65780 |
| | | | | | 1 | 11 | | 44 | 511034620 | HJLJ2 | HPC | JLJ2 | | 65790 |
| 1 | 2 | 1 | 101 | 4 | 1 | 11 | 1 | 132 | | | TNZ | JLB3 | | 65800 |
| 1 | 2 | 1 | 102 | 17 | 1 | 11 | 1 | 076 | | | CLA | TEMP | | 65810 |
| 1 | 2 | 1 | 103 | 15 | 1 | 11 | | 005 | 000012500 | | XOR | =0000012500 | Y CHAN STEP FROM 00 TO 10 | 65820 |
| 1 | 2 | 1 | 104 | 4 | 1 | 11 | 1 | 131 | | | TNZ | JLJ5 | | 65830 |
| 1 | 2 | 1 | 105 | 17 | 1 | 11 | | 045 | | | CLA | HJLB5 | | 65840 |
| | | | | | 1 | 11 | | 45 | 511045620 | HJLB5 | HPC | JLB5 | | 65850 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 130)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 1 | 106 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 65860 |
| 1 | 2 | 1 | 107 | 17 | 1 | 11 | | 005 | 000012500 | | CLA | =0000012500 | | 65870 |
| 1 | 2 | 1 | 110 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 65880 |
| 1 | 2 | 1 | 111 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 65890 |
| 1 | 2 | 1 | 112 | 10 | 1 | 11 | 1 | 131 | | JLJ4 | TRA | JLJ5 | | 65900 |
| 1 | 2 | 1 | 113 | 13 | 1 | 11 | 1 | 377 | | JLB5 | STO | 777 | | 65910 |
| 1 | 2 | 1 | 114 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 65920 |
| 1 | 2 | 1 | 115 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 65930 |
| 1 | 2 | 1 | 116 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 65940 |
| 1 | 2 | 1 | 117 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 65950 |
| 1 | 2 | 1 | 120 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 65960 |
| 1 | 2 | 1 | 121 | 15 | 1 | 11 | | 046 | | | XOR | HJLJ4 | CORRECT ENTRY LOCATION | 65970 |
| | | | | | 1 | 11 | | 46 | 511045220 | HJLJ4 | HPC | JLJ4 | | 65980 |
| 1 | 2 | 1 | 122 | 4 | 1 | 11 | 1 | 132 | | | TNZ | JLB3 | | 65990 |
| 1 | 2 | 1 | 123 | 17 | 1 | 11 | 1 | 076 | | | CLA | TEMP | | 66000 |
| 1 | 2 | 1 | 124 | 15 | 1 | 11 | | 006 | 000012524 | | XOR | =0000012524 | Z CHAN STEP FROM 00 TO 10 | 66010 |
| 1 | 2 | 1 | 125 | 4 | 1 | 11 | 1 | 131 | | | TNZ | JLJ5 | | 66020 |
| 1 | 2 | 1 | 126 | 17 | 1 | 11 | 1 | 033 | | | CLA | K77 | | 66030 |
| 1 | 2 | 1 | 127 | 5 | 1 | 11 | | 126 | | | CIO | 126 | SET SUBTRACT INHIBIT | 66040 |
| 1 | 2 | 1 | 130 | 10 | 1 | 11 | 1 | 133 | | | TRA | JMB1 | | 66050 |
| 1 | 2 | 1 | 131 | 13 | 1 | 11 | 1 | 076 | | JLJ5 | STO | TEMP | | 66060 |
| 1 | 2 | 1 | 132 | 0 | 1 | 11 | 1 | 031 | | JLB3 | HOP | HJAJ5B | | 66070 |
| | | | | | | | | | | * | CHECK | PLUS STEP FROM Q=1,R=0 | | 66080 |
| 1 | 2 | 1 | 133 | 13 | 1 | 11 | 1 | 376 | | JMB1 | STO | 776 | | 66090 |
| 1 | 2 | 1 | 134 | 17 | 1 | 11 | | 047 | | | CLA | HJNB1 | | 66100 |
| | | | | | 1 | 11 | | 47 | 511121620 | HJNB1 | HPC | JNB1 | | 66110 |
| 1 | 2 | 1 | 135 | 13 | 1 | 11 | 1 | 071 | | | STO | V2 | | 66120 |
| 1 | 2 | 1 | 136 | 17 | 1 | 11 | 1 | 030 | | | CLA | HJAJ5 | | 66130 |
| 1 | 2 | 1 | 137 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 66140 |
| 1 | 2 | 1 | 140 | 17 | 1 | 11 | | 006 | 000012524 | | CLA | =0000012524 | | 66150 |
| 1 | 2 | 1 | 141 | 5 | 1 | 11 | | 052 | | | CIO | 052 | LOAD OPT REG Q=1,R=0 | 66160 |
| 1 | 2 | 1 | 142 | 5 | 1 | 11 | | 121 | | | CIO | 121 | CHECK OPT REG LOAD | 66170 |
| 1 | 2 | 1 | 143 | 17 | 1 | 11 | | 007 | 000340064 | | CLA | =0000340064 | | 66180 |
| 1 | 2 | 1 | 144 | 5 | 1 | 11 | | 136 | | | CIO | 136 | LOAD X CHAN CTR | 66190 |
| 1 | 2 | 1 | 145 | 5 | 1 | 11 | | 142 | | | CIO | 142 | LOAD Y CHAN CTR | 66200 |
| 1 | 2 | 1 | 146 | 17 | 1 | 11 | | 002 | 002540000 | | CLA | =0002540000 | | 66210 |
| 1 | 2 | 1 | 147 | 5 | 1 | 11 | | 146 | | | CIO | 146 | LOAD Z CHAN CTR | 66220 |
| 1 | 2 | 1 | 150 | 5 | 1 | 11 | | 126 | | | CIO | 126 | RESET SUBTRACT INHIBIT | 66230 |
| 1 | 2 | 1 | 151 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 66240 |
| 1 | 2 | 1 | 152 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 66250 |
| 1 | 2 | 1 | 153 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 66260 |
| 1 | 2 | 1 | 154 | 17 | 1 | 11 | | 050 | | | CLA | HJMB2 | | 66270 |
| | | | | | 1 | 11 | | 50 | 511071220 | HJMB2 | HPC | JMB2 | | 66280 |
| 1 | 2 | 1 | 155 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 66290 |
| 1 | 2 | 1 | 156 | 17 | 1 | 11 | | 006 | 000012524 | | CLA | =0000012524 | | 66300 |
| 1 | 2 | 1 | 157 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 66310 |
| 1 | 2 | 1 | 160 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 66320 |
| 1 | 2 | 1 | 161 | 10 | 1 | 11 | 1 | 131 | | JMK1 | TRA | JLJ5 | | 66330 |
| 1 | 2 | 1 | 162 | 13 | 1 | 11 | 1 | 377 | | JMB2 | STO | 777 | | 66340 |
| 1 | 2 | 1 | 163 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 66350 |
| 1 | 2 | 1 | 164 | 17 | 1 | 11 | | 010 | 000000004 | | CLA | =0000000004 | | 66360 |
| 1 | 2 | 1 | 165 | 5 | 1 | 11 | | 126 | | | CIO | 126 | INH Y CHAN SUBTRACT | 66370 |
| 1 | 2 | 1 | 166 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 66380 |
| 1 | 2 | 1 | 167 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 66390 |
| 1 | 2 | 1 | 170 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 66400 |
| 1 | 2 | 1 | 171 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 66410 |
| 1 | 2 | 1 | 172 | 15 | 1 | 11 | | 051 | | | XOR | HJMK1 | CORRECT ENTRY LOCATION | 66420 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 131)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC   VARIABLE        COMMENT                          SEQ NO

                  1 11    51   511070620   HJMK1  HPC   JMK1                                             66430
 1  2 1 173    4  1 11 1 132                      TNZ   JLB3                                             66440
 1  2 1 174   17  1 11 1 076                      CLA   TEMP                                             66450
 1  2 1 175   15  1 11   011   000012764          XOR   =0000012764     Y CHAN STEP FROM 10 TO 11        66460
 1  2 1 176    4  1 11 1 131                      TNZ   JLJ5                                             66470
 1  2 1 177   17  1 11   052                      CLA   HJMB3                                            66480
                  1 11    52   511102620   HJMB3  HPC   JMB3                                             66490
 1  2 1 200   13  1 11 1 004                      STO   404                                              66500
 1  2 1 201   17  1 11   011   000012764          CLA   =0000012764                                      66510
 1  2 1 202    5  1 11   121                      CIO   121             COMPARE                          66520
 1  2 1 203    5  1 11   121                      CIO   121             NO COMPARE - INT 5               66530
 1  2 1 204   10  1 11 1 131               JMJ2   TRA   JLJ5                                             66540
 1  2 1 205   13  1 11 1 377               JMB3   STO   777                                              66550
 1  2 1 206   13  1 11 1 076                      STO   TEMP                                             66560
 1  2 1 207    5  1 11   030                      CIO   030             RESET INT 5                      66570
 1  2 1 210    5  1 11   110                      CIO   110             RESET MAIN INT LATCH             66580
 1  2 1 211   17  1 11 1 377                      CLA   777                                              66590
 1  2 1 212   13  1 11 1 073                      STO   V4                                               66600
 1  2 1 213   15  1 11   053                      XOR   HJMJ2           CORRECT ENTRY LOCATION           66610
                  1 11    53   511102220   HJMJ2  HPC   JMJ2                                             66620
 1  2 1 214    4  1 11 1 132                      TNZ   JLB3                                             66630
 1  2 1 215   17  1 11 1 076                      CLA   TEMP                                             66640
 1  2 1 216   15  1 11   012   000017764          XOR   =0000017764     X CHAN STEP FROM 10 TO 11        66650
 1  2 1 217    4  1 11 1 131                      TNZ   JLJ5                                             66660
 1  2 1 220   17  1 11   054                      CLA   HJMB4                                            66670
                  1 11    54   511113220   HJMB4  HPC   JMB4                                             66680
 1  2 1 221   13  1 11 1 004                      STO   404                                              66690
 1  2 1 222   17  1 11   012   000017764          CLA   =0000017764                                      66700
 1  2 1 223    5  1 11   121                      CIO   121             COMPARE                          66710
 1  2 1 224    5  1 11   121                      CIO   121             NO COMPARE - INT 5               66720
 1  2 1 225   10  1 11 1 131               JMJ3   TRA   JLJ5                                             66730
 1  2 1 226   13  1 11 1 377               JMB4   STO   777                                              66740
 1  2 1 227   13  1 11 1 076                      STO   TEMP                                             66750
 1  2 1 230    5  1 11   030                      CIO   030             RESET INT 5                      66760
 1  2 1 231    5  1 11   110                      CIO   110             RESET MAIN INT LATCH             66770
 1  2 1 232   17  1 11 1 377                      CLA   777                                              66780
 1  2 1 233   13  1 11 1 073                      STO   V4                                               66790
 1  2 1 234   15  1 11   055                      XOR   HJMJ3           CORRECT ENTRY LOCATION           66800
                  1 11    55   511112620   HJMJ3  HPC   JMJ3                                             66810
 1  2 1 235    4  1 11 1 132                      TNZ   JLB3                                             66820
 1  2 1 236   17  1 11 1 076                      CLA   TEMP                                             66830
 1  2 1 237   15  1 11   013   000017776          XOR   =0000017776     Z CHAN STEP FROM 10 TO 11        66840
 1  2 1 240    4  1 11 1 131                      TNZ   JLJ5                                             66850
 1  2 1 241   17  1 11 1 033                      CLA   K77                                              66860
 1  2 1 242    5  1 11   126                      CIO   126             SET SUBTRACT INHIBIT             66870
                                           *      CHECK MINUS STEP FROM Q+R=1                            66880
 1  2 1 243   13  1 11 1 376               JNB1   STO   776                                              66890
 1  2 1 244   17  1 11   056                      CLA   HJPB1                                            66900
                  1 11    56   511010030   HJPB1  HPC   JPB1                                             66910
 1  2 1 245   13  1 11 1 071                      STO   V2                                               66920
 1  2 1 246   17  1 11 1 030                      CLA   HJAJ5                                            66930
 1  2 1 247   13  1 11 1 004                      STO   404                                              66940
 1  2 1 250   17  1 11 1 020                      CLA   ZERO                                             66950
 1  2 1 251    5  1 11   132                      CIO   132             SET ACCEL SIGNS MINUS            66960
 1  2 1 252   17  1 11   013   000017776          CLA   =0000017776                                      66970
 1  2 1 253    5  1 11   052                      CIO   052             LOAD OPT REG Q+R=1               66980
 1  2 1 254    5  1 11   121                      CIO   121             CHECK OPT REG LOAD               66990
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Figure 7-13. PTC ADAPT Self-Test Program (Sheet 132)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 1 | 255 | 17 | 1 | 11 | | 014 | 000340000 | | CLA | =0000340000 | | 67000 |
| 1 | 2 | 1 | 256 | 5 | 1 | 11 | | 146 | | | CIO | 146 | LOAD Z CHAN CTR | 67010 |
| 1 | 2 | 1 | 257 | 17 | 1 | 11 | | 015 | 002540064 | | CLA | =0002540064 | | 67020 |
| 1 | 2 | 1 | 260 | 5 | 1 | 11 | | 142 | | | CIO | 142 | LOAD Y CHAN CTR | 67030 |
| 1 | 2 | 1 | 261 | 5 | 1 | 11 | | 136 | | | CIO | 136 | LOAD X CHAN CTR | 67040 |
| 1 | 2 | 1 | 262 | 17 | 1 | 11 | 1 | 020 | | | CLA | ZERO | | 67050 |
| 1 | 2 | 1 | 263 | 5 | 1 | 11 | | 126 | | | CIO | 126 | RESET SUBTRACT INHIBIT | 67060 |
| 1 | 2 | 1 | 264 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 67070 |
| 1 | 2 | 1 | 265 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 67080 |
| 1 | 2 | 1 | 266 | 7 | 1 | 11 | 1 | 020 | | | ADC | ZERO | | 67090 |
| 1 | 2 | 1 | 267 | 17 | 1 | 11 | | 057 | | | CLA | HJNB2 | | 67100 |
| | | | | | 1 | 11 | | 57 | 511136620 | HJNB2 | HPC | JNB2 | | 67110 |
| 1 | 2 | 1 | 270 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 67120 |
| 1 | 2 | 1 | 271 | 17 | 1 | 11 | | 013 | 000017776 | | CLA | =0000017776 | | 67130 |
| 1 | 2 | 1 | 272 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 67140 |
| 1 | 2 | 1 | 273 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 67150 |
| 1 | 2 | 1 | 274 | 10 | 1 | 11 | 1 | 131 | | JNK1 | TRA | JLJ5 | | 67160 |
| 1 | 2 | 1 | 275 | 13 | 1 | 11 | 1 | 377 | | JNB2 | STO | 777 | | 67170 |
| 1 | 2 | 1 | 276 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 67180 |
| 1 | 2 | 1 | 277 | 17 | 1 | 11 | 1 | 032 | | | CLA | K1 | | 67190 |
| 1 | 2 | 1 | 300 | 5 | 1 | 11 | | 126 | | | CIO | 126 | INH Z CHAN SUBTRACT | 67200 |
| 1 | 2 | 1 | 301 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 67210 |
| 1 | 2 | 1 | 302 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 67220 |
| 1 | 2 | 1 | 303 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 67230 |
| 1 | 2 | 1 | 304 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 67240 |
| 1 | 2 | 1 | 305 | 15 | 1 | 11 | | 060 | | | XOR | HJNK1 | CORRECT ENTRY LOCATION | 67250 |
| | | | | | 1 | 11 | | 60 | 511136220 | HJNK1 | HPC | JNK1 | | 67260 |
| 1 | 2 | 1 | 306 | 4 | 1 | 11 | 1 | 132 | | | TNZ | JLB3 | | 67270 |
| 1 | 2 | 1 | 307 | 17 | 1 | 11 | 1 | 076 | | | CLA | TEMP | | 67280 |
| 1 | 2 | 1 | 310 | 15 | 1 | 11 | | 012 | 000017764 | | XOR | =0000017764 | Z CHAN STEP FROM 11 TO 10 | 67290 |
| 1 | 2 | 1 | 311 | 4 | 1 | 11 | 1 | 131 | | | TNZ | JLJ5 | | 67300 |
| 1 | 2 | 1 | 312 | 17 | 1 | 11 | | 061 | | | CLA | HJNB3 | | 67310 |
| | | | | | 1 | 11 | | 61 | 511150220 | HJNB3 | HPC | JNB3 | | 67320 |
| 1 | 2 | 1 | 313 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 67330 |
| 1 | 2 | 1 | 314 | 17 | 1 | 11 | | 012 | 000017764 | | CLA | =0000017764 | | 67340 |
| 1 | 2 | 1 | 315 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 67350 |
| 1 | 2 | 1 | 316 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 67360 |
| 1 | 2 | 1 | 317 | 10 | 1 | 11 | 1 | 131 | | JNJ2 | TRA | JLJ5 | | 67370 |
| 1 | 2 | 1 | 320 | 13 | 1 | 11 | 1 | 377 | | JNB3 | STO | 777 | | 67380 |
| 1 | 2 | 1 | 321 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 67390 |
| 1 | 2 | 1 | 322 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 67400 |
| 1 | 2 | 1 | 323 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 67410 |
| 1 | 2 | 1 | 324 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 67420 |
| 1 | 2 | 1 | 325 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 67430 |
| 1 | 2 | 1 | 326 | 15 | 1 | 11 | | 062 | | | XOR | HJNJ2 | CORRECT ENTRY LOCATION | 67440 |
| | | | | | 1 | 11 | | 62 | 511147620 | HJNJ2 | HPC | JNJ2 | | 67450 |
| 1 | 2 | 1 | 327 | 4 | 1 | 11 | 1 | 132 | | | TNZ | JLB3 | | 67460 |
| 1 | 2 | 1 | 330 | 17 | 1 | 11 | 1 | 076 | | | CLA | TEMP | | 67470 |
| 1 | 2 | 1 | 331 | 15 | 1 | 11 | | 011 | 000012764 | | XOR | =0000012764 | X CHAN STEP FROM 11 TO 10 | 67480 |
| 1 | 2 | 1 | 332 | 4 | 1 | 11 | 1 | 131 | | | TNZ | JLJ5 | | 67490 |
| 1 | 2 | 1 | 333 | 17 | 1 | 11 | | 063 | | | CLA | HJNB4 | | 67500 |
| | | | | | 1 | 11 | | 63 | 511160620 | HJNB4 | HPC | JNB4 | | 67510 |
| 1 | 2 | 1 | 334 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 67520 |
| 1 | 2 | 1 | 335 | 17 | 1 | 11 | | 011 | 000012764 | | CLA | =0000012764 | | 67530 |
| 1 | 2 | 1 | 336 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 67540 |
| 1 | 2 | 1 | 337 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 67550 |
| 1 | 2 | 1 | 340 | 10 | 1 | 11 | 1 | 131 | | JNJ3 | TRA | JLJ5 | | 67560 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 133)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE          COMMENT                          SEQ NO

1  2 1 341    13  1 11 1 377               JNB4   STO    777                                                67570
1  2 1 342    13  1 11 1 076                      STO    TEMP                                               67580
1  2 1 343     5  1 11   030                      CIO    030               RESET INT 5                      67590
1  2 1 344     5  1 11   110                      CIO    110               RESET MAIN INT LATCH             67600
1  2 1 345    17  1 11 1 377                      CLA    777                                                67610
1  2 1 346    13  1 11 1 073                      STO    V4                                                 67620
1  2 1 347    15  1 11   064                      XOR    HJNJ3             CORRECT ENTRY LOCATION           67630
                  1 11    64   511160220   HJNJ3  HPC    JNJ3                                               67640
1  2 1 350     4  1 11 1 132                      TNZ    JLB3                                               67650
1  2 1 351    17  1 11 1 076                      CLA    TEMP                                               67660
1  2 1 352    15  1 11   006   000012524          XOR    =0000012524       Y CHAN STEP FROM 11 TO 10        67670
1  2 1 353     4  1 11 1 131                      TNZ    JLJ5                                               67680
1  2 1 354    17  1 11 1 033                      CLA    K77                                                67690
1  2 1 355     5  1 11   126                      CIO    126               SET SUBTRACT INHIBIT             67700
1  2 1 356    00  1 11   016   511010030          TRA*   JPB1                                               67710
1  3 0  20        1 11    65                      ORG    1,3,0,20,1,11,                                     67720
                                           *      CHECK MINUS STEP FROM Q=1,R=0                             67730
1  3 0  20    17  1 11   065               JPB1   CLA    HJQB1                                              67740
1  3 0  21    13  1 11 1 376                      STO    776                                                67750
                  1 11    65   511054030   HJQB1  HPC    JQB1                                               67760
1  3 0  22    13  1 11 1 071                      STO    V2                                                 67770
1  3 0  23    17  1 11 1 030                      CLA    HJAJ5                                              67780
1  3 0  24    13  1 11 1 004                      STO    404                                                67790
1  3 0  25    17  1 11   006   000012524          CLA    =0000012524                                        67800
1  3 0  26     5  1 11   052                      CIO    052               LOAD OPT REG Q=1,R=0             67810
1  3 0  27     5  1 11   121                      CIO    121               CHECK OPT REG LOAD               67820
1  3 0  30    17  1 11   014   000340000          CLA    =0000340000                                        67830
1  3 0  31     5  1 11   146                      CIO    146               LOAD Z CHAN CTR                  67840
1  3 0  32    17  1 11   015   002540064          CLA    =0002540064                                        67850
1  3 0  33     5  1 11   142                      CIO    142               LOAD Y CHAN CTR                  67860
1  3 0  34     5  1 11   136                      CIO    136               LOAD X CHAN CTR                  67870
1  3 0  35    17  1 11 1 020                      CLA    ZERO                                               67880
1  3 0  36     5  1 11   126                      CIO    126               RESET SUBTRACT INHIBIT           67890
1  3 0  37     7  1 11 1 020                      ADD    ZERO                                               67900
1  3 0  40     7  1 11 1 020                      ADD    ZERO                                               67910
1  3 0  41     7  1 11 1 020                      ADD    ZERO                                               67920
1  3 0  42    17  1 11   066                      CLA    HJPB2                                              67930
                  1 11    66   511024030   HJPB2  HPC    JPB2                                               67940
1  3 0  43    13  1 11 1 004                      STO    404                                                67950
1  3 0  44    17  1 11   006   000012524          CLA    =0000012524                                        67960
1  3 0  45     5  1 11   121                      CIO    121               COMPARE                          67970
1  3 0  46     5  1 11   121                      CIU    121               NO COMPARE - INT 5               67980
1  3 0  47    00  1 11   017   511054620   JPK1   TRA*   JLJ5                                               67990
1  3 0  50    13  1 11 1 377               JPB2   STO    777                                                68000
1  3 0  51    13  1 11 1 076                      STO    TEMP                                               68010
1  3 0  52    17  1 11 1 032                      CLA    K1                                                 68020
1  3 0  53     5  1 11   126                      CIO    126               INH Z CHAN SUBTRACT              68030
1  3 0  54     5  1 11   030                      CIO    030               RESET INT 5                      68040
1  3 0  55     5  1 11   110                      CIO    110               RESET MAIN INT LATCH             68050
1  3 0  56    17  1 11 1 377                      CLA    777                                                68060
1  3 0  57    13  1 11 1 073                      STO    V4                                                 68070
1  3 0  60    15  1 11   067                      XOR    HJPK1             CORRECT ENTRY LOCATION           68080
                  1 11    67   511023430   HJPK1  HPC    JPK1                                               68090
1  3 0  61     4  1 11   356                      TNZ    JPJ5                                               68100
1  3 0  62    17  1 11 1 076                      CLA    TEMP                                               68110
1  3 0  63    15  1 11   005   000012500          XOR    =0000012500       Z CHAN STEP FROM 10 TO 00        68120
1  3 0  64     4  1 11   355                      TNZ    JPJ4                                               68130
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Figure 7-13. PTC ADAPT Self-Test Program (Sheet 134)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE       COMMENT                        SEQ NO
1  3  0  65   17  1 11   070                      CLA    HJPB3                                         68140
                  1 11    70   511035430   HJPB3  HPC    JPB3                                          68150
1  3  0  66   13  1 11 1 004                      STO    404                                           68160
1  3  0  67   17  1 11   005   000012500          CLA    =0000012500                                   68170
1  3  0  70    5  1 11   121                      CIO    121            COMPARE                        68180
1  3  0  71    5  1 11   121                      CIO    121            NO COMPARE - INT 5             68190
1  3  0  72   00  1 11   017   511054620   JPJ2   TRA*   JLJ5                                          68200
1  3  0  73   13  1 11 1 377               JPB3   STO    777                                           68210
1  3  0  74   13  1 11 1 076                      STO    TEMP                                          68220
1  3  0  75    5  1 11   030                      CIO    030            RESET INT 5                    68230
1  3  0  76    5  1 11   110                      CIO    110            RESET MAIN INT LATCH           68240
1  3  0  77   17  1 11 1 377                      CLA    777                                           68250
1  3  0 100   13  1 11 1 073                      STO    V4                                            68260
1  3  0 101   15  1 11   071                      XOR    HJPJ2          CORRECT ENTRY LOCATION         68270
                  1 11    71   511035030   HJPJ2  HPC    JPJ2                                          68280
1  3  0 102    4  1 11   356                      TNZ    JPJ5                                          68290
1  3  0 103   17  1 11 1 076                      CLA    TEMP                                          68300
1  3  0 104   15  1 11   020   000000500          XOR    =0000000500    X CHAN STEP FROM 10 TO 00      68310
1  3  0 105    4  1 11   355                      TNZ    JPJ4                                          68320
1  3  0 106   17  1 11   072                      CLA    HJPB4                                         68330
                  1 11    72   511046030   HJPB4  HPC    JPB4                                          68340
1  3  0 107   13  1 11 1 004                      STO    404                                           68350
1  3  0 110   17  1 11   020   000000500          CLA    =0000000500                                   68360
1  3  0 111    5  1 11   121                      CIO    121            COMPARE                        68370
1  3  0 112    5  1 11   121                      CIO    121            NO COMPARE - INT 5             68380
1  3  0 113   00  1 11   017   511054620   JPJ3   TRA*   JLJ5                                          68390
1  3  0 114   13  1 11 1 377               JPB4   STO    777                                           68400
1  3  0 115   13  1 11 1 076                      STO    TEMP                                          68410
1  3  0 116    5  1 11   030                      CIO    030            RESET INT 5                    68420
1  3  0 117    5  1 11   110                      CIO    110            RESET MAIN INT LATCH           68430
1  3  0 120   17  1 11 1 377                      CLA    777                                           68440
1  3  0 121   13  1 11 1 073                      STO    V4                                            68450
1  3  0 122   15  1 11   073                      XOR    HJPJ3          CORRECT ENTRY LOCATION         68460
                  1 11    73   511045430   HJPJ3  HPC    JPJ3                                          68470
1  3  0 123    4  1 11   356                      TNZ    JPJ5                                          68480
1  3  0 124   17  1 11 1 076                      CLA    TEMP                                          68490
1  3  0 125    4  1 11   355                      TNZ    JPJ4           Y CHAN STEP FROM 10 TO 00      68500
1  3  0 126   17  1 11 1 033                      CLA    K77                                           68510
1  3  0 127    5  1 11   126                      CIO    126            SET SUBTRACT INHIBIT           68520
                                           *      CHECK PLUS STEP FROM Q+R=1                           68530
1  3  0 130   13  1 11 1 376               JQB1   STO    776                                           68540
1  3  0 131   17  1 11   074                      CLA    HJRB1                                         68550
                  1 11    74   511121030   HJRB1  HPC    JRB1                                          68560
1  3  0 132   13  1 11 1 071                      STO    V2                                            68570
1  3  0 133   17  1 11 1 030                      CLA    HJAJ5                                         68580
1  3  0 134   13  1 11 1 004                      STO    404                                           68590
1  3  0 135   17  1 11   000   777777776          CLA    =0777777776                                   68600
1  3  0 136    5  1 11   132                      CIO    132            SET ACCEL SIGNS PLUS           68610
1  3  0 137   17  1 11   013   000017776          CLA    =0000017776                                   68620
1  3  0 140    5  1 11   052                      CIO    052            LOAD OPT REG Q+R=1             68630
1  3  0 141    5  1 11   121                      CIO    121            CHECK OPT REG LOAD             68640
1  3  0 142   17  1 11   001   001500016          CLA    =0001500016                                   68650
1  3  0 143    5  1 11   136                      CIO    136            LOAD X CHAN CTR                68660
1  3  0 144    5  1 11   146                      CIO    146            LOAD Z CHAN CTR                68670
1  3  0 145   17  1 11   002   002540000          CLA    =0002540000                                   68680
1  3  0 146    5  1 11   142                      CIO    142            LOAD Y CHAN CTR                68690
1  3  0 147    5  1 11   126                      CIO    126            RESET SUBTRACT INHIBIT         68700
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Figure 7-13. PTC ADAPT Self-Test Program (Sheet 135)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | 0 | 150 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 68710 |
| 1 | 3 | 0 | 151 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 68720 |
| 1 | 3 | 0 | 152 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 68730 |
| 1 | 3 | 0 | 153 | 17 | 1 | 11 | | 075 | | | CLA | HJQB2 | | 68740 |
| | | | | | 1 | 11 | | 75 | 511070430 | HJQB2 | HPC | JQB2 | | 68750 |
| 1 | 3 | 0 | 154 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 68760 |
| 1 | 3 | 0 | 155 | 17 | 1 | 11 | | 013 | 000017776 | | CLA | =0000017776 | | 68770 |
| 1 | 3 | 0 | 156 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 68780 |
| 1 | 3 | 0 | 157 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 68790 |
| 1 | 3 | 0 | 160 | 00 | 1 | 11 | | 017 | 511054620 | JQK1 | TRA* | JLJ5 | | 68800 |
| 1 | 3 | 0 | 161 | 13 | 1 | 11 | 1 | 377 | | JQB2 | STO | 777 | | 68810 |
| 1 | 3 | 0 | 162 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 68820 |
| 1 | 3 | 0 | 163 | 17 | 1 | 11 | 1 | 021 | | | CLA | 88 | | 68830 |
| 1 | 3 | 0 | 164 | 5 | 1 | 11 | | 126 | | | CIO | 126 | INH X CHAN SUBTRACT | 68840 |
| 1 | 3 | 0 | 165 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 68850 |
| 1 | 3 | 0 | 166 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 68860 |
| 1 | 3 | 0 | 167 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 68870 |
| 1 | 3 | 0 | 170 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 68880 |
| 1 | 3 | 0 | 171 | 15 | 1 | 11 | | 076 | | | XOR | HJQK1 | CORRECT ENTRY LOCATION | 68890 |
| | | | | | 1 | 11 | | 76 | 511070030 | HJQK1 | HPC | JQK1 | | 68900 |
| 1 | 3 | 0 | 172 | 4 | 1 | 11 | | 356 | | | TNZ | JPJ5 | | 68910 |
| 1 | 3 | 0 | 173 | 17 | 1 | 11 | 1 | 076 | | | CLA | TEMP | | 68920 |
| 1 | 3 | 0 | 174 | 15 | 1 | 11 | | 021 | 000005776 | | XOR | =0000005776 | X CHAN STEP FROM 11 TO 00 | 68930 |
| 1 | 3 | 0 | 175 | 4 | 1 | 11 | | 355 | | | TNZ | JPJ4 | | 68940 |
| 1 | 3 | 0 | 176 | 17 | 1 | 11 | | 077 | | | CLA | HJQB3 | | 68950 |
| | | | | | 1 | 11 | | 77 | 511102030 | HJQB3 | HPC | JQB3 | | 68960 |
| 1 | 3 | 0 | 177 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 68970 |
| 1 | 3 | 0 | 200 | 17 | 1 | 11 | | 021 | 000005776 | | CLA | =0000005776 | | 68980 |
| 1 | 3 | 0 | 201 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 68990 |
| 1 | 3 | 0 | 202 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 69000 |
| 1 | 3 | 0 | 203 | 00 | 1 | 11 | | 017 | 511054620 | JQJ2 | TRA* | JLJ5 | | 69010 |
| 1 | 3 | 0 | 204 | 13 | 1 | 11 | 1 | 377 | | JQB3 | STO | 777 | | 69020 |
| 1 | 3 | 0 | 205 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 69030 |
| 1 | 3 | 0 | 206 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 69040 |
| 1 | 3 | 0 | 207 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 69050 |
| 1 | 3 | 0 | 210 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 69060 |
| 1 | 3 | 0 | 211 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 69070 |
| 1 | 3 | 0 | 212 | 15 | 1 | 11 | | 100 | | | XOR | HJQJ2 | CORRECT ENTRY LOCATION | 69080 |
| | | | | | 1 | 11 | | 100 | 511101430 | HJQJ2 | HPC | JQJ2 | | 69090 |
| 1 | 3 | 0 | 213 | 4 | 1 | 11 | | 356 | | | TNZ | JPJ5 | | 69100 |
| 1 | 3 | 0 | 214 | 17 | 1 | 11 | 1 | 076 | | | CLA | TEMP | | 69110 |
| 1 | 3 | 0 | 215 | 15 | 1 | 11 | | 022 | 000005752 | | XOR | =0000005752 | Z CHAN STEP FROM 11 TO 01 | 69120 |
| 1 | 3 | 0 | 216 | 4 | 1 | 11 | | 355 | | | TNZ | JPJ4 | | 69130 |
| 1 | 3 | 0 | 217 | 17 | 1 | 11 | | 101 | | | CLA | HJQB4 | | 69140 |
| | | | | | 1 | 11 | | 101 | 511112430 | HJQB4 | HPC | JQB4 | | 69150 |
| 1 | 3 | 0 | 220 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 69160 |
| 1 | 3 | 0 | 221 | 17 | 1 | 11 | | 022 | 000005752 | | CLA | =0000005752 | | 69170 |
| 1 | 3 | 0 | 222 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 69180 |
| 1 | 3 | 0 | 223 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 69190 |
| 1 | 3 | 0 | 224 | 00 | 1 | 11 | | 017 | 511054620 | JQJ3 | TRA* | JLJ5 | | 69200 |
| 1 | 3 | 0 | 225 | 13 | 1 | 11 | 1 | 377 | | JQB4 | STO | 777 | | 69210 |
| 1 | 3 | 0 | 226 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 69220 |
| 1 | 3 | 0 | 227 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 69230 |
| 1 | 3 | 0 | 230 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 69240 |
| 1 | 3 | 0 | 231 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 69250 |
| 1 | 3 | 0 | 232 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 69260 |
| 1 | 3 | 0 | 233 | 15 | 1 | 11 | | 102 | | | XOR | HJQJ3 | CORRECT ENTRY LOCATION | 69270 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 136)

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IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS     OPC     VARIABLE            COMMENT                          SEQ NO

              1 11      102    511112030   HJQJ3   HPC     JQJ3                                                  69280
1  3 0 234     4  1 11      356                    TNZ     JPJ5                                                  69290
1  3 0 235    17  1 11 1 076                       CLA     TEMP                                                  69300
1  3 0 236    15  1 11      023   000005252        XOR     =0000005252         Y CHAN STEP FROM 11 TO 01         69310
1  3 0 237     4  1 11      355                    TNZ     JPJ4                                                  69320
1  3 0 240    17  1 11 1 033                       CLA     K77                                                   69330
1  3 0 241     5  1 11      126                    CIO     126                 SET SUBTRACT INHIBIT              69340
                                           *       CHECK MINUS STEP FROM Q=0,R=1                                69350
1  3 0 242    13  1 11 1 376               JRB1    STO     776                                                   69360
1  3 0 243    17  1 11      103                    CLA     HJSB1                                                 69370
              1 11      103    511010230   HJSB1   HPC     JSB1                                                  69380
1  3 0 244    13  1 11 1 071                       STO     V2                                                    69390
1  3 0 245    17  1 11 1 030                       CLA     HJAJ5                                                 69400
1  3 0 246    13  1 11 1 004                       STO     404                                                   69410
1  3 0 247    17  1 11 1 020                       CLA     ZERO                                                  69420
1  3 0 250     5  1 11      132                    CIO     132                 SET ACCEL SIGNS MINUS             69430
1  3 0 251    17  1 11      023   000005252        CLA     =0000005252                                           69440
1  3 0 252     5  1 11      052                    CIO     052                 LOAD OPT REG Q=0,R=1              69450
1  3 0 253     5  1 11      121                    CIO     121                 CHECK OPT REG LOAD                69460
1  3 0 254    17  1 11      024   000340126        CLA     =0000340126                                           69470
1  3 0 255     5  1 11      142                    CIO     142                 LOAD Y CHAN CTR                   69480
1  3 0 256     5  1 11      136                    CIO     136                 LOAD X CHAN CTR                   69490
1  3 0 257    17  1 11      025   001500000        CLA     =0001500000                                           69500
1  3 0 260     5  1 11      146                    CIO     146                 LOAD Z CHAN CTR                   69510
1  3 0 261     5  1 11      126                    CIO     126                 RESET SUBTRACT INHIBIT            69520
1  3 0 262     7  1 11 1 020                       ADD     ZERO                                                  69530
1  3 0 263     7  1 11 1 020                       ADD     ZERO                                                  69540
1  3 0 264     7  1 11 1 020                       ADD     ZERO                                                  69550
1  3 0 265    17  1 11      104                    CLA     HJRB2                                                 69560
              1 11      104    511135430   HJRB2   HPC     JRB2                                                  69570
1  3 0 266    13  1 11 1 004                       STO     404                                                   69580
1  3 0 267    17  1 11      023   000005252        CLA     =0000005252                                           69590
1  3 0 270     5  1 11      121                    CIO     121                 COMPARE                           69600
1  3 0 271     5  1 11      121                    CIO     121                 NO COMPARE - INT 5                69610
1  3 0 272    00  1 11      017   511054620   JRK1    TRA*    JLJ5                                                  69620
1  3 0 273    13  1 11 1 377               JRB2    STO     777                                                   69630
1  3 0 274    13  1 11 1 076                       STO     TEMP                                                  69640
1  3 0 275    17  1 11      010   000000004        CLA     =0000000004                                           69650
1  3 0 276     5  1 11      126                    CIO     126                 INH Y CHAN SUBTRACT               69660
1  3 0 277     5  1 11      030                    CIO     030                 RESET INT 5                       69670
1  3 0 300     5  1 11      110                    CIO     110                 RESET MAIN INT LATCH              69680
1  3 0 301    17  1 11 1 377                       CLA     777                                                   69690
1  3 0 302    13  1 11 1 073                       STO     V4                                                    69700
1  3 0 303    15  1 11      105                    XOR     HJRK1               CORRECT ENTRY LOCATION            69710
              1 11      105    511135030   HJRK1   HPC     JRK1                                                  69720
1  3 0 304     4  1 11      356                    TNZ     JPJ5                                                  69730
1  3 0 305    17  1 11 1 076                       CLA     TEMP                                                  69740
1  3 0 306    15  1 11      022   000005752        XOR     =0000005752         Y CHAN STEP FROM 01 TO 11         69750
1  3 0 307     4  1 11      355                    TNZ     JPJ4                                                  69760
1  3 0 310    17  1 11      106                    CLA     HJRB3                                                 69770
              1 11      106    511147030   HJRB3   HPC     JRB3                                                  69780
1  3 0 311    13  1 11 1 004                       STO     404                                                   69790
1  3 0 312    17  1 11      022   000005752        CLA     =0000005752                                           69800
1  3 0 313     5  1 11      121                    CIO     121                 COMPARE                           69810
1  3 0 314     5  1 11      121                    CIO     121                 NO COMPARE - INT 5                69820
1  3 0 315    00  1 11      017   511054620   JRJ2    TRA*    JLJ5                                                  69830
1  3 0 316    13  1 11 1 377               JRB3    STO     777                                                   69840
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Figure 7-13. PTC ADAPT Self-Test Program (Sheet 137)

| IM | IS | S | LOC | OP | OM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | 0 | 317 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 69850 |
| 1 | 3 | 0 | 320 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 69860 |
| 1 | 3 | 0 | 321 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 69870 |
| 1 | 3 | 0 | 322 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 69880 |
| 1 | 3 | 0 | 323 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 69890 |
| 1 | 3 | 0 | 324 | 15 | 1 | 11 | | 107 | | | XOR | HJRJ2 | CORRECT ENTRY LOCATION | 69900 |
| | | | | | 1 | 11 | | 107 | 511146430 | HJRJ2 | HPC | JRJ2 | | 69910 |
| 1 | 3 | 0 | 325 | 4 | 1 | 11 | | 356 | | | TNZ | JPJ5 | | 69920 |
| 1 | 3 | 0 | 326 | 17 | 1 | 11 | 1 | 076 | | | CLA | TEMP | | 69930 |
| 1 | 3 | 0 | 327 | 15 | 1 | 11 | | 021 | 000005776 | | XOR | =0000005776 | Z CHAN STEP FROM 01 TO 11 | 69940 |
| 1 | 3 | 0 | 330 | 4 | 1 | 11 | | 355 | | | TNZ | JPJ4 | | 69950 |
| 1 | 3 | 0 | 331 | 17 | 1 | 11 | | 110 | | | CLA | HJRB4 | | 69960 |
| | | | | | 1 | 11 | | 110 | 511157430 | HJRB4 | HPC | JRB4 | | 69970 |
| 1 | 3 | 0 | 332 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 69980 |
| 1 | 3 | 0 | 333 | 17 | 1 | 11 | | 021 | 000005776 | | CLA | =0000005776 | | 69990 |
| 1 | 3 | 0 | 334 | 5 | 1 | 11 | | 121 | | | CIO | 121 | COMPARE | 70000 |
| 1 | 3 | 0 | 335 | 5 | 1 | 11 | | 121 | | | CIO | 121 | NO COMPARE - INT 5 | 70010 |
| 1 | 3 | 0 | 336 | 00 | 1 | 11 | | 017 | 511054620 | JRJ3 | TRA* | JLJ5 | | 70020 |
| 1 | 3 | 0 | 337 | 13 | 1 | 11 | 1 | 377 | | JRB4 | STO | 777 | | 70030 |
| 1 | 3 | 0 | 340 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 70040 |
| 1 | 3 | 0 | 341 | 5 | 1 | 11 | | 030 | | | CIO | 030 | RESET INT 5 | 70050 |
| 1 | 3 | 0 | 342 | 5 | 1 | 11 | | 110 | | | CIO | 110 | RESET MAIN INT LATCH | 70060 |
| 1 | 3 | 0 | 343 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 70070 |
| 1 | 3 | 0 | 344 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 70080 |
| 1 | 3 | 0 | 345 | 15 | 1 | 11 | | 111 | | | XOR | HJRJ3 | CORRECT ENTRY LOCATION | 70090 |
| | | | | | 1 | 11 | | 111 | 511157030 | HJRJ3 | HPC | JRJ3 | | 70100 |
| 1 | 3 | 0 | 346 | 4 | 1 | 11 | | 356 | | | TNZ | JPJ5 | | 70110 |
| 1 | 3 | 0 | 347 | 17 | 1 | 11 | 1 | 076 | | | CLA | TEMP | | 70120 |
| 1 | 3 | 0 | 350 | 15 | 1 | 11 | | 013 | 000017776 | | XOR | =0000017776 | X CHAN STEP FROM 01 TO 11 | 70130 |
| 1 | 3 | 0 | 351 | 4 | 1 | 11 | | 355 | | | TNZ | JPJ4 | | 70140 |
| 1 | 3 | 0 | 352 | 17 | 1 | 11 | 1 | 033 | | | CLA | K77 | | 70150 |
| 1 | 3 | 0 | 353 | 5 | 1 | 11 | | 126 | | | CIO | 126 | SET SUBTRACT INHIBIT | 70160 |
| 1 | 3 | 0 | 354 | 10 | 1 | 11 | 1 | 020 | | | TRA | JSB1 | | 70170 |
| 1 | 3 | 0 | 355 | 13 | 1 | 11 | 1 | 076 | | JPJ4 | STO | TEMP | | 70180 |
| 1 | 3 | 0 | 356 | 0 | 1 | 11 | 1 | 031 | | JPJ5 | HOP | HJAJ5B | | 70190 |
| 1 | 3 | 1 | 20 | | 1 | 11 | | 112 | | | ORG | 1,3,1,20,1,11, | | 70200 |
| | | | | | | | | | | * | CHECK | PLUS STEP FROM Q=C,R=1 | | 70210 |
| 1 | 3 | 1 | 20 | 17 | 1 | 11 | | 112 | | JSB1 | CLA | HJTB1 | | 70220 |
| 1 | 3 | 1 | 21 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 70230 |
| | | | | | 1 | 11 | | 112 | 511054630 | HJTB1 | HPC | JTB1 | | 70240 |
| 1 | 3 | 1 | 22 | 13 | 1 | 11 | 1 | 071 | | | STO | V2 | | 70250 |
| 1 | 3 | 1 | 23 | 17 | 1 | 11 | 1 | 030 | | | CLA | HJAJ5 | | 70260 |
| 1 | 3 | 1 | 24 | 13 | 1 | 11 | 1 | 004 | | | STO | 404 | | 70270 |
| 1 | 3 | 1 | 25 | 17 | 1 | 11 | | 000 | 777777776 | | CLA | =0777777776 | | 70280 |
| 1 | 3 | 1 | 26 | 5 | 1 | 11 | | 132 | | | CIO | 132 | SET ACCEL SIGNS PLUS | 70290 |
| 1 | 3 | 1 | 27 | 17 | 1 | 11 | | 023 | 000005252 | | CLA | =0000005252 | | 70300 |
| 1 | 3 | 1 | 30 | 5 | 1 | 11 | | 052 | | | CIO | 052 | LOAD OPT REG Q=0,R=1 | 70310 |
| 1 | 3 | 1 | 31 | 5 | 1 | 11 | | 121 | | | CIO | 121 | CHECK OPT REG LOAD | 70320 |
| 1 | 3 | 1 | 32 | 17 | 1 | 11 | | 026 | 002540016 | | CLA | =0002540016 | | 70330 |
| 1 | 3 | 1 | 33 | 5 | 1 | 11 | | 146 | | | CIO | 146 | LOAD Z CHAN CTR | 70340 |
| 1 | 3 | 1 | 34 | 5 | 1 | 11 | | 136 | | | CIO | 136 | LOAD X CHAN CTR | 70350 |
| 1 | 3 | 1 | 35 | 17 | 1 | 11 | | 025 | 001500000 | | CLA | =0001500000 | | 70360 |
| 1 | 3 | 1 | 36 | 5 | 1 | 11 | | 142 | | | CIO | 142 | LOAD Y CHAN CTR | 70370 |
| 1 | 3 | 1 | 37 | 5 | 1 | 11 | | 126 | | | CIO | 126 | RESET SUBTRACT INHIBIT | 70380 |
| 1 | 3 | 1 | 40 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 70390 |
| 1 | 3 | 1 | 41 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 70400 |
| 1 | 3 | 1 | 42 | 7 | 1 | 11 | 1 | 020 | | | ACD | ZERO | | 70410 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 138)

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IN IS S LOC   OP OM DS 9 ADR   OCT VAL     LHS     OPC    VARIABLE        COMMENT                          SEQ NO

1  3 1  43    17  1 11   113                       CLA    HJSB2                                            70420
                  1 11   113   511024630   HJSB2   HPC    JSB2                                             70430
1  3 1  44    13  1 11 1 004                       STO    404                                              70440
1  3 1  45    17  1 11   023   000005252           CLA    =0000005252                                      70450
1  3 1  46     5  1 11   121                       CIO    121             COMPARE                          70460
1  3 1  47     5  1 11   121                       CIO    121             NO COMPARE - INT 5               70470
1  3 1  50    00  1 11   017   511054620   JSK1    TRA*   JLJ5                                             70480
1  3 1  51    13  1 11 1 377               JSB2    STO    777                                              70490
1  3 1  52    13  1 11 1 076                       STO    TEMP                                             70500
1  3 1  53    17  1 11 1 021                       CLA    88                                               70510
1  3 1  54     5  1 11   126                       CIO    126             INH X CHAN SUBTRACT              70520
1  3 1  55     5  1 11   030                       CIO    030             RESET INT 5                      70530
1  3 1  56     5  1 11   110                       CIO    110             RESET MAIN INT LATCH             70540
1  3 1  57    17  1 11 1 377                       CLA    777                                              70550
1  3 1  60    13  1 11 1 073                       STO    V4                                               70560
1  3 1  61    15  1 11   114                       XOR    HJSK1           CORRECT ENTRY LOCATION           70570
                  1 11   114   511024230   HJSK1   HPC    JSK1                                             70580
1  3 1  62     4  1 11   356                       TNZ    JPJ5                                             70590
1  3 1  63    17  1 11 1 076                       CLA    TEMP                                             70600
1  3 1  64    15  1 11   027   000000252           XOR    =0000000252     X CHAN STEP FROM 01 TO 00        70610
1  3 1  65     4  1 11   355                       TNZ    JPJ4                                             70620
1  3 1  66    17  1 11   115                       CLA    HJSB3                                            70630
                  1 11   115   511036230   HJSB3   HPC    JSB3                                             70640
1  3 1  67    13  1 11 1 004                       STO    404                                              70650
1  3 1  70    17  1 11   027   000000252           CLA    =0000000252                                      70660
1  3 1  71     5  1 11   121                       CIO    121             COMPARE                          70670
1  3 1  72     5  1 11   121                       CIO    121             NO COMPARE - INT 5               70680
1  3 1  73    00  1 11   017   511054620   JSJ2    TRA*   JLJ5                                             70690
1  3 1  74    13  1 11 1 377               JSB3    STO    777                                              70700
1  3 1  75    13  1 11 1 076                       STO    TEMP                                             70710
1  3 1  76     5  1 11   030                       CIO    030             RESET INT 5                      70720
1  3 1  77     5  1 11   110                       CIO    110             RESET MAIN INT LATCH             70730
1  3 1 100    17  1 11 1 377                       CLA    777                                              70740
1  3 1 101    13  1 11 1 073                       STO    V4                                               70750
1  3 1 102    15  1 11   116                       XOR    HJSJ2           CORRECT ENTRY LOCATION           70760
                  1 11   116   511035630   HJSJ2   HPC    JSJ2                                             70770
1  3 1 103     4  1 11   356                       TNZ    JPJ5                                             70780
1  3 1 104    17  1 11 1 076                       CLA    TEMP                                             70790
1  3 1 105    15  1 11   030   000000012           XOR    =0000000012        Y CHAN STEP FROM 01 TO 00     70800
1  3 1 106     4  1 11   355                       TNZ    JPJ4                                             70810
1  3 1 107    17  1 11   117                       CLA    HJSB4                                            70820
                  1 11   117   511046630   HJSB4   HPC    JSB4                                             70830
1  3 1 110    13  1 11 1 004                       STO    404                                              70840
1  3 1 111    17  1 11   030   000000012           CLA    =0000000012                                      70850
1  3 1 112     5  1 11   121                       CIO    121             COMPARE                          70860
1  3 1 113     5  1 11   121                       CIO    121             NO COMPARE - INT 5               70870
1  3 1 114    00  1 11   017   511054620   JSJ3    TRA*   JLJ5                                             70880
1  3 1 115    13  1 11 1 377               JSB4    STO    777                                              70890
1  3 1 116    13  1 11 1 076                       STO    TEMP                                             70900
1  3 1 117     5  1 11   030                       CIO    030             RESET INT 5                      70910
1  3 1 120     5  1 11   110                       CIO    110             RESET MAIN INT LATCH             70920
1  3 1 121    17  1 11 1 377                       CLA    777                                              70930
1  3 1 122    13  1 11 1 073                       STO    V4                                               70940
1  3 1 123    15  1 11   120                       XOR    HJSJ3           CORRECT ENTRY LOCATION           70950
                  1 11   120   511046230   HJSJ3   HPC    JSJ3                                             70960
1  3 1 124     4  1 11   356                       TNZ    JPJ5                                             70970
1  3 1 125    17  1 11 1 076                       CLA    TEMP                                             70980
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 139)

```
IM IS S LOC  OP DM DS 9 ADR   OCT VAL    LHS   OPC    VARIABLE         COMMENT                            SEQ NO
 1  3 1 126   4  1 11   355                    TNZ    JPJ4             Z CHAN STEP FROM 01 TO 00           70990
 1  3 1 127  17  1 11 1 033                    CLA    K77                                                  71000
 1  3 1 130   5  1 11   126                    CIO    126              SET SUBTRACT INHIBIT                71010
                                         *     CHECK MINUS STEP FROM Q+R=0                                 71020
 1  3 1 131  13  1 11 1 376              JTB1  STO    776                                                  71030
 1  3 1 132  17  1 11   127                    CLA    HJUB1                                                71040
 1  3 1 133  13  1 11 1 071                    STO    V2                                                   71050
 1  3 1 134  17  1 11 1 030                    CLA    HJAJ5                                                71060
 1  3 1 135  13  1 11 1 004                    STO    404                                                  71070
 1  3 1 136  17  1 11 1 020                    CLA    ZERO                                                 71080
 1  3 1 137   5  1 11   132                    CIO    132              SET ACCEL SIGNS MINUS               71090
 1  3 1 140  17  1 11 1 020                    CLA    ZERO                                                 71100
 1  3 1 141   5  1 11   052                    CIO    052              LOAD OPT REG Q+R=0                  71110
 1  3 1 142   5  1 11   121                    CIO    121              CHECK OPT REG LOAD                  71120
 1  3 1 143  17  1 11   031   001500126        CLA    =0001500126                                          71130
 1  3 1 144   5  1 11   142                    CIO    142              LOAD Y CHAN CTR                     71140
 1  3 1 145   5  1 11   136                    CIO    136              LOAD X CHAN CTR                     71150
 1  3 1 146  17  1 11   014   000340000        CLA    =0000340000                                          71160
 1  3 1 147   5  1 11   146                    CIO    146              LOAD Z CHAN CTR                     71170
 1  3 1 150   5  1 11   126                    CIO    126              RESET SUBTRACT INHIBIT              71180
 1  3 1 151   7  1 11 1 020                    ADD    ZERO                                                 71190
 1  3 1 152   7  1 11 1 020                    ADD    ZERO                                                 71200
 1  3 1 153   7  1 11 1 020                    ADD    ZERO                                                 71210
 1  3 1 154  17  1 11   121                    CLA    HJTB2                                                71220
                 1 11   121   511071230  HJTB2 HPC    JTB2                                                 71230
 1  3 1 155  13  1 11 1 004                    STO    404                                                  71240
 1  3 1 156  17  1 11 1 020                    CLA    ZERO                                                 71250
 1  3 1 157   5  1 11   121                    CIO    121              COMPARE                             71260
 1  3 1 160   5  1 11   121                    CIO    121              NO COMPARE - INT 5                  71270
 1  3 1 161  00  1 11   017   511054620  JTK1  TRA*   JLJ5                                                 71280
 1  3 1 162  13  1 11 1 377              JTB2  STO    777                                                  71290
 1  3 1 163  13  1 11 1 076                    STO    TEMP                                                 71300
 1  3 1 164  17  1 11 1 032                    CLA    K1                                                   71310
 1  3 1 165   5  1 11   126                    CIO    126              INH Z CHAN SUBTRACT                 71320
 1  3 1 166   5  1 11   030                    CIO    030              RESET INT 5                         71330
 1  3 1 167   5  1 11   110                    CIO    110              RESET MAIN INT LATCH                71340
 1  3 1 170  17  1 11 1 377                    CLA    777                                                  71350
 1  3 1 171  13  1 11 1 073                    STO    V4                                                   71360
 1  3 1 172  15  1 11   122                    XOR    HJTK1               CORRECT ENTRY LOCATION           71370
                 1 11   122   511070630  HJTK1 HPC    JTK1                                                 71380
 1  3 1 173   4  1 11   356                    TNZ    JPJ5                                                 71390
 1  3 1 174  17  1 11 1 076                    CLA    TEMP                                                 71400
 1  3 1 175  15  1 11   030   000000012        XOR    =0000000012      Z CHAN STEP FROM 00 TO 01           71410
 1  3 1 176   4  1 11   355                    TNZ    JPJ4                                                 71420
 1  3 1 177  17  1 11   123                    CLA    HJTB3                                                71430
                 1 11   123   511102630  HJTB3 HPC    JTB3                                                 71440
 1  3 1 200  13  1 11 1 004                    STO    404                                                  71450
 1  3 1 201  17  1 11   030   000000012        CLA    =0000000012                                          71460
 1  3 1 202   5  1 11   121                    CIO    121              COMPARE                             71470
 1  3 1 203   5  1 11   121                    CIO    121              NO COMPARE - INT 5                  71480
 1  3 1 204  00  1 11   017   511054620  JTJ2  TRA*   JLJ5                                                 71490
 1  3 1 205  13  1 11 1 377              JTB3  STO    777                                                  71500
 1  3 1 206  13  1 11 1 076                    STO    TEMP                                                 71510
 1  3 1 207   5  1 11   030                    CIO    030              RESET INT 5                         71520
 1  3 1 210   5  1 11   110                    CIO    110              RESET MAIN INT LATCH                71530
 1  3 1 211  17  1 11 1 377                    CLA    777                                                  71540
 1  3 1 212  13  1 11 1 073                    STO    V4                                                   71550
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 140)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS      OPC    VARIABLE                COMMENT                                  SEQ NO
1  3  1 213   15  1 11   124                        XOR    HJTJ2                   CORRECT ENTRY LOCATION                   71560
                  1 11   124   511102230   HJTJ2    HPC    JTJ2                                                             71570
1  3  1 214    4  1 11   356                        TNZ    JPJ5                                                             71580
1  3  1 215   17  1 11 1 076                        CLA    TEMP                                                             71590
1  3  1 216   15  1 11   027   000000252            XOR    =0000000252             Y CHAN STEP FROM 00 TO 01                71600
1  3  1 217    4  1 11   355                        TNZ    JPJ4                                                             71610
1  3  1 220   17  1 11   125                        CLA    HJTB4                                                            71620
                  1 11   125   511113230   HJTB4    HPC    JTB4                                                             71630
1  3  1 221   13  1 11 1 004                        STO    404                                                              71640
1  3  1 222   17  1 11   027   000000252            CLA    =0000000252                                                      71650
1  3  1 223    5  1 11   121                        CIC    121                     COMPARE                                  71660
1  3  1 224    5  1 11   121                        CIC    121                     NO COMPARE - INT 5                       71670
1  3  1 225   00  1 11   017   511054620   JTJ3     TRA*   JLJ5                                                             71680
1  3  1 226   13  1 11 1 377               JTB4     STO    777                                                              71690
1  3  1 227   13  1 11 1 076                        STO    TEMP                                                             71700
1  3  1 230    5  1 11   030                        CIO    030                     RESET INT 5                              71710
1  3  1 231    5  1 11   110                        CIO    110                     RESET MAIN INT LATCH                     71720
1  3  1 232   17  1 11 1 377                        CLA    777                                                              71730
1  3  1 233   13  1 11 1 073                        STO    V4                                                               71740
1  3  1 234   15  1 11   126                        XOR    HJTJ3                   CORRECT ENTRY LOCATION                   71750
                  1 11   126   511112630   HJTJ3    HPC    JTJ3                                                             71760
1  3  1 235    4  1 11   356                        TNZ    JPJ5                                                             71770
1  3  1 236   17  1 11 1 076                        CLA    TEMP                                                             71780
1  3  1 237   15  1 11   023   000005252            XOR    =0000005252             X CHAN STEP FROM 00 TO 01                71790
1  3  1 240    4  1 11   355                        TNZ    JPJ4                                                             71800
1  3  1 241   17  1 11 1 033                        CLA    K77                                                              71810
1  3  1 242    5  1 11   126                        CIO    126                     SET SUBTRACT INHIBIT                     71820
1  3  1 243   00  1 11   032   511010040            TRA*   JUB1                                                             71830
1  4  0  20       1 11   127                        ORG    1,4,0,20,1,11,                                                   71840
                                           *        CHECK REGISTER RATE REGEN 1                                             71850
1  4  0  20   17  1 11   127               JUB1     CLA    HJUB1                                                            71860
1  4  0  21   13  1 11 1 376                        STO    776                                                              71870
                  1 11   127   511010040   HJUB1    HPC    JUB1                                                             71880
1  4  0  22   13  1 11 1 070                        STO    V1                                                               71890
1  4  0  23   17  1 11   130                        CLA    HJVB1A                                                           71900
                  1 11   130   511010240   HJVB1A   HPC    JVB1                                                             71910
1  4  0  24   13  1 11 1 071                        STO    V2                                                               71920
1  4  0  25   17  1 11 1 030                        CLA    HJAJ5                                                            71930
1  4  0  26   13  1 11 1 004                        STO    404                                                              71940
1  4  0  27   17  1 11   033   000000044            CLA    =0000000044                                                      71950
1  4  0  30    5  1 11   136                        CIC    136                     LOAD X CHAN CTR                          71960
1  4  0  31   17  1 11   034   000000006            CLA    =0000000006                                                      71970
1  4  0  32    5  1 11   126                        CIO    126                     RESET X CHAN SUBTRACT INHIBIT            71980
1  4  0  33   17  1 11 1 020                        CLA    ZERO                                                             71990
1  4  0  34    5  1 11   052                        CIO    052                     LOAD OPT REG Q+R=0                       72000
1  4  0  35    5  1 11   121                        CIO    121                     CHECK OPT REG LOAD                       72010
1  4  0  36   17  1 11   035   001100002            CLA    =0001100002                                                      72020
1  4  0  37    5  1 11   142                        CIO    142                     LOAD Y CHAN CTR                          72030
1  4  0  40    5  1 11   126                        CIO    126                     RESET Y CHAN SUBTRACT INHIBIT            72040
1  4  0  41    7  1 11 1 020                        ADD    ZERO                                                             72050
1  4  0  42   17  1 11 1 020                        CLA    ZERO                                                             72060
1  4  0  43    5  1 11   066                        CIC    066                     RESET COMPARE                            72070
1  4  0  44   17  1 11   036   001100000            CLA    =0001100000                                                      72080
1  4  0  45    5  1 11   146                        CIC    146                     LOAD Z CHAN CTR                          72090
1  4  0  46    5  1 11   126                        CIO    126                     RESET Z CHAN SUBTRACT INHIBIT            72100
1  4  0  47   17  1 11   030   000000012            CLA    =0000000012                                                      72110
1  4  0  50    5  1 11   132                        CIC    132                     ACCEL SIGNS X=PLUS,Y=MINUS,Z=PLUS        72120
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 141)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 0 | 51 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 72130 |
| 1 | 4 | 0 | 52 | 13 | 1 | 11 | 1 | 377 | | JUG1 | STO | 777 | | 72140 |
| 1 | 4 | 0 | 53 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 72150 |
| 1 | 4 | 0 | 54 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 72160 |
| 1 | 4 | 0 | 55 | 5 | 1 | 11 | | 121 | | | CIC | 121 | | 72170 |
| 1 | 4 | 0 | 56 | 15 | 1 | 11 | | 004 | 000012000 | | XOR | =0000012000 | X STEP FROM 00 TC 10 | 72180 |
| 1 | 4 | 0 | 57 | 4 | 1 | 11 | | 164 | | | TNZ | JUJ2 | | 72190 |
| 1 | 4 | 0 | 60 | 13 | 1 | 11 | 1 | 377 | | JUJ1 | STC | 777 | | 72200 |
| 1 | 4 | 0 | 61 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 72210 |
| 1 | 4 | 0 | 62 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 72220 |
| 1 | 4 | 0 | 63 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 72230 |
| 1 | 4 | 0 | 64 | 15 | 1 | 11 | | 135 | 000012240 | | XOR | =0000012240 | Y STEP FROM 00 TO 01 | 72240 |
| 1 | 4 | 0 | 65 | 4 | 1 | 11 | | 164 | | | TNZ | JUJ2 | | 72250 |
| 1 | 4 | 0 | 66 | 13 | 1 | 11 | 1 | 377 | | JUA3 | STO | 777 | | 72260 |
| 1 | 4 | 0 | 67 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 72270 |
| 1 | 4 | 0 | 70 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 72280 |
| 1 | 4 | 0 | 71 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 72290 |
| 1 | 4 | 0 | 72 | 15 | 1 | 11 | | 201 | 000012264 | | XOR | =0000012264 | Z STEP FROM 00 TO 10 | 72300 |
| 1 | 4 | 0 | 73 | 4 | 1 | 11 | | 164 | | | TNZ | JUJ2 | | 72310 |
| 1 | 4 | 0 | 74 | 13 | 1 | 11 | 1 | 377 | | JUC3 | STO | 777 | | 72320 |
| 1 | 4 | 0 | 75 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 72330 |
| 1 | 4 | 0 | 76 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 72340 |
| 1 | 4 | 0 | 77 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 72350 |
| 1 | 4 | 0 | 100 | 15 | 1 | 11 | | 202 | 000017264 | | XOR | =0000017264 | X STEP FROM 10 TO 11 | 72360 |
| 1 | 4 | 0 | 101 | 4 | 1 | 11 | | 164 | | | TNZ | JUJ2 | | 72370 |
| 1 | 4 | 0 | 102 | 13 | 1 | 11 | 1 | 377 | | JUE3 | STO | 777 | | 72380 |
| 1 | 4 | 0 | 103 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 72390 |
| 1 | 4 | 0 | 104 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 72400 |
| 1 | 4 | 0 | 105 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 72410 |
| 1 | 4 | 0 | 106 | 15 | 1 | 11 | | 012 | 000017764 | | XOR | =0000017764 | Y STEP FROM 01 TO 11 | 72420 |
| 1 | 4 | 0 | 107 | 4 | 1 | 11 | | 164 | | | TNZ | JUJ2 | | 72430 |
| 1 | 4 | 0 | 110 | 13 | 1 | 11 | 1 | 377 | | JUG3 | STO | 777 | | 72440 |
| 1 | 4 | 0 | 111 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 72450 |
| 1 | 4 | 0 | 112 | 13 | 1 | 11 | 1 | 073 | | | STC | V4 | | 72460 |
| 1 | 4 | 0 | 113 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 72470 |
| 1 | 4 | 0 | 114 | 15 | 1 | 11 | | 013 | 000017776 | | XOR | =0000017776 | Z STEP FROM 10 TO 11 | 72480 |
| 1 | 4 | 0 | 115 | 4 | 1 | 11 | | 164 | | | TNZ | JUJ2 | | 72490 |
| 1 | 4 | 0 | 116 | 13 | 1 | 11 | 1 | 377 | | JUJ3 | STO | 777 | | 72500 |
| 1 | 4 | 0 | 117 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 72510 |
| 1 | 4 | 0 | 120 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 72520 |
| 1 | 4 | 0 | 121 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 72530 |
| 1 | 4 | 0 | 122 | 15 | 1 | 11 | | 021 | 000005776 | | XOR | =0000005776 | X STEP FROM 11 TO 01 | 72540 |
| 1 | 4 | 0 | 123 | 4 | 1 | 11 | | 164 | | | TNZ | JUJ2 | | 72550 |
| 1 | 4 | 0 | 124 | 13 | 1 | 11 | 1 | 377 | | JUA5 | STO | 777 | | 72560 |
| 1 | 4 | 0 | 125 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 72570 |
| 1 | 4 | 0 | 126 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 72580 |
| 1 | 4 | 0 | 127 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 72590 |
| 1 | 4 | 0 | 130 | 15 | 1 | 11 | | 203 | 000005536 | | XOR | =0000005536 | Y STEP FROM 11 TO 10 | 72600 |
| 1 | 4 | 0 | 131 | 4 | 1 | 11 | | 164 | | | TNZ | JUJ2 | | 72610 |
| 1 | 4 | 0 | 132 | 13 | 1 | 11 | 1 | 377 | | JUC5 | STC | 777 | | 72620 |
| 1 | 4 | 0 | 133 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 72630 |
| 1 | 4 | 0 | 134 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 72640 |
| 1 | 4 | 0 | 135 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 72650 |
| 1 | 4 | 0 | 136 | 15 | 1 | 11 | | 204 | 000005512 | | XOR | =0000005512 | Z STEP FROM 11 TO 01 | 72660 |
| 1 | 4 | 0 | 137 | 4 | 1 | 11 | | 164 | | | TNZ | JUJ2 | | 72670 |
| 1 | 4 | 0 | 140 | 13 | 1 | 11 | 1 | 377 | | JUE5 | STO | 777 | | 72680 |
| 1 | 4 | 0 | 141 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 72690 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 142)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL    LHS    OPC    VARIABLE          COMMENT                                  SEQ NC

1  4 0 142    13  1 11 1 073                     STC    V4                                                         72700
1  4 0 143     5  1 11   121                     CIO    121                                                        72710
1  4 0 144    15  1 11   205   000000512         XOR    =0000000512       X STEP FROM 01 TO 00                     72720
1  4 0 145     4  1 11   164                     TNZ    JUJ2                                                       72730
1  4 0 146    13  1 11 1 377              JUG5   STO    777                                                        72740
1  4 0 147    17  1 11 1 377                     CLA    777                                                        72750
1  4 0 150    13  1 11 1 073                     STO    V4                                                         72760
1  4 0 151     5  1 11   121                     CIO    121                                                        72770
1  4 0 152    15  1 11   030   000000012         XOR    =0000000012       Y STEP FROM 10 TO 00                     72780
1  4 0 153     4  1 11   164                     TNZ    JUJ2                                                       72790
1  4 0 154    13  1 11 1 377              JUJ5   STO    777                                                        72800
1  4 0 155    17  1 11 1 377                     CLA    777                                                        72810
1  4 0 156    13  1 11 1 073                     STO    V4                                                         72820
1  4 0 157     5  1 11   121                     CIO    121                                                        72830
1  4 0 160     4  1 11   164                     TNZ    JUJ2              Z STEP FROM 01 TO 00                     72840
1  4 0 161    17  1 11 1 033                     CLA    K77                                                        72850
1  4 0 162     5  1 11   126                     CIO    126               SET SUBTRACT INHIBIT                     72860
1  4 0 163    10  1 11 1 020                     TRA    JVB1                                                       72870
1  4 0 164    10  1 11 1 243              JUJ2   TRA    JVJ2                                                       72880
1  4 1  20        1 11   131                     ORG    1,4,1,20,1,11,                                             72890

                                          *      CHECK REGISTER RATE REGEN 2                                       72910
1  4 1  20    17  1 11   131              JVB1   CLA    HJVB1                                                      72920
1  4 1  21    13  1 11 1 376                     STO    776                                                        72930
                  1 11   131   511010240  HJVB1  HPC    JVB1                                                       72940
1  4 1  22    13  1 11 1 070                     STO    V1                                                         72950
1  4 1  23    17  1 11   132                     CLA    HJYB1                                                      72960
                  1 11   132   511124240  HJYB1  HPC    JYB1                                                       72970
1  4 1  24    13  1 11 1 071                     STO    V2                                                         72980
1  4 1  25    17  1 11 1 030                     CLA    HJAJ5                                                      72990
1  4 1  26    13  1 11 1 004                     STO    404                                                        73000
1  4 1  27    17  1 11 1 033                     CLA    K77                                                        73010
1  4 1  30     5  1 11   066                     CIO    066                  SET COMPARE                           73020
1  4 1  31    17  1 11   036   001100000         CLA    =0001100000                                                73030
1  4 1  32     5  1 11   146                     CIO    146                  LOAD Z CHAN CTR                       73040
1  4 1  33    17  1 11   206   000000014         CLA    =0000000014                                                73050
1  4 1  34     5  1 11   126                     CIO    126               RESET Z CHAN SUBTRACT INHIBIT            73060
1  4 1  35    17  1 11   013   000017776         CLA    =0000017776                                                73070
1  4 1  36     5  1 11   052                     CIO    052               LOAD OPT REG Q+R=1                       73080
1  4 1  37     5  1 11   121                     CIO    121                  CHECK OPT REG. LOAD                   73090
1  4 1  40    17  1 11   207   001100010         CLA    =0001100010                                                73100
1  4 1  41     5  1 11   142                     CIO    142                  LOAD Y CHAN CTR                       73110
1  4 1  42     5  1 11   126                     CIO    126               RESET Y CHAN SUBTRACT INHIBIT            73120
1  4 1  43    17  1 11 1 020                     CLA    ZERO                                                       73130
1  4 1  44     5  1 11   066                     CIO    066                  RESET COMPARE                         73140
1  4 1  45    17  1 11   033   000000044         CLA    =0000000044                                                73150
1  4 1  46     5  1 11   136                     CIO    136                  LOAD X CHAN CTR                       73160
1  4 1  47    17  1 11 1 020                     CLA    ZERO                                                       73170
1  4 1  50     5  1 11   126                     CIO    126               RESET X CHAN SUBTRACT INHIBIT            73180
1  4 1  51    17  1 11   010   000000004         CLA    =0000000004                                                73190
1  4 1  52     5  1 11   132                     CIO    132                  ACCEL. SIGNS X=MINUS, Y=PLUS,Z=MINUS  73200
1  4 1  53     7  1 11 1 020                     ADD    ZERO                                                       73210
1  4 1  54    13  1 11 1 377              JVG1   STO    777                                                        73220
1  4 1  55    17  1 11 1 377                     CLA    777                                                        73230
1  4 1  56    13  1 11 1 073                     STO    V4                                                         73240
1  4 1  57     5  1 11   121                     CIO    121                                                        73250
1  4 1  60    15  1 11   012   000017764         XOR    =0000017764          Z STEP FROM 11 TO 10                  73260
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 143)

| IM | IS | S | LOC | UP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 1 | 61 | 4 | 1 | 11 | 1 | 243 | | | TNZ | JVJ2 | | 73270 |
| 1 | 4 | 1 | 62 | 13 | 1 | 11 | 1 | 377 | | JVJ1 | STO | 777 | | 73280 |
| 1 | 4 | 1 | 63 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 73290 |
| 1 | 4 | 1 | 64 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 73300 |
| 1 | 4 | 1 | 65 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 73310 |
| 1 | 4 | 1 | 66 | 15 | 1 | 11 | | 202 | 000017264 | | XOR | =0C00017264 | Y STEP FROM 11 TO 01 | 73320 |
| 1 | 4 | 1 | 67 | 4 | 1 | 11 | 1 | 243 | | | TNZ | JVJ2 | | 73330 |
| 1 | 4 | 1 | 70 | 13 | 1 | 11 | 1 | 377 | | JVA3 | STO | 777 | | 73340 |
| 1 | 4 | 1 | 71 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 73350 |
| 1 | 4 | 1 | 72 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 73360 |
| 1 | 4 | 1 | 73 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 73370 |
| 1 | 4 | 1 | 74 | 15 | 1 | 11 | | 201 | 000012264 | | XOR | =0000012264 | X STEP FROM 11 TO 10 | 73380 |
| 1 | 4 | 1 | 75 | 4 | 1 | 11 | 1 | 243 | | | TNZ | JVJ2 | | 73390 |
| 1 | 4 | 1 | 76 | 13 | 1 | 11 | 1 | 377 | | JVC3 | STO | 777 | | 73400 |
| 1 | 4 | 1 | 77 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 73410 |
| 1 | 4 | 1 | 100 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 73420 |
| 1 | 4 | 1 | 101 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 73430 |
| 1 | 4 | 1 | 102 | 15 | 1 | 11 | | 135 | 000012240 | | XOR | =00C0012240 | Z STEP FROM 10 TO 00 | 73440 |
| 1 | 4 | 1 | 103 | 4 | 1 | 11 | 1 | 243 | | | TNZ | JVJ2 | | 73450 |
| 1 | 4 | 1 | 104 | 13 | 1 | 11 | 1 | 377 | | JVE3 | STO | 777 | | 73460 |
| 1 | 4 | 1 | 105 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 73470 |
| 1 | 4 | 1 | 106 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 73480 |
| 1 | 4 | 1 | 107 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 73490 |
| 1 | 4 | 1 | 110 | 15 | 1 | 11 | | 004 | 000012000 | | XOR | =0000012000 | Y STEP FROM 01 TO 00 | 73500 |
| 1 | 4 | 1 | 111 | 4 | 1 | 11 | 1 | 243 | | | TNZ | JVJ2 | | 73510 |
| 1 | 4 | 1 | 112 | 13 | 1 | 11 | 1 | 377 | | JVG3 | STO | 777 | | 73520 |
| 1 | 4 | 1 | 113 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 73530 |
| 1 | 4 | 1 | 114 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 73540 |
| 1 | 4 | 1 | 115 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 73550 |
| 1 | 4 | 1 | 116 | 7 | 1 | 11 | 1 | 020 | | | ADD | ZERO | | 73560 |
| 1 | 4 | 1 | 117 | 4 | 1 | 11 | 1 | 243 | | | TNZ | JVJ2 | X STEP FROM 10 TO 00 | 73570 |
| 1 | 4 | 1 | 120 | 13 | 1 | 11 | 1 | 377 | | JVJ3 | STO | 777 | | 73580 |
| 1 | 4 | 1 | 121 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 73590 |
| 1 | 4 | 1 | 122 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 73600 |
| 1 | 4 | 1 | 123 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 73610 |
| 1 | 4 | 1 | 124 | 15 | 1 | 11 | | 030 | 000000012 | | XOR | =0000000012 | Z STEP FROM 00 TO 01 | 73620 |
| 1 | 4 | 1 | 125 | 4 | 1 | 11 | 1 | 243 | | | TNZ | JVJ2 | | 73630 |
| 1 | 4 | 1 | 126 | 13 | 1 | 11 | 1 | 377 | | JVA5 | STO | 777 | | 73640 |
| 1 | 4 | 1 | 127 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 73650 |
| 1 | 4 | 1 | 130 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 73660 |
| 1 | 4 | 1 | 131 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 73670 |
| 1 | 4 | 1 | 132 | 15 | 1 | 11 | | 205 | 000000512 | | XOR | =0000000512 | Y STEP FROM 00 TO 10 | 73680 |
| 1 | 4 | 1 | 133 | 4 | 1 | 11 | 1 | 243 | | | TNZ | JVJ2 | | 73690 |
| 1 | 4 | 1 | 134 | 13 | 1 | 11 | 1 | 377 | | JVC5 | STO | 777 | | 73700 |
| 1 | 4 | 1 | 135 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 73710 |
| 1 | 4 | 1 | 136 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 73720 |
| 1 | 4 | 1 | 137 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 73730 |
| 1 | 4 | 1 | 140 | 15 | 1 | 11 | | 204 | 000005512 | | XOR | =0000005512 | X STEP FROM 00 TO 01 | 73740 |
| 1 | 4 | 1 | 141 | 4 | 1 | 11 | 1 | 243 | | | TNZ | JVJ2 | | 73750 |
| 1 | 4 | 1 | 142 | 13 | 1 | 11 | 1 | 377 | | JVE5 | STO | 777 | | 73760 |
| 1 | 4 | 1 | 143 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 73770 |
| 1 | 4 | 1 | 144 | 13 | 1 | 11 | 1 | 073 | | | STO | V4 | | 73780 |
| 1 | 4 | 1 | 145 | 5 | 1 | 11 | | 121 | | | CIO | 121 | | 73790 |
| 1 | 4 | 1 | 146 | 15 | 1 | 11 | | 203 | 000005536 | | XOR | =0000005536 | Z STEP FROM 01 TO 11 | 73800 |
| 1 | 4 | 1 | 147 | 4 | 1 | 11 | 1 | 243 | | | TNZ | JVJ2 | | 73810 |
| 1 | 4 | 1 | 150 | 13 | 1 | 11 | 1 | 377 | | JVG5 | STO | 777 | | 73820 |
| 1 | 4 | 1 | 151 | 17 | 1 | 11 | 1 | 377 | | | CLA | 777 | | 73830 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 144)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL     LHS    OPC   VARIABLE          COMMENT                                    SEQ NC

1  4 1 152   13  1 11 1 073                       STU   V4                                                           73840
1  4 1 153    5  1 11   121                       CIC   121                                                          73850
1  4 1 154   15  1 11   021   000005776           XOR   =000C005776        Y STEP FROM 10 TO 11                      73860
1  4 1 155    4  1 11 1 243                       TNZ   JVJ2                                                         73870
1  4 1 156   13  1 11 1 377               JVJ5    STC   777                                                          73880
1  4 1 157   17  1 11 1 377                       CLA   777                                                          73890
1  4 1 160   13  1 11 1 073                       STU   V4                                                           73900
1  4 1 161    5  1 11   121                       CIO   121                                                          73910
1  4 1 162   15  1 11   013   000017776           XOR   =0000017776        X STEP FROM 01 TO 11                      73920
1  4 1 163    4  1 11 1 243                       TNZ   JVJ2                                                         73930
1  4 1 164   17  1 11 1 020                       CLA   ZERO                                                         73940
1  4 1 165   13  1 11 1 073                       STC   V4                                                           73950

                                          *       CHECK LVDA POWER SUPPLY LINES AND A/D CONVERTERS                    73970
                                          *       SET DA POWER SUPPLY SWITCH TO POSITION 1                           73980
                 1 11   133      311120   K35A    OCT   000311120                                                    73990
                 1 11   134      320340   K35B    OCT   000320340                                                    74000
1  4 1 166    5  1 11   066               JXC1    CIC   066                DISABLE COMPARE                           74010
1  4 1 167   13  1 11 1 376                       STU   776                                                          74020
1  4 1 170    5  1 11   233                       CIU   233                SEL LVDA +28A                             74030
1  4 1 171    5  1 11   025                       CIO   025                READ A/D CONVERTER                        74040
1  4 1 172   13  1 11 1 076                       STU   TEMP                                                         74050
1  4 1 173    2  1 11   133                       SUB   K35A                                                         74060
1  4 1 174   14  1 11 1 274                       TMI   JYJ5               LESS THAN 27.5                            74070
1  4 1 175   13  1 11 1 376                       STU   776                                                          74080
1  4 1 176   17  1 11   134                       CLA   K35B                                                         74090
1  4 1 177    2  1 11 1 076                       SUB   TEMP                                                         74100
1  4 1 200   14  1 11 1 274                       TMI   JYJ5               GREATER THAN 28.5                         74110
1  4 1 201   13  1 11 1 376               JXF1    STC   776                                                          74120
1  4 1 202    5  1 11   243                       CIU   243                LVDA + 28B                                74130
1  4 1 203    5  1 11   025                       CIO   025                READ A/D CONVERTER                        74140
1  4 1 204   13  1 11 1 076                       STU   TEMP                                                         74150
1  4 1 205    2  1 11   133                       SUB   K35A                                                         74160
1  4 1 206   14  1 11 1 274                       TMI   JYJ5               LESS THAN 27.5                            74170
1  4 1 207   13  1 11 1 376                       STU   776                                                          74180
1  4 1 210   17  1 11   134                       CLA   K35B                                                         74190
1  4 1 211    2  1 11 1 076                       SUB   TEMP                                                         74200
1  4 1 212   14  1 11 1 274                       TMI   JYJ5               GREATER THAN 28.5                         74210
1  4 1 213   13  1 11 1 376               JXJ1    STC   776                                                          74220
1  4 1 214    5  1 11   253                       CIC   253                SEL LVDA + 28C                            74230
1  4 1 215    5  1 11   025                       CIU   025                READ A/D CONVERTER                        74240
1  4 1 216   13  1 11 1 076                       STU   TEMP                                                         74250
1  4 1 217    2  1 11   133                       SUB   K35A                                                         74260
1  4 1 220   14  1 11 1 274                       TMI   JYJ5               LESS THAN 27.5                            74270
1  4 1 221   13  1 11 1 376                       STU   776                                                          74280
1  4 1 222   17  1 11   134                       CLA   K35B                                                         74290
1  4 1 223    2  1 11 1 076                       SUB   TEMP                                                         74300
1  4 1 224   14  1 11 1 274                       TMI   JYJ5               GREATER THAN 28.5                         74310
1  4 1 225   13  1 11 1 376               JXB2    STC   776                                                          74320
1  4 1 226    5  1 11   263                       CIO   263                SEL LVDA + 28D                            74330
1  4 1 227    5  1 11   025                       CIU   025                READ A/D CONVERTER                        74340
1  4 1 230   13  1 11 1 076                       STO   TEMP                                                         74350
1  4 1 231    2  1 11   133                       SUB   K35A                                                         74360
1  4 1 232   14  1 11 1 274                       TMI   JYJ5               LESS THAN 27.5                            74370
1  4 1 233   13  1 11 1 376                       STU   776                                                          74380
1  4 1 234   17  1 11   134                       CLA   K35B                                                         74390
1  4 1 235    2  1 11 1 076                       SUB   TEMP                                                         74400
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 145)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL     LHS    OPC     VARIABLE          COMMENT                       SEQ NO

 1  4 1 236   14  1 11 1 274                      TMI     JYJ5               GREATER THAN 28.5             74410
 1  4 1 237    5  1 11   220                      CIO     220                READ B SWITCHES               74420
 1  4 1 240    6  1 11   210   100000000          ANC     =01COCCC000        B2                            74430
 1  4 1 241    4  1 11 1 250                      TNZ     JYB1                                             74440
 1  4 1 242   10  1 11 1 263                      TRA     JYE1                                             74450
 1  4 1 243   13  1 11 1 076               JVJ2   STO     TEMP                                             74460
 1  4 1 244   17  1 11   211   000000400          CLA     =0CC0C0C400                                      74470
 1  4 1 245    5  1 11 1 203                      CIO     603                SET LTE ERROR LAMP            74480
 1  4 1 246   17  1 11 1 076                      CLA     TEMP                                             74490
 1  4 1 247    0  1 11 1 027                      HOP     H95P7                                            74500


                                           *      SET AND RESET TEIH LATCH                                 74560
                                           *      TEIH UP FOR TWO WORD TIMES                               74570
 1  4 1 250   13  1 11 1 376               JYB1   STO     776                                              74580
 1  4 1 251   17  1 11 1 033                      CLA     K77                                              74590
 1  4 1 252    5  1 11   000                      CIO     000                SET INT INHIBIT               74600
 1  4 1 253   17  1 11   212   000040000          CLA     =0000040000                                      74610
 1  4 1 254    5  1 11 1 213                      CIO     613                                              74620
                                           *      SHOULD SET INT 14                                        74630
 1  4 1 255   17  1 11   213   000020000          CLA     =0000020000                                      74640
 1  4 1 256    5  1 11 1 223                      CIC     623                                              74650
 1  4 1 257    5  1 11   154                      CIC     154                                              74660
 1  4 1 260   15  1 11   213   000020000          XOR     =0000020000                                      74670
 1  4 1 261    4  1 11 1 274                      TNZ     JYJ5                                             74680
 1  4 1 262    5  1 11   074                      CIO     074                RST INT 14                    74690
                                           *      SET AND RESET DST LATCH                                  74700
                                           *      DST UP FOR ONE WORD TIME                                 74710
 1  4 1 263    5  1 11   106               JYE1   CIO     106                                              74720
 1  4 1 264    5  1 11   112                      CIC     112                                              74730
                                           *      SET AND RESET HLT LATCH                                  74740
                                           *      HLT UP FOR ONE WORD TIME                                 74750
 1  4 1 265    5  1 11   116               JYH1   CIO     116                                              74760
 1  4 1 266    5  1 11   122                      CIC     122                                              74770
 1  4 1 267   17  1 11 1 033                      CLA     K77                                              74780
 1  4 1 270    5  1 11   000                      CIC     000                INHIBIT ALL INTERRUPTS        74790
 1  4 1 271    0  1 11 1 023                      HOP     H9P3               RST INT REG                   74800
 1  4 1 272    5  1 11   110                      CIC     110                                              74810
 1  4 1 273   00  1 11   214   511010050          TRA*    MAB1                                             74820
 1  4 1 274   13  1 11 1 377               JYJ5   STO     777                                              74830
 1  4 1 275   00  1 11   215   501047600          TRA*    JAJ5A                                            74840
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 146)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL    LHS    OPC    VARIABLE          COMMENT                          SEC NO
 1  5 0  20         1 11   135                   ORG    1,5,0,20,1,11,                                      74860

 1  5 0  20   17  1 11 1 065              MABI   CLA    LCKIC                                               74880
 1  5 0  21   14  1 11   025                     TMI    MAC1                                                74890
 1  5 0  22    4  1 11   024                     TNZ    MABIA                                               74900
 1  5 0  23    0  1 11 1 022                     HOP    H2P1                                                74910
 1  5 0  24   00  1 11   216   531054270  MABIA  TRA*   NAB2                                                74920
                                          *      EXERCISE TELEMETRY POWER SUPPLY SENSE INDICATORS           74930
 1  5 0  25   17  1 11 1 020              MAC1   CLA    ZERO                                                74940
 1  5 0  26   13  1 11   217                     STO    MCTR                                                74950
 1  5 0  27    5  1 11   066                     CIO    066                                                 74960
 1  5 0  30   16  1  5   225                     CDS    1,5                                                 74970
 1  5 0  31   17  1  5   046                     CLA    MAE1                                                74980
 1  5 0  32    6  1  5 1 047                     AND    KX8               REMOVE ADDRESS                    74990
 1  5 0  33   13  1  5 1 076                     STO    TEMP                                                75000
 1  5 0  34   17  1  5   072                     CLA    KMAE1                                               75010
 1  5 0  35    6  1  5 1 046                     AND    KX7               KEEP ADDRESS                      75020
 1  5 0  36   15  1  5 1 076                     XOR    TEMP                                                75030
 1  5 0  37   13  1  5   046                     STO    MAE1                                                75040
 1  5 0  40   16  1 11   231                     CDS    1,11                                                75050
 1  5 0  41   17  1 11   220   000100000         CLA    =0000100000       RESET TEL P.S. SENSE              75060
 1  5 0  42    5  1 11 1 223                     CIO    623                                                 75070
 1  5 0  43   17  1 11   212   000040000  MAD1   CLA    =0000040000       RESET INDICATOR                   75080
 1  5 0  44    5  1 11 1 223                     CIO    623                                                 75090
 1  5 0  45   10  1 11   101                     TRA    MAH1                                                75100
 1  5 0  46   17  1 11   136              MAE1   CLA    MDATA                                               75110
 1  5 0  47    5  1 11   022                     CIO    022               LOAD DIN REG                      75120
 1  5 0  50   17  1 11   220   000100000         CLA    =0000100000       ENABLE TEL. P.S. SENSE            75130
 1  5 0  51    5  1 11 1 213                     CIO    613                                                 75140
 1  5 0  52   10  1 11   054                     TRA    MAJ1                                                75150
 1  5 0  53   10  1 11   061                     TRA    MAF1                                                75160
 1  5 0  54   13  1 11 1 377              MAJ1   STO    777                                                 75170
 1  5 0  55   17  1 11   221   000025234         CLA    =0000025234       DELAY 894 MSEC.                   75180
 1  5 0  56    2  1 11 1 032                     SUB    K1                                                  75190
 1  5 0  57    4  1 11   056                     TNZ    *-1                                                 75200
 1  5 0  60    0  1 11 1 377                     HOP    777                                                 75210
 1  5 0  61   17  1 11   220   000100000  MAF1   CLA    =0000100000       DISABLE TEL P.S. SENSE            75220
 1  5 0  62    5  1 11 1 223                     CIO    623                                                 75230
 1  5 0  63   10  1 11   101                     TRA    MAH1              DELAY                             75240
 1  5 0  64   17  1 11   217                     CLA    MCTR                                                75250
 1  5 0  65    7  1 11 1 036                     ADD    KS1                                                 75260
 1  5 0  66   13  1 11   217                     STO    MCTR                                                75270
 1  5 0  67    2  1 11   222   060000000         SUB    =0060000000       =24                               75280
 1  5 0  70    4  1 11   073                     TNZ    MAG1                                                75290
 1  5 0  71   10  1 11   106                     TRA    JXG1                                                75300
 1  5 0  72   17  1 11   136              KMAE1  CLA    MDATA                                               75310
 1  5 0  73   16  1  5   225              MAG1   CDS    1,5                                                 75320
 1  5 0  74   17  1  5   046                     CLA    MAE1                                                75330
 1  5 0  75    7  1  5 1 037                     ADD    KS2               INCREMENT ADDRESS                 75340
 1  5 0  76   13  1  5   046                     STO    MAE1                                                75350
 1  5 0  77   16  1 11   231                     CDS    1,11                                                75360
 1  5 0 100   10  1 11   043                     TRA    MAD1                                                75370
 1  5 0 101   13  1 11 1 377              MAH1   STO    777                                                 75380
 1  5 0 102   17  1 11   223   000000360         CLA    =0000000360       DELAY 20 MSEC.                    75390
 1  5 0 103    2  1 11 1 032                     SUB    K1                                                  75400
 1  5 0 104    4  1 11   103                     TNZ    *-1                                                 75410
 1  5 0 105    0  1 11 1 377                     HOP    777                                                 75420
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 147)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 11 | | 136 | 16524 | MCATA | OCT | C0C016524 | | 75430 |
| | | | | | 1 | 11 | | 137 | 12524 | | OCT | 000012524 | | 75440 |
| | | | | | 1 | 11 | | 140 | 2524 | | OCT | C00002524 | | 75450 |
| | | | | | 1 | 11 | | 141 | 6524 | | OCT | 000006524 | | 75460 |
| | | | | | 1 | 11 | | 142 | 7524 | | OCT | 000007524 | | 75470 |
| | | | | | 1 | 11 | | 143 | 6524 | | OCT | 000006524 | | 75480 |
| | | | | | 1 | 11 | | 144 | 4524 | | OCT | 000004524 | | 75490 |
| | | | | | 1 | 11 | | 145 | 5524 | | OCT | 000005524 | | 75500 |
| | | | | | 1 | 11 | | 146 | 5724 | | OCT | 000C05724 | | 75510 |
| | | | | | 1 | 11 | | 147 | 5524 | | OCT | 000005524 | | 75520 |
| | | | | | 1 | 11 | | 150 | 5124 | | OCT | C00005124 | | 75530 |
| | | | | | 1 | 11 | | 151 | 5324 | | OCT | 000005324 | | 75540 |
| | | | | | 1 | 11 | | 152 | 5364 | | OCT | 000C05364 | | 75550 |
| | | | | | 1 | 11 | | 153 | 5324 | | OCT | 000005324 | | 75560 |
| | | | | | 1 | 11 | | 154 | 5224 | | OCT | 000005224 | | 75570 |
| | | | | | 1 | 11 | | 155 | 5264 | | OCT | 000005264 | | 75580 |
| | | | | | 1 | 11 | | 156 | 5274 | | OCT | 000005274 | | 75590 |
| | | | | | 1 | 11 | | 157 | 5264 | | OCT | 000005264 | | 75600 |
| | | | | | 1 | 11 | | 160 | 5244 | | OCT | 000005244 | | 75610 |
| | | | | | 1 | 11 | | 161 | 5254 | | OCT | 000005254 | | 75620 |
| | | | | | 1 | 11 | | 162 | 5256 | | OCT | C00005256 | | 75630 |
| | | | | | 1 | 11 | | 163 | 5254 | | OCT | 000005254 | | 75640 |
| | | | | | 1 | 11 | | 164 | 5250 | | OCT | 000005250 | | 75650 |
| | | | | | 1 | 11 | | 165 | 5252 | | OCT | 000005252 | | 75660 |
| | | | | | 1 | 11 | | 166 | 6540 | K100A | OCT | 000006540 | 2.612 VDC | 75670 |
| | | | | | 1 | 11 | | 167 | 10520 | K100B | OCT | 000010520 | 3.381 VDC | 75680 |
| | | | | | 1 | 11 | | 170 | 6100 | K100C | OCT | 000006100 | 2.392 VDC | 75690 |
| | | | | | 1 | 11 | | 171 | 11160 | K100D | OCT | 000011160 | 3.601 VDC | 75700 |
| | | | | | 1 | 11 | | 172 | 106320 | K100E | OCT | 000106320 | 27.50 VDC | 75710 |
| | | | | | 1 | 11 | | 173 | 110740 | K100F | OCT | 000110740 | 28.49 VDC | 75720 |
| | | | | | 1 | 11 | | 174 | 51760 | K100G | OCT | 000051760 | 16.39 VDC | 75730 |
| | | | | | 1 | 11 | | 175 | 47740 | K100H | OCT | 000047740 | 15.6C VDC | 75740 |
| | | | | | 1 | 11 | | 176 | 25200 | K100J | OCT | 000025200 | 8.30 VDC | 75750 |
| | | | | | 1 | 11 | | 177 | 23560 | K100K | OCT | 000023560 | 7.70 VOC | 75760 |
| 1 | 5 | 0 | 106 | 17 | 1 | 11 | | 212 | 000040000 | JXG1 | CLA | =000004C000 | BIT 12 | 75780 |
| 1 | 5 | 0 | 107 | 5 | 1 | 11 | 1 | 223 | | | CIO | 623 | | 75790 |
| | | | | | | | | | | • | CHECK | TELEMETRY CHANNELS A/D | | 75810 |
| 1 | 5 | 0 | 110 | 13 | 1 | 11 | 1 | 376 | | JXF2 | STO | 776 | | 75820 |
| 1 | 5 | 0 | 111 | 17 | 1 | 11 | | 224 | 000012070 | | CLA | =0C00012070 | | 75830 |
| 1 | 5 | 0 | 112 | 5 | 1 | 11 | | 022 | | | CIO | 022 | LOAD DIN REG | 75840 |
| 1 | 5 | 0 | 113 | 17 | 1 | 11 | | 220 | 000100000 | | CLA | =0000100000 | BIT 11 | 75850 |
| 1 | 5 | 0 | 114 | 5 | 1 | 11 | 1 | 213 | | | CIC | 613 | | 75860 |
| 1 | 5 | 0 | 115 | 10 | 1 | 11 | | 101 | | | TRA | MAH1 | DELAY | 75870 |
| 1 | 5 | 0 | 116 | 5 | 1 | 11 | | 303 | | | CIO | 303 | SEL + 2C VDC TEL CHANNEL | 75880 |
| 1 | 5 | 0 | 117 | 5 | 1 | 11 | | 025 | | | CIC | 025 | READ A/D CONVERTER | 75890 |
| 1 | 5 | 0 | 120 | 13 | 1 | 11 | 1 | C76 | | | STC | TEMP | | 75900 |
| 1 | 5 | 0 | 121 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 75910 |
| 1 | 5 | 0 | 122 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 75920 |
| 1 | 5 | 0 | 123 | 13 | 1 | 11 | 1 | 376 | | | STC | 776 | | 75930 |
| 1 | 5 | 0 | 124 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 75940 |
| 1 | 5 | 0 | 125 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 75950 |
| 1 | 5 | 0 | 126 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 75960 |
| 1 | 5 | 0 | 127 | 13 | 1 | 11 | 1 | 376 | | JXJ2 | STC | 776 | | 75970 |
| 1 | 5 | 0 | 130 | 5 | 1 | 11 | | 313 | | | CIO | 313 | SEL + 12 VDC TEL CHL | 75980 |
| 1 | 5 | 0 | 131 | 5 | 1 | 11 | | 025 | | | CIG | 025 | READ A/D CONVERTER | 75990 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 148)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | 0 | 132 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 76000 |
| 1 | 5 | 0 | 133 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 76010 |
| 1 | 5 | 0 | 134 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76020 |
| 1 | 5 | 0 | 135 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 76030 |
| 1 | 5 | 0 | 136 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 76040 |
| 1 | 5 | 0 | 137 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 76050 |
| 1 | 5 | 0 | 140 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76060 |
| 1 | 5 | 0 | 141 | 13 | 1 | 11 | 1 | 376 | | JXA3 | STO | 776 | | 76070 |
| 1 | 5 | 0 | 142 | 5 | 1 | 11 | | 323 | | | CIO | 323 | SEL + 6 VDC TEL CHL | 76080 |
| 1 | 5 | 0 | 143 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 76090 |
| 1 | 5 | 0 | 144 | 2 | 1 | 11 | | 170 | | | SUB | K100C | | 76100 |
| 1 | 5 | 0 | 145 | 14 | 1 | 11 | | 147 | | | TMI | *+2 | | 76110 |
| 1 | 5 | 0 | 146 | 10 | 1 | 11 | 1 | 307 | | | TRA | JXJ5 | | 76120 |
| 1 | 5 | 0 | 147 | 13 | 1 | 11 | 1 | 376 | | JXB3 | STO | 776 | | 76130 |
| 1 | 5 | 0 | 150 | 5 | 1 | 11 | | 333 | | | CIO | 333 | SEL + 6 VDC SIG TEL CHL | 76140 |
| 1 | 5 | 0 | 151 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 76150 |
| 1 | 5 | 0 | 152 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 76160 |
| 1 | 5 | 0 | 153 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 76170 |
| 1 | 5 | 0 | 154 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76180 |
| 1 | 5 | 0 | 155 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 76190 |
| 1 | 5 | 0 | 156 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 76200 |
| 1 | 5 | 0 | 157 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 76210 |
| 1 | 5 | 0 | 160 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76220 |
| 1 | 5 | 0 | 161 | 13 | 1 | 11 | 1 | 376 | | JXD3 | STO | 776 | | 76230 |
| 1 | 5 | 0 | 162 | 5 | 1 | 11 | | 343 | | | CIO | 343 | | 76240 |
| 1 | 5 | 0 | 163 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 76250 |
| 1 | 5 | 0 | 164 | 2 | 1 | 11 | | 171 | | | SUB | K100D | | 76260 |
| 1 | 5 | 0 | 165 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76270 |
| 1 | 5 | 0 | 166 | 13 | 1 | 11 | 1 | 376 | | JXE3 | STO | 776 | | 76280 |
| 1 | 5 | 0 | 167 | 5 | 1 | 11 | | 353 | | | CIO | 353 | SEL -20 VDC TEL CHL | 76290 |
| 1 | 5 | 0 | 170 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 76300 |
| 1 | 5 | 0 | 171 | 2 | 1 | 11 | | 170 | | | SUB | K100C | | 76310 |
| 1 | 5 | 0 | 172 | 14 | 1 | 11 | | 174 | | | TMI | *+2 | | 76320 |
| 1 | 5 | 0 | 173 | 10 | 1 | 11 | 1 | 307 | | | TRA | JXJ5 | | 76330 |
| 1 | 5 | 0 | 174 | 13 | 1 | 11 | 1 | 376 | | JXG3 | STO | 776 | | 76340 |
| 1 | 5 | 0 | 175 | 17 | 1 | 11 | | 220 | 000100000 | | CLA | =0000100000 | BIT 11 | 76350 |
| 1 | 5 | 0 | 176 | 5 | 1 | 11 | 1 | 223 | | | CIO | 623 | | 76360 |
| 1 | 5 | 0 | 177 | 17 | 1 | 11 | | 212 | 000040000 | | CLA | =0000040000 | BIT 12 | 76370 |
| 1 | 5 | 0 | 200 | 5 | 1 | 11 | 1 | 223 | | | CIO | 623 | | 76380 |
| 1 | 5 | 0 | 201 | 17 | 1 | 11 | | 225 | 000005322 | | CLA | =0000005322 | | 76390 |
| 1 | 5 | 0 | 202 | 5 | 1 | 11 | | 022 | | | CIO | 022 | LOAD DIN REG | 76400 |
| 1 | 5 | 0 | 203 | 17 | 1 | 11 | | 220 | 000100000 | | CLA | =0000100000 | BIT 11 | 76410 |
| 1 | 5 | 0 | 204 | 5 | 1 | 11 | 1 | 213 | | | CIO | 613 | | 76420 |
| 1 | 5 | 0 | 205 | 10 | 1 | 11 | | 101 | | | TRA | MAP1 | DELAY | 76430 |
| 1 | 5 | 0 | 206 | 5 | 1 | 11 | | 303 | | | CIO | 303 | SEL + 20 VDC TEL CHANNEL | 76440 |
| 1 | 5 | 0 | 207 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 76450 |
| 1 | 5 | 0 | 210 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 76460 |
| 1 | 5 | 0 | 211 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 76470 |
| 1 | 5 | 0 | 212 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76480 |
| 1 | 5 | 0 | 213 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 76490 |
| 1 | 5 | 0 | 214 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 76500 |
| 1 | 5 | 0 | 215 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 76510 |
| 1 | 5 | 0 | 216 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76520 |
| 1 | 5 | 0 | 217 | 13 | 1 | 11 | 1 | 376 | | JXJ3 | STO | 776 | | 76530 |
| 1 | 5 | 0 | 220 | 5 | 1 | 11 | | 313 | | | CIO | 313 | SEL + 12 VDC TEL CHL | 76540 |
| 1 | 5 | 0 | 221 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 76550 |
| 1 | 5 | 0 | 222 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 76560 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 149)

| IM | IS | S | LOC | OP | OM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | 0 | 223 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 76570 |
| 1 | 5 | 0 | 224 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76580 |
| 1 | 5 | 0 | 225 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 76590 |
| 1 | 5 | 0 | 226 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 76600 |
| 1 | 5 | 0 | 227 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 76610 |
| 1 | 5 | 0 | 230 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76620 |
| 1 | 5 | 0 | 231 | 13 | 1 | 11 | 1 | 376 | | JZA1 | STO | 776 | | 76630 |
| 1 | 5 | 0 | 232 | 5 | 1 | 11 | | 323 | | | CIO | 323 | SEL + 6 VDC TEL CHL | 76640 |
| 1 | 5 | 0 | 233 | 5 | 1 | 11 | | 025 | | | CIC | 025 | READ A/D CONVERTER | 76650 |
| 1 | 5 | 0 | 234 | 13 | 1 | 11 | 1 | 076 | | | STC | TEMP | | 76660 |
| 1 | 5 | 0 | 235 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 76670 |
| 1 | 5 | 0 | 236 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76680 |
| 1 | 5 | 0 | 237 | 13 | 1 | 11 | 1 | 376 | | | STC | 776 | | 76690 |
| 1 | 5 | 0 | 240 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 76700 |
| 1 | 5 | 0 | 241 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 76710 |
| 1 | 5 | 0 | 242 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76720 |
| 1 | 5 | 0 | 243 | 13 | 1 | 11 | 1 | 376 | | JZC1 | STC | 776 | | 76730 |
| 1 | 5 | 0 | 244 | 5 | 1 | 11 | | 333 | | | CIO | 333 | SEL + 6 VDC SIG TEL CHL | 76740 |
| 1 | 5 | 0 | 245 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 76750 |
| 1 | 5 | 0 | 246 | 13 | 1 | 11 | 1 | 076 | | | STG | TEMP | | 76760 |
| 1 | 5 | 0 | 247 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 76770 |
| 1 | 5 | 0 | 250 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76780 |
| 1 | 5 | 0 | 251 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 76790 |
| 1 | 5 | 0 | 252 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 76800 |
| 1 | 5 | 0 | 253 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 76810 |
| 1 | 5 | 0 | 254 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76820 |
| 1 | 5 | 0 | 255 | 13 | 1 | 11 | 1 | 376 | | JZE1 | STC | 776 | | 76830 |
| 1 | 5 | 0 | 256 | 5 | 1 | 11 | | 343 | | | CIO | 343 | SEL - 6 VDC TEL CHL | 76840 |
| 1 | 5 | 0 | 257 | 5 | 1 | 11 | | 025 | | | CIC | 025 | READ A/D CONVERTER | 76850 |
| 1 | 5 | 0 | 260 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 76860 |
| 1 | 5 | 0 | 261 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 76870 |
| 1 | 5 | 0 | 262 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76880 |
| 1 | 5 | 0 | 263 | 13 | 1 | 11 | 1 | 376 | | | STC | 776 | | 76890 |
| 1 | 5 | 0 | 264 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 76900 |
| 1 | 5 | 0 | 265 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 76910 |
| 1 | 5 | 0 | 266 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76920 |
| 1 | 5 | 0 | 267 | 13 | 1 | 11 | 1 | 376 | | JZG1 | STO | 776 | | 76930 |
| 1 | 5 | 0 | 270 | 5 | 1 | 11 | | 353 | | | CIO | 353 | SEL -20 VDC TEL CHL | 76940 |
| 1 | 5 | 0 | 271 | 5 | 1 | 11 | | 025 | | | CIC | 025 | READ A/D CONVERTER | 76950 |
| 1 | 5 | 0 | 272 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 76960 |
| 1 | 5 | 0 | 273 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 76970 |
| 1 | 5 | 0 | 274 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 76980 |
| 1 | 5 | 0 | 275 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 76990 |
| 1 | 5 | 0 | 276 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 77000 |
| 1 | 5 | 0 | 277 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 77010 |
| 1 | 5 | 0 | 300 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 77020 |
| 1 | 5 | 0 | 301 | 10 | 1 | 11 | 1 | 020 | | | TRA | JZJ1 | | 77030 |
| 1 | 5 | 1 | 20 | | 1 | 11 | | 200 | | | ORG | 1,5,1,20,1,11, | | 77040 |
| 1 | 5 | 1 | 20 | 17 | 1 | 11 | | 220 | 000100000 | JZJ1 | CLA | =00001 | BIT 11 | 77050 |
| 1 | 5 | 1 | 21 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 77060 |
| 1 | 5 | 1 | 22 | 5 | 1 | 11 | 1 | 223 | | | CIC | 623 | | 77070 |
| 1 | 5 | 1 | 23 | 17 | 1 | 11 | | 212 | 000040000 | | CLA | =0000040000 | BIT 12 | 77080 |
| 1 | 5 | 1 | 24 | 5 | 1 | 11 | 1 | 223 | | | CIC | 623 | | 77090 |
| 1 | 5 | 1 | 25 | 17 | 1 | 11 | | 226 | 000003416 | | CLA | =0000003416 | | 77100 |
| 1 | 5 | 1 | 26 | 5 | 1 | 11 | | 022 | | | CIC | 022 | LOAD DIN REG | 77110 |
| 1 | 5 | 1 | 27 | 17 | 1 | 11 | | 220 | 000100000 | | CLA | =0000100000 | BIT 11 | 77120 |
| 1 | 5 | 1 | 30 | 5 | 1 | 11 | 1 | 213 | | | CIC | 613 | | 77130 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 150)

| IM | IS | S | LOC | OP | OM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | 1 | 31 | 10 | 1 | 11 | | 101 | | | TRA | MAH1 | DELAY | 77140 |
| 1 | 5 | 1 | 32 | 5 | 1 | 11 | | 303 | | | CIC | 303 | SEL + 20 VDC TEL CHANNEL | 77150 |
| 1 | 5 | 1 | 33 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 77160 |
| 1 | 5 | 1 | 34 | 2 | 1 | 11 | | 170 | | | SUB | K100C | | 77170 |
| 1 | 5 | 1 | 35 | 14 | 1 | 11 | 1 | 037 | | | TMI | *+2 | | 77180 |
| 1 | 5 | 1 | 36 | 10 | 1 | 11 | 1 | 307 | | | TRA | JXJ5 | | 77190 |
| 1 | 5 | 1 | 37 | 13 | 1 | 11 | 1 | 376 | | JZA2 | STC | 776 | | 77200 |
| 1 | 5 | 1 | 40 | 5 | 1 | 11 | | 313 | | | CIO | 313 | SEL + 12 VDC TEL CHL | 77210 |
| 1 | 5 | 1 | 41 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 77220 |
| 1 | 5 | 1 | 42 | 2 | 1 | 11 | | 171 | | | SUB | K100D | | 77230 |
| 1 | 5 | 1 | 43 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 77240 |
| 1 | 5 | 1 | 44 | 13 | 1 | 11 | 1 | 376 | | JZB2 | STC | 776 | | 77250 |
| 1 | 5 | 1 | 45 | 5 | 1 | 11 | | 323 | | | CIO | 323 | SEL + 6 VDC TEL CHL | 77260 |
| 1 | 5 | 1 | 46 | 5 | 1 | 11 | | 025 | | | CIC | 025 | READ A/D CONVERTER | 77270 |
| 1 | 5 | 1 | 47 | 13 | 1 | 11 | 1 | 076 | | | STC | TEMP | | 77280 |
| 1 | 5 | 1 | 50 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 77290 |
| 1 | 5 | 1 | 51 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 77300 |
| 1 | 5 | 1 | 52 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 77310 |
| 1 | 5 | 1 | 53 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 77320 |
| 1 | 5 | 1 | 54 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 77330 |
| 1 | 5 | 1 | 55 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 77340 |
| 1 | 5 | 1 | 56 | 13 | 1 | 11 | 1 | 376 | | JZD2 | STC | 776 | | 77350 |
| 1 | 5 | 1 | 57 | 5 | 1 | 11 | | 333 | | | CIO | 333 | SEL + 6 VDC SIG TEL CHL | 77360 |
| 1 | 5 | 1 | 60 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 77370 |
| 1 | 5 | 1 | 61 | 2 | 1 | 11 | | 170 | | | SUB | K100C | | 77380 |
| 1 | 5 | 1 | 62 | 14 | 1 | 11 | 1 | 064 | | | TMI | *+2 | | 77390 |
| 1 | 5 | 1 | 63 | 10 | 1 | 11 | 1 | 307 | | | TRA | JXJ5 | | 77400 |
| 1 | 5 | 1 | 64 | 13 | 1 | 11 | 1 | 376 | | JZE2 | STC | 776 | | 77410 |
| 1 | 5 | 1 | 65 | 5 | 1 | 11 | | 343 | | | CIC | 343 | SEL - 6 VDC TEL CHL | 77420 |
| 1 | 5 | 1 | 66 | 5 | 1 | 11 | | 025 | | | CIC | 025 | READ A/D CONVERTER | 77430 |
| 1 | 5 | 1 | 67 | 13 | 1 | 11 | 1 | 076 | | | STC | TEMP | | 77440 |
| 1 | 5 | 1 | 70 | 2 | 1 | 11 | | 166 | | | SUB | K100A | | 77450 |
| 1 | 5 | 1 | 71 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 77460 |
| 1 | 5 | 1 | 72 | 13 | 1 | 11 | 1 | 376 | | | STC | 776 | | 77470 |
| 1 | 5 | 1 | 73 | 17 | 1 | 11 | | 167 | | | CLA | K100B | | 77480 |
| 1 | 5 | 1 | 74 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 77490 |
| 1 | 5 | 1 | 75 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 77500 |
| 1 | 5 | 1 | 76 | 13 | 1 | 11 | 1 | 376 | | JZG2 | STC | 776 | | 77510 |
| 1 | 5 | 1 | 77 | 5 | 1 | 11 | | 353 | | | CIO | 353 | SEL -20 VDC TEL CHL | 77520 |
| 1 | 5 | 1 | 100 | 5 | 1 | 11 | | 025 | | | CIC | 025 | READ A/D CONVERTER | 77530 |
| 1 | 5 | 1 | 101 | 2 | 1 | 11 | | 171 | | | SUB | K100D | | 77540 |
| 1 | 5 | 1 | 102 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 77550 |
| 1 | 5 | 1 | 103 | 13 | 1 | 11 | 1 | 376 | | JZH2 | STC | 776 | | 77560 |
| 1 | 5 | 1 | 104 | 17 | 1 | 11 | | 220 | 000100000 | | CLA | =0C00100000 | BIT 11 | 77570 |
| 1 | 5 | 1 | 105 | 5 | 1 | 11 | 1 | 223 | | | CIO | 623 | | 77580 |
| 1 | 5 | 1 | 106 | 17 | 1 | 11 | | 212 | 000040000 | | CLA | =0C0004CC00 | BIT 12 | 77590 |
| 1 | 5 | 1 | 107 | 5 | 1 | 11 | 1 | 223 | | | CIO | 623 | | 77600 |
| 1 | 5 | 1 | 110 | 17 | 1 | 11 | | 227 | 000014744 | | CLA | =0000014744 | | 77610 |
| 1 | 5 | 1 | 111 | 5 | 1 | 11 | | 022 | | | CIO | 022 | LOAD DIN REG | 77620 |
| 1 | 5 | 1 | 112 | 17 | 1 | 11 | | 220 | 000100000 | | CLA | =C0001CC000 | BIT 11 | 77630 |
| 1 | 5 | 1 | 113 | 5 | 1 | 11 | 1 | 213 | | | CIC | 613 | | 77640 |
| 1 | 5 | 1 | 114 | 10 | 1 | 11 | | 101 | | | TRA | MAH1 | DELAY | 77650 |
| 1 | 5 | 1 | 115 | 5 | 1 | 11 | | 303 | | | CIC | 303 | SEL + 20 VDC TEL CHANNEL | 77660 |
| 1 | 5 | 1 | 116 | 5 | 1 | 11 | | 025 | | | CIC | 025 | READ A/D CONVERTER | 77670 |
| 1 | 5 | 1 | 117 | 2 | 1 | 11 | | 171 | | | SUB | K100C | | 77680 |
| 1 | 5 | 1 | 120 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 77690 |
| 1 | 5 | 1 | 121 | 13 | 1 | 11 | 1 | 376 | | JZK2 | STC | 776 | | 77700 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 151)

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IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS   OPC   VARIABLE      COMMENT                      SEQ NO

1  5 1 122     5  1 11   313               CIO   313           SEL + 12 VDC TEL CHL          77710
1  5 1 123     5  1 11   025               CIO   025           READ A/D CONVERTER            77720
1  5 1 124     2  1 11   170               SUB   K100C                                       77730
1  5 1 125    14  1 11 1 127               TMI   *+2                                         77740
1  5 1 126    10  1 11 1 307               TRA   JXJ5                                        77750
1  5 1 127    13  1 11 1 376         JZA3  STO   776                                         77760
1  5 1 130     5  1 11   323               CIO   323           SEL +  6 VDC TEL CHL          77770
1  5 1 131     5  1 11   025               CIO   025           READ A/D CONVERTER            77780
1  5 1 132     2  1 11   171               SUB   K100D                                       77790
1  5 1 133    14  1 11 1 307               TMI   JXJ5                                        77800
1  5 1 134    13  1 11 1 376         JZB3  STO   776                                         77810
1  5 1 135     5  1 11   333               CIO   333           SEL +  6 VDC SIG TEL CHL      77820
1  5 1 136     5  1 11   025               CIO   025           READ A/D CONVERTER            77830
1  5 1 137     2  1 11   171               SUB   K100D                                       77840
1  5 1 140    14  1 11 1 307               TMI   JXJ5                                        77850
1  5 1 141    13  1 11 1 376         JZC3  STO   776                                         77860
1  5 1 142     5  1 11   343               CIO   343           SEL -  6 VDC TEL CHL          77870
1  5 1 143     5  1 11   025               CIO   025           READ A/D CONVERTER            77880
1  5 1 144     2  1 11   170               SUB   K100C                                       77890
1  5 1 145    14  1 11 1 147               TMI   *+2                                         77900
1  5 1 146    10  1 11 1 307               TRA   JXJ5                                        77910
1  5 1 147    13  1 11 1 376         JZD3  STO   776                                         77920
1  5 1 150     5  1 11   353               CIO   353           SEL  -20 VDC TEL CHL          77930
1  5 1 151     5  1 11   025               CIO   025           READ A/D CONVERTER            77940
1  5 1 152    13  1 11 1 076               STO   TEMP                                        77950
1  5 1 153     2  1 11   166               SUB   K100A                                       77960
1  5 1 154    14  1 11 1 307               TMI   JXJ5                                        77970
1  5 1 155    13  1 11 1 376               STO   776                                         77980
1  5 1 156    17  1 11   167               CLA   K100B                                       77990
1  5 1 157     2  1 11 1 076               SUB   TEMP                                        78000
1  5 1 160    14  1 11 1 307               TMI   JXJ5                                        78010

                                     *     CHECK VOLTAGE SWITCHING ON + 28 SIG               78030
1  5 1 161    13  1 11 1 376         JZF3  STO   776                                         78040
1  5 1 162    17  1 11   220   000100000   CLA   =0000100000   BIT 11                        78050
1  5 1 163     5  1 11 1 223               CIO   623                                         78060
1  5 1 164    17  1 11   212   000040000   CLA   =0000040000   BIT 12                        78070
1  5 1 165     5  1 11 1 223               CIO   623                                         78080
1  5 1 166    17  1 11   006   000012524   CLA   =0000012524                                 78090
1  5 1 167     5  1 11   022               CIO   022           LOAD DIN REG                  78100
1  5 1 170    17  1 11   220   000100000   CLA   =0000100000   BIT 11                        78110
1  5 1 171     5  1 11 1 213               CIO   613                                         78120
1  5 1 172    17  1 11   211   000000400   CLA   =0000000400   BIT 18                        78130
1  5 1 173     5  1 11 1 223               CIO   623                                         78140
1  5 1 174    17  1 11   230   000001000   CLA   =0000001000   BIT 17                        78150
1  5 1 175     5  1 11 1 223               CIO   623                                         78160
1  5 1 176    10  1 11   054               TRA   MAJ1          DELAY                         78170
1  5 1 177    10  1 11   054               TRA   MAJ1          DELAY                         78180
1  5 1 200     5  1 11 1 053               CIO   453           SEL + 28 SIG                  78190
1  5 1 201     5  1 11   025               CIO   025           READ A/D CONVERTER            78200
1  5 1 202    13  1 11 1 076               STO   TEMP                                        78210
1  5 1 203     2  1 11   172               SUB   K100E                                       78220
1  5 1 204    14  1 11 1 307               TMI   JXJ5          LESS THAN 27.5                78230
1  5 1 205    13  1 11 1 376               STO   776                                         78240
1  5 1 206    17  1 11   173               CLA   K10OF                                       78250
1  5 1 207     2  1 11 1 076               SUB   TEMP                                        78260
1  5 1 210    14  1 11 1 307               TMI   JXJ5                                        78270
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Figure 7-13. PTC ADAPT Self-Test Program (Sheet 152)

| IM | IS | S | LOC | OP | CM | OS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | 1 | 211 | 13 | 1 | 11 | 1 | 376 | | JZJ3 | STO | 776 | | 78280 |
| 1 | 5 | 1 | 212 | 17 | 1 | 11 | 1 | 032 | | | CLA | K1 | | 78290 |
| 1 | 5 | 1 | 213 | 5 | 1 | 11 | 1 | 213 | | | CIO | 613 | | 78300 |
| 1 | 5 | 1 | 214 | 13 | 1 | 11 | 1 | 376 | | JZK3 | STO | 776 | | 78310 |
| 1 | 5 | 1 | 215 | 10 | 1 | 11 | | 054 | | | TRA | MAJ1 | DELAY | 78320 |
| 1 | 5 | 1 | 216 | 10 | 1 | 11 | | 054 | | | TRA | MAJ1 | DELAY | 78330 |
| 1 | 5 | 1 | 217 | 5 | 1 | 11 | 1 | 053 | | | CIO | 453 | SEL + 28 SIG | 78340 |
| 1 | 5 | 1 | 220 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 78350 |
| 1 | 5 | 1 | 221 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 78360 |
| 1 | 5 | 1 | 222 | 2 | 1 | 11 | | 175 | | | SUB | K100H | | 78370 |
| 1 | 5 | 1 | 223 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 78380 |
| 1 | 5 | 1 | 224 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 78390 |
| 1 | 5 | 1 | 225 | 17 | 1 | 11 | | 174 | | | CLA | K100G | | 78400 |
| 1 | 5 | 1 | 226 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 78410 |
| 1 | 5 | 1 | 227 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 78420 |
| 1 | 5 | 1 | 230 | 13 | 1 | 11 | 1 | 376 | | JZB4 | STO | 776 | | 78430 |
| 1 | 5 | 1 | 231 | 17 | 1 | 11 | | 211 | 000000400 | | CLA | =0000000400 | BIT 18 | 78440 |
| 1 | 5 | 1 | 232 | 5 | 1 | 11 | 1 | 223 | | | CIO | 623 | | 78450 |
| 1 | 5 | 1 | 233 | 10 | 1 | 11 | | 054 | | | TRA | MAJ1 | DELAY | 78460 |
| 1 | 5 | 1 | 234 | 10 | 1 | 11 | | 054 | | | TRA | MAJ1 | DELAY | 78470 |
| 1 | 5 | 1 | 235 | 5 | 1 | 11 | 1 | 053 | | | CIO | 453 | SEL + 28 SIG | 78480 |
| 1 | 5 | 1 | 236 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 78490 |
| 1 | 5 | 1 | 237 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 78500 |
| 1 | 5 | 1 | 240 | 2 | 1 | 11 | | 172 | | | SUB | K100E | | 78510 |
| 1 | 5 | 1 | 241 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 78520 |
| 1 | 5 | 1 | 242 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 78530 |
| 1 | 5 | 1 | 243 | 17 | 1 | 11 | | 173 | | | CLA | K100F | | 78540 |
| 1 | 5 | 1 | 244 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 78550 |
| 1 | 5 | 1 | 245 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 78560 |
| 1 | 5 | 1 | 246 | 13 | 1 | 11 | 1 | 376 | | JZC4 | STO | 776 | | 78570 |
| 1 | 5 | 1 | 247 | 17 | 1 | 11 | | 010 | 000000004 | | CLA | =0000000004 | BIT 24 | 78580 |
| 1 | 5 | 1 | 250 | 5 | 1 | 11 | 1 | 213 | | | CIO | 613 | | 78590 |
| 1 | 5 | 1 | 251 | 10 | 1 | 11 | | 054 | | | TRA | MAJ1 | DELAY | 78600 |
| 1 | 5 | 1 | 252 | 10 | 1 | 11 | | 054 | | | TRA | MAJ1 | DELAY | 78610 |
| 1 | 5 | 1 | 253 | 5 | 1 | 11 | 1 | 053 | | | CIO | 453 | SEL + 28 SIG | 78620 |
| 1 | 5 | 1 | 254 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 78630 |
| 1 | 5 | 1 | 255 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 78640 |
| 1 | 5 | 1 | 256 | 2 | 1 | 11 | | 177 | | | SUB | K100K | | 78650 |
| 1 | 5 | 1 | 257 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 78660 |
| 1 | 5 | 1 | 260 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 78670 |
| 1 | 5 | 1 | 261 | 17 | 1 | 11 | | 176 | | | CLA | K100J | | 78680 |
| 1 | 5 | 1 | 262 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 78690 |
| 1 | 5 | 1 | 263 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 78700 |
| 1 | 5 | 1 | 264 | 13 | 1 | 11 | 1 | 376 | | JZG4 | STO | 776 | | 78710 |
| 1 | 5 | 1 | 265 | 17 | 1 | 11 | | 230 | 000001000 | | CLA | =0000001000 | BIT 17 | 78720 |
| 1 | 5 | 1 | 266 | 5 | 1 | 11 | 1 | 223 | | | CIO | 623 | | 78730 |
| 1 | 5 | 1 | 267 | 10 | 1 | 11 | | 054 | | | TRA | MAJ1 | DELAY | 78740 |
| 1 | 5 | 1 | 270 | 10 | 1 | 11 | | 054 | | | TRA | MAJ1 | DELAY | 78750 |
| 1 | 5 | 1 | 271 | 5 | 1 | 11 | 1 | 053 | | | CIO | 453 | SEL + 28 SIG | 78760 |
| 1 | 5 | 1 | 272 | 5 | 1 | 11 | | 025 | | | CIO | 025 | READ A/D CONVERTER | 78770 |
| 1 | 5 | 1 | 273 | 13 | 1 | 11 | 1 | 076 | | | STO | TEMP | | 78780 |
| 1 | 5 | 1 | 274 | 2 | 1 | 11 | | 172 | | | SUB | K100E | | 78790 |
| 1 | 5 | 1 | 275 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 78800 |
| 1 | 5 | 1 | 276 | 13 | 1 | 11 | 1 | 376 | | | STO | 776 | | 78810 |
| 1 | 5 | 1 | 277 | 17 | 1 | 11 | | 173 | | | CLA | K100F | | 78820 |
| 1 | 5 | 1 | 300 | 2 | 1 | 11 | 1 | 076 | | | SUB | TEMP | | 78830 |
| 1 | 5 | 1 | 301 | 14 | 1 | 11 | 1 | 307 | | | TMI | JXJ5 | | 78840 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 153)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | 1 | 302 | 17 | 1 | 11 | | 220 | 000100000 | | CLA | =000C1C0000 | BIT 11 | 78850 |
| 1 | 5 | 1 | 303 | 5 | 1 | 11 | 1 | 223 | | | CIO | 623 | | 78860 |
| 1 | 5 | 1 | 304 | 17 | 1 | 11 | | 212 | 000040000 | | CLA | =0000040000 | BIT 12 | 78870 |
| 1 | 5 | 1 | 305 | 5 | 1 | 11 | 1 | 223 | | | CIO | 623 | | 78880 |
| 1 | 5 | 1 | 306 | 0 | 1 | 11 | 1 | 022 | | | HOP | H2PI | | 78890 |
| 1 | 5 | 1 | 307 | 13 | 1 | 11 | 1 | 377 | | JXJ5 | STO | 777 | | 78900 |
| 1 | 5 | 1 | 310 | 00 | 1 | 11 | | 215 | 501047600 | | TRA* | JAJ5A | | 78910 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 154)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL    LHS    OPC    VARIABLE                COMMENT                           SEQ NO

1  7 1  40       1 13     2                       ORG    1,7,1,40,1,13,2                                           78930
                                            *     ROUTINE 11                                                       78940
                                            *     CHANNEL SWITCHING TEST LVDA-ME                                   78950
                                            *     SEE PROCEDURE FOR PROPER VISUAL PATTERN                          78960
1  7 1  40    17 1 13 1 066               NAB1    CLA    LCK11                                                     78970
1  7 1  41    14 1 13 1 056                       TMI    NAC1                                                      78980
1  7 1  42    17 1 13 1 054                       CLA    LC6                                                       78990
1  7 1  43    14 1 13 1 046                       TMI    NABIC                                                     79000
1  7 1  44    13 1 13 1 054               NABIC   STO    LC8                                                       79010
1  7 1  45    00 1 13   003   501004000   NABIA   TRA*   JAB1                    TO RTN 9 AND 10                   79020
1  7 1  46    10 1 13 1 067               NABIC   TRA    NAF1                                                      79030
1  7 1  47    17 1 13   004   000007200           CLA    =0000002200             RESET TEL AND PWR TEST            79040
1  7 1  50     5 1 13 1 223                       CIO    623                                                       79050
1  7 1  51    17 1 13 1 020                       CLA    ZERO                                                      79060
1  7 1  52     5 1 13   022                       CIO    022                                                       79070
1  7 1  53     5 1 13   042                       CIO    042                                                       79080
1  7 1  54     5 1 13   036                       CIO    036                                                       79090
1  7 1  55    10 1 13 1 044                       TRA    NABIC                                                     79100
1  7 1  56    17 1 13   000               NAC1    CLA    TIME                                                      79110
1  7 1  57     7 1 13   261   000000002           ADD    =0000000002                                               79120
1  7 1  60    13 1 13   000                       STO    TIME                                                      79130
1  7 1  61     2 1 13   262   000000024           SUB    =0000000024             TEN                               79140
1  7 1  62     4 1 13 1 045                       TNZ    NABIA                                                     79150
1  7 1  63    13 1 13   000                       STO    TIME                    SET EQUAL TO ZERO                 79160
1  7 1  64    13 1 13 1 054                       STO    LC8                                                       79170
1  7 1  65    10 1 13 1 067                       TRA    NAF1                                                      79180
1  7 1  66    10 1 13 1 100                       TRA    NAGIA                                                     79190
1  7 1  67    13 1 13 1 377               NAF1    STO    777                                                       79200
                                            *                                    CAL POINT NR 26                   79210
1  7 1  70    17 1 13   263   000004000           CLA    =0000004000             RESET S.I.                        79220
1  7 1  71     5 1 13 1 223                       CIO    623                                                       79230
1  7 1  72    17 1 13   264   000000012   NAG1    CLA    =0000000012             BITS 23,25                        79240
1  7 1  73     5 1 13 1 203                       CIO    603                     SET TMR                           79250
1  7 1  74    17 1 13   265   000010000           CLA    =0000010000             BIT 14                            79260
1  7 1  75     5 1 13 1 223                       CIO    623                     RESET OD ERRORS                   79270
1  7 1  76     5 1 13   066                       CIO    066                                                       79280
1  7 1  77     0 1 13 1 377                       HOP    777                                                       79290
1  7 1 100    17 1 13   266   000100000   NAGIA   CLA    =0000100000             SET INT 15 INHIBIT                79300
1  7 1 101     5 1 13   000                       CIO    000                                                       79310
1  7 1 102    13 1 13 1 376               NAH1    STO    776                                                       79320
1  7 1 103    17 1 13   267   000000040           CLA    =0000000040             BIT 21                            79330
1  7 1 104     5 1 13 1 233                       CIO    633                     FULL SEQUENCE                     79340
1  7 1 105    17 1 13   270   000001622           CLA    =0000001622             DELAY 75 MSEC.                    79350
1  7 1 106     2 1 13 1 032                       SUB    K1                                                        79360
1  7 1 107     4 1 13 1 106                       TNZ    *-1                                                       79370
1  7 1 110     5 1 13   154                       CIO    154                                                       79380
1  7 1 111     6 1 13   265   000010000           AND    =0000010000                                               79390
1  7 1 112     4 1 13 1 126                       TNZ    NAJ5                                                      79400
1  7 1 113    13 1 13 1 376                       STO    776                                                       79410
1  7 1 114    17 1 13   271   000000266           CLA    =0000000266             DELAY 15 MSEC.                    79420
1  7 1 115     2 1 13 1 032               NAH1A   SUB    K1                                                        79430
1  7 1 116     4 1 13 1 115                       TNZ    NAH1A                                                     79440
                                            *     SHOULD GET INT 15 BEFORE END OF COUNT                            79450
1  7 1 117     5 1 13   154                       CIO    154                                                       79460
1  7 1 120     6 1 13   265   000010000           AND    =0000010000                                               79470
1  7 1 121     4 1 13 1 123                       TNZ    NAK1                                                      79480
1  7 1 122    10 1 13 1 126                       TRA    NAJ5                                                      79490
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Figure 7-13. PTC ADAPT Self-Test Program (Sheet 155)

```
IM IS S LOC   OP OM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE        COMMENT                                  SEQ NO

 1  7 1 123    5  1 13    100              NAK1   CIO    100                                                      79500
 1  7 1 124    5  1 13    110                     CIO    110                                                      79510
 1  7 1 125   10  1 13 1 045                      TRA    NABIA             TO JAB1                                79520
 1  7 1 126   13  1 13 1 377               NAJ5   STO    777                                                      79530
 1  7 1 127   00  1 13    272  501047600          TRA*   JAJ5A                                                    79540
 1  7 1 130   17  1 13 1 066               NAB2   CLA    LCR11                                                    79550
 1  7 1 131   14  1 13 1 135                      TMI    NAC2                                                     79560
 1  7 1 132    4  1 13 1 134                      TNZ    PAB1A                                                    79570
 1  7 1 133    0  1 13 1 022               NAB2A  HOP    H2P1                                                     79580
 1  7 1 134   00  1 13    273  501014260   PAB1A  TRA*   PAB1                                                     79590
 1  7 1 135   17  1 13    000              NAC2   CLA    TIME                                                     79600
 1  7 1 136    4  1 13 1 133                      TNZ    NAB2A                                                    79610
 1  7 1 137   13  1 13 1 376               NAC2   STC    776                                                      79620
 1  7 1 140   17  1 13    266  000100000          CLA    =00001C0C00       SET INT 15 INHIBIT                     79630
 1  7 1 141    5  1 13    000                     CIO    000                                                      79640
 1  7 1 142   17  1 13    274  000000100          CLA    =0000000100       BIT 20                                 79650
 1  7 1 143    5  1 13 1 233                      CIO    633               HALF SEQUENCE                          79660
 1  7 1 144   17  1 13    275  000000074          CLA    =000CCCC074       DELAY 5 MSEC.                          79670
 1  7 1 145    2  1 13 1 032                      SUB    K1                                                       79680
 1  7 1 146    4  1 13 1 145                      TNZ    *-1                                                      79690
 1  7 1 147    5  1 13    154                     CIC    154                                                      79700
 1  7 1 150    6  1 13    265  000010000          ANC    =000001C000                                              79710
 1  7 1 151    4  1 13 1 126                      TNZ    NAJ5                                                     79720
 1  7 1 152   13  1 13 1 376                      STO    776                                                      79730
 1  7 1 153   17  1 13    275  000000074          CLA    =0000000074       DELAY 5 MSEC.                          79740
 1  7 1 154    2  1 13 1 032               NAD2A  SUB    K1                                                       79750
 1  7 1 155    4  1 13 1 154                      TNZ    NAD2A                                                    79760
                                           *      SHOULD GET INT 15 BEFORE END OF COUNT                           79770
 1  7 1 156    5  1 13    154                     CIO    154                                                      79780
 1  7 1 157    6  1 13    265  000010000          ANC    =0C0001C000                                              79790
 1  7 1 160    4  1 13 1 162                      TNZ    NAF2                                                     79800
 1  7 1 161   10  1 13 1 126                      TRA    NAJ5                                                     79810
 1  7 1 162    5  1 13    100              NAF2   CIC    100                                                      79820
 1  7 1 163    5  1 13    110                     CIO    110                                                      79830
 1  7 1 164   17  1 13 1 030                      CLA    HJAJ5                                                    79840
 1  7 1 165   13  1 13 1 004                      STO    404                                                      79850
 1  7 1 166   17  1 13    276  400000000          CLA    =040000000C                                              79860
 1  7 1 167    5  1 13    066                     CIO    066               ENABLE COMPARE                         79870
 1  7 1 170   13  1 13 1 054                      STO    LC8               CHANNEL SWITCHING IN PROGRESS          79880
 1  7 1 171   17  1 13    001                     CLA    CSCTR                                                    79890
 1  7 1 172    4  1 13 1 213                      TNZ    NAH3                                                     79900
                                           *                               CAL POINT NR 27                        79910
 1  7 1 173   16  1  7    227                     CDS    1,7                                                      79920
 1  7 1 174   17  1  7    213                     CLA    NAH3                                                     79930
 1  7 1 175    6  1  7 1 040                      ANC    KX1               REMOVE ADDRESS                         79940
 1  7 1 176   13  1  7 1 076                      STO    TEMP                                                     79950
 1  7 1 177   17  1  7    250                     CLA    KNAB3                                                    79960
 1  7 1 200    6  1  7 1 045                      ANC    KX6               KEEP ADDRESS                           79970
 1  7 1 201   15  1  7 1 076                      XOR    TEMP                                                     79980
 1  7 1 202   13  1  7    213                     STC    NAH3                                                     79990
 1  7 1 203   17  1  7    220                     CLA    NAC3                                                     80000
 1  7 1 204    6  1  7 1 040                      ANC    KX1               REMOVE ADDRESS                         80010
 1  7 1 205   13  1  7 1 076                      STG    TEMP                                                     80020
 1  7 1 206   17  1  7    251                     CLA    KNAC3                                                    80030
 1  7 1 207    6  1  7 1 045                      AND    KX6               KEEP ADDRESS                           80040
 1  7 1 210   15  1  7 1 C76                      XOR    TEMP                                                     80050
 1  7 1 211   13  1  7    220                     STO    NAC3                                                     80060
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 156)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | 1 | 212 | 16 | 1 | 13 | | 233 | | | CDS | 1,13 | | 80070 |
| 1 | 7 | 1 | 213 | 17 | 1 | 13 | | 005 | | NAB3 | CLA | KD1 | | 80080 |
| 1 | 7 | 1 | 214 | 13 | 1 | 13 | 1 | 074 | | | STO | VAR5 | ERROR INFO | 80090 |
| 1 | 7 | 1 | 215 | 5 | 1 | 13 | | 022 | | | CIO | 022 | LOAD DIN REG | 80100 |
| 1 | 7 | 1 | 216 | 5 | 1 | 13 | | 071 | | | CIO | 071 | READ DIN REG | 80110 |
| 1 | 7 | 1 | 217 | 16 | 1 | 12 | | 232 | | | CDS | 1,12 | | 80120 |
| 1 | 7 | 1 | 220 | 17 | 1 | 12 | | 000 | | NAC3 | CLA | KEM1 | | 80130 |
| 1 | 7 | 1 | 221 | 13 | 1 | 12 | 1 | 073 | | | STO | VAR4 | ERROR INFO | 80140 |
| 1 | 7 | 1 | 222 | 5 | 1 | 12 | | 042 | | | CIO | 042 | LOAD EM REG | 80150 |
| 1 | 7 | 1 | 223 | 5 | 1 | 12 | | 111 | | | CIO | 111 | READ EM REG | 80160 |
| 1 | 7 | 1 | 224 | 16 | 1 | 7 | | 227 | | | CDS | 1,7 | | 80170 |
| 1 | 7 | 1 | 225 | 17 | 1 | 7 | | 213 | | | CLA | NAB3 | | 80180 |
| 1 | 7 | 1 | 226 | 7 | 1 | 7 | 1 | 036 | | | ACC | KS1 | INCREMENT ADDRESS | 80190 |
| 1 | 7 | 1 | 227 | 13 | 1 | 7 | | 213 | | | STO | NAB3 | | 80200 |
| 1 | 7 | 1 | 230 | 17 | 1 | 7 | | 220 | | | CLA | NAC3 | | 80210 |
| 1 | 7 | 1 | 231 | 7 | 1 | 7 | 1 | 036 | | | ACC | KS1 | INCREMENT ADDRESS | 80220 |
| 1 | 7 | 1 | 232 | 13 | 1 | 7 | | 220 | | | STO | NAC3 | | 80230 |
| 1 | 7 | 1 | 233 | 16 | 1 | 13 | | 233 | | | CDS | 1,13 | | 80240 |
| 1 | 7 | 1 | 234 | 17 | 1 | 13 | | 001 | | NAE3 | CLA | CSCTR | | 80250 |
| 1 | 7 | 1 | 235 | 7 | 1 | 13 | 1 | 032 | | | ACC | K1 | INCREMENT CTR | 80260 |
| 1 | 7 | 1 | 236 | 13 | 1 | 13 | | 001 | | | STO | CSCTR | | 80270 |
| 1 | 7 | 1 | 237 | 2 | 1 | 13 | | 277 | 000000406 | | SUB | =0000000406 | =131 DEC. | 80280 |
| 1 | 7 | 1 | 240 | 14 | 1 | 13 | 1 | 252 | | | TMI | NAF3 | | 80290 |
| 1 | 7 | 1 | 241 | 17 | 1 | 13 | | 300 | 000030000 | NAB4 | CLA | =0000030000 | BITS 13,14 | 80300 |
| 1 | 7 | 1 | 242 | 5 | 1 | 13 | 1 | 213 | | | CIO | 613 | | 80310 |
| 1 | 7 | 1 | 243 | 17 | 1 | 13 | | 001 | | | CLA | CSCTR | | 80320 |
| 1 | 7 | 1 | 244 | 2 | 1 | 13 | | 301 | 000000530 | | SUB | =0000000530 | =172 DEC. | 80330 |
| 1 | 7 | 1 | 245 | 4 | 1 | 13 | 1 | 304 | | | TNZ | NAB5 | | 80340 |
| 1 | 7 | 1 | 246 | 13 | 1 | 13 | | 001 | | NAC4 | STO | CSCTR | =0 | 80350 |
| 1 | 7 | 1 | 247 | 10 | 1 | 13 | 1 | 304 | | | TRA | NAB5 | | 80360 |
| 1 | 7 | 1 | 250 | 17 | 1 | 13 | | 005 | | KNAB3 | CLA | KD1 | | 80370 |
| 1 | 7 | 1 | 250 | | 1 | 12 | | 0 | | | DOG | 1,12,0 | | 80380 |
| 1 | 7 | 1 | 251 | 17 | 1 | 12 | | 000 | | KNAC3 | CLA | KEM1 | | 80390 |
| 1 | 7 | 1 | 251 | | 1 | 13 | | 3 | | | DOG | 1,13, | | 80400 |
| 1 | 7 | 1 | 252 | 17 | 1 | 13 | | 001 | | NAF3 | CLA | CSCTR | | 80410 |
| 1 | 7 | 1 | 253 | 2 | 1 | 13 | | 302 | 000000262 | | SUB | =0000000262 | =89 DEC. | 80420 |
| 1 | 7 | 1 | 254 | 14 | 1 | 13 | 1 | 260 | | | TMI | NAG3 | LESS THAN 89 | 80430 |
| 1 | 7 | 1 | 255 | 17 | 1 | 13 | | 303 | 000024000 | NAF4 | CLA | =0000024000 | BITS 13,15 | 80440 |
| 1 | 7 | 1 | 256 | 5 | 1 | 13 | 1 | 213 | | | CIO | 613 | | 80450 |
| 1 | 7 | 1 | 257 | 10 | 1 | 13 | 1 | 304 | | | TRA | NAB5 | | 80460 |
| 1 | 7 | 1 | 260 | 17 | 1 | 13 | | 001 | | NAG3 | CLA | CSCTR | | 80470 |
| 1 | 7 | 1 | 261 | 2 | 1 | 13 | | 304 | 000000136 | | SUB | =0000000136 | =47 DEC. | 80480 |
| 1 | 7 | 1 | 262 | 14 | 1 | 13 | 1 | 266 | | | TMI | NAH3 | LESS THAN 47 | 80490 |
| 1 | 7 | 1 | 263 | 17 | 1 | 13 | | 305 | 000022000 | NAG4 | CLA | =0000022000 | BITS 13,16 | 80500 |
| 1 | 7 | 1 | 264 | 5 | 1 | 13 | 1 | 213 | | | CIO | 613 | SET CH2 | 80510 |
| 1 | 7 | 1 | 265 | 10 | 1 | 13 | 1 | 304 | | | TRA | NAB5 | | 80520 |
| 1 | 7 | 1 | 266 | 17 | 1 | 13 | | 001 | | NAH3 | CLA | CSCTR | | 80530 |
| 1 | 7 | 1 | 267 | 2 | 1 | 13 | | 264 | 000000012 | | SUB | =0000000012 | =5 | 80540 |
| 1 | 7 | 1 | 270 | 14 | 1 | 13 | 1 | 274 | | | TMI | NAJ3 | LESS THAN 5 | 80550 |
| 1 | 7 | 1 | 271 | 17 | 1 | 13 | | 306 | 000021000 | NAH4 | CLA | =0000021000 | BITS 13,17 | 80560 |
| 1 | 7 | 1 | 272 | 5 | 1 | 13 | 1 | 213 | | | CIO | 613 | | 80570 |
| 1 | 7 | 1 | 273 | 10 | 1 | 13 | 1 | 304 | | | TRA | NAB5 | | 80580 |
| 1 | 7 | 1 | 274 | 17 | 1 | 13 | | 001 | | NAJ3 | CLA | CSCTR | | 80590 |
| 1 | 7 | 1 | 275 | 2 | 1 | 13 | | 307 | 000000004 | | SUB | =0000000004 | =2 | 80600 |
| 1 | 7 | 1 | 276 | 14 | 1 | 13 | 1 | 271 | | | TMI | NAH4 | | 80610 |
| 1 | 7 | 1 | 277 | 4 | 1 | 13 | 1 | 301 | | | TNZ | *+2 | | 80620 |
| 1 | 7 | 1 | 300 | 10 | 1 | 13 | 1 | 263 | | | TRA | NAG4 | | 80630 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 157)

```
IM IS S LOC   UP DM DS 9 ADR   OCT VAL    LHS    OPC   VARIABLE          COMMENT            SEQ NO

1  7 1 301     2  1 13 1 032                     SUB   K1                =1                 80640
1  7 1 302     4  1 13 1 241                     TNZ   NAB4                                 80650
1  7 1 303    10  1 13 1 255                     TRA   NAF4                                 80660
1  7 1 304    13  1 13 1 376              NAB5   STC   776                                  80670
1  7 1 305    17  1 13   310   000000360         CLA   =000C000360                          80680
1  7 1 306     2  1 13 1 032              NAB5A  SUB   K1                                   80690
1  7 1 307     4  1 13 1 306                     TNZ   NAB5A                                80700
1  7 1 310     5  1 13   154                     CIO   154                                  80710
1  7 1 311     6  1 13   265   000010000         AND   =0000010000                          80720
1  7 1 312     4  1 13 1 126                     TNZ   NAJ5                                 80730
1  7 1 313    13  1 13 1 376              NAC5   STO   776                                  80740
1  7 1 314    17  1 13   275   000000074         CLA   =000C00C074                          80750
1  7 1 315     2  1 13 1 032                     SUB   K1                                   80760
1  7 1 316     4  1 13 1 315                     TNZ   *-1                                  80770
1  7 1 317     5  1 13   154                     CIO   154                                  80780
1  7 1 320     6  1 13   265   000010000         AND   =000001C000                          80790
1  7 1 321     4  1 13 1 323                     TNZ   NAD5A                                80800
1  7 1 322     0  1 13 1 030                     HOP   HJAJ5                                80810
1  7 1 323     5  1 13   100              NAC5A  CIO   100                                  80820
1  7 1 324    10  1 13   040                     TRA   NBA1                                 80830
                                          *      TEST DISAGREEMENT DETECTORS AND CHANNEL    80840
                                          *      ERROR INDICATORS                           80850
1  7 0  40        1 13     4                     ORG   1,7,0,40,1,13,                       80860
1  7 0  40    17  1 13   002              NBA1   CLA   CDCTR                                80870
1  7 0  41     7  1 13 1 032                     ADC   K1                INCREMENT CTR      80880
1  7 0  42    13  1 13   002                     STO   CDCTR                                80890
1  7 0  43     2  1 13   307   000000004         SUB   =0000000004                          80900
1  7 0  44    14  1 13   076                     TMI   NBC2              DDCTR = 1          80910
1  7 0  45     2  1 13 1 032                     SUB   K1                                   80920
1  7 0  46    14  1 13   114                     TMI   NBC2              DDCTR = 2          80930
1  7 0  47     2  1 13 1 032                     SUB   K1                                   80940
1  7 0  50    14  1 13   132                     TMI   NBE2              DDCTR = 3          80950
1  7 0  51     2  1 13 1 032                     SUB   K1                                   80960
1  7 0  52    14  1 13   152                     TMI   NBF2              DDCTR = 4          80970
1  7 0  53     2  1 13 1 032                     SUB   K1                                   80980
1  7 0  54    14  1 13   170                     TMI   NBG2              DDCTR = 5          80990
1  7 0  55    13  1 13   002              NBH1   STO   CDCTR             DDCTR=6            81000
1  7 0  56    13  1 13 1 376              NBH2   STO   776                                  81010
1  7 0  57    17  1 13   311   000002000         CLA   =00000C2C00                          81020
1  7 0  60     5  1 13 1 223                     CIC   623                                  81030
1  7 0  61    17  1 13   267   000000040         CLA   =0000000040                          81040
1  7 0  62     5  1 13 1 203                     CIO   603               INACTIVE CHL = 1   81050
1  7 0  63    17  1 13   312   227000000         CLA   =0222CCCCCC                          81060
1  7 0  64     5  1 13   036                     CIC   036               LOAD DDAS          81070
1  7 0  65     5  1 13   105                     CIC   105               READ DDAS          81080
1  7 0  66    17  1 13   265   000010000         CLA   =0000010000                          81090
1  7 0  67     5  1 13 1 223                     CIO   623                                  81100
1  7 0  70    17  1 13   313   000000014         CLA   =000C00C014                          81110
1  7 0  71     5  1 13 1 203                     CIO   603               SET CHL 3          81120
1  7 0  72    17  1 13   314   000000200         CLA   =0000000200       RESET PWR TEST     81130
1  7 0  73     5  1 13 1 223                     CIO   623                                  81140
1  7 0  74    12  1 13 1 002                     PIC   402                                  81150
1  7 0  75    10  1 13   223                     TRA   NBG4                                 81160
1  7 0  76    13  1 13 1 376              NBC2   STC   776                                  81170
1  7 0  77    17  1 13   274   000000100         CLA   =00000C0C100      INACTIVE CHL = 0   81180
1  7 0 100     5  1 13 1 203                     CIO   603                                  81190
1  7 0 1C1    17  1 13   315   333000000         CLA   =0333000000                          81200
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 158)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | 0 | 102 | 5 | 1 | 13 | | 036 | | | CIO | 036 | LOAD DDAS | 81210 |
| 1 | 7 | 0 | 103 | 5 | 1 | 13 | | 105 | | | CIO | 105 | READ DDAS | 81220 |
| 1 | 7 | 0 | 104 | 17 | 1 | 13 | | 265 | 000010000 | | CLA | =0000010000 | | 81230 |
| 1 | 7 | 0 | 105 | 5 | 1 | 13 | 1 | 223 | | | CIO | 623 | | 81240 |
| 1 | 7 | 0 | 106 | 17 | 1 | 13 | | 262 | 000000024 | | CLA | =0000000024 | | 81250 |
| 1 | 7 | 0 | 107 | 5 | 1 | 13 | 1 | 203 | | | CIO | 603 | SET CHL 1 | 81260 |
| 1 | 7 | 0 | 110 | 17 | 1 | 13 | | 316 | 000000050 | | CLA | =0000000050 | SET PWR TEST 1 AND TEL +8 INC | 81270 |
| 1 | 7 | 0 | 111 | 5 | 1 | 13 | 1 | 213 | | | CIO | 613 | | 81280 |
| 1 | 7 | 0 | 112 | 12 | 1 | 13 | 1 | 002 | | | PIO | 402 | | 81290 |
| 1 | 7 | 0 | 113 | 10 | 1 | 13 | | 205 | | | TRA | NBC4 | | 81300 |
| 1 | 7 | 0 | 114 | 13 | 1 | 13 | 1 | 376 | | NBD2 | STO | 776 | | 81310 |
| 1 | 7 | 0 | 115 | 17 | 1 | 13 | | 274 | 000000100 | | CLA | =0000000100 | INACTIVE CHL = 0 | 81320 |
| 1 | 7 | 0 | 116 | 5 | 1 | 13 | 1 | 203 | | | CIO | 603 | | 81330 |
| 1 | 7 | 0 | 117 | 17 | 1 | 13 | | 317 | 266400000 | | CLA | =0266400000 | | 81340 |
| 1 | 7 | 0 | 120 | 5 | 1 | 13 | | 036 | | | CIO | 036 | DDAS | 81350 |
| 1 | 7 | 0 | 121 | 5 | 1 | 13 | | 105 | | | CIO | 105 | | 81360 |
| 1 | 7 | 0 | 122 | 17 | 1 | 13 | | 265 | 000010000 | | CLA | =0000010000 | | 81370 |
| 1 | 7 | 0 | 123 | 5 | 1 | 13 | 1 | 223 | | | CIO | 623 | | 81380 |
| 1 | 7 | 0 | 124 | 17 | 1 | 13 | | 320 | 000000022 | | CLA | =0000000022 | | 81390 |
| 1 | 7 | 0 | 125 | 5 | 1 | 13 | 1 | 203 | | | CIO | 603 | SET CHL 2 | 81400 |
| 1 | 7 | 0 | 126 | 17 | 1 | 13 | | 274 | 000000100 | | CLA | =0000000100 | SET PWR TEST 2 | 81410 |
| 1 | 7 | 0 | 127 | 5 | 1 | 13 | 1 | 213 | | | CIO | 613 | | 81420 |
| 1 | 7 | 0 | 130 | 12 | 1 | 13 | 1 | 002 | | | PIO | 402 | | 81430 |
| 1 | 7 | 0 | 131 | 10 | 1 | 13 | | 205 | | | TRA | NBC4 | | 81440 |
| 1 | 7 | 0 | 132 | 13 | 1 | 13 | 1 | 376 | | NBE2 | STO | 776 | | 81450 |
| 1 | 7 | 0 | 133 | 17 | 1 | 13 | | 311 | 000002000 | | CLA | =0000002000 | | 81460 |
| 1 | 7 | 0 | 134 | 5 | 1 | 13 | 1 | 223 | | | CIO | 623 | | 81470 |
| 1 | 7 | 0 | 135 | 17 | 1 | 13 | | 274 | 000000100 | | CLA | =0000000100 | | 81480 |
| 1 | 7 | 0 | 136 | 5 | 1 | 13 | 1 | 203 | | | CIO | 603 | INACTIVE CHL = 0 | 81490 |
| 1 | 7 | 0 | 137 | 17 | 1 | 13 | | 321 | 155400000 | | CLA | =0155400000 | | 81500 |
| 1 | 7 | 0 | 140 | 5 | 1 | 13 | | 036 | | | CIO | 036 | | 81510 |
| 1 | 7 | 0 | 141 | 5 | 1 | 13 | | 105 | | | CIO | 105 | | 81520 |
| 1 | 7 | 0 | 142 | 17 | 1 | 13 | | 265 | 000010000 | | CLA | =0000010000 | | 81530 |
| 1 | 7 | 0 | 143 | 5 | 1 | 13 | 1 | 223 | | | CIO | 623 | | 81540 |
| 1 | 7 | 0 | 144 | 17 | 1 | 13 | | 313 | 000000014 | | CLA | =0000000014 | SET CHL 3 | 81550 |
| 1 | 7 | 0 | 145 | 5 | 1 | 13 | 1 | 203 | | | CIO | 603 | | 81560 |
| 1 | 7 | 0 | 146 | 17 | 1 | 13 | | 314 | 000000200 | | CLA | =0000000200 | SET PWR TEST 3 | 81570 |
| 1 | 7 | 0 | 147 | 5 | 1 | 13 | 1 | 213 | | | CIO | 613 | | 81580 |
| 1 | 7 | 0 | 150 | 12 | 1 | 13 | 1 | 002 | | | PIO | 402 | | 81590 |
| 1 | 7 | 0 | 151 | 10 | 1 | 13 | | 205 | | | TRA | NBC4 | | 81600 |
| 1 | 7 | 0 | 152 | 13 | 1 | 13 | 1 | 376 | | NBF2 | STO | 776 | | 81610 |
| 1 | 7 | 0 | 153 | 17 | 1 | 13 | | 267 | 000000040 | | CLA | =0000000040 | INACTIVE CHL = 1 | 81620 |
| 1 | 7 | 0 | 154 | 5 | 1 | 13 | 1 | 203 | | | CIO | 603 | | 81630 |
| 1 | 7 | 0 | 155 | 17 | 1 | 13 | | 322 | 044400000 | | CLA | =0044400000 | | 81640 |
| 1 | 7 | 0 | 156 | 5 | 1 | 13 | | 036 | | | CIO | 036 | | 81650 |
| 1 | 7 | 0 | 157 | 5 | 1 | 13 | | 105 | | | CIO | 105 | | 81660 |
| 1 | 7 | 0 | 160 | 17 | 1 | 13 | | 265 | 000010000 | | CLA | =0000010000 | | 81670 |
| 1 | 7 | 0 | 161 | 5 | 1 | 13 | 1 | 223 | | | CIO | 623 | | 81680 |
| 1 | 7 | 0 | 162 | 17 | 1 | 13 | | 262 | 000000024 | | CLA | =0000000024 | SET CHL 1 | 81690 |
| 1 | 7 | 0 | 163 | 5 | 1 | 13 | 1 | 203 | | | CIO | 603 | | 81700 |
| 1 | 7 | 0 | 164 | 17 | 1 | 13 | | 323 | 000000420 | | CLA | =0000000420 | SET PWR TEST 4 AND TEL -8 IND | 81710 |
| 1 | 7 | 0 | 165 | 5 | 1 | 13 | 1 | 213 | | | CIO | 613 | | 81720 |
| 1 | 7 | 0 | 166 | 12 | 1 | 13 | 1 | 002 | | | PIO | 402 | | 81730 |
| 1 | 7 | 0 | 167 | 10 | 1 | 13 | | 205 | | | TRA | NBC4 | | 81740 |
| 1 | 7 | 0 | 170 | 13 | 1 | 13 | 1 | 376 | | NBG2 | STO | 776 | | 81750 |
| 1 | 7 | 0 | 171 | 17 | 1 | 13 | | 267 | 000000040 | | CLA | =0000000040 | INACTIVE CHL = 1 | 81760 |
| 1 | 7 | 0 | 172 | 5 | 1 | 13 | 1 | 203 | | | CIO | 603 | | 81770 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 159)

| IM | IS | S | LOC | UP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | 0 | 173 | 17 | 1 | 13 | | 324 | 111000000 | | CLA | =0111000000 | | 81780 |
| 1 | 7 | 0 | 174 | 5 | 1 | 13 | | 036 | | | CIO | 036 | | 81790 |
| 1 | 7 | 0 | 175 | 5 | 1 | 13 | | 105 | | | CIO | 105 | | 81800 |
| 1 | 7 | 0 | 176 | 17 | 1 | 13 | | 265 | 000010000 | | CLA | =0000010000 | | 81810 |
| 1 | 7 | 0 | 177 | 5 | 1 | 13 | 1 | 223 | | | CIO | 623 | | 81820 |
| 1 | 7 | 0 | 200 | 17 | 1 | 13 | | 320 | 000000022 | | CLA | =0000000022 | SET CHL 2 | 81830 |
| 1 | 7 | 0 | 201 | 5 | 1 | 13 | 1 | 203 | | | CIO | 603 | | 81840 |
| 1 | 7 | 0 | 202 | 17 | 1 | 13 | | 267 | 000000040 | | CLA | =0000000040 | SET PWR TEST 1 | 81850 |
| 1 | 7 | 0 | 203 | 5 | 1 | 13 | 1 | 213 | | | CIO | 613 | | 81860 |
| 1 | 7 | 0 | 204 | 12 | 1 | 13 | 1 | 002 | | | PIO | 402 | | 81870 |
| 1 | 7 | 0 | 205 | 13 | 1 | 13 | 1 | 376 | | NBC4 | STO | 776 | | 81880 |
| 1 | 7 | 0 | 206 | 17 | 1 | 13 | | 310 | 000000360 | | CLA | =0000000360 | DELAY 20 MSEC. | 81890 |
| 1 | 7 | 0 | 207 | 2 | 1 | 13 | 1 | 032 | | | SUB | K1 | | 81900 |
| 1 | 7 | 0 | 210 | 4 | 1 | 13 | | 207 | | | TNZ | *-1 | | 81910 |
| 1 | 7 | 0 | 211 | 5 | 1 | 13 | | 154 | | | CIO | 154 | | 81920 |
| 1 | 7 | 0 | 212 | 6 | 1 | 13 | | 265 | 000010000 | | ANC | =0000010000 | | 81930 |
| 1 | 7 | 0 | 213 | 4 | 1 | 13 | 1 | 126 | | | TNZ | NAJ5 | | 81940 |
| 1 | 7 | 0 | 214 | 17 | 1 | 13 | | 275 | 000000074 | NBE4 | CLA | =0000000074 | DELAY 5 MSEC. | 81950 |
| 1 | 7 | 0 | 215 | 2 | 1 | 13 | 1 | 032 | | | SUB | K1 | | 81960 |
| 1 | 7 | 0 | 216 | 4 | 1 | 13 | | 215 | | | TNZ | *-1 | | 81970 |
| 1 | 7 | 0 | 217 | 5 | 1 | 13 | | 154 | | | CIO | 154 | | 81980 |
| 1 | 7 | 0 | 220 | 6 | 1 | 13 | | 265 | 000010000 | | ANC | =0000010000 | | 81990 |
| 1 | 7 | 0 | 221 | 4 | 1 | 13 | | 223 | | | TNZ | NBG4 | | 82000 |
| 1 | 7 | 0 | 222 | 0 | 1 | 13 | 1 | 030 | | | HOP | HJAJ5 | | 82010 |
| 1 | 7 | 0 | 223 | 5 | 1 | 13 | | 100 | | NBG4 | CIO | 100 | | 82020 |
| 1 | 7 | 0 | 224 | 5 | 1 | 13 | | 110 | | | CIO | 110 | | 82030 |
| 1 | 7 | 0 | 225 | 0 | 1 | 13 | 1 | 022 | | | HOP | H2P1 | | 82040 |
| 1 | 7 | 0 | 225 | | 1 | 12 | | 0 | | | DOG | 1,12,0 | | 82050 |
| | | | | | 1 | 12 | | 0 | 774014000 | KEM1 | OCT | 774014000 | | 82060 |
| | | | | | 1 | 12 | | 1 | 777760000 | KEM2 | OCT | 777760000 | | 82070 |
| | | | | | 1 | 12 | | 2 | 777760000 | KEM3 | OCT | 777760000 | | 82080 |
| | | | | | 1 | 12 | | 3 | 777774000 | KEM4 | OCT | 777774000 | | 82090 |
| | | | | | 1 | 12 | | 4 | 774014000 | KEM5 | OCT | 774014000 | | 82100 |
| | | | | | 1 | 12 | | 5 | 774014000 | KEM6 | OCT | 774014000 | | 82110 |
| | | | | | 1 | 12 | | 6 | 774014000 | KEM7 | OCT | 774014000 | | 82120 |
| | | | | | 1 | 12 | | 7 | 774014000 | KEM8 | OCT | 774014000 | | 82130 |
| | | | | | 1 | 12 | | 10 | 774014000 | KEM9 | OCT | 774014000 | | 82140 |
| | | | | | 1 | 12 | | 11 | 774010000 | KEM10 | OCT | 774010000 | | 82150 |
| | | | | | 1 | 12 | | 12 | 774004000 | KEM11 | OCT | 774004000 | | 82160 |
| | | | | | 1 | 12 | | 13 | 774014000 | KEM12 | OCT | 774014000 | | 82170 |
| | | | | | 1 | 12 | | 14 | 774014000 | KEM13 | OCT | 774014000 | | 82180 |
| | | | | | 1 | 12 | | 15 | 774014000 | KEM14 | OCT | 774014000 | | 82190 |
| | | | | | 1 | 12 | | 16 | 774014000 | KEM15 | OCT | 774014000 | | 82200 |
| | | | | | 1 | 12 | | 17 | 774014000 | KEM16 | OCT | 774014000 | | 82210 |
| | | | | | 1 | 12 | | 20 | 774014000 | KEM17 | OCT | 774014000 | | 82220 |
| | | | | | 1 | 12 | | 21 | 774014000 | KEM18 | OCT | 774014000 | | 82230 |
| | | | | | 1 | 12 | | 22 | 774034000 | KEM19 | OCT | 774034000 | | 82240 |
| | | | | | 1 | 12 | | 23 | 774054000 | KEM20 | OCT | 774054000 | | 82250 |
| | | | | | 1 | 12 | | 24 | 774114000 | KEM21 | OCT | 774114000 | | 82260 |
| | | | | | 1 | 12 | | 25 | 774214000 | KEM22 | OCT | 774214000 | | 82270 |
| | | | | | 1 | 12 | | 26 | 774414000 | KEM23 | OCT | 774414000 | | 82280 |
| | | | | | 1 | 12 | | 27 | 775014000 | KEM24 | OCT | 775014000 | | 82290 |
| | | | | | 1 | 12 | | 30 | 776014000 | KEM25 | OCT | 776014000 | | 82300 |
| | | | | | 1 | 12 | | 31 | 774014000 | KEM26 | OCT | 774014000 | | 82310 |
| | | | | | 1 | 12 | | 32 | 774014000 | KEM27 | OCT | 774014000 | | 82320 |
| | | | | | 1 | 12 | | 33 | 774014000 | KEM28 | OCT | 774014000 | | 82330 |
| | | | | | 1 | 12 | | 34 | 774014000 | KEM29 | OCT | 774014000 | | 82340 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 160)

| IM IS S LOC | OP DM DS | 9 ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEC NO |
|---|---|---|---|---|---|---|---|---|
| | 1 12 | 35 | 774014000 | KEM30 | OCT | 774014000 | | 82350 |
| | 1 12 | 36 | 774014000 | KEM31 | OCT | 774014000 | | 82360 |
| | 1 12 | 37 | 774014000 | KEM32 | OCT | 774014000 | | 82370 |
| | 1 12 | 40 | 770014000 | KEM33 | OCT | 770014000 | | 82380 |
| | 1 12 | 41 | 764014000 | KEM34 | OCT | 764014000 | | 82390 |
| | 1 12 | 42 | 754014000 | KEM35 | OCT | 754014000 | | 82400 |
| | 1 12 | 43 | 734014000 | KEM36 | OCT | 734014000 | | 82410 |
| | 1 12 | 44 | 674014000 | KEM37 | OCT | 674014000 | | 82420 |
| | 1 12 | 45 | 574014000 | KEM38 | OCT | 574014000 | | 82430 |
| | 1 12 | 46 | 374014000 | KEM39 | OCT | 374014000 | | 82440 |
| | 1 12 | 47 | 774014000 | KEM40 | OCT | 774014000 | | 82450 |
| | 1 12 | 50 | 774014000 | KEM41 | OCT | 774014000 | | 82460 |
| | 1 12 | 51 | 774014000 | KEM42 | OCT | 774014000 | | 82470 |
| | 1 12 | 52 | 774014000 | KEM43 | OCT | 774014000 | | 82480 |
| | 1 12 | 53 | 774014000 | KEM44 | OCT | 774014000 | | 82490 |
| | 1 12 | 54 | 774014000 | KEM45 | OCT | 774014000 | | 82500 |
| | 1 12 | 55 | 774014000 | KEM46 | OCT | 774014000 | | 82510 |
| | 1 12 | 56 | 777760000 | KEM47 | OCT | 777760000 | | 82520 |
| | 1 12 | 57 | 777760000 | KEM48 | OCT | 777760000 | | 82530 |
| | 1 12 | 60 | 777760000 | KEM49 | OCT | 777760000 | | 82540 |
| | 1 12 | 61 | 777760000 | KEM50 | OCT | 777760000 | | 82550 |
| | 1 12 | 62 | 777760000 | KEM51 | OCT | 777760000 | | 82560 |
| | 1 12 | 63 | 777764000 | KEM52 | OCT | 777764000 | | 82570 |
| | 1 12 | 64 | 777770000 | KEM53 | OCT | 777770000 | | 82580 |
| | 1 12 | 65 | 777760000 | KEM54 | OCT | 777760000 | | 82590 |
| | 1 12 | 66 | 777760000 | KEM55 | OCT | 777760000 | | 82600 |
| | 1 12 | 67 | 777760000 | KEM56 | OCT | 777760000 | | 82610 |
| | 1 12 | 70 | 777760000 | KEM57 | OCT | 777760000 | | 82620 |
| | 1 12 | 71 | 777760000 | KEM58 | OCT | 777760000 | | 82630 |
| | 1 12 | 72 | 777760000 | KEM59 | OCT | 777760000 | | 82640 |
| | 1 12 | 73 | 777760000 | KEM60 | OCT | 777760000 | | 82650 |
| | 1 12 | 74 | 777740000 | KEM61 | OCT | 777740000 | | 82660 |
| | 1 12 | 75 | 777720000 | KEM62 | OCT | 777720000 | | 82670 |
| | 1 12 | 76 | 777660000 | KEM63 | OCT | 777660000 | | 82680 |
| | 1 12 | 77 | 777560000 | KEM64 | OCT | 777560000 | | 82690 |
| | 1 12 | 100 | 777360000 | KEM65 | OCT | 777360000 | | 82700 |
| | 1 12 | 101 | 776760000 | KEM66 | OCT | 776760000 | | 82710 |
| | 1 12 | 102 | 775760000 | KEM67 | OCT | 775760000 | | 82720 |
| | 1 12 | 103 | 777760000 | KEM68 | OCT | 777760000 | | 82730 |
| | 1 12 | 104 | 777760000 | KEM69 | OCT | 777760000 | | 82740 |
| | 1 12 | 105 | 777760000 | KEM70 | OCT | 777760000 | | 82750 |
| | 1 12 | 106 | 777760000 | KEM71 | OCT | 777760000 | | 82760 |
| | 1 12 | 107 | 777760000 | KEM72 | OCT | 777760000 | | 82770 |
| | 1 12 | 110 | 777760000 | KEM73 | OCT | 777760000 | | 82780 |
| | 1 12 | 111 | 777760000 | KEM74 | OCT | 777760000 | | 82790 |
| | 1 12 | 112 | 773760000 | KEM75 | OCT | 773760000 | | 82800 |
| | 1 12 | 113 | 767760000 | KEM76 | OCT | 767760000 | | 82810 |
| | 1 12 | 114 | 757760000 | KEM77 | OCT | 757760000 | | 82820 |
| | 1 12 | 115 | 737760000 | KEM78 | OCT | 737760000 | | 82830 |
| | 1 12 | 116 | 677760000 | KEM79 | OCT | 677760000 | | 82840 |
| | 1 12 | 117 | 577760000 | KEM80 | OCT | 577760000 | | 82850 |
| | 1 12 | 120 | 377760000 | KEM81 | OCT | 377760000 | | 82860 |
| | 1 12 | 121 | 777760000 | KEM82 | OCT | 777760000 | | 82870 |
| | 1 12 | 122 | 777760000 | KEM83 | OCT | 777760000 | | 82880 |
| | 1 12 | 123 | 777760000 | KEM84 | OCT | 777760000 | | 82890 |
| | 1 12 | 124 | 777760000 | KEM85 | OCT | 777760000 | | 82900 |
| | 1 12 | 125 | 777760000 | KEM86 | OCT | 777760000 | | 82910 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 161)

| IN IS S LOC | OP OM DS 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|
| | 1 12 | 126 | 777760000 | KEM87 | OCT | 77776C000 | | 82920 |
| | 1 12 | 127 | 777760000 | KEM88 | OCT | 777760000 | | 82930 |
| | 1 12 | 130 | 777760000 | KEM89 | OCT | 77776CC00 | | 82940 |
| | 1 12 | 131 | 777760000 | KEM90 | OCT | 777760000 | | 82950 |
| | 1 12 | 132 | 777760000 | KEM91 | OCT | 777760000 | | 82960 |
| | 1 12 | 133 | 777760000 | KEM92 | OCT | 777760000 | | 82970 |
| | 1 12 | 134 | 777760000 | KEM93 | OCT | 777760000 | | 82980 |
| | 1 12 | 135 | 777764000 | KEM94 | OCT | 777764000 | | 82990 |
| | 1 12 | 136 | 777770000 | KEM95 | OCT | 777770000 | | 83000 |
| | 1 12 | 137 | 777760000 | KEM96 | OCT | 777760000 | | 83010 |
| | 1 12 | 140 | 777760000 | KEM97 | OCT | 777760000 | | 83020 |
| | 1 12 | 141 | 777760000 | KEM98 | OCT | 777760000 | | 83030 |
| | 1 12 | 142 | 777760000 | KEM99 | OCT | 777760000 | | 83040 |
| | 1 12 | 143 | 777760000 | KEM100 | OCT | 777760000 | | 83050 |
| | 1 12 | 144 | 777760000 | KEM101 | OCT | 777760000 | | 83060 |
| | 1 12 | 145 | 777760000 | KEM102 | OCT | 777760000 | | 83070 |
| | 1 12 | 146 | 777740000 | KEM103 | OCT | 77774C000 | | 83080 |
| | 1 12 | 147 | 777720000 | KEM104 | OCT | 77772OC00 | | 83090 |
| | 1 12 | 150 | 777660000 | KEM105 | OCT | 77766C0C0 | | 83100 |
| | 1 12 | 151 | 777560000 | KEM106 | OCT | 777560000 | | 83110 |
| | 1 12 | 152 | 777360000 | KEM107 | OCT | 777360000 | | 83120 |
| | 1 12 | 153 | 776760000 | KEM108 | OCT | 77676C000 | | 83130 |
| | 1 12 | 154 | 775760000 | KEM109 | OCT | 775760000 | | 83140 |
| | 1 12 | 155 | 777760000 | KEM110 | OCT | 777760000 | | 83150 |
| | 1 12 | 156 | 777760000 | KEM111 | OCT | 777760000 | | 83160 |
| | 1 12 | 157 | 777760000 | KEM112 | OCT | 777760CC0 | | 83170 |
| | 1 12 | 160 | 777760000 | KEM113 | OCT | 777760000 | | 83180 |
| | 1 12 | 161 | 777760000 | KEM114 | OCT | 777760000 | | 83190 |
| | 1 12 | 162 | 777760000 | KEM115 | OCT | 777760000 | | 83200 |
| | 1 12 | 163 | 777760000 | KEM116 | OCT | 777760000 | | 83210 |
| | 1 12 | 164 | 773760000 | KEM117 | OCT | 773760000 | | 83220 |
| | 1 12 | 165 | 767760000 | KEM118 | OCT | 767760000 | | 83230 |
| | 1 12 | 166 | 757760000 | KEM119 | OCT | 757760000 | | 83240 |
| | 1 12 | 167 | 737760000 | KEM120 | OCT | 737760OC0 | | 83250 |
| | 1 12 | 170 | 677760000 | KEM121 | OCT | 677760000 | | 83260 |
| | 1 12 | 171 | 577760000 | KEM122 | OCT | 57776C000 | | 83270 |
| | 1 12 | 172 | 377760000 | KEM123 | OCT | 37776C000 | | 83280 |
| | 1 12 | 173 | 777760000 | KEM124 | OCT | 777760000 | | 83290 |
| | 1 12 | 174 | 777760000 | KEM125 | OCT | 777760000 | | 83300 |
| | 1 12 | 175 | 777760000 | KEM126 | OCT | 77776C000 | | 83310 |
| | 1 12 | 176 | 777760000 | KEM127 | OCT | 777760000 | | 83320 |
| | 1 12 | 177 | 777760000 | KEM128 | OCT | 77776CCC0 | | 83330 |
| | 1 12 | 200 | 777760000 | KEM129 | OCT | 77776C000 | | 83340 |
| | 1 12 | 201 | 777760000 | KEM130 | OCT | 777760000 | | 83350 |
| | 1 12 | 202 | 777774000 | KEM131 | OCT | 777774000 | | 83360 |
| | 1 12 | 203 | 777774000 | KEM132 | OCT | 777774000 | | 83370 |
| | 1 12 | 204 | 777774000 | KEM133 | OCT | 777774000 | | 83380 |
| | 1 12 | 205 | 777774000 | KEM134 | OCT | 777774000 | | 83390 |
| | 1 12 | 206 | 777774000 | KEM135 | OCT | 777774000 | | 83400 |
| | 1 12 | 207 | 777770000 | KEM136 | OCT | 77777C0C0 | | 83410 |
| | 1 12 | 210 | 777764000 | KEM137 | OCT | 777764000 | | 83420 |
| | 1 12 | 211 | 777774000 | KEM138 | OCT | 777774000 | | 83430 |
| | 1 12 | 212 | 777774000 | KEM139 | OCT | 777774000 | | 83440 |
| | 1 12 | 213 | 777774000 | KEM140 | OCT | 777774000 | | 83450 |
| | 1 12 | 214 | 777774000 | KEM141 | OCT | 777774000 | | 83460 |
| | 1 12 | 215 | 777774000 | KEM142 | OCT | 777774000 | | 83470 |
| | 1 12 | 216 | 777774000 | KEM143 | OCT | 777774000 | | 83480 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 162)

```
IM IS S LOC   OP OM DS 9 ADR    OCT VAL    LHS     OPC    VARIABLE      COMMENT                SEQ NO
                   1 12   217   777774000  KEM144  OCT    777774000                            83490
                   1 12   220   777754000  KEM145  OCT    777754000                            83500
                   1 12   221   777734000  KEM146  OCT    777734000                            83510
                   1 12   222   777674000  KEM147  OCT    777674000                            83520
                   1 12   223   777574000  KEM148  OCT    777574000                            83530
                   1 12   224   777374000  KEM149  OCT    777374000                            83540
                   1 12   225   776774000  KEM150  OCT    776774000                            83550
                   1 12   226   775774000  KEM151  OCT    775774000                            83560
                   1 12   227   777774000  KEM152  OCT    777774000                            83570
                   1 12   230   777774000  KEM153  OCT    777774000                            83580
                   1 12   231   777774000  KEM154  OCT    777774000                            83590
                   1 12   232   777774000  KEM155  OCT    777774000                            83600
                   1 12   233   777774000  KEM156  OCT    777774000                            83610
                   1 12   234   777774000  KEM157  OCT    777774000                            83620
                   1 12   235   777774000  KEM158  OCT    777774000                            83630
                   1 12   236   773774000  KEM159  OCT    773774000                            83640
                   1 12   237   767774000  KEM160  OCT    767774000                            83650
                   1 12   240   757774000  KEM161  OCT    757774000                            83660
                   1 12   241   737774000  KEM162  OCT    737774000                            83670
                   1 12   242   677774000  KEM163  OCT    677774000                            83680
                   1 12   243   577774000  KEM164  OCT    577774000                            83690
                   1 12   244   377774000  KEM165  OCT    377774000                            83700
                   1 12   245   777774000  KEM166  OCT    777774000                            83710
                   1 12   246   777774000  KEM167  OCT    777774000                            83720
                   1 12   247   777774000  KEM168  OCT    777774000                            83730
                   1 12   250   777774000  KEM169  OCT    777774000                            83740
                   1 12   251   777774000  KEM170  OCT    777774000                            83750
                   1 12   252   777774000  KEM171  OCT    777774000                            83760
                   1 12   253   777774000  KEM172  OCT    777774000                            83770
1  7 0 225         1 13     5                      DOG    1,13,                                83780
                   1 13     5   740177776  KD1     OCT    740177776                            83790
                   1 13     6      177774  KD2     OCT    000177774                            83800
                   1 13     7    37600774  KD3     OCT    037600774                            83810
                   1 13    10   777777776  KD4     OCT    777777776                            83820
                   1 13    11   700177776  KD5     OCT    700177776                            83830
                   1 13    12   640177776  KD6     OCT    640177776                            83840
                   1 13    13   540177776  KD7     OCT    540177776                            83850
                   1 13    14   340177776  KD8     OCT    340177776                            83860
                   1 13    15   740177774  KD9     OCT    740177774                            83870
                   1 13    16   740177776  KD10    OCT    740177776                            83880
                   1 13    17   740177776  KD11    OCT    740177776                            83890
                   1 13    20   740177772  KD12    OCT    740177772                            83900
                   1 13    21   740177766  KD13    OCT    740177766                            83910
                   1 13    22   740177756  KD14    OCT    740177756                            83920
                   1 13    23   740177736  KD15    OCT    740177736                            83930
                   1 13    24   740177676  KD16    OCT    740177676                            83940
                   1 13    25   740177576  KD17    OCT    740177576                            83950
                   1 13    26   740177376  KD18    OCT    740177376                            83960
                   1 13    27   740177776  KD19    OCT    740177776                            83970
                   1 13    30   740177776  KD20    OCT    740177776                            83980
                   1 13    31   740177776  KD21    OCT    740177776                            83990
                   1 13    32   740177776  KD22    OCT    740177776                            84000
                   1 13    33   740177776  KD23    OCT    740177776                            84010
                   1 13    34   740177776  KD24    OCT    740177776                            84020
                   1 13    35   740177776  KD25    OCT    740177776                            84030
                   1 13    36   740176776  KD26    OCT    740176776                            84040
                   1 13    37   740175776  KD27    OCT    740175776                            84050
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 163)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 13 | | 40 | 740173776 | K028 | OCT | 740173776 | | 84060 |
| | | | | | 1 | 13 | | 41 | 740167776 | K029 | OCT | 740167776 | | 84070 |
| | | | | | 1 | 13 | | 42 | 740157776 | K030 | OCT | 740157776 | | 84080 |
| | | | | | 1 | 13 | | 43 | 740137776 | K031 | OCT | 740137776 | | 84090 |
| | | | | | 1 | 13 | | 44 | 740077776 | K032 | OCT | 740077776 | | 84100 |
| | | | | | 1 | 13 | | 45 | 740177776 | K033 | OCT | 740177776 | | 84110 |
| | | | | | 1 | 13 | | 46 | 740177776 | K034 | OCT | 740177776 | | 84120 |
| | | | | | 1 | 13 | | 47 | 740177776 | K035 | OCT | 740177776 | | 84130 |
| | | | | | 1 | 13 | | 50 | 740177776 | K036 | OCT | 740177776 | | 84140 |
| | | | | | 1 | 13 | | 51 | 740177776 | K037 | OCT | 740177776 | | 84150 |
| | | | | | 1 | 13 | | 52 | 740177776 | K038 | OCT | 740177776 | | 84160 |
| | | | | | 1 | 13 | | 53 | 740177776 | K039 | OCT | 740177776 | | 84170 |
| | | | | | 1 | 13 | | 54 | 740377776 | K040 | OCT | 740377776 | | 84180 |
| | | | | | 1 | 13 | | 55 | 740577776 | K041 | OCT | 740577776 | | 84190 |
| | | | | | 1 | 13 | | 56 | 741177776 | K042 | OCT | 741177776 | | 84200 |
| | | | | | 1 | 13 | | 57 | 742177776 | K043 | OCT | 742177776 | | 84210 |
| | | | | | 1 | 13 | | 60 | 744177776 | K044 | OCT | 744177776 | | 84220 |
| | | | | | 1 | 13 | | 61 | 750177776 | K045 | OCT | 750177776 | | 84230 |
| | | | | | 1 | 13 | | 62 | 760177776 | K046 | OCT | 760177776 | | 84240 |
| | | | | | 1 | 13 | | 63 | 40177774 | K047 | OCT | 040177774 | | 84250 |
| | | | | | 1 | 13 | | 64 | 100177774 | K048 | OCT | 100177774 | | 84260 |
| | | | | | 1 | 13 | | 65 | 200177774 | K049 | OCT | 200177774 | | 84270 |
| | | | | | 1 | 13 | | 66 | 400177774 | K050 | OCT | 400177774 | | 84280 |
| | | | | | 1 | 13 | | 67 | 177776 | K051 | OCT | 000177776 | | 84290 |
| | | | | | 1 | 13 | | 70 | 177774 | K052 | OCT | 000177774 | | 84300 |
| | | | | | 1 | 13 | | 71 | 177774 | K053 | OCT | 000177774 | | 84310 |
| | | | | | 1 | 13 | | 72 | 177770 | K054 | OCT | 000177770 | | 84320 |
| | | | | | 1 | 13 | | 73 | 177764 | K055 | OCT | 000177764 | | 84330 |
| | | | | | 1 | 13 | | 74 | 177754 | K056 | OCT | 000177754 | | 84340 |
| | | | | | 1 | 13 | | 75 | 177734 | K057 | OCT | 000177734 | | 84350 |
| | | | | | 1 | 13 | | 76 | 177674 | K058 | OCT | 000177674 | | 84360 |
| | | | | | 1 | 13 | | 77 | 177574 | K059 | OCT | 000177574 | | 84370 |
| | | | | | 1 | 13 | | 100 | 177374 | K060 | OCT | 000177374 | | 84380 |
| | | | | | 1 | 13 | | 101 | 177774 | K061 | OCT | 000177774 | | 84390 |
| | | | | | 1 | 13 | | 102 | 177774 | K062 | OCT | 000177774 | | 84400 |
| | | | | | 1 | 13 | | 103 | 177774 | K063 | OCT | 000177774 | | 84410 |
| | | | | | 1 | 13 | | 104 | 177774 | K064 | OCT | 000177774 | | 84420 |
| | | | | | 1 | 13 | | 105 | 177774 | K065 | OCT | 000177774 | | 84430 |
| | | | | | 1 | 13 | | 106 | 177774 | K066 | OCT | 000177774 | | 84440 |
| | | | | | 1 | 13 | | 107 | 177774 | K067 | OCT | 000177774 | | 84450 |
| | | | | | 1 | 13 | | 110 | 176774 | K068 | OCT | 000176774 | | 84460 |
| | | | | | 1 | 13 | | 111 | 175774 | K069 | OCT | 000175774 | | 84470 |
| | | | | | 1 | 13 | | 112 | 173774 | K070 | OCT | 000173774 | | 84480 |
| | | | | | 1 | 13 | | 113 | 167774 | K071 | OCT | 000167774 | | 84490 |
| | | | | | 1 | 13 | | 114 | 157774 | K072 | OCT | 000157774 | | 84500 |
| | | | | | 1 | 13 | | 115 | 137774 | K073 | OCT | 000137774 | | 84510 |
| | | | | | 1 | 13 | | 116 | 77774 | K074 | OCT | 000077774 | | 84520 |
| | | | | | 1 | 13 | | 117 | 177774 | K075 | OCT | 000177774 | | 84530 |
| | | | | | 1 | 13 | | 120 | 177774 | K076 | OCT | 000177774 | | 84540 |
| | | | | | 1 | 13 | | 121 | 177774 | K077 | OCT | 000177774 | | 84550 |
| | | | | | 1 | 13 | | 122 | 177774 | K078 | OCT | 000177774 | | 84560 |
| | | | | | 1 | 13 | | 123 | 177774 | K079 | OCT | 000177774 | | 84570 |
| | | | | | 1 | 13 | | 124 | 177774 | K080 | OCT | 000177774 | | 84580 |
| | | | | | 1 | 13 | | 125 | 177774 | K081 | OCT | 000177774 | | 84590 |
| | | | | | 1 | 13 | | 126 | 377774 | K082 | OCT | 000377774 | | 84600 |
| | | | | | 1 | 13 | | 127 | 577774 | K083 | OCT | 000577774 | | 84610 |
| | | | | | 1 | 13 | | 130 | 1177774 | K084 | OCT | 001177774 | | 84620 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 164)

| IM IS S LOC | OP DM DS 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NC |
|---|---|---|---|---|---|---|---|---|
| | 1 13 | 131 | 2177774 | KD85 | OCT | 002177774 | | 84630 |
| | 1 13 | 132 | 4177774 | KD86 | OCT | 004177774 | | 84640 |
| | 1 13 | 133 | 10177774 | KD87 | OCT | 010177774 | | 84650 |
| | 1 13 | 134 | 20177774 | KD88 | OCT | 020177774 | | 84660 |
| | 1 13 | 135 | 77600774 | KD89 | OCT | 077600774 | | 84670 |
| | 1 13 | 136 | 137600774 | KD90 | OCT | 137600774 | | 84680 |
| | 1 13 | 137 | 237600774 | KD91 | OCT | 237600774 | | 84690 |
| | 1 13 | 140 | 437600774 | KD92 | OCT | 437600774 | | 84700 |
| | 1 13 | 141 | 37600776 | KD93 | OCT | 037600776 | | 84710 |
| | 1 13 | 142 | 37600774 | KD94 | OCT | 037600774 | | 84720 |
| | 1 13 | 143 | 37600774 | KD95 | OCT | 037600774 | | 84730 |
| | 1 13 | 144 | 37600770 | KD96 | OCT | 037600770 | | 84740 |
| | 1 13 | 145 | 37600764 | KD97 | OCT | 037600764 | | 84750 |
| | 1 13 | 146 | 37600754 | KD98 | OCT | 037600754 | | 84760 |
| | 1 13 | 147 | 37600734 | KD99 | OCT | 037600734 | | 84770 |
| | 1 13 | 150 | 37600674 | KD100 | OCT | 037600674 | | 84780 |
| | 1 13 | 151 | 37600574 | KD101 | OCT | 037600574 | | 84790 |
| | 1 13 | 152 | 37600374 | KD102 | OCT | 037600374 | | 84800 |
| | 1 13 | 153 | 37600774 | KD103 | OCT | 037600774 | | 84810 |
| | 1 13 | 154 | 37600774 | KD104 | OCT | 037600774 | | 84820 |
| | 1 13 | 155 | 37600774 | KD105 | OCT | 037600774 | | 84830 |
| | 1 13 | 156 | 37600774 | KD106 | OCT | 037600774 | | 84840 |
| | 1 13 | 157 | 37600774 | KD107 | OCT | 037600774 | | 84850 |
| | 1 13 | 160 | 37600774 | KD108 | OCT | 037600774 | | 84860 |
| | 1 13 | 161 | 37600774 | KD109 | OCT | 037600774 | | 84870 |
| | 1 13 | 162 | 37601774 | KD110 | OCT | 037601774 | | 84880 |
| | 1 13 | 163 | 37602774 | KD111 | OCT | 037602774 | | 84890 |
| | 1 13 | 164 | 37604774 | KD112 | OCT | 037604774 | | 84900 |
| | 1 13 | 165 | 37610774 | KD113 | OCT | 037610774 | | 84910 |
| | 1 13 | 166 | 37620774 | KD114 | OCT | 037620774 | | 84920 |
| | 1 13 | 167 | 37640774 | KD115 | OCT | 037640774 | | 84930 |
| | 1 13 | 170 | 37700774 | KD116 | OCT | 037700774 | | 84940 |
| | 1 13 | 171 | 37600774 | KD117 | OCT | 037600774 | | 84950 |
| | 1 13 | 172 | 37600774 | KD118 | OCT | 037600774 | | 84960 |
| | 1 13 | 173 | 37600774 | KD119 | OCT | 037600774 | | 84970 |
| | 1 13 | 174 | 37600774 | KD120 | OCT | 037600774 | | 84980 |
| | 1 13 | 175 | 37600774 | KD121 | OCT | 037600774 | | 84990 |
| | 1 13 | 176 | 37600774 | KD122 | OCT | 037600774 | | 85000 |
| | 1 13 | 177 | 37600774 | KD123 | OCT | 037600774 | | 85010 |
| | 1 13 | 200 | 37400774 | KD124 | OCT | 037400774 | | 85020 |
| | 1 13 | 201 | 37200774 | KD125 | OCT | 037200774 | | 85030 |
| | 1 13 | 202 | 36600774 | KD126 | OCT | 036600774 | | 85040 |
| | 1 13 | 203 | 35600774 | KD127 | OCT | 035600774 | | 85050 |
| | 1 13 | 204 | 33600774 | KD128 | OCT | 033600774 | | 85060 |
| | 1 13 | 205 | 27600774 | KD129 | OCT | 027600774 | | 85070 |
| | 1 13 | 206 | 17600774 | KD130 | OCT | 017600774 | | 85080 |
| | 1 13 | 207 | 737777776 | KD131 | OCT | 737777776 | | 85090 |
| | 1 13 | 210 | 677777776 | KD132 | OCT | 677777776 | | 85100 |
| | 1 13 | 211 | 577777776 | KD133 | OCT | 577777776 | | 85110 |
| | 1 13 | 212 | 377777776 | KD134 | OCT | 377777776 | | 85120 |
| | 1 13 | 213 | 777777774 | KD135 | OCT | 777777774 | | 85130 |
| | 1 13 | 214 | 777777776 | KD136 | OCT | 777777776 | | 85140 |
| | 1 13 | 215 | 777777776 | KD137 | OCT | 777777776 | | 85150 |
| | 1 13 | 216 | 777777772 | KD138 | OCT | 777777772 | | 85160 |
| | 1 13 | 217 | 777777766 | KD139 | OCT | 777777766 | | 85170 |
| | 1 13 | 220 | 777777756 | KD140 | OCT | 777777756 | | 85180 |
| | 1 13 | 221 | 777777736 | KD141 | OCT | 777777736 | | 85190 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 165)

```
IM IS S LOC   OP DM DS 9 ADR    OCT VAL    LHS    OPC    VARIABLE           COMMENT                          SEQ NO
                   1 13   222  777777676   KD142  OCT    777777676                                            85200
                   1 13   223  777777576   KD143  OCT    777777576                                            85210
                   1 13   224  777777376   KD144  OCT    777777376                                            85220
                   1 13   225  777777776   KD145  OCT    777777776                                            85230
                   1 13   226  777777776   KD146  OCT    777777776                                            85240
                   1 13   227  777777776   KD147  OCT    777777776                                            85250
                   1 13   230  777777776   KD148  OCT    777777776                                            85260
                   1 13   231  777777776   KD149  OCT    777777776                                            85270
                   1 13   232  777777776   KD150  OCT    777777776                                            85280
                   1 13   233  777777776   KD151  OCT    777777776                                            85290
                   1 13   234  777776776   KD152  OCT    777776776                                            85300
                   1 13   235  777775776   KD153  OCT    777775776                                            85310
                   1 13   236  777773776   KD154  OCT    777773776                                            85320
                   1 13   237  777767776   KD155  OCT    777767776                                            85330
                   1 13   240  777757776   KD156  OCT    777757776                                            85340
                   1 13   241  777737776   KD157  OCT    777737776                                            85350
                   1 13   242  777677776   KD158  OCT    777677776                                            85360
                   1 13   243  777777776   KD159  OCT    777777776                                            85370
                   1 13   244  777777776   KD160  OCT    777777776                                            85380
                   1 13   245  777777776   KD161  OCT    777777776                                            85390
                   1 13   246  777777776   KD162  OCT    777777776                                            85400
                   1 13   247  777777776   KD163  OCT    777777776                                            85410
                   1 13   250  777777776   KD164  OCT    777777776                                            85420
                   1 13   251  777777776   KD165  OCT    777777776                                            85430
                   1 13   252  777577776   KD166  OCT    777577776                                            85440
                   1 13   253  777377776   KD167  OCT    777377776                                            85450
                   1 13   254  776777776   KD168  OCT    776777776                                            85460
                   1 13   255  775777776   KD169  OCT    775777776                                            85470
                   1 13   256  773777776   KD170  OCT    773777776                                            85480
                   1 13   257  767777776   KD171  OCT    767777776                                            85490
                   1 13   260  757777776   KD172  OCT    757777776                                            85500
                                           *      ROUTINE 12                                                  85510
                                           *      CHECK COD SIMULATION UNDER MANUAL CONTROL                   85520
1  6 1  30         1 10   101                     ORG    1,6,1,30,1,10,101                                    85530
1  6 1  30    17   1 10 1 067              PAB1   CLA    LCR12                                                85540
1  6 1  31    14   1 10 1 033                     TMI    PAC1                                                 85550
1  6 1  32     0   1 10 1 022                     HOP    H2P1                                                 85560
                                           *      INITIALIZE                                                  85570
1  6 1  33    17   1 10 1 020              PAC1   CLA    ZERO                                                 85580
1  6 1  34    13   1 10 1 101                     STO    CTR                                                  85590
1  6 1  35     5   1 10   204                     CIC    204                                                  85600
1  6 1  36     5   1 10   210                     CIU    210                                                  85610
1  6 1  37    13   1 10   251                     STO    QUAD1                                                85620
1  6 1  40    13   1 10   252                     STO    QUAD2                                                85630
1  6 1  41    13   1 10   253                     STO    QUAD3                                                85640
1  6 1  42    13   1 10   254                     STO    QUAC4                                                85650
1  6 1  43    13   1 10   255                     STO    MAG                                                  85660
1  6 1  44    13   1 10 1 100                     STO    STOP                                                 85670
1  6 1  45    17   1 10 1 033                     CLA    K77                                                  85680
1  6 1  46    13   1 10   256                     STO    PATH                                                 85690
1  6 1  47    17   1 10   101                     CLA    Y1                                                   85700
1  6 1  50    13   1 10   257                     STO    YN                 INITIALIZE Y                      85710
                   1 10   101    1000000   Y1     OCT    001C0C000          BIT 8                             85720
1  6 1  51    16   1  6   226                     COS    1,6                                                  85730
1  6 1  52    17   1  6   173                     CLA    KPAF1              INITIALIZE X                      85740
1  6 1  53     6   1  6 1 045                     ANC    KX6                                                  85750
1  6 1  54    13   1  6 1 076                     STO    TEMP                                                 85760
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 166)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC    VARIABLE               COMMENT                                  SEQ NO
1  6  1  55   17  1  6   103                      CLA    PAF1                                                            85770
1  6  1  56    6  1  6 1 040                      ANC    KX1                                                             85780
1  6  1  57   15  1  6 1 076                      XOR    TEMP                                                            85790
1  6  1  60   13  1  6   103                      STO    PAF1                                                            85800
1  6  1  61   17  1  6   110                      CLA    PAH1                                                            85810
1  6  1  62    6  1  6 1 040                      ANC    KX1                                                             85820
1  6  1  63   15  1  6 1 076                      XOR    TEMP                                                            85830
1  6  1  64   13  1  6   110                      STO    PAH1                                                            85840
1  6  1  65   17  1  6   121                      CLA    PAD2                                                            85850
1  6  1  66    6  1  6 1 040                      ANC    KX1                                                             85860
1  6  1  67   15  1  6 1 076                      XOR    TEMP                                                            85870
1  6  1  70   13  1  6   121                      STO    PAC2                                                            85880
1  6  1  71   17  1  6   125                      CLA    PAF2                                                            85890
1  6  1  72    6  1  6 1 040                      ANC    KX1                                                             85900
1  6  1  73   15  1  6 1 076                      XOR    TEMP                                                            85910
1  6  1  74   13  1  6   125                      STO    PAF2                                                            85920
1  6  1  75   16  1 10   230                      CCS    1,10                                                            85930
1  6  1  76   17  1 10   257               PAD1   CLA    YN                     SELECT PATH YN                           85940
1  6  1  77    5  1 10   007                      CIO    007                                                             85950
1  6  1 100   17  1 10   260   000000652   PAE1   CLA    =0C00000652            DELAY 35 MSEC.                           85960
1  6  1 101    2  1 10 1 032                      SUB    K1                                                              85970
1  6  1 102    4  1 10 1 101                      TNZ    *-1                                                             85980
                                           *      LOAD RATIOTRAN A=XN                                                    85990
1  6  1 103   17  1 10   105               PAF1   CLA    X1                                                              86000
1  6  1 104    5  1 10   017                      CIO    017                                                             86010
1  6  1 105   17  1 10   260   000000652          CLA    =0C00C00652            DELAY 35 MSEC.                           86020
1  6  1 106    2  1 10 1 032                      SUB    K1                                                              86030
1  6  1 107    4  1 10 1 106                      TNZ    *-1                                                             86040
                                           *      LOAD RATIOTRAN B=XN                                                    86050
1  6  1 110   17  1 10   105               PAH1   CLA    X1                                                              86060
1  6  1 111    5  1 10   017                      CIO    017                                                             86070
1  6  1 112   17  1 10   256                      CLA    PATH                                                            86080
1  6  1 113   14  1 10 1 174                      TMI    PHF2                                                            86090
1  6  1 114    5  1 10   114                      CIO    114                    SET SINGLE STEP                          86100
                                           *      MANUAL OPERATION                                                       86110
                                           *      READ RATIOTRAN                                                         86120
                                           *      SET SWITCH 63 ON IF TEST IS TO BE REPEATED                             86130
                                           *      DEPRESS ADVANCE                                                        86140
1  6  1 115   10  1 10 1 353                      TRA    PCH1                                                            86150
1  6  1 116    5  1 10   220               PAC2   CIO    220                    IS REPEAT SWITCH ON                      86160
1  6  1 117    6  1 10   231   040000000          ANC    =004CCCC000                                                     86170
1  6  1 120    4  1 10 1 100                      TNZ    PAE1                   YES                                      86180
                                           *      LOAD RATIOTRAN=XN                                                      86190
1  6  1 121   17  1 10   105               PAD2   CLA    X1                                                              86200
1  6  1 122    5  1 10   017                      CIO    017                                                             86210
1  6  1 123    5  1 10   114                      CIO    114                    SINGLE STEP                              86220
                                           *      MANUAL OPERATION                                                       86230
                                           *      READ RATIOTRAN                                                         86240
                                           *      SET SWITCH 63 ON IF TEST IS TO BE REPEATED                             86250
                                           *      DEPRESS ADVANCE                                                        86260
1  6  1 124   10  1 10 1 353                      TRA    PCH1                                                            86270
1  6  1 125   17  1 10   105               PAF2   CLA    X1                     LOAD RATIOTRAN B                         86280
1  6  1 126    5  1 10   017                      CIO    017                                                             86290
1  6  1 127    5  1 10   220               PAG2   CIO    220                                                             86300
1  6  1 130    6  1 10   231   040000000          ANC    =0C40000000            IS REPEAT SWITCH ON                      86310
1  6  1 131    4  1 10 1 100                      TNZ    PAE1                                                            86320
1  6  1 132   17  1 10   257               PAH2   CLA    YN                     INCREMENT PATH SELECT                    86330
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 167)

```
IM IS S LOC   OP DM DS 9 ADR   OCT VAL     LHS    OPC   VARIABLE       COMMENT                                  SEQ NO

                                                  SHR   1                                                       86340
 1  6 1 133   16  1 10    101
 1  6 1 134   13  1 10    257                     STO   YN                                                      86350
 1  6 1 135   17  1 10    256              PAJ2   CLA   PATH                                                    86360
 1  6 1 136   14  1 10 1  142                     TMI   PBA1                                                    86370
 1  6 1 137   17  1 10    101                     CLA   Y1                                                      86380
 1  6 1 140   13  1 10    257                     STO   YN                                                      86390
 1  6 1 141   10  1 10 1  154                     TRA   PBD1                                                    86400
 1  6 1 142   17  1 10    257              PBA1   CLA   YN                IS PATH TEST COMPLETE                 86410
 1  6 1 143    4  1 10 1  076                     TNZ   PAD1                                                    86420
 1  6 1 144   13  1 10    256              PBB1   STO   PATH                                                    86430
 1  6 1 145   17  1 10 1  033                     CLA   K77                                                     86440
 1  6 1 146   13  1 10    251                     STO   QUAD1                                                   86450
 1  6 1 147   17  1 10    101                     CLA   Y1                SELECT PATH Y1                        86460
 1  6 1 150    5  1 10    007                     CIO   007                                                     86470
 1  6 1 151   17  1 10    260  000000652          CLA   =0000000652      DELAY 35 MSEC.                         86480
 1  6 1 152    2  1 10 1  032                     SUB   K1                                                      86490
 1  6 1 153    4  1 10 1  157                     TNZ   *-1                                                     86500
 1  6 1 154   17  1 10    251              PBD1   CLA   QUAD1                                                   86510
 1  6 1 155   14  1 10 1  157                     TMI   PBF1                                                    86520
 1  6 1 156   10  1 10 1  204                     TRA   PBB3                                                    86530
                                           *                             QUADRANT 1 TESTS                       86540
                                                                          LOAD RATIOTRAN=XN                     86550
 1  6 1 157   17  1 10    105              PBF1   CLA   X1
 1  6 1 160    5  1 10    177                     CIO   177              TRY TO SET MINUS WITH BIT S=0,1=0      86560
 1  6 1 161   17  1 10    260  000000652          CLA   =0000000652                                             86570
 1  6 1 162    2  1 10 1  032                     SUB   K1                                                      86580
 1  6 1 163    4  1 10 1  162                     TNZ   *-1                                                     86590
 1  6 1 164   17  1 10    105                     CLA   X1                                                      86600
 1  6 1 165    5  1 10    177                     CIO   177              TRY TO SET MINUS WITH BIT S=0,1=0      86610
 1  6 1 166   17  1 10 1  020                     CLA   ZERO                                                    86620
 1  6 1 167   13  1 10    251                     STO   QUAD1                                                   86630
 1  6 1 170   17  1 10 1  033                     CLA   K77                                                     86640
 1  6 1 171   13  1 10    252                     STO   QUAD2                                                   86650
 1  6 1 172   10  1 10 1  100                     TRA   PAE1                                                    86660
 1  6 1 173   17  1 10    105              KPAF1  CLA   X1                                                      86670
                  1 10    102  577777776   CA     OCT   577777776                                               86680
                  1 10    103  777777776   CB     OCT   777777776                                               86690
                  1 10    104  377777776   CC     OCT   377777776                                               86700
 1  6 1 174   17  1 10    102              PBF2   CLA   CA                SELECTS QUAD 2                        86710
 1  6 1 175    5  1 10    077                     CIO   077                                                     86720
 1  6 1 176    5  1 10    114                     CIO   114               SINGLE STEP                           86730
                                           *      MANUAL OPERATION                                              86740
                                           *      CHECK FOR 10 VRMS ON CORRECT PATH                             86750
                                           *      SET SWITCH B3 ON IF TEST IS TO BE REPEATED                    86760
                                           *      DEPRESS ADVANCE                                               86770
 1  6 1 177   10  1 10 1  353                     TRA   PCH1                                                    86780
 1  6 1 200    5  1 10    220                     CIO   220                                                     86790
 1  6 1 201    6  1 10    231  040000000          ANC   =0040000000                                             86800
 1  6 1 202    4  1 10 1  135                     TNZ   PAJ2                                                    86810
 1  6 1 203   10  1 10 1  132                     TRA   PAH2                                                    86820
 1  6 1 204   17  1 10    252              PBB3   CLA   QUAD2                                                   86830
 1  6 1 205   14  1 10 1  244                     TMI   PCB1                                                    86840
 1  6 1 206   17  1 10    253                     CLA   QUAD3                                                   86850
 1  6 1 207   14  1 10 1  273                     TMI   PCE1                                                    86860
 1  6 1 210   17  1 10    254                     CLA   QUAD4                                                   86870
 1  6 1 211   14  1 10 1  322                     TMI   PCB2                                                    86880
 1  6 1 212   17  1 10    255                     CLA   MAG                                                     86890
```

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 168)

| IM | IS | S | LCC | OP | DP | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6 | 1 | 213 | 14 | 1 | 10 | 1 | 215 | | | TMI | PBF3 | | 86900 |
| 1 | 6 | 1 | 214 | 0 | 1 | 10 | 1 | 022 | | | HOP | H2P1 | | 86910 |
| 1 | 6 | 1 | 215 | 17 | 1 | 10 | | 261 | 000000030 | PBF3 | CLA | =000000C030 | RESET COD SINA,SINB | 86920 |
| 1 | 6 | 1 | 216 | 5 | 1 | 10 | 1 | 223 | | | CIO | 623 | | 86930 |
| 1 | 6 | 1 | 217 | 16 | 1 | 6 | | 226 | | | CDS | 1,6 | | 86940 |
| 1 | 6 | 1 | 220 | 17 | 1 | 6 | | 103 | | | CLA | PAF1 | | 86950 |
| 1 | 6 | 1 | 221 | 7 | 1 | 6 | 1 | 036 | | | ADD | KS1 | | 86960 |
| 1 | 6 | 1 | 222 | 13 | 1 | 6 | | 103 | | | STO | PAF1 | | 86970 |
| 1 | 6 | 1 | 223 | 17 | 1 | 6 | | 110 | | | CLA | PAH1 | | 86980 |
| 1 | 6 | 1 | 224 | 7 | 1 | 6 | 1 | 036 | | | ADD | KS1 | | 86990 |
| 1 | 6 | 1 | 225 | 13 | 1 | 6 | | 110 | | | STO | PAH1 | | 87000 |
| 1 | 6 | 1 | 226 | 17 | 1 | 6 | | 121 | | | CLA | PAD2 | | 87010 |
| 1 | 6 | 1 | 227 | 7 | 1 | 6 | 1 | 036 | | | ADD | KS1 | | 87020 |
| 1 | 6 | 1 | 230 | 13 | 1 | 6 | | 121 | | | STO | PAD2 | | 87030 |
| 1 | 6 | 1 | 231 | 17 | 1 | 6 | | 125 | | | CLA | PAF2 | | 87040 |
| 1 | 6 | 1 | 232 | 7 | 1 | 6 | 1 | 036 | | | ADD | KS1 | | 87050 |
| 1 | 6 | 1 | 233 | 13 | 1 | 6 | | 125 | | | STO | PAF2 | | 87060 |
| 1 | 6 | 1 | 234 | 16 | 1 | 10 | | 230 | | | CDS | 1,10 | | 87070 |
| 1 | 6 | 1 | 235 | 17 | 1 | 10 | 1 | 100 | | | CLA | STOP | | 87080 |
| 1 | 6 | 1 | 236 | 7 | 1 | 10 | 1 | 036 | | | ADD | KS1 | | 87090 |
| 1 | 6 | 1 | 237 | 13 | 1 | 10 | 1 | 100 | | | STO | STOP | | 87100 |
| 1 | 6 | 1 | 240 | 2 | 1 | 10 | | 262 | 072000000 | | SUB | =0072000000 | | 87110 |
| 1 | 6 | 1 | 241 | 4 | 1 | 10 | 1 | 100 | | | TNZ | PAE1 | | 87120 |
| 1 | 6 | 1 | 242 | 13 | 1 | 10 | | 255 | | | STO | MAG | | 87130 |
| 1 | 6 | 1 | 243 | 10 | 1 | 10 | 1 | 100 | | | TRA | PAE1 | | 87140 |
| 1 | 6 | 1 | 244 | 17 | 1 | 10 | | 104 | | PCB1 | CLA | CC | QUADRANT 2 TESTS | 87150 |
| 1 | 6 | 1 | 245 | 5 | 1 | 10 | | 117 | | | CIO | 117 | LOADS RATIOTRAN=B | 87160 |
| 1 | 6 | 1 | 246 | 5 | 1 | 10 | | 114 | | | CIO | 114 | READ B | 87170 |
| 1 | 6 | 1 | 247 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87180 |
| 1 | 6 | 1 | 250 | 17 | 1 | 10 | | 104 | | | CLA | CC | | 87190 |
| 1 | 6 | 1 | 251 | 5 | 1 | 10 | | 117 | | | CIO | 117 | LOADS RATIOTRAN=A | 87200 |
| 1 | 6 | 1 | 252 | 5 | 1 | 10 | | 114 | | | CIO | 114 | READ A | 87210 |
| 1 | 6 | 1 | 253 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87220 |
| 1 | 6 | 1 | 254 | 17 | 1 | 10 | | 240 | 000000300 | | CLA | =0000C0030C | RESETS COSA AND COSB | 87230 |
| 1 | 6 | 1 | 255 | 5 | 1 | 10 | 1 | 223 | | | CIO | 623 | | 87240 |
| 1 | 6 | 1 | 256 | 17 | 1 | 10 | | 102 | | | CLA | CA | SETS COSB MINUS | 87250 |
| 1 | 6 | 1 | 257 | 5 | 1 | 10 | | 057 | | | CIO | 057 | LOAD RATIOTRAN=B | 87260 |
| 1 | 6 | 1 | 260 | 5 | 1 | 10 | | 114 | | | CIO | 114 | | 87270 |
| 1 | 6 | 1 | 261 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87280 |
| 1 | 6 | 1 | 262 | 17 | 1 | 10 | | 102 | | | CLA | CA | SETS COSA MINUS | 87290 |
| 1 | 6 | 1 | 263 | 5 | 1 | 10 | | 037 | | | CIO | 037 | LOAD RATIOTRAN=A | 87300 |
| 1 | 6 | 1 | 264 | 5 | 1 | 10 | | 114 | | | CIO | 114 | | 87310 |
| 1 | 6 | 1 | 265 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87320 |
| 1 | 6 | 1 | 266 | 17 | 1 | 10 | 1 | 033 | | | CLA | K77 | | 87330 |
| 1 | 6 | 1 | 267 | 13 | 1 | 10 | | 253 | | | STO | QUAD3 | | 87340 |
| 1 | 6 | 1 | 270 | 17 | 1 | 10 | 1 | 020 | | | CLA | ZERO | | 87350 |
| 1 | 6 | 1 | 271 | 13 | 1 | 10 | | 252 | | | STO | QUAD2 | | 87360 |
| 1 | 6 | 1 | 272 | 10 | 1 | 10 | 1 | 350 | | | TRA | PCE1 | | 87370 |
| 1 | 6 | 1 | 273 | 17 | 1 | 10 | | 103 | | PCE1 | CLA | CB | QUADRANT 3 TESTS | 87380 |
| 1 | 6 | 1 | 274 | 5 | 1 | 10 | | 117 | | | CIO | 117 | LOADS RATIOTRAN=B | 87390 |
| 1 | 6 | 1 | 275 | 5 | 1 | 10 | | 114 | | | CIO | 114 | READ B | 87400 |
| 1 | 6 | 1 | 276 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87410 |
| 1 | 6 | 1 | 277 | 17 | 1 | 10 | | 103 | | | CLA | CB | | 87420 |
| 1 | 6 | 1 | 300 | 5 | 1 | 10 | | 117 | | | CIO | 117 | LOADS RATIOTRAN=A | 87430 |
| 1 | 6 | 1 | 301 | 5 | 1 | 10 | | 114 | | | CIO | 114 | READ A | 87440 |
| 1 | 6 | 1 | 302 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87450 |
| 1 | 6 | 1 | 303 | 17 | 1 | 10 | | 263 | 000000170 | | CLA | =0000000170 | RESETS SINA COSA,SINB COSB | 87460 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 169)

| IM | IS | S | LOC | OP | DM | DS | 9 | ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6 | 1 | 304 | 5 | 1 | 10 | 1 | 223 | | | CIO | 623 | | 87470 |
| 1 | 6 | 1 | 305 | 17 | 1 | 10 | | 103 | | | CLA | CB | SET SINB AND COSB MINUS | 87480 |
| 1 | 6 | 1 | 306 | 5 | 1 | 10 | | 057 | | | CIC | 057 | LOAD RATIOTRAN=B | 87490 |
| 1 | 6 | 1 | 307 | 5 | 1 | 10 | | 114 | | | CIO | 114 | | 87500 |
| 1 | 6 | 1 | 310 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87510 |
| 1 | 6 | 1 | 311 | 17 | 1 | 10 | | 103 | | | CLA | CB | SET SINA AND COSA MINUS | 87520 |
| 1 | 6 | 1 | 312 | 5 | 1 | 10 | | 037 | | | CIC | 037 | LOAD RATIOTRAN=A | 87530 |
| 1 | 6 | 1 | 313 | 5 | 1 | 10 | | 114 | | | CIC | 114 | | 87540 |
| 1 | 6 | 1 | 314 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87550 |
| 1 | 6 | 1 | 315 | 17 | 1 | 10 | 1 | 033 | | | CLA | K77 | | 87560 |
| 1 | 6 | 1 | 316 | 13 | 1 | 10 | | 254 | | | STC | QUAD4 | | 87570 |
| 1 | 6 | 1 | 317 | 17 | 1 | 10 | 1 | 020 | | | CLA | ZERO | | 87580 |
| 1 | 6 | 1 | 320 | 13 | 1 | 10 | | 253 | | | STC | QUAD3 | | 87590 |
| 1 | 6 | 1 | 321 | 10 | 1 | 10 | 1 | 350 | | | TRA | PCF1 | | 87600 |
| 1 | 6 | 1 | 322 | 17 | 1 | 10 | | 102 | | PCB2 | CLA | CA | QUADRANT 4 TESTS | 87610 |
| 1 | 6 | 1 | 323 | 5 | 1 | 10 | | 117 | | | CIO | 117 | LOADS RATIOTRAN=B | 87620 |
| 1 | 6 | 1 | 324 | 5 | 1 | 10 | | 114 | | | CIU | 114 | READ B | 87630 |
| 1 | 6 | 1 | 325 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87640 |
| 1 | 6 | 1 | 326 | 17 | 1 | 10 | | 102 | | | CLA | CA | | 87650 |
| 1 | 6 | 1 | 327 | 5 | 1 | 10 | | 117 | | | CIO | 117 | LOADS RATIOTRAN=A | 87660 |
| 1 | 6 | 1 | 330 | 5 | 1 | 10 | | 114 | | | CIO | 114 | READ A | 87670 |
| 1 | 6 | 1 | 331 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87680 |
| 1 | 6 | 1 | 332 | 17 | 1 | 10 | | 261 | 000000030 | | CLA | =0000000030 | RESETS SINA AND SINB | 87690 |
| 1 | 6 | 1 | 333 | 5 | 1 | 10 | 1 | 223 | | | CIO | 623 | | 87700 |
| 1 | 6 | 1 | 334 | 17 | 1 | 10 | | 104 | | | CLA | CC | SETS SINB MINUS | 87710 |
| 1 | 6 | 1 | 335 | 5 | 1 | 10 | | 057 | | | CIC | 057 | LOADS RATIOTRAN=B | 87720 |
| 1 | 6 | 1 | 336 | 5 | 1 | 10 | | 114 | | | CIO | 114 | | 87730 |
| 1 | 6 | 1 | 337 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87740 |
| 1 | 6 | 1 | 340 | 17 | 1 | 10 | | 104 | | | CLA | CC | SETS SINA MINUS | 87750 |
| 1 | 6 | 1 | 341 | 5 | 1 | 10 | | 037 | | | CIO | 037 | LOADS RATIOTRAN=A | 87760 |
| 1 | 6 | 1 | 342 | 5 | 1 | 10 | | 114 | | | CIO | 114 | | 87770 |
| 1 | 6 | 1 | 343 | 10 | 1 | 10 | 1 | 353 | | | TRA | PCH1 | | 87780 |
| 1 | 6 | 1 | 344 | 17 | 1 | 10 | 1 | 033 | | | CLA | K77 | | 87790 |
| 1 | 6 | 1 | 345 | 13 | 1 | 10 | | 255 | | | STC | MAG | | 87800 |
| 1 | 6 | 1 | 346 | 17 | 1 | 10 | 1 | 020 | | | CLA | ZERO | | 87810 |
| 1 | 6 | 1 | 347 | 13 | 1 | 10 | | 254 | | | STO | QUAD4 | | 87820 |
| 1 | 6 | 1 | 350 | 17 | 1 | 10 | | 263 | 000000170 | PCF1 | CLA | =0000000170 | | 87830 |
| 1 | 6 | 1 | 351 | 5 | 1 | 10 | 1 | 223 | | | CIC | 623 | | 87840 |
| 1 | 6 | 1 | 352 | 10 | 1 | 10 | 1 | 204 | | | TRA | PBB3 | | 87850 |
| 1 | 6 | 1 | 353 | 13 | 1 | 10 | 1 | 376 | | PCH1 | STO | 776 | | 87860 |
| 1 | 6 | 1 | 354 | 17 | 1 | 10 | 1 | 101 | | | CLA | CTR | | 87870 |
| 1 | 6 | 1 | 355 | 7 | 1 | 10 | 1 | 032 | | | ACC | K1 | | 87880 |
| 1 | 6 | 1 | 356 | 13 | 1 | 10 | 1 | 101 | | | STC | CTR | | 87890 |
| 1 | 6 | 1 | 357 | 5 | 1 | 10 | | 204 | | | CIC | 204 | | 87900 |
| 1 | 6 | 1 | 360 | 6 | 1 | 10 | | 264 | 000000176 | | AND | =0000000176 | | 87910 |
| 1 | 6 | 1 | 361 | 4 | 1 | 10 | 1 | 364 | | | TNZ | *+3 | | 87920 |
| 1 | 6 | 1 | 362 | 17 | 1 | 10 | 1 | 032 | | | CLA | K1 | | 87930 |
| 1 | 6 | 1 | 363 | 5 | 1 | 10 | | 210 | | | CIO | 210 | | 87940 |
| 1 | 6 | 1 | 364 | 0 | 1 | 10 | 1 | 376 | | | HOP | 776 | | 87950 |
| | | | | | 1 | 10 | | 105 | 177777774 | X1 | OCT | 177777774 | | 87960 |
| | | | | | 1 | 10 | | 106 | 160016 | | OCT | 000160016 | | 87970 |
| | | | | | 1 | 10 | | 107 | 140014 | | OCT | 000140014 | | 87980 |
| | | | | | 1 | 10 | | 110 | 120012 | | OCT | 000120012 | | 87990 |
| | | | | | 1 | 10 | | 111 | 100010 | | OCT | 000100010 | | 88000 |
| | | | | | 1 | 10 | | 112 | 60006 | | OCT | 000060006 | | 88010 |
| | | | | | 1 | 10 | | 113 | 40004 | | OCT | 000040004 | | 88020 |
| | | | | | 1 | 10 | | 114 | 20002 | | OCT | 000020002 | | 88030 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 170)

| IM IS S LOC | UP DM DS 9 ADR | OCT VAL | LHS | OPC | VARIABLE | COMMENT | SEQ NO |
|---|---|---|---|---|---|---|---|
| | 1 10 115 | 1600160 | | OCT | 001600160 | | 88040 |
| | 1 10 116 | 1400140 | | OCT | 001400140 | | 88050 |
| | 1 10 117 | 1200120 | | OCT | 001200120 | | 88060 |
| | 1 10 120 | 1000100 | | OCT | 001000100 | | 88070 |
| | 1 10 121 | 600060 | | OCT | 000600060 | | 88080 |
| | 1 10 122 | 400040 | | OCT | 000400040 | | 88090 |
| | 1 10 123 | 200020 | | OCT | 000200020 | | 88100 |
| | 1 10 124 | 16001600 | | OCT | 016001600 | | 88110 |
| | 1 10 125 | 14001400 | | OCT | 014001400 | | 88120 |
| | 1 10 126 | 12001200 | | OCT | 012001200 | | 88130 |
| | 1 10 127 | 10001000 | | OCT | 010001000 | | 88140 |
| | 1 10 130 | 6000600 | | OCT | 006000600 | | 88150 |
| | 1 10 131 | 4000400 | | OCT | 004000400 | | 88160 |
| | 1 10 132 | 2000200 | | OCT | 002000200 | | 88170 |
| | 1 10 133 | 160016000 | | OCT | 160016000 | | 88180 |
| | 1 10 134 | 140014000 | | OCT | 140014000 | | 88190 |
| | 1 10 135 | 120012000 | | OCT | 120012000 | | 88200 |
| | 1 10 136 | 100010000 | | OCT | 100010000 | | 88210 |
| | 1 10 137 | 60006000 | | OCT | 060006000 | | 88220 |
| | 1 10 140 | 40004000 | | OCT | 040004000 | | 88230 |
| | 1 10 141 | 20002000 | | OCT | 020002000 | | 88240 |
| | 1 10 142 | 0 | | OCT | 000000000 | | 88250 |
| | | | | END | | | 88260 |

Figure 7-13. PTC ADAPT Self-Test Program (Sheet 171)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0,17,0,021 BB | 32150 | 32300 | 32850 | 33130 | 33300 | 33680 | 34010 | 34190 | 34270 |
| 0,17,0,021 BB | 43920 | 44740 | 45220 | 45380 | 45500 | 50080 | 51050 | 51220 | 51430 |
| 0,17,0,021 BB | 51530 | 65530 | 68830 | 70510 | | | | | |
| 0,13,0,250 BIT | 31380 | 31410 | | | | | | | |
| 0,17,0,136 C26 | 38470 | 38630 | 39140 | 45710 | 46940 | 52200 | | | |
| 0,17,0,137 C27 | 37810 | | | | | | | | |
| 0,17,0,140 C28 | | | | | | | | | |
| 0,17,0,141 C29 | 46740 | | | | | | | | |
| 0,17,0,143 C31 | | | | | | | | | |
| 0,17,C,150 C36 | | | | | | | | | |
| 0,17,0,151 C37 | 47040 | | | | | | | | |
| 0,17,0,152 C38 | 39310 | | | | | | | | |
| 0,17,0,154 C40 | 46980 | | | | | | | | |
| 0,17,C,156 C42 | | | | | | | | | |
| 0,17,0,161 C45 | 32760 | | | | | | | | |
| 0,17,0,200 C60 | 33440 | | | | | | | | |
| 0,17,0,204 C64 | 33590 | | | | | | | | |
| 0,17,0,113 C7 | | | | | | | | | |
| 0,17,0,115 C9 | 38810 | | | | | | | | |
| 1,10,0,102 CA | 86710 | 87250 | 87290 | 87610 | 87650 | | | | |
| 1,10,C,103 CB | 87380 | 87420 | 87480 | 87520 | | | | | |
| 1,10,0,104 CC | 87150 | 87190 | 87710 | 87750 | | | | | |
| 0,17,0,104 CHAR | 32040 | 33040 | 34330 | 36410 | 36620 | 38290 | 38980 | | |
| 1,13,0,001 CSCTR | 2630 | 79890 | 80250 | 80270 | 80320 | 80350 | 80410 | 80470 | 80530 |
| 1,13,0,001 CSCTR | 80590 | | | | | | | | |
| 0,05,0,002 CTR1 | 45800 | 46630 | 46650 | 46780 | 46810 | | | | |
| 0,05,0,000 CTR2 | 45740 | 46860 | 46880 | 46930 | 46960 | 47010 | 47140 | | |
| 0,17,0,102 CTR3 | 45750 | 47150 | 47170 | 47200 | 47270 | | | | |
| 0,17,0,101 CTR | 2590 | 31880 | 32400 | 32420 | 32600 | 32940 | 33330 | 33810 | 36070 |
| 0,17,0,101 CTR | 36670 | 36690 | 36790 | 37390 | 37680 | 37700 | 37800 | 38440 | 38550 |
| 0,17,0,101 CTR | 38570 | 38710 | 38780 | 38900 | 39100 | 39120 | 39220 | 39280 | 43650 |
| 0,17,0,101 CTR | 43940 | 43960 | 44020 | 44210 | 44230 | 45790 | 46710 | 46730 | 46760 |
| 0,17,0,101 CTR | 50520 | 50680 | 50700 | 85590 | 87870 | 87890 | | | |
| 1,13,0,002 DDCTR | 2640 | 80870 | 80890 | 81000 | | | | | |
| 0,16,0,212 ERR | 48850 | 48870 | 48890 | 48910 | 48930 | 49390 | 49870 | 49880 | 49890 |
| 0,16,0,212 ERR | 49900 | 49910 | 50570 | 50970 | 51630 | 51640 | 51650 | 51660 | 51670 |
| 0,16,0,212 ERR | 51680 | 51690 | 51700 | 51710 | 51720 | 51730 | 51740 | 51750 | 51760 |
| 0,16,C,212 ERR | 51770 | 51780 | 51790 | 51800 | 51810 | 51820 | 51830 | 51840 | 51850 |
| 0,16,0,212 ERR | 51860 | 51870 | 51880 | 51890 | 51900 | 51910 | 51920 | 51930 | 51940 |
| 0,16,0,212 ERR | 51950 | 51960 | 51970 | 51980 | 51990 | 52000 | 52010 | 52020 | 52030 |
| 0,16,0,212 ERR | 52040 | 52050 | 52060 | 52070 | 52080 | 52090 | 52100 | 52110 | 52120 |
| 0,16,0,212 ERR | 52540 | 53020 | | | | | | | |
| 0,14,0,124 H1OP10 | 20730 | | | | | | | | |
| 0,14,0,125 H1OP11 | 20800 | | | | | | | | |
| 0,14,C,126 H1OP12 | 20850 | | | | | | | | |
| 0,14,0,127 H1OP13 | 20900 | | | | | | | | |
| 0,14,0,130 H1OP14 | 20970 | | | | | | | | |
| 0,14,0,131 H1OP15 | 21030 | | | | | | | | |
| 0,14,0,132 H1OP16 | 21090 | | | | | | | | |
| 0,14,0,133 H1OP17 | 21150 | | | | | | | | |
| 0,14,0,134 H1OP18 | 21220 | | | | | | | | |
| 0,14,0,135 H1OP19 | 21320 | | | | | | | | |
| 0,14,0,113 H1OP1 | 19930 | 24110 | | | | | | | |
| 0,14,0,136 H1OP20 | 21390 | | | | | | | | |
| 0,14,0,137 H1OP21 | 21490 | | | | | | | | |
| 0,14,0,140 H1OP22 | 21630 | | | | | | | | |
| 0,14,0,141 H1OP23 | 21810 | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 1 of 49)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | |
|---|---|---|---|
| 0,14,0,142 | H10P24 | 21940 | |
| 0,14,0,143 | H10P25 | 22060 | |
| 0,14,0,144 | H10P26 | 22230 | |
| 0,14,0,145 | H10P27 | 22410 | |
| 0,14,0,146 | H10P28 | 22550 | |
| 0,14,0,147 | H10P29 | 22630 | |
| 0,14,0,114 | H10P2 | 20180 | |
| 0,14,0,150 | H10P30 | 22800 | |
| 0,14,0,151 | H10P31 | 22870 | |
| 0,14,0,152 | H10P33 | 22940 | |
| 0,14,0,153 | H10P34 | 23050 | |
| 0,14,0,154 | H10P35 | 23110 | |
| 0,14,0,155 | H10P36 | 23160 | |
| 0,14,0,156 | H10P37 | 23220 | |
| 0,14,0,157 | H10P38 | 23270 | |
| 0,14,0,160 | H10P39 | 23460 | |
| 0,14,0,115 | H10P3 | 20230 | |
| 0,14,0,161 | H10P40 | 23550 | |
| 0,14,0,162 | H10P41 | 23640 | |
| 0,14,0,163 | H10P42 | 23730 | |
| 0,14,C,164 | H10P43 | 23820 | |
| 0,14,0,165 | H10P44 | 23910 | |
| 0,14,0,166 | H10P45 | 24000 | |
| 0,14,0,116 | H10P4 | 20280 | |
| 0,14,0,117 | H10P5 | 20380 | |
| 0,14,0,120 | H10P6 | 20450 | |
| 0,14,0,121 | H10P7 | 20520 | |
| 0,14,0,122 | H10P8 | 20590 | |
| 0,14,0,123 | H10P9 | 20660 | |
| 0,14,0,201 | H11P10 | 25470 | |
| 0,14,0,202 | H11P11 | 25560 | |
| 0,14,0,203 | H11P12 | 25660 | |
| 0,14,0,204 | H11P13 | 25760 | |
| 0,14,0,205 | H11P14 | 25860 | |
| 0,14,0,206 | H11P15 | 25950 | |
| 0,14,0,207 | H11P18 | 26030 | |
| 0,14,0,210 | H11P19 | 26080 | |
| 0,14,0,170 | H11P1 | 24090 | 24620 |
| 0,14,0,211 | H11P20 | 26140 | |
| 0,14,0,212 | H11P21 | 26210 | |
| 0,14,0,213 | H11P22 | 26280 | |
| 0,14,0,214 | H11P23 | 26350 | |
| 0,14,0,215 | H11P24 | 26420 | |
| 0,14,0,216 | H11P25 | 26490 | |
| 0,14,0,217 | H11P26 | 26560 | |
| 0,14,0,220 | H11P27 | 26630 | |
| 0,14,0,171 | H11P2 | 24680 | |
| 0,14,0,172 | H11P3 | 24720 | |
| 0,14,0,173 | H11P4 | 24790 | |
| 0,14,0,174 | H11P5 | 24880 | |
| 0,14,0,175 | H11P6 | 25090 | |
| 0,14,0,176 | H11P7 | 25180 | |
| 0,14,0,177 | H11P8 | 25270 | |
| 0,14,0,200 | H11P9 | 25360 | |
| 0,15,0,017 | H12P1 | 27770 | 30950 |
| 0,15,0,020 | H12P2 | 27790 | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 2)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | |
|---|---|---|---|---|---|
| 0,15,0,000 | H12P3 | 28240 | | | |
| 0,15,0,021 | H12P4 | 27810 | | | |
| 0,15,0,001 | H12P5 | 28390 | | | |
| 0,15,0,022 | H12P6 | 27830 | 30480 | | |
| 0,15,0,002 | H13P1 | 28540 | 30510 | | |
| 0,15,0,023 | H13P2 | 27850 | | | |
| 0,15,0,003 | H13P3 | 28690 | | | |
| 0,15,0,024 | H13P4 | 27870 | | | |
| 0,15,0,004 | H13P5 | 28840 | | | |
| 0,15,0,025 | H13P6 | 27890 | | | |
| 0,15,0,005 | H14P1 | 28990 | | | |
| 0,15,0,026 | H14P2 | 27910 | | | |
| 0,15,0,006 | H14P3 | 29140 | | | |
| 0,15,C,027 | H14P4 | 27930 | | | |
| 0,15,0,007 | H14P5 | 29290 | | | |
| 0,15,0,030 | H14P6 | 27950 | | | |
| 0,15,0,010 | H15P1 | 29440 | | | |
| 0,15,0,031 | H15P2 | 27970 | | | |
| 0,15,0,011 | H15P3 | 29590 | | | |
| 0,15,0,032 | H15P4 | 27990 | | | |
| 0,15,0,012 | H15P5 | 29740 | | | |
| 0,15,0,033 | H15P6 | 28010 | | | |
| 0,15,0,013 | H16P1 | 29890 | | | |
| 0,15,0,034 | H16P2 | 28030 | | | |
| 0,15,C,014 | H16P3 | 30040 | | | |
| 0,15,0,035 | H16P4 | 28050 | | | |
| 0,15,0,015 | H16P5 | 30190 | | | |
| 0,15,0,036 | H16P6 | 28070 | | | |
| 0,15,0,016 | H17P1 | | | | |
| 0,17,0,017 | H17P2 | | | | |
| 0,12,0,131 | H20P2 | 31790 | | | |
| 0,12,0,132 | H20P3 | 31810 | 32970 | 33740 | 33820 |
| 0,12,C,133 | H20P4 | 32070 | | | |
| 0,12,0,134 | H21P1 | 32120 | | | |
| 0,12,0,135 | H21P2 | 32180 | | | |
| 0,12,0,136 | H21P3 | 32270 | | | |
| 0,12,C,137 | H22P4 | 32690 | | | |
| 0,12,0,140 | H23P1 | 32720 | | | |
| 0,12,0,141 | H23P2 | 32820 | | | |
| 0,12,0,142 | H23P3 | 32880 | | | |
| 0,12,C,143 | H23P5 | 32740 | 33020 | | |
| 0,12,0,144 | H24P1 | 33000 | | | |
| 0,12,0,145 | H24P3 | 33100 | | | |
| 0,12,0,146 | H24P4 | 33160 | | | |
| 0,12,0,147 | H24P5 | 33220 | | | |
| 0,12,0,150 | H25P1 | 33340 | | | |
| 0,12,0,151 | H25P2 | 33520 | | | |
| 0,12,0,152 | H25P3 | 33650 | | | |
| 0,12,0,153 | H26P1 | 33710 | | | |
| 0,12,0,154 | H27P1 | 33950 | | | |
| 0,12,0,155 | H27P2 | 34040 | | | |
| 0,12,0,156 | H27P3 | 34090 | | | |
| 0,12,0,157 | H28P1 | 34160 | | | |
| 0,12,0,160 | H28P2 | 34220 | | | |
| 0,12,0,161 | H29P2 | 35900 | | | |
| 0,15,0,055 | H29P3 | 36170 | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 3)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0,15,0,056 | H29P4 | 35990 | 36270 | | | | | | |
| 0,17,0,022 | H2P1 | 49770 | 53010 | 74910 | 78890 | 79580 | 82040 | 85560 | 86910 |
| 0,15,0,057 | H30P1 | 36290 | 36360 | | | | | | |
| 0,17,0,321 | H30P2A | 36500 | | | | | | | |
| 0,15,0,060 | H30P2 | 36380 | 36480 | | | | | | |
| 0,15,0,061 | H31P3 | 36580 | | | | | | | |
| 0,15,0,062 | H31P4 | 36560 | | | | | | | |
| 0,15,0,041 | H32P1 | 36850 | | | | | | | |
| 0,15,0,063 | H32P2 | 36910 | | | | | | | |
| 0,15,0,064 | H32P3 | 36990 | | | | | | | |
| 0,15,0,065 | H32P4 | 37080 | | | | | | | |
| 0,15,0,066 | H33P1 | 37170 | | | | | | | |
| 0,15,0,067 | H33P2 | 37250 | | | | | | | |
| 0,15,0,070 | H33P3 | 37320 | | | | | | | |
| 0,15,0,071 | H34P4 | 37590 | | | | | | | |
| 0,15,0,072 | H34P5 | 37570 | | | | | | | |
| 0,15,0,073 | H34P6 | 37930 | | | | | | | |
| 0,15,C,074 | H34P7 | 38000 | | | | | | | |
| 0,15,0,075 | H34P8 | 38080 | | | | | | | |
| 0,15,0,076 | H34P9 | 38170 | | | | | | | |
| 0,15,0,053 | H36P1 | 38400 | | | | | | | |
| 0,15,0,052 | H36P2 | 38370 | | | | | | | |
| 0,15,0,077 | H37P4 | 38870 | | | | | | | |
| 0,15,0,100 | H37P5 | 38850 | | | | | | | |
| 0,15,0,101 | H38P4 | 39360 | | | | | | | |
| 0,15,C,102 | H39P1 | 39470 | | | | | | | |
| 0,15,0,103 | H39P2 | 39560 | | | | | | | |
| 0,15,0,104 | H39P3 | 39640 | | | | | | | |
| 0,15,0,105 | H39P4 | 39690 | | | | | | | |
| 0,15,0,106 | H40P1 | 39780 | | | | | | | |
| 0,15,0,107 | H40P2 | 39910 | | | | | | | |
| 0,15,0,110 | H40P3 | 39990 | | | | | | | |
| 0,15,0,111 | H41P1 | 40070 | | | | | | | |
| 0,15,0,112 | H41P2 | 40140 | | | | | | | |
| 0,15,0,113 | H41P3 | 40310 | | | | | | | |
| 0,15,0,114 | H42P1 | 40380 | | | | | | | |
| 0,15,0,115 | H42P2 | 40500 | | | | | | | |
| 0,17,0,024 | H43P2 | 50390 | | | | | | | |
| 0,15,0,264 | H45P2 | 42520 | | | | | | | |
| 0,15,0,275 | H47P1 | 43460 | | | | | | | |
| 0,15,0,276 | H47P2 | 43490 | | | | | | | |
| 0,15,0,265 | H50P1 | 42540 | | | | | | | |
| 0,13,0,000 | H5P3 | 5150 | | | | | | | |
| 0,13,0,001 | H5P4 | 5170 | 5230 | | | | | | |
| 0,13,0,002 | H5P5 | 5250 | 5310 | | | | | | |
| 0,13,0,003 | H5P6 | 5330 | 5400 | | | | | | |
| 0,13,0,004 | H5P7 | 5420 | | | | | | | |
| 0,13,0,016 | H6P10 | 6320 | 6380 | | | | | | |
| 0,13,0,017 | H6P11 | 6400 | 6480 | | | | | | |
| 0,13,0,020 | H6P12 | 6500 | 6560 | | | | | | |
| 0,13,0,021 | H6P13 | 6580 | 6660 | | | | | | |
| 0,13,0,022 | H6P14 | 6680 | 6740 | | | | | | |
| 0,13,0,023 | H6P15 | 6760 | 6820 | | | | | | |
| 0,13,0,024 | H6P16 | 6840 | 6910 | | | | | | |
| 0,13,0,025 | H6P17 | 6930 | 6990 | | | | | | |
| 0,13,0,026 | H6P18 | 7010 | 7080 | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 4)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | |
|---|---|---|---|
| C,13,0,027 | H6P19 | 7100 | 7160 |
| C,13,0,005 | H6P1 | | |
| 0,13,C,C30 | H6P20 | 7180 | 7240 |
| 0,13,C,C31 | H6P21 | 7260 | 7330 |
| 0,13,0,032 | H6P22 | 7350 | 7410 |
| 0,13,0,033 | H6P23 | 7430 | 7490 |
| 0,13,0,006 | H6P2 | 5580 | |
| 0,13,0,007 | H6P3 | 5600 | 5730 |
| 0,13,0,010 | H6P4 | 5750 | 5840 |
| 0,13,C,011 | H6P5 | 5860 | 5950 |
| 0,13,0,012 | H6P6 | 5970 | 6040 |
| 0,13,C,013 | H6P7 | 6060 | 6120 |
| 0,13,0,014 | H6P8 | 6140 | 6210 |
| 0,13,0,015 | H6P9 | 6230 | 6300 |
| 0,13,0,045 | H7P10 | 8260 | 8330 |
| 0,13,0,046 | H7P11 | 8350 | 8420 |
| 0,13,0,047 | H7P12 | 8440 | 8510 |
| 0,13,0,050 | H7P13 | 8530 | 8600 |
| 0,13,0,051 | H7P14 | 8620 | 8690 |
| 0,13,0,052 | H7P15 | 8710 | 8780 |
| 0,13,0,053 | H7P16 | 8800 | 8860 |
| 0,13,0,054 | H7P17 | 8880 | 8940 |
| 0,13,0,055 | H7P18 | 8960 | 9030 |
| 0,13,0,056 | H7P19 | 9050 | 9140 |
| 0,13,0,034 | H7P1 | 7510 | 7580 |
| 0,13,0,057 | H7P2C | 9160 | 9220 |
| 0,13,0,C60 | H7P21 | 9240 | 9300 |
| 0,13,C,061 | H7P22 | 9320 | 9390 |
| 0,13,0,062 | H7P23 | 9410 | 9500 |
| 0,13,0,063 | H7P24 | 9520 | 9590 |
| 0,13,0,064 | H7P25 | 9610 | 9680 |
| 0,13,0,065 | H7P26 | 9700 | 9770 |
| 0,13,0,066 | H7P27 | 9790 | 9860 |
| 0,13,0,067 | H7P28 | 9880 | 9940 |
| 0,13,C,070 | H7P29 | 9960 | 10030 |
| 0,13,0,035 | H7P2 | 7600 | 7660 |
| 0,13,0,071 | H7P30 | 10050 | 10120 |
| 0,13,0,072 | H7P31 | 10140 | 10210 |
| 0,13,0,073 | H7P32 | 10230 | 10300 |
| 0,13,0,074 | H7P33 | 10320 | 10390 |
| 0,13,0,075 | H7P34 | 10410 | 10480 |
| 0,13,0,076 | H7P35 | 10500 | 10570 |
| 0,13,0,077 | H7P36 | 10590 | 10660 |
| 0,13,C,100 | H7P37 | 10680 | 10740 |
| 0,13,0,101 | H7P38 | 10760 | 10820 |
| 0,13,0,102 | H7P39 | 10840 | 10910 |
| 0,13,0,036 | H7P3 | 7680 | 7740 |
| 0,13,0,103 | H7P40 | 10930 | 11000 |
| 0,13,0,104 | H7P41 | 11020 | 11090 |
| 0,13,0,105 | H7P42 | 11110 | 11220 |
| 0,13,0,106 | H7P43 | 11240 | 11310 |
| 0,13,0,107 | H7P44 | 11330 | 11400 |
| 0,13,0,110 | H7P45 | 11420 | 11480 |
| 0,13,0,111 | H7P46 | 11500 | 11560 |
| 0,13,0,112 | H7P47 | 11580 | 11650 |
| 0,13,0,113 | H7P48 | 11670 | 11740 |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 5)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0,13,0,114 | H7P49 | 11760 | 11830 | | | | | | | |
| 0,13,0,037 | H7P4 | 7760 | 7820 | | | | | | | |
| 0,13,0,115 | H7P50 | 11850 | 11920 | | | | | | | |
| 0,13,0,116 | H7P51 | 11940 | 12010 | | | | | | | |
| 0,13,0,117 | H7P52 | 12030 | 12100 | | | | | | | |
| 0,13,0,120 | H7P53 | 12120 | 12210 | | | | | | | |
| 0,13,0,122 | H7P54B | 12560 | | | | | | | | |
| 0,13,0,121 | H7P54 | 12230 | 12540 | | | | | | | |
| 0,13,0,140 | H7P55B | 12640 | | | | | | | | |
| 1,17,0,101 | H7P55 | 12680 | | | | | | | | |
| 0,13,0,040 | H7P5 | 7840 | 7900 | | | | | | | |
| 0,13,0,041 | H7P6 | 7920 | 7980 | | | | | | | |
| 0,13,0,042 | H7P7 | 8000 | 8080 | | | | | | | |
| 0,13,0,043 | H7P8 | 8100 | 8160 | | | | | | | |
| 0,13,0,044 | H7P9 | 8180 | 8240 | | | | | | | |
| 0,17,0,025 | H8P1A | 12610 | 12700 | 12780 | | | | | | |
| 0,13,0,123 | H8P1 | 12840 | | | | | | | | |
| 0,13,0,124 | H8P2 | 12860 | 12930 | | | | | | | |
| 0,13,0,125 | H8P3 | 12950 | 13020 | 13070 | 13080 | | | | | |
| 0,13,0,126 | H8P4 | 13040 | 13110 | | | | | | | |
| 0,13,0,127 | H8P5 | 13130 | 13200 | | | | | | | |
| 0,13,0,130 | H8P6 | 13220 | 13290 | | | | | | | |
| 1,17,0,100 | H95P1A | 12750 | | | | | | | | |
| 0,17,0,026 | H95P1 | 5210 | 5290 | 5380 | 5470 | 12650 | 19880 | 25060 | 27150 | 30980 |
| 0,17,0,026 | H95P1 | 34430 | 38920 | 42930 | | | | | | |
| 0,17,0,027 | H95P7 | 56740 | 74500 | | | | | | | |
| 0,14,0,007 | H9P10 | 15330 | | | | | | | | |
| 0,14,0,010 | H9P11 | 15400 | | | | | | | | |
| 0,14,0,011 | H9P12 | 15470 | | | | | | | | |
| 0,14,0,012 | H9P13 | 15520 | | | | | | | | |
| 0,14,0,013 | H9P14 | 15590 | | | | | | | | |
| 0,14,0,014 | H9P15 | 15660 | | | | | | | | |
| 0,14,0,015 | H9P16 | 15730 | | | | | | | | |
| 0,14,0,016 | H9P17 | 15800 | | | | | | | | |
| 0,14,0,017 | H9P18 | 15870 | | | | | | | | |
| 0,14,0,020 | H9P19 | 15940 | | | | | | | | |
| 0,13,0,141 | H9P1 | 13310 | 13490 | | | | | | | |
| 0,14,0,021 | H9P20 | 16010 | | | | | | | | |
| 0,14,0,022 | H9P21 | 16080 | | | | | | | | |
| 0,14,0,023 | H9P22 | 16150 | | | | | | | | |
| 0,14,0,024 | H9P23 | 16220 | | | | | | | | |
| 0,14,0,025 | H9P24 | 16290 | | | | | | | | |
| 0,14,0,026 | H9P25 | 16360 | | | | | | | | |
| 0,14,0,031 | H9P26 | 16430 | | | | | | | | |
| 0,14,0,032 | H9P27 | 16500 | | | | | | | | |
| 0,14,0,033 | H9P28 | 16570 | | | | | | | | |
| 0,14,0,034 | H9P29 | 16640 | | | | | | | | |
| 0,14,0,000 | H9P2 | 14710 | | | | | | | | |
| 0,14,0,035 | H9P30 | 16710 | | | | | | | | |
| 0,14,0,036 | H9P31 | 16780 | | | | | | | | |
| 0,14,0,037 | H9P32 | 16850 | | | | | | | | |
| 0,14,0,040 | H9P33 | 16920 | | | | | | | | |
| 0,14,0,041 | H9P34 | 16990 | | | | | | | | |
| 0,14,0,042 | H9P35 | 17060 | | | | | | | | |
| 0,14,0,043 | H9P36 | 17130 | | | | | | | | |
| 0,14,0,044 | H9P37 | 17200 | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 6)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0,14,0,045 | H9P38 | 17270 | | | | | | | | |
| 0,14,0,046 | H9P39 | 17340 | | | | | | | | |
| 0,17,0,023 | H9P3 | 13480 | 19860 | 24130 | 24640 | 25040 | 27030 | 27130 | 32240 | 36100 |
| 0,17,0,023 | H9P3 | 36520 | 36780 | 36930 | 37010 | 37100 | 37340 | 37790 | 38020 | 38100 |
| 0,17,0,023 | H9P3 | 38190 | 38270 | 38700 | 39210 | 39730 | 40090 | 40330 | 40520 | 40620 |
| 0,17,0,023 | H9P3 | 55460 | 56720 | 60950 | 74800 | | | | | |
| 0,14,0,047 | H9P40 | 17430 | | | | | | | | |
| 0,14,0,050 | H9P41 | 17500 | | | | | | | | |
| 0,14,0,051 | H9P42 | 17570 | | | | | | | | |
| 0,14,0,052 | H9P43 | 17640 | | | | | | | | |
| 0,14,0,053 | H9P44 | 17710 | | | | | | | | |
| 0,14,0,054 | H9P45 | 17780 | | | | | | | | |
| 0,14,0,055 | H9P46 | 17850 | | | | | | | | |
| 0,14,0,056 | H9P47 | 17920 | | | | | | | | |
| 0,14,0,057 | H9P48 | 17990 | | | | | | | | |
| 0,14,0,060 | H9P49 | 18060 | | | | | | | | |
| 0,14,0,001 | H9P4 | | | | | | | | | |
| 0,14,0,061 | H9P50 | 18130 | | | | | | | | |
| 0,14,0,062 | H9P51 | 18200 | | | | | | | | |
| 0,14,0,063 | H9P52 | 18270 | | | | | | | | |
| 0,14,0,064 | H9P53 | 18340 | | | | | | | | |
| 0,14,0,065 | H9P54 | 18410 | | | | | | | | |
| 0,14,0,066 | H9P55 | 18480 | | | | | | | | |
| 0,14,0,067 | H9P56 | 18550 | | | | | | | | |
| 0,14,0,070 | H9P57 | 18620 | | | | | | | | |
| 0,14,0,071 | H9P58 | 18690 | | | | | | | | |
| 0,14,0,072 | H9P59 | 18760 | | | | | | | | |
| 0,14,0,002 | H9P5 | 15020 | | | | | | | | |
| 0,14,0,073 | H9P60 | 18830 | | | | | | | | |
| 0,14,0,074 | H9P61 | 18900 | | | | | | | | |
| 0,14,0,075 | H9P62 | 18970 | | | | | | | | |
| 0,14,0,076 | H9P63 | 19040 | | | | | | | | |
| 0,14,0,077 | H9P64 | 19110 | | | | | | | | |
| 0,14,0,100 | H9P65 | 19180 | | | | | | | | |
| 0,14,0,101 | H9P66 | 19250 | | | | | | | | |
| 0,14,0,102 | H9P67 | 19320 | | | | | | | | |
| 0,14,0,103 | H9P68 | 19390 | | | | | | | | |
| 0,14,0,104 | H9P69 | 19460 | | | | | | | | |
| 0,14,0,003 | H9P6 | 15080 | | | | | | | | |
| 0,14,0,105 | H9P70 | 19530 | | | | | | | | |
| 0,14,0,106 | H9P71 | 19600 | | | | | | | | |
| 0,14,0,107 | H9P72 | 19670 | | | | | | | | |
| 0,14,0,004 | H9P7 | 15130 | | | | | | | | |
| 0,14,0,005 | H9P8 | 15190 | | | | | | | | |
| 0,14,0,006 | H9P9 | 15260 | | | | | | | | |
| 1,10,0,031 | HJAC2A | 54350 | | | | | | | | |
| 1,10,0,030 | HJAD2 | 54210 | | | | | | | | |
| 1,10,0,032 | HJAF2 | 54390 | | | | | | | | |
| 0,17,0,031 | HJAJ5B | 66070 | 70190 | | | | | | | |
| 0,17,0,030 | HJAJ5 | 54450 | 55040 | 65300 | 66130 | 66930 | 67780 | 68580 | 69400 | 70260 |
| 0,17,0,030 | HJAJ5 | 71060 | 71930 | 72990 | 79940 | 80810 | 82010 | | | |
| 1,11,0,041 | HJLB2 | 65440 | | | | | | | | |
| 1,11,0,043 | HJLB4 | 65650 | | | | | | | | |
| 1,11,0,045 | HJLB5 | 65840 | | | | | | | | |
| 1,11,0,044 | HJLJ2 | 65780 | | | | | | | | |
| 1,11,0,046 | HJLJ4 | 65970 | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 7)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | |
|---|---|---|---|
| 1,11,C,042 | HJLK1 | 65590 | |
| 1,11,0,040 | HJMB1 | 65220 | |
| 1,11,0,050 | HJMB2 | 66270 | |
| 1,11,0,052 | HJMB3 | 66480 | |
| 1,11,C,054 | HJMB4 | 66670 | |
| 1,11,0,053 | HJMJ2 | 66610 | |
| 1,11,0,055 | HJMJ3 | 66800 | |
| 1,11,0,051 | HJMK1 | 66420 | |
| 1,11,0,047 | HJNB1 | 66100 | |
| 1,11,0,057 | HJNB2 | 67100 | |
| 1,11,0,061 | HJNB3 | 67310 | |
| 1,11,0,063 | HJNB4 | 67500 | |
| 1,11,0,062 | HJNJ2 | 67440 | |
| 1,11,0,064 | HJNJ3 | 67630 | |
| 1,11,0,060 | HJNK1 | 67250 | |
| 1,11,0,056 | HJPB1 | 66900 | |
| 1,11,0,066 | HJPB2 | 67930 | |
| 1,11,0,070 | HJPB3 | 68140 | |
| 1,11,0,072 | HJPB4 | 68330 | |
| 1,11,0,071 | HJPJ2 | 68270 | |
| 1,11,0,073 | HJPJ3 | 68460 | |
| 1,11,0,067 | HJPK1 | 68080 | |
| 1,11,0,065 | HJQB1 | 67740 | |
| 1,11,0,075 | HJQB2 | 68740 | |
| 1,11,0,077 | HJQB3 | 68950 | |
| 1,11,0,101 | HJQB4 | 69140 | |
| 1,11,0,100 | HJQJ2 | 69080 | |
| 1,11,0,102 | HJQJ3 | 69270 | |
| 1,11,0,076 | HJQK1 | 68890 | |
| 1,11,0,074 | HJRB1 | 68550 | |
| 1,11,0,104 | HJRB2 | 69560 | |
| 1,11,0,106 | HJRB3 | 69770 | |
| 1,11,0,110 | HJRB4 | 69960 | |
| 1,11,0,107 | HJRJ2 | 69900 | |
| 1,11,0,111 | HJRJ3 | 70090 | |
| 1,11,0,105 | HJRK1 | 69710 | |
| 1,11,0,103 | HJSB1 | 69370 | |
| 1,11,0,113 | HJSB2 | 70420 | |
| 1,11,0,115 | HJSB3 | 70630 | |
| 1,11,0,117 | HJSB4 | 70820 | |
| 1,11,C,116 | HJSJ2 | 70760 | |
| 1,11,0,120 | HJSJ3 | 70950 | |
| 1,11,0,114 | HJSK1 | 70570 | |
| 1,11,0,112 | HJTB1 | 70220 | |
| 1,11,0,121 | HJTB2 | 71220 | |
| 1,11,0,123 | HJTB3 | 71430 | |
| 1,11,0,125 | HJTB4 | 71620 | |
| 1,11,0,124 | HJTJ2 | 71560 | |
| 1,11,0,126 | HJTJ3 | 71750 | |
| 1,11,0,122 | HJTK1 | 71370 | |
| 1,11,0,127 | HJUB1 | 71040 | 71860 |
| 1,11,0,130 | HJVB1A | 71900 | |
| 1,11,0,131 | HJVB1 | 72920 | |
| 1,10,0,034 | HJWE3 | 54950 | |
| 1,10,0,033 | HJWK1 | 54850 | |
| 1,11,0,132 | HJYB1 | 72960 | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 8)

```
LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

0,16,0,370 HP10        4140
0,16,C,371 HP11        4180
0,16,0,372 HP12        4220
0,16,0,373 HP13        4260
0,16,0,374 HP14        4300
0,16,0,376 HP15        4340
C,16,0,377 HP16        4380
1,00,0,001 HP17        4430
1,01,0,002 HP18        4470
1,02,C,003 HP19        4510
0,13,0,131 HP1         3780
1,03,0,004 HP20        4550
1,04,C,C05 HP21        4590
1,05,C,006 HP22        4630
1,06,0,007 HP23        4670
1,07,0,017 HP24        4710
1,1C,C,027 HP25        4750
1,11,0,037 HP26        4790
1,12,0,377 HP27        4830
1,13,0,377 HP28        4870
1,14,C,377 HP29        4910
0,01,0,001 HP2         3820
1,15,0,177 HP30        4950
1,16,0,1C0 HP31        4990
1,17,C,C77 HP32        5030
0,02,0,001 HP3         3860
0,03,0,001 HP4         3900
0,04,C,001 HP5         3940
0,05,C,010 HP6         3980
0,16,0,365 HP7         4020
0,16,0,366 HP8         4060
0,16,0,367 HP9         4100
0,17,0,103 HRTRN      42090      42330      51180      51370
0,17,0,075 INTIND      2570      31080
1,00,0,121 JAA2
1,00,0,010 JAB1
1,00,C,015 JAC1       53340
1,00,0,133 JAC2A
1,00,0,130 JAC2
1,00,0,255 JAC3
1,00,1,030 JAC4       55980
1,00,1,067 JAC5
1,00,0,134 JAD2
1,00,0,264 JAD3
1,00,1,034 JAD4
1,00,1,073 JAD5
1,00,0,301 JAE3
1,00,1,040 JAE4
1,00,1,077 JAE5
1,00,0,055 JAF1       53700
1,00,0,150 JAF2
1,00,C,306 JAF3
1,00,1,044 JAF4
1,00,1,103 JAF5
1,00,0,064 JAG1
1,00,0,233 JAG2
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 9)

```
LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

1,00,0,313 JAG3      55370
1,00,1,047 JAG4
1,00,1,107 JAG5
1,00,0,071 JAH1
1,00,0,236 JAH2
1,00,0,320 JAH3
1,00,1,053 JAH4
1,00,0,102 JAJ1
1,00,0,243 JAJ2
1,00,0,325 JAJ3
1,00,1,057 JAJ4
1,00,1,117 JAJ5A
1,00,1,124 JAJ5B
1,00,1,116 JAJ5      53820    53880    53980    54050    54140    54280    54370    54440    54910
1,00,1,116 JAJ5      55030    55510    56940
1,00,0,110 JAK1
1,00,0,250 JAK2
1,00,1,010 JAK3      55840
1,00,1,063 JAK4
1,00,1,131 JBA1      56630
1,00,1,220 JBA2      56620
1,06,0,074 JBA3
1,00,1,135 JBB1
1,00,1,224 JBB2
1,06,0,100 JBB3
1,06,0,125 JBB4
1,06,0,137 JBB5
1,00,1,141 JBC1
1,00,1,230 JBC2
1,06,0,103 JBC3
1,06,0,130 JBC4
1,06,0,142 JBC5
1,00,1,155 JBD1
1,00,1,234 JBD2
1,06,0,106 JBD3
1,06,0,145 JBD5
1,00,1,161 JBE1
1,00,1,240 JBE2
1,06,0,111 JBE3
1,06,0,150 JBE5
1,00,1,165 JBF1
1,00,1,244 JBF2
1,06,0,114 JBF3
1,06,0,153 JBF5
1,00,1,210 JBG1      57100
1,00,1,250 JBG2
1,06,0,117 JBG3
1,06,0,133 JBG4
1,06,0,156 JBG5
1,00,1,214 JBH1
1,00,1,254 JBH2
1,06,0,122 JBH3
1,06,0,161 JBH5
1,00,1,261 JBJ2
1,00,1,267 JBK2
1,06,0,070 JBM2
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 10)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

```
1,06,0,164 JCB1
1,06,0,176 JCB2
1,06,0,231 JCB4
1,06,0,254 JCB5
1,06,0,167 JCC1
1,06,0,201 JCC2
1,06,0,257 JCC5
1,06,0,204 JCD2
1,06,0,262 JCD5
1,06,0,207 JCE2
1,06,0,235 JCE4
1,06,0,265 JCE5
1,06,0,212 JCF2
1,06,0,240 JCF4
1,06,0,215 JCG2
1,06,0,243 JCG4
1,06,0,172 JCH1
1,06,0,220 JCH2
1,06,0,246 JCH4
1,06,0,223 JCJ2
1,06,0,251 JCJ4
1,06,0,226 JCK2
1,01,0,012 JDB1
1,01,0,035 JDB2
1,01,0,051 JDB3
1,01,0,074 JDB4
1,01,0,040 JDC2
1,01,0,077 JDC4
1,01,0,043 JDD2
1,01,0,102 JDD4
1,01,0,016 JDE1
1,01,0,046 JDE2
1,01,0,055 JDE3
1,01,0,105 JDE4
1,01,0,021 JDF1
1,01,0,060 JDF3
1,01,0,024 JDG1
1,01,0,063 JDG3
1,01,0,027 JDH1
1,01,0,066 JDH3
1,01,0,032 JDJ1
1,01,0,071 JDJ3
1,01,0,133 JEA2
1,01,0,110 JEB1
1,01,0,135 JEB2
1,01,0,161 JEB3
1,01,0,205 JEB4        60000
1,01,0,236 JEB5
1,00,1,301 JEC1A       57730
1,01,0,113 JEC1
1,01,0,137 JEC2
1,01,0,206 JEC4
1,01,0,242 JEC5
1,01,0,167 JED3
1,01,0,212 JED4
1,01,0,246 JED5
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 11)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1,01,0,117 JEE1 | | | | | | | | | |
| 1,01,0,145 JEE2 | | | | | | | | | |
| 1,01,0,216 JEE4 | | | | | | | | | |
| 1,01,0,252 JEE5 | | | | | | | | | |
| 1,01,0,175 JEF3 | | | | | | | | | |
| 1,01,0,222 JEF4 | | | | | | | | | |
| 1,01,0,123 JEG1 | | | | | | | | | |
| 1,01,0,153 JEG2 | | | | | | | | | |
| 1,01,0,226 JEG4 | | | | | | | | | |
| 1,01,0,203 JEH3 | | | | | | | | | |
| 1,01,0,232 JEH4 | | | | | | | | | |
| 1,01,0,127 JEJ1 | | | | | | | | | |
| 1,01,0,266 JEJ5 | 60080 | 60140 | 60200 | 60260 | 60320 | 60380 | 61070 | 61140 | 61210 |
| 1,01,0,266 JEJ5 | 61290 | 61360 | 61530 | 61600 | 61720 | 61790 | 61860 | 61930 | 62000 |
| 1,01,0,266 JEJ5 | 62200 | 62270 | 62340 | 62410 | 62480 | 62610 | 62710 | 62790 | 62870 |
| 1,01,0,266 JEJ5 | 62980 | 63290 | | | | | | | |
| 1,01,1,012 JFB1 | 60870 | 60900 | | | | | | | |
| 1,01,1,053 JFB2 | | | | | | | | | |
| 1,01,1,122 JFB3 | | | | | | | | | |
| 1,01,1,155 JFB4 | | | | | | | | | |
| 1,01,1,215 JFB5 | | | | | | | | | |
| 1,01,1,061 JFD2 | | | | | | | | | |
| 1,01,1,130 JFD3 | | | | | | | | | |
| 1,01,1,224 JFD5 | | | | | | | | | |
| 1,01,1,026 JFE1 | | | | | | | | | |
| 1,01,1,101 JFF2 | | | | | | | | | |
| 1,01,1,137 JFF3 | | | | | | | | | |
| 1,01,1,200 JFF4 | | | | | | | | | |
| 1,01,1,233 JFF5 | | | | | | | | | |
| 1,01,1,034 JFG1 | | | | | | | | | |
| 1,01,1,107 JFH2 | | | | | | | | | |
| 1,01,1,146 JFH3 | | | | | | | | | |
| 1,01,1,206 JFH4 | | | | | | | | | |
| 1,01,1,043 JFJ1 | | | | | | | | | |
| 1,01,1,247 JGB1 | | | | | | | | | |
| 1,01,1,305 JGB2 | 62930 | | | | | | | | |
| 1,01,1,255 JGD1 | | | | | | | | | |
| 1,01,1,264 JGF1 | | | | | | | | | |
| 1,01,1,273 JGH1 | | | | | | | | | |
| 1,02,0,014 JHB1 | | | | | | | | | |
| 1,02,0,054 JHB2 | | | | | | | | | |
| 1,02,0,123 JHB3 | | | | | | | | | |
| 1,02,0,017 JHC1 | | | | | | | | | |
| 1,02,0,062 JHC2 | | | | | | | | | |
| 1,02,0,126 JHC3 | | | | | | | | | |
| 1,02,0,025 JHD1 | | | | | | | | | |
| 1,02,0,071 JHD2 | | | | | | | | | |
| 1,02,0,135 JHD3 | | | | | | | | | |
| 1,02,0,033 JHE1 | | | | | | | | | |
| 1,02,0,100 JHE2 | | | | | | | | | |
| 1,02,0,144 JHE3 | | | | | | | | | |
| 1,02,0,036 JHF1 | | | | | | | | | |
| 1,02,0,106 JHF2 | | | | | | | | | |
| 1,02,0,045 JHG1 | | | | | | | | | |
| 1,02,0,114 JHG2 | | | | | | | | | |
| 1,02,0,153 JHJ5 | 63410 | 63470 | 63570 | 63640 | 63770 | 63840 | 63960 | 64030 | 64130 |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 12)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 64200 | | | | | | | | |
| 1,01,1,022 | JJB1A | 61020 | | | | | | | | |
| 1,02,C,155 | JJB1 | 64270 | 64750 | | | | | | | |
| 1,02,0,212 | JJB3 | | | | | | | | | |
| 1,02,0,227 | JKB1 | 65160 | | | | | | | | |
| 1,02,C,263 | JKB3 | | | | | | | | | |
| 1,02,1,014 | JLB1 | | | | | | | | | |
| 1,02,1,047 | JLB2 | | | | | | | | | |
| 1,02,1,132 | JLB3 | 65610 | 65800 | 65990 | 66440 | 66630 | 66820 | 67270 | 67460 | 67650 |
| 1,02,1,132 | JLB3 | | | | | | | | | |
| 1,02,1,072 | JLB4 | | | | | | | | | |
| 1,02,1,113 | JLB5 | | | | | | | | | |
| 1,02,1,071 | JLJ2 | | | | | | | | | |
| 1,02,1,112 | JLJ4 | | | | | | | | | |
| 1,02,1,131 | JLJ5 | 65500 | 65640 | 65710 | 65830 | 65900 | 66020 | 66330 | 66470 | 66540 |
| 1,02,1,131 | JLJ5 | 66660 | 66730 | 66850 | 67160 | 67300 | 67370 | 67490 | 67560 | 67680 |
| 1,02,1,131 | JLJ5 | | | | | | | | | |
| 1,02,1,046 | JLK1 | | | | | | | | | |
| 1,02,1,133 | JMB1 | 66050 | | | | | | | | |
| 1,02,1,162 | JMB2 | | | | | | | | | |
| 1,02,1,205 | JMB3 | | | | | | | | | |
| 1,02,1,226 | JMB4 | | | | | | | | | |
| 1,02,1,204 | JMJ2 | | | | | | | | | |
| 1,02,1,225 | JMJ3 | | | | | | | | | |
| 1,02,1,161 | JMK1 | | | | | | | | | |
| 1,02,1,243 | JNB1 | | | | | | | | | |
| 1,02,1,275 | JNB2 | | | | | | | | | |
| 1,02,1,320 | JNB3 | | | | | | | | | |
| 1,02,1,341 | JNB4 | | | | | | | | | |
| 1,02,1,317 | JNJ2 | | | | | | | | | |
| 1,02,1,340 | JNJ3 | | | | | | | | | |
| 1,02,1,274 | JNK1 | | | | | | | | | |
| 1,03,0,020 | JPB1 | | | | | | | | | |
| 1,03,0,050 | JPB2 | | | | | | | | | |
| 1,03,0,073 | JPB3 | | | | | | | | | |
| 1,03,0,114 | JPB4 | | | | | | | | | |
| 1,03,0,072 | JPJ2 | | | | | | | | | |
| 1,03,0,113 | JPJ3 | | | | | | | | | |
| 1,03,C,355 | JPJ4 | 68130 | 68320 | 68500 | 68940 | 69130 | 69320 | 69760 | 69950 | 70140 |
| 1,03,0,355 | JPJ4 | 70620 | 70810 | 70990 | 71420 | 71610 | 71800 | | | |
| 1,03,0,356 | JPJ5 | 68100 | 68290 | 68480 | 68910 | 69100 | 69290 | 69730 | 69920 | 70110 |
| 1,03,0,356 | JPJ5 | 70590 | 70780 | 70970 | 71390 | 71580 | 71770 | | | |
| 1,03,0,047 | JPK1 | | | | | | | | | |
| 1,03,0,130 | JQB1 | | | | | | | | | |
| 1,03,0,161 | JQB2 | | | | | | | | | |
| 1,03,0,204 | JQB3 | | | | | | | | | |
| 1,03,0,225 | JQB4 | | | | | | | | | |
| 1,03,0,203 | JQJ2 | | | | | | | | | |
| 1,03,0,224 | JQJ3 | | | | | | | | | |
| 1,03,0,160 | JQK1 | | | | | | | | | |
| 1,03,0,242 | JRB1 | | | | | | | | | |
| 1,03,0,273 | JRB2 | | | | | | | | | |
| 1,03,0,316 | JRB3 | | | | | | | | | |
| 1,03,C,337 | JRB4 | | | | | | | | | |
| 1,03,0,315 | JRJ2 | | | | | | | | | |
| 1,03,0,336 | JRJ3 | | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 13)

LEFT HAND SYMBOLS AND THEIR PCINTS OF REFERENCE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,03,0,272 | JRK1 | | | | | | | | | |
| 1,03,1,020 | JSB1 | 70170 | | | | | | | | |
| 1,03,1,051 | JSB2 | | | | | | | | | |
| 1,03,1,074 | JSB3 | | | | | | | | | |
| 1,03,1,115 | JSB4 | | | | | | | | | |
| 1,03,1,073 | JSJ2 | | | | | | | | | |
| 1,03,1,114 | JSJ3 | | | | | | | | | |
| 1,03,1,050 | JSK1 | | | | | | | | | |
| 1,03,1,131 | JTB1 | | | | | | | | | |
| 1,03,1,162 | JTB2 | | | | | | | | | |
| 1,03,1,205 | JTB3 | | | | | | | | | |
| 1,03,1,226 | JTB4 | | | | | | | | | |
| 1,03,1,204 | JTJ2 | | | | | | | | | |
| 1,03,1,225 | JTJ3 | | | | | | | | | |
| 1,03,1,161 | JTK1 | | | | | | | | | |
| 1,04,0,066 | JUA3 | | | | | | | | | |
| 1,04,0,124 | JUA5 | | | | | | | | | |
| 1,04,0,020 | JUB1 | | | | | | | | | |
| 1,04,0,074 | JUC3 | | | | | | | | | |
| 1,04,0,132 | JUC5 | | | | | | | | | |
| 1,04,0,102 | JUE3 | | | | | | | | | |
| 1,04,0,140 | JUE5 | | | | | | | | | |
| 1,04,0,052 | JUG1 | | | | | | | | | |
| 1,04,0,110 | JUG3 | | | | | | | | | |
| 1,04,0,146 | JUG5 | | | | | | | | | |
| 1,04,0,060 | JUJ1 | | | | | | | | | |
| 1,04,0,164 | JUJ2 | 72190 | 72250 | 72310 | 72370 | 72430 | 72490 | 72550 | 72610 | 72670 |
| 1,04,0,164 | JUJ2 | 72730 | 72790 | 72840 | | | | | | |
| 1,04,0,116 | JUJ3 | | | | | | | | | |
| 1,04,0,154 | JUJ5 | | | | | | | | | |
| 1,04,1,070 | JVA3 | | | | | | | | | |
| 1,04,1,126 | JVA5 | | | | | | | | | |
| 1,04,1,020 | JVB1 | 72870 | | | | | | | | |
| 1,04,1,076 | JVC3 | | | | | | | | | |
| 1,04,1,134 | JVC5 | | | | | | | | | |
| 1,04,1,104 | JVE3 | | | | | | | | | |
| 1,04,1,142 | JVE5 | | | | | | | | | |
| 1,04,1,054 | JVG1 | | | | | | | | | |
| 1,04,1,112 | JVG3 | | | | | | | | | |
| 1,04,1,150 | JVG5 | | | | | | | | | |
| 1,04,1,062 | JVJ1 | | | | | | | | | |
| 1,04,1,243 | JVJ2 | 72880 | 73270 | 73330 | 73390 | 73450 | 73510 | 73570 | 73630 | 73690 |
| 1,04,1,243 | JVJ2 | 73750 | 73810 | 73870 | 73930 | | | | | |
| 1,04,1,120 | JVJ3 | | | | | | | | | |
| 1,04,1,156 | JVJ5 | | | | | | | | | |
| 1,00,0,171 | JWB1 | 54570 | | | | | | | | |
| 1,00,0,217 | JWB3 | | | | | | | | | |
| 1,00,0,175 | JWD1 | | | | | | | | | |
| 1,00,0,227 | JWE3 | | | | | | | | | |
| 1,00,0,202 | JWF1 | | | | | | | | | |
| 1,00,0,207 | JWH1 | | | | | | | | | |
| 1,00,0,215 | JWK1 | | | | | | | | | |
| 1,05,0,141 | JXA3 | | | | | | | | | |
| 1,04,1,225 | JXB2 | | | | | | | | | |
| 1,05,0,147 | JXB3 | | | | | | | | | |
| 1,04,1,166 | JXC1 | | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 14)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,05,0,161 | JXD3 | | | | | | | | | |
| 1,05,0,166 | JXE3 | | | | | | | | | |
| 1,04,1,201 | JXF1 | | | | | | | | | |
| 1,05,C,110 | JXF2 | | | | | | | | | |
| 1,05,0,106 | JXG1 | 75300 | | | | | | | | |
| 1,05,0,174 | JXG3 | | | | | | | | | |
| 1,04,1,213 | JXJ1 | | | | | | | | | |
| 1,05,0,127 | JXJ2 | | | | | | | | | |
| 1,05,0,217 | JXJ3 | | | | | | | | | |
| 1,05,1,307 | JXJ5 | 75920 | 75960 | 76020 | 76060 | 76120 | 76180 | 76220 | 76270 | 76330 |
| 1,05,1,307 | JXJ5 | 76480 | 76520 | 76580 | 76620 | 76680 | 76720 | 76780 | 76820 | 76880 |
| 1,05,1,307 | JXJ5 | 76920 | 76980 | 77020 | 77190 | 77240 | 77300 | 77340 | 77400 | 77460 |
| 1,05,1,307 | JXJ5 | 77500 | 77550 | 77690 | 77750 | 77800 | 77850 | 77910 | 77970 | 78010 |
| 1,05,1,307 | JXJ5 | 78230 | 78270 | 78380 | 78420 | 78520 | 78560 | 78660 | 78700 | 78800 |
| 1,05,1,307 | JXJ5 | 78840 | | | | | | | | |
| 1,04,1,250 | JYB1 | 74440 | | | | | | | | |
| 1,04,1,263 | JYE1 | 74450 | | | | | | | | |
| 1,04,1,265 | JYH1 | | | | | | | | | |
| 1,04,1,274 | JYJ5 | 74070 | 74110 | 74170 | 74210 | 74270 | 74310 | 74370 | 74410 | 74680 |
| 1,04,1,274 | JYJ5 | | | | | | | | | |
| 1,05,0,231 | JZA1 | | | | | | | | | |
| 1,05,1,037 | JZA2 | | | | | | | | | |
| 1,05,1,127 | JZA3 | | | | | | | | | |
| 1,05,1,044 | JZB2 | | | | | | | | | |
| 1,05,1,134 | JZB3 | | | | | | | | | |
| 1,05,1,230 | JZB4 | | | | | | | | | |
| 1,05,0,243 | JZC1 | | | | | | | | | |
| 1,05,1,141 | JZC3 | | | | | | | | | |
| 1,05,1,056 | JZD2 | | | | | | | | | |
| 1,05,1,147 | JZD3 | | | | | | | | | |
| 1,05,1,246 | JZD4 | | | | | | | | | |
| 1,05,0,255 | JZE1 | | | | | | | | | |
| 1,05,1,064 | JZE2 | | | | | | | | | |
| 1,05,1,161 | JZF3 | | | | | | | | | |
| 1,05,0,267 | JZG1 | | | | | | | | | |
| 1,05,1,076 | JZG2 | | | | | | | | | |
| 1,05,1,264 | JZG4 | | | | | | | | | |
| 1,05,1,103 | JZH2 | | | | | | | | | |
| 1,05,1,020 | JZJ1 | 77030 | | | | | | | | |
| 1,05,1,211 | JZJ3 | | | | | | | | | |
| 1,05,1,121 | JZK2 | | | | | | | | | |
| 1,05,1,214 | JZK3 | | | | | | | | | |
| 1,11,0,166 | K100A | 75910 | 76010 | 76170 | 76470 | 76570 | 76670 | 76770 | 76870 | 76970 |
| 1,11,0,166 | K100A | 77290 | 77450 | 77960 | | | | | | |
| 1,11,0,167 | K100B | 75940 | 76040 | 76200 | 76500 | 76600 | 76700 | 76800 | 76900 | 77000 |
| 1,11,0,167 | K100B | 77320 | 77480 | 77990 | | | | | | |
| 1,11,0,170 | K100C | 76100 | 76310 | 77170 | 77380 | 77730 | 77890 | | | |
| 1,11,0,171 | K100D | 76260 | 77230 | 77540 | 77680 | 77790 | 77840 | | | |
| 1,11,0,172 | K100E | 78220 | 78510 | 78790 | | | | | | |
| 1,11,0,173 | K100F | 78250 | 78540 | 78820 | | | | | | |
| 1,11,0,174 | K100G | 78400 | | | | | | | | |
| 1,11,0,175 | K100H | 78370 | | | | | | | | |
| 1,11,0,176 | K100J | 78680 | | | | | | | | |
| 1,11,0,177 | K1COK | 78650 | | | | | | | | |
| 0,17,0,034 | K1303 | 38060 | | | | | | | | |
| 0,13,0,353 | K17P3B | 31180 | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 15)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0,17,0,032 K1 | 2780 | 32410 | 34110 | 36140 | 36240 | 36340 | 36680 | 37190 | 37220 |
| 0,17,0,032 K1 | 37300 | 38560 | 38580 | 39030 | 39110 | 39440 | 39510 | 39670 | 40170 |
| 0,17,0,032 K1 | 40220 | 42570 | 43270 | 43430 | 43580 | 43750 | 43890 | 43950 | 44220 |
| 0,17,0,032 K1 | 44260 | 44360 | 44410 | 44460 | 45570 | 45850 | 45930 | 46080 | 46300 |
| 0,17,0,032 K1 | 46450 | 46600 | 46840 | 47580 | 47920 | 48990 | 49440 | 50150 | 50220 |
| 0,17,0,032 K1 | 50630 | 50690 | 51100 | 51320 | 52610 | 52700 | 53160 | 53280 | 64360 |
| 0,17,0,032 K1 | 64410 | 64470 | 64520 | 64570 | 64630 | 64790 | 64840 | 64900 | 64950 |
| 0,17,0,032 K1 | 65000 | 65060 | 67190 | 68020 | 71310 | 75190 | 75400 | 78290 | 79360 |
| 0,17,0,032 K1 | 79430 | 79680 | 79750 | 80260 | 80640 | 80690 | 80760 | 80880 | 80920 |
| 0,17,0,032 K1 | 80940 | 80960 | 80980 | 81900 | 81960 | 85970 | 86030 | 86490 | 86580 |
| 0,17,0,032 K1 | 87880 | 87930 | | | | | | | |
| 0,15,0,270 K2 | 42610 | 42700 | 42730 | 42770 | 42860 | 43370 | 43530 | 43670 | 43700 |
| 0,15,0,270 K2 | 43830 | 43990 | 44040 | 44100 | 44190 | 44510 | | | |
| 0,10,0,370 K31P1 | 42110 | | | | | | | | |
| 0,10,0,371 K31P2 | 42160 | | | | | | | | |
| 0,17,0,035 K324 | 44290 | | | | | | | | |
| 0,10,0,372 K34P2 | 37410 | | | | | | | | |
| 0,10,0,373 K34P3 | 37480 | | | | | | | | |
| 1,11,0,133 K35A | 74060 | 74160 | 74260 | 74360 | | | | | |
| 1,11,0,134 K35B | 74090 | 74190 | 74290 | 74390 | | | | | |
| 0,11,0,344 K35P4 | 42220 | | | | | | | | |
| 0,10,1,241 K37P3 | 42280 | | | | | | | | |
| 0,04,1,255 K61P3A | 47250 | | | | | | | | |
| 0,17,0,033 K77 | 13440 | 31840 | 49030 | 53550 | 54780 | 66030 | 66860 | 67690 | 68510 |
| 0,17,0,033 K77 | 69330 | 70150 | 71000 | 71810 | 72850 | 73010 | 74590 | 74780 | 85680 |
| 0,17,0,033 K77 | 86440 | 86640 | 87330 | 87560 | 87790 | | | | |
| 0,16,1,167 K90P3 | 52300 | | | | | | | | |
| 0,06,1,244 K90P4A | 52370 | | | | | | | | |
| 0,16,1,170 K90P5 | 52790 | | | | | | | | |
| 0,16,1,171 K90P6 | 52950 | | | | | | | | |
| 0,16,0,142 K95P1 | 49520 | | | | | | | | |
| 0,16,0,143 K95P2 | 49570 | | | | | | | | |
| 0,16,0,144 K95P3 | 49310 | 49620 | | | | | | | |
| 0,16,0,145 K95P4 | 49670 | | | | | | | | |
| 0,16,0,146 K95P5 | 49720 | | | | | | | | |
| 0,16,0,147 K97P3 | 50460 | | | | | | | | |
| 0,16,1,110 K97P4A | 50360 | | | | | | | | |
| 0,16,0,151 K97P5A | 50870 | | | | | | | | |
| 0,16,0,150 K97P5 | 50770 | | | | | | | | |
| 0,05,0,012 KA | 46620 | 47430 | | | | | | | |
| 0,05,0,033 KB | 47440 | | | | | | | | |
| 0,05,0,054 KC | 47450 | | | | | | | | |
| 1,13,0,150 KD100 | | | | | | | | | |
| 1,13,0,151 KD101 | | | | | | | | | |
| 1,13,0,152 KD102 | | | | | | | | | |
| 1,13,0,153 KD103 | | | | | | | | | |
| 1,13,0,154 KD104 | | | | | | | | | |
| 1,13,0,155 KD105 | | | | | | | | | |
| 1,13,0,156 KD106 | | | | | | | | | |
| 1,13,0,157 KD107 | | | | | | | | | |
| 1,13,0,160 KDI08 | | | | | | | | | |
| 1,13,0,161 KD109 | | | | | | | | | |
| 1,13,0,016 KD10 | | | | | | | | | |
| 1,13,0,162 KD110 | | | | | | | | | |
| 1,13,0,163 KD111 | | | | | | | | | |
| 1,13,0,164 KD112 | | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 16)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

```
1,13,C,165 KD113
1,13,C,166 KD114
1,13,C,167 KD115
1,13,0,170 KD116
1,13,C,171 KD117
1,13,C,172 KD118
1,13,0,173 KD119
1,13,0,017 KD11
1,13,0,174 KD120
1,13,C,175 KD121
1,13,0,176 KD122
1,13,0,177 KD123
1,13,C,200 KD124
1,13,C,201 KD125
1,13,0,202 KD126
1,13,0,203 KD127
1,13,0,204 KD128
1,13,C,205 KD129
1,13,C,020 KD12
1,13,0,206 KD130
1,13,C,207 KD131
1,13,0,210 KD132
1,13,C,211 KD133
1,13,0,212 KD134
1,13,0,213 KD135
1,13,0,214 KD136
1,13,0,215 KD137
1,13,0,216 KD138
1,13,0,217 KD139
1,13,0,021 KD13
1,13,0,220 KD14C
1,13,0,221 KD141
1,13,0,222 KD142
1,13,0,223 KD143
1,13,0,224 KD144
1,13,0,225 KD145
1,13,C,226 KD146
1,13,0,227 KD147
1,13,0,230 KD148
1,13,0,231 KD149
1,13,0,022 KD14
1,13,0,232 KD15C
1,13,0,233 KD151
1,13,0,234 KD152
1,13,0,235 KD153
1,13,0,236 KD154
1,13,0,237 KD155
1,13,0,240 KD156
1,13,0,241 KD157
1,13,0,242 KD158
1,13,0,243 KD159
1,13,C,023 KD15
1,13,0,244 KD160
1,13,0,245 KD161
1,13,0,246 KD162
1,13,0,247 KD163
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 17)

```
LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

1,13,0,250 KD164
1,13,0,251 KD165
1,13,0,252 KD166
1,13,0,253 KD167
1,13,0,254 KD168
1,13,0,255 KD169
1,13,0,024 KD16
1,13,0,256 KD170
1,13,0,257 KD171
1,13,0,260 KD172
1,13,0,025 KD17
1,13,0,026 KD18
1,13,0,027 KD19
1,13,0,005 KD1          80080       80370
1,13,0,030 KD20
1,13,0,031 KD21
1,13,0,032 KD22
1,13,0,033 KD23
1,13,0,034 KD24
1,13,0,035 KD25
1,13,0,036 KD26
1,13,0,037 KD27
1,13,0,040 KD28
1,13,0,041 KD29
1,13,0,006 KD2
1,13,0,042 KD30
1,13,0,043 KD31
1,13,0,044 KD32
1,13,0,045 KD33
1,13,0,046 KD34
1,13,0,047 KD35
1,13,0,050 KD36
1,13,0,051 KD37
1,13,0,052 KD38
1,13,0,053 KD39
1,13,0,007 KD3
1,13,0,054 KD40
1,13,0,055 KD41
1,13,0,056 KD42
1,13,0,057 KD43
1,13,0,060 KD44
1,13,0,061 KD45
1,13,0,062 KD46
1,13,0,063 KD47
1,13,0,064 KD48
1,13,0,065 KD49
1,13,0,010 KD4
1,13,0,066 KD50
1,13,0,067 KD51
1,13,0,070 KD52
1,13,0,071 KD53
1,13,0,072 KD54
1,13,0,073 KD55
1,13,0,074 KD56
1,13,0,075 KD57
1,13,0,076 KD58
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 18)

```
LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE
 1,13,0,077 KD59
 1,13,0,011 KD5
 1,13,0,100 KD60
 1,13,0,101 KD61
 1,13,0,102 KD62
 1,13,0,103 KD63
 1,13,0,104 KD64
 1,13,0,105 KD65
 1,13,0,106 KD66
 1,13,0,107 KD67
 1,13,0,110 KD68
 1,13,0,111 KD69
 1,13,0,012 KD6
 1,13,0,112 KD70
 1,13,0,113 KD71
 1,13,0,114 KD72
 1,13,0,115 KD73
 1,13,0,116 KD74
 1,13,0,117 KD75
 1,13,0,120 KD76
 1,13,0,121 KD77
 1,13,0,122 KD78
 1,13,0,123 KD79
 1,13,0,013 KD7
 1,13,0,124 KD80
 1,13,0,125 KD81
 1,13,0,126 KD82
 1,13,0,127 KD83
 1,13,0,130 KD84
 1,13,0,131 KD85
 1,13,0,132 KD86
 1,13,0,133 KD87
 1,13,0,134 KD88
 1,13,0,135 KD89
 1,13,0,014 KD8
 1,13,0,136 KD90
 1,13,0,137 KD91
 1,13,0,140 KD92
 1,13,0,141 KD93
 1,13,0,142 KD94
 1,13,0,143 KD95
 1,13,0,144 KD96
 1,13,0,145 KD97
 1,13,0,146 KD98
 1,13,0,147 KD99
 1,13,0,015 KD9
 0,05,0,075 KD          47460
 1,12,0,143 KEM100
 1,12,0,144 KEM101
 1,12,0,145 KEM102
 1,12,0,146 KEM103
 1,12,0,147 KEM104
 1,12,0,150 KEM105
 1,12,0,151 KEM106
 1,12,0,152 KEM107
 1,12,0,153 KEM108
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 19)

```
LEFT HAND SYMBOLS AND THEIR POINTS CF REFERENCE

 1,12,0,154 KEM109
 1,12,0,011 KEM10
 1,12,0,155 KEM110
 1,12,0,156 KEM111
 1,12,0,157 KEM112
 1,12,0,160 KEM113
 1,12,0,161 KEM114
 1,12,0,162 KEM115
 1,12,0,163 KEM116
 1,12,0,164 KEM117
 1,12,0,165 KEM118
 1,12,0,166 KEM119
 1,12,0,012 KEM11
 1,12,0,167 KEM120
 1,12,0,170 KEM121
 1,12,0,171 KEM122
 1,12,0,172 KEM123
 1,12,0,173 KEM124
 1,12,0,174 KEM125
 1,12,0,175 KEM126
 1,12,0,176 KEM127
 1,12,0,177 KEM128
 1,12,0,200 KEM129
 1,12,0,013 KEM12
 1,12,0,201 KEM130
 1,12,0,202 KEM131
 1,12,0,203 KEM132
 1,12,0,204 KEM133
 1,12,0,205 KEM134
 1,12,0,206 KEM135
 1,12,0,207 KEM136
 1,12,0,210 KEM137
 1,12,0,211 KEM138
 1,12,0,212 KEM139
 1,12,0,014 KEM13
 1,12,0,213 KEM140
 1,12,0,214 KEM141
 1,12,0,215 KEM142
 1,12,0,216 KEM143
 1,12,0,217 KEM144
 1,12,0,220 KEM145
 1,12,0,221 KEM146
 1,12,0,222 KEM147
 1,12,0,223 KEM148
 1,12,0,224 KEM149
 1,12,0,015 KEM14
 1,12,0,225 KEM150
 1,12,0,226 KEM151
 1,12,0,227 KEM152
 1,12,0,230 KEM153
 1,12,0,231 KEM154
 1,12,0,232 KEM155
 1,12,0,233 KEM156
 1,12,0,234 KEM157
 1,12,0,235 KEM158
 1,12,0,236 KEM159
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 20)

```
LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE
 1,12,0,016 KEM15
 1,12,0,237 KEM160
 1,12,0,240 KEM161
 1,12,0,241 KEM162
 1,12,0,242 KEM163
 1,12,0,243 KEM164
 1,12,0,244 KEM165
 1,12,0,245 KEM166
 1,12,0,246 KEM167
 1,12,0,247 KEM168
 1,12,0,250 KEM169
 1,12,0,017 KEM16
 1,12,0,251 KEM170
 1,12,0,252 KEM171
 1,12,0,253 KEM172
 1,12,0,020 KEM17
 1,12,0,021 KEM18
 1,12,0,022 KEM19
 1,12,0,000 KEM1          80130      80390
 1,12,0,023 KEM20
 1,12,0,024 KEM21
 1,12,0,025 KEM22
 1,12,0,026 KEM23
 1,12,0,027 KEM24
 1,12,0,030 KEM25
 1,12,0,031 KEM26
 1,12,0,032 KEM27
 1,12,0,033 KEM28
 1,12,0,034 KEM29
 1,12,0,001 KEM2
 1,12,0,035 KEM30
 1,12,0,036 KEM31
 1,12,0,037 KEM32
 1,12,0,040 KEM33
 1,12,0,041 KEM34
 1,12,0,042 KEM35
 1,12,0,043 KEM36
 1,12,0,044 KEM37
 1,12,0,045 KEM38
 1,12,0,046 KEM39
 1,12,0,002 KEM3
 1,12,0,047 KEM40
 1,12,0,050 KEM41
 1,12,0,051 KEM42
 1,12,0,052 KEM43
 1,12,0,053 KEM44
 1,12,0,054 KEM45
 1,12,0,055 KEM46
 1,12,0,056 KEM47
 1,12,0,057 KEM48
 1,12,0,060 KEM49
 1,12,0,003 KEM4
 1,12,0,061 KEM50
 1,12,0,062 KEM51
 1,12,0,063 KEM52
 1,12,0,064 KEM53
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 21)

```
LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

 1,12,0,065 KEM54
 1,12,0,066 KEM55
 1,12,0,067 KEM56
 1,12,0,070 KEM57
 1,12,0,071 KEM58
 1,12,0,072 KEM59
 1,12,0,004 KEM5
 1,12,0,073 KEM60
 1,12,0,074 KEM61
 1,12,0,075 KEM62
 1,12,0,076 KEM63
 1,12,0,077 KEM64
 1,12,0,100 KEM65
 1,12,0,101 KEM66
 1,12,0,102 KEM67
 1,12,0,103 KEM68
 1,12,0,104 KEM69
 1,12,0,005 KEM6
 1,12,0,105 KEM70
 1,12,0,106 KEM71
 1,12,0,107 KEM72
 1,12,0,110 KEM73
 1,12,0,111 KEM74
 1,12,0,112 KEM75
 1,12,0,113 KEM76
 1,12,0,114 KEM77
 1,12,0,115 KEM78
 1,12,0,116 KEM79
 1,12,0,006 KEM7
 1,12,0,117 KEM80
 1,12,0,120 KEM81
 1,12,0,121 KEM82
 1,12,0,122 KEM83
 1,12,0,123 KEM84
 1,12,0,124 KEM85
 1,12,0,125 KEM86
 1,12,0,126 KEM87
 1,12,0,127 KEM88
 1,12,0,130 KEM89
 1,12,0,007 KEM8
 1,12,0,131 KEM90
 1,12,0,132 KEM91
 1,12,0,133 KEM92
 1,12,0,134 KEM93
 1,12,0,135 KEM94
 1,12,0,136 KEM95
 1,12,0,137 KEM96
 1,12,0,140 KEM97
 1,12,0,141 KEM98
 1,12,0,142 KEM99
 1,12,0,010 KEM9
 0,05,0,116 KE           47470
 0,05,0,137 KF           47480
 0,05,0,160 KG           47490
 0,16,0,314 KHDG1        49930        51590
 0,16,0,323 KHDG2        49940        51600
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 22)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0,16,0,276 KHOG | 49920 | 51580 | | | | | | | |
| 0,15,0,274 KHM | 43010 | 43050 | 43070 | 43290 | 43550 | | | | |
| 0,15,0,273 KHP | 42980 | 43320 | | | | | | | |
| 0,05,0,201 KH | 47500 | | | | | | | | |
| 0,05,0,222 KJ | 47700 | 47720 | 47740 | 47760 | 47780 | 47800 | 47820 | 47840 | 47860 |
| 0,05,0,222 KJ | 47880 | | | | | | | | |
| 0,05,0,234 KK | 45950 | 45960 | 45970 | 45980 | 45990 | 46000 | 46010 | 46020 | 46030 |
| 0,05,0,234 KK | | | | | | | | | |
| 0,11,0,004 KL1 | 44800 | | | | | | | | |
| 0,11,0,005 KL2 | 44870 | | | | | | | | |
| 0,11,0,006 KL3 | 44940 | | | | | | | | |
| 0,11,0,007 KL4 | 45030 | | | | | | | | |
| 0,11,0,010 KL5 | 45100 | | | | | | | | |
| 0,11,0,011 KL6 | 45190 | | | | | | | | |
| 0,05,0,245 KL | 46100 | 46110 | | | | | | | |
| 1,05,0,072 KMAP1 | 75010 | | | | | | | | |
| 1,07,0,375 KMA | 12270 | | | | | | | | |
| 0,15,0,266 KMAXPA | 42640 | | | | | | | | |
| 0,15,0,267 KMAXM | 43100 | 43150 | 43220 | | | | | | |
| 0,15,0,271 KMAXPA | 42790 | | | | | | | | |
| 0,15,0,272 KMAXP | 42950 | 43120 | 43180 | | | | | | |
| 0,10,0,375 KMB | 12330 | | | | | | | | |
| 0,02,0,375 KMC | | | | | | | | | |
| 0,03,0,375 KMD | | | | | | | | | |
| 0,04,0,375 KME | | | | | | | | | |
| 0,05,0,375 KMF | | | | | | | | | |
| 0,06,0,375 KMG | | | | | | | | | |
| 0,11,0,375 KMH | | | | | | | | | |
| 0,12,0,375 KMJ | | | | | | | | | |
| 0,13,0,375 KMK | | | | | | | | | |
| 0,14,0,375 KML | | | | | | | | | |
| 0,15,0,375 KMM | | | | | | | | | |
| 0,16,0,375 KMN | | | | | | | | | |
| 0,17,0,375 KMO | | | | | | | | | |
| 0,01,0,375 KMP | | | | | | | | | |
| 0,07,0,375 KMQ | | | | | | | | | |
| 0,00,0,375 KMR | 12420 | | | | | | | | |
| 1,07,1,250 KNAB3 | 79960 | | | | | | | | |
| 1,07,1,251 KNAC3 | 80030 | | | | | | | | |
| 1,06,1,173 KPAF1 | 85740 | | | | | | | | |
| 0,17,0,036 KS1 | 32340 | 32370 | 37690 | 39180 | 46640 | 46680 | 46720 | 46870 | 47160 |
| 0,17,0,036 KS1 | 50600 | 52570 | 53220 | 75260 | 80190 | 80220 | 86960 | 86990 | 87020 |
| 0,17,0,036 KS1 | 87050 | 87090 | | | | | | | |
| 0,17,0,037 KS2 | 36720 | 36750 | 37730 | 37760 | 38670 | 50190 | 75340 | | |
| 0,17,0,040 KX1 | 32650 | 33400 | 33880 | 34470 | 34540 | 34580 | 42360 | 47300 | 47370 |
| 0,17,0,040 KX1 | 52410 | 53100 | 79940 | 80010 | 85780 | 85820 | 85860 | 85900 | |
| 0,17,0,041 KX2 | 32660 | | | | | | | | |
| 0,17,0,042 KX3 | 33410 | | | | | | | | |
| 0,17,0,043 KX4 | 33890 | | | | | | | | |
| 0,17,0,044 KX5 | 34550 | | | | | | | | |
| 0,17,0,045 KX6 | 34500 | 34610 | 42390 | 47260 | 47340 | 52380 | 53060 | 79970 | 80040 |
| 0,17,0,045 KX6 | 85750 | | | | | | | | |
| 0,17,0,046 KX7 | 31190 | 31270 | 37420 | 37490 | 75020 | | | | |
| 0,17,0,047 KX8 | 31220 | 31300 | 37450 | 37520 | 74990 | | | | |
| 0,03,0,152 L1OP10 | | | | | | | | | |
| 0,03,0,161 L1OP11 | | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 23)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | |
|---|---|---|
| 0,03,0,166 | L10P12 | |
| 0,03,0,173 | L10P13 | |
| 0,03,0,202 | L10P14 | |
| 0,03,0,210 | L10P15 | |
| 0,03,0,216 | L10P16 | |
| 0,03,0,224 | L10P17 | |
| 0,03,0,232 | L10P18 | |
| 0,03,0,243 | L10P19 | |
| 0,03,0,031 | L10P1 | |
| 0,03,0,252 | L10P20 | |
| 0,03,0,264 | L10P21 | |
| 0,03,0,302 | L10P22 | 21580 |
| 0,03,0,323 | L10P23 | |
| 0,03,0,340 | L10P24 | |
| 0,03,1,002 | L10P25 | 22040 |
| 0,03,1,023 | L10P26 | |
| 0,03,1,045 | L10P27 | 21620 |
| 0,03,1,063 | L10P28 | |
| 0,03,1,073 | L10P29 | |
| 0,03,0,063 | L10P2 | |
| 0,03,1,114 | L10P30 | 22700 |
| 0,03,1,123 | L10P31 | |
| 0,03,1,132 | L10P33 | |
| 0,03,1,145 | L10P34 | |
| 0,03,1,153 | L10P35 | |
| 0,03,1,160 | L10P36 | |
| 0,03,1,166 | L10P37 | |
| 0,03,1,173 | L10P38 | |
| 0,03,1,215 | L10P39 | |
| 0,03,0,070 | L10P3 | |
| 0,03,1,225 | L10P40 | |
| 0,03,1,235 | L10P41 | |
| 0,03,1,245 | L10P42 | |
| 0,03,1,255 | L10P43 | |
| 0,03,1,265 | L10P44 | |
| 0,03,1,275 | L10P45 | |
| 0,03,0,075 | L10P4 | |
| 0,03,0,107 | L10P5 | |
| 0,03,0,116 | L10P6 | |
| 0,03,0,125 | L10P7 | |
| 0,03,0,134 | L10P8 | |
| 0,03,0,143 | L10P9 | |
| 0,04,0,053 | L11P10 | 25450 |
| 0,04,0,064 | L11P11 | |
| 0,04,0,076 | L11P12 | |
| 0,04,0,110 | L11P13 | |
| 0,04,0,122 | L11P14 | |
| 0,04,0,133 | L11P15 | |
| 0,04,0,141 | L11P18 | 25980 |
| 0,04,0,146 | L11P19 | |
| 0,03,1,315 | L11P1 | 24070 |
| 0,04,0,154 | L11P20 | |
| 0,04,0,163 | L11P21 | |
| 0,04,0,172 | L11P22 | |
| 0,04,0,201 | L11P23 | |
| 0,04,0,210 | L11P24 | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 24)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0,04,0,217 L11P25 | | | | | | | | | |
| 0,04,0,226 L11P26 | | | | | | | | | |
| 0,04,0,235 L11P27 | | | | | | | | | |
| 0,04,0,305 L11P28 | 26070 | 26130 | 26200 | 26270 | 26340 | 26410 | 26480 | 26550 | 26620 |
| 0,04,0,305 L11P28 | 26690 | | | | | | | | |
| 0,04,0,245 L11P29 | | | | | | | | | |
| 0,03,1,323 L11P2 | | | | | | | | | |
| 0,04,0,255 L11P30 | | | | | | | | | |
| 0,04,0,263 L11P31 | | | | | | | | | |
| 0,04,0,273 L11P32 | | | | | | | | | |
| 0,04,0,307 L11P33 | 26790 | 26850 | 26940 | 27020 | | | | | |
| 0,03,1,327 L11P3 | | | | | | | | | |
| 0,03,1,336 L11P4 | | | | | | | | | |
| 0,03,1,347 L11P5 | | | | | | | | | |
| 0,04,0,002 L11P6 | | | | | | | | | |
| 0,04,0,013 L11P7 | | | | | | | | | |
| 0,04,0,024 L11P8 | | | | | | | | | |
| 0,04,0,035 L11P9 | | | | | | | | | |
| 0,04,0,124 L11PA | | | | | | | | | |
| 0,06,0,001 L12P1 | | | | | | | | | |
| 0,06,0,366 L12P2 | | | | | | | | | |
| 0,06,0,046 L12P3 | 30410 | | | | | | | | |
| 0,06,0,370 L12P4 | | | | | | | | | |
| 0,06,0,064 L12P5 | 30440 | | | | | | | | |
| 0,06,1,000 L12P6 | | | | | | | | | |
| 0,06,0,102 L13P1 | 30540 | | | | | | | | |
| 0,06,1,010 L13P2 | | | | | | | | | |
| 0,06,0,120 L13P3 | 30570 | | | | | | | | |
| 0,06,1,012 L13P4 | | | | | | | | | |
| 0,06,0,136 L13P5 | 30600 | | | | | | | | |
| 0,06,1,014 L13P6 | | | | | | | | | |
| 0,06,0,154 L14P1 | 30630 | | | | | | | | |
| 0,06,1,016 L14P2 | | | | | | | | | |
| 0,06,0,172 L14P3 | 30660 | | | | | | | | |
| 0,06,1,020 L14P4 | | | | | | | | | |
| 0,06,0,210 L14P5 | 30690 | | | | | | | | |
| 0,06,1,022 L14P6 | | | | | | | | | |
| 0,01,0,234 L15P1H | 10190 | 10280 | 10370 | 10460 | 10550 | 10640 | 11720 | 11810 | 11900 |
| 0,01,0,234 L15P1H | 11990 | 12080 | 12170 | 12450 | 12470 | 12490 | | | |
| 0,01,0,234 L15P1J | 9570 | 9660 | 9750 | 9840 | 9920 | 10000 | 10100 | 10720 | 10800 |
| 0,01,0,234 L15P1J | 10890 | 10980 | 11070 | 11160 | 11290 | 11380 | 11460 | 11540 | 11630 |
| 0,01,0,234 L15P1J | | | | | | | | | |
| 0,00,1,173 L15P1K | 5710 | 5810 | 5910 | 5930 | 6020 | 6100 | 6180 | 6280 | 6360 |
| 0,00,1,173 L15P1K | 6450 | 6540 | 6620 | 6720 | 6800 | 6890 | 6970 | 7060 | 7140 |
| 0,00,1,173 L15P1K | 7220 | 7310 | 7390 | 7470 | 7550 | 7640 | 7720 | 7800 | 7880 |
| 0,00,1,173 L15P1K | 7960 | 8040 | 8140 | 8220 | 8310 | 8400 | 8490 | 8580 | 8670 |
| 0,00,1,173 L15P1K | 8760 | 8840 | 8920 | 9010 | 9100 | 9200 | 9280 | 9370 | 9460 |
| 0,00,1,173 L15P1K | | | | | | | | | |
| 0,00,0,227 L15P1L | 5360 | 5450 | | | | | | | |
| 1,17,1,363 L15P1M | 12770 | | | | | | | | |
| 0,01,1,136 L15P1N | 12910 | 13000 | 13090 | 13180 | 13270 | 13370 | | | |
| 0,02,1,356 L15P1P | 15000 | 15070 | 15120 | 15180 | 15240 | 15310 | 15380 | 15450 | 15510 |
| 0,02,1,356 L15P1P | 15570 | 15640 | 15710 | 15780 | 15850 | 15920 | 15990 | 16060 | 16130 |
| 0,02,1,356 L15P1P | 16200 | 16270 | 16340 | 16410 | 16480 | 16550 | 16620 | 16690 | 16760 |
| 0,02,1,356 L15P1P | 16830 | 16900 | 16970 | 17040 | 17110 | 17180 | 17250 | 17320 | 17390 |
| 0,02,1,356 L15P1P | 17480 | 17550 | 17620 | 17690 | 17760 | 17830 | 17900 | 17970 | 18040 |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 25)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 18110 | 18180 | 18250 | 18320 | 18390 | 18460 | 18530 | 18600 | 18670 |
| | 18740 | 18810 | 18880 | 18950 | 19020 | 19090 | 19160 | 19230 | 19300 |
| | 19370 | 19440 | 19510 | 19580 | 19650 | 19740 | 19760 | | |
| 0,03,1,305 L15P1Q | 20130 | 20170 | 20220 | 20270 | 20340 | 20370 | 20440 | 20510 | 20580 |
| 0,03,1,305 L15P1Q | 20650 | 20720 | 20790 | 20840 | 20890 | 20960 | 21020 | 21080 | 21140 |
| 0,03,1,305 L15P1Q | 21200 | 21260 | 21300 | 21380 | 21450 | 21480 | 21560 | 21800 | 21930 |
| 0,03,1,305 L15P1Q | 22030 | 22220 | 22400 | 22540 | 22590 | 22620 | 22790 | 22860 | 22930 |
| 0,03,1,305 L15P1Q | 23040 | 23100 | 23150 | 23210 | 23260 | 23440 | 23540 | 23630 | 23720 |
| 0,03,1,305 L15P1Q | 23810 | 23900 | 23990 | 24060 | | | | | |
| 0,03,1,361 L15P1R | 24670 | 24710 | 24780 | 24870 | 24960 | | | | |
| 0,06,0,226 L15P1 | 30720 | | | | | | | | |
| 0,06,1,040 L15P1S | 28230 | 28380 | 28530 | 28680 | 28830 | 28980 | 29130 | 29280 | 29430 |
| 0,06,1,040 L15P1S | 29580 | 29730 | 29880 | 30030 | 30180 | 30330 | 30520 | | |
| 0,01,1,015 L15P1T | 12290 | 12350 | 12380 | 12400 | | | | | |
| 0,06,1,024 L15P2 | | | | | | | | | |
| 0,06,0,244 L15P3 | 30750 | | | | | | | | |
| 0,06,1,026 L15P4 | | | | | | | | | |
| 0,06,0,262 L15P5 | 30780 | | | | | | | | |
| 0,06,1,030 L15P6 | | | | | | | | | |
| 0,06,0,300 L16P1 | 30810 | | | | | | | | |
| 0,06,1,032 L16P2 | | | | | | | | | |
| 0,06,0,316 L16P3 | 30840 | | | | | | | | |
| 0,06,1,034 L16P4 | | | | | | | | | |
| 0,06,0,334 L16P5 | 30870 | | | | | | | | |
| 0,06,1,036 L16P6 | | | | | | | | | |
| 0,06,0,352 L17P1 | 30900 | | | | | | | | |
| 0,13,0,310 L17P2 | | | | | | | | | |
| 0,13,0,320 L17P3A | 31400 | | | | | | | | |
| 0,13,0,350 L17P3B | 31210 | 31240 | 31360 | 31370 | | | | | |
| 0,13,0,351 L17P3C | 31290 | 31320 | | | | | | | |
| 0,13,0,324 L17P3 | 31120 | | | | | | | | |
| 0,16,0,060 L1P141 | | | | | | | | | |
| 0,00,0,015 L1P1A | 2670 | | | | | | | | |
| 0,16,0,070 L1P1B | 49330 | 49350 | 49400 | 49420 | 49460 | | | | |
| 0,16,1,000 L1P1C | 49340 | 49550 | 49600 | 49650 | 49700 | 49750 | | | |
| 0,00,0,000 L1P1 | | | | | | | | | |
| 0,01,1,143 L20P1A | 14670 | | | | | | | | |
| 0,06,1,060 L20P1 | 30380 | | | | | | | | |
| 0,07,1,000 L20P2A | 32900 | 33180 | 33470 | 33730 | | | | | |
| 0,07,1,002 L20P2B | 31970 | | | | | | | | |
| 0,06,1,065 L20P2 | 31740 | | | | | | | | |
| 0,07,1,005 L20P3 | | | | | | | | | |
| 0,07,1,012 L20P4 | 32330 | 32350 | 32440 | 32710 | 33920 | 34460 | 34520 | | |
| 0,07,1,013 L20P5 | 32640 | 32670 | 33390 | 33420 | 33870 | 33900 | 34530 | 34560 | |
| 0,07,1,020 L20P6 | 32360 | 32380 | 34570 | 34630 | | | | | |
| 0,07,1,022 L21P1 | 32990 | 33790 | | | | | | | |
| 0,07,1,030 L21P2 | 32160 | | | | | | | | |
| 0,07,1,041 L21P3 | | | | | | | | | |
| 0,07,1,046 L21P4 | | | | | | | | | |
| 0,07,1,063 L21P5 | | | | | | | | | |
| 0,07,1,067 L22P1 | 32470 | | | | | | | | |
| 0,07,1,073 L22P2 | 32510 | | | | | | | | |
| 0,07,1,077 L22P3 | 32550 | | | | | | | | |
| 0,07,1,102 L22P4 | | | | | | | | | |
| 0,07,1,116 L23P1 | 32480 | | | | | | | | |
| 0,07,1,130 L23P2 | | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 26)

```
LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE
0,07,1,136 L23P3      32860
0,07,1,144 L23P4
0,10,0,032 L23P5
0,07,1,152 L24P1      32520
0,07,1,156 L24P2
0,07,1,164 L24P3
0,07,1,172 L24P4      33140
0,07,1,200 L24P5
0,07,1,212 L25P1
0,07,1,234 L25P2
0,07,1,251 L25P3
0,07,1,257 L26P1      33690
0,07,1,270 L26P2      32560
0,07,1,304 L27P1      32590
0,07,1,315 L27P2      34020
0,07,1,322 L27P3
0,07,1,331 L28P1
0,07,1,337 L28P2      34200
0,10,0,006 L28P3
0,07,1,352 L28P4      34490
0,07,1,353 L28P5      34600
0,10,0,000 L28P6A
0,10,0,001 L28P6B
0,07,1,354 L28P6      32110   32170   32260   32310   32810   32870   32930   33090   33150
0,07,1,354 L28P6      33210   33310   33500   33640   33700   33780   34030   34080   34150
0,07,1,354 L28P6      34210   34280
0,06,1,064 L29P1A     31750
0,10,0,034 L29P1
0,10,0,041 L29P2      35860
0,10,0,066 L29P3      36150
0,10,0,100 L29P4      36250
0,00,0,016 L2P1        2680    3390    5560
0,00,0,070 L2P2        3100
0,10,0,111 L30P1
0,10,0,133 L30P2A
0,10,0,124 L30P2
0,10,0,140 L31P1      36710   36730   36810   42130   42150
0,10,0,143 L31P2      36740   36760   42180   42200
0,10,0,145 L31P3      36600
0,10,0,160 L31P4
0,10,0,164 L32P1
0,10,0,173 L32P2
0,10,0,203 L32P3
0,10,0,213 L32P4
0,10,0,224 L33P1
0,10,0,234 L33P2      37230
0,10,0,243 L33P3
0,10,0,250 L34P1
0,10,0,301 L34P2      37440   37470   37720   37740   37820
0,10,0,304 L34P3      37510   37540   37750   37770
0,10,0,306 L34P4
0,10,0,321 L34P5
0,10,0,325 L34P6
0,10,0,334 L34P7
0,10,0,344 L34P8
0,10,0,354 L34P9
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 27)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0,11,0,260 | L35P2 | | | | | | | | | |
| 0,11,0,272 | L35P3 | 38730 | 38830 | | | | | | | |
| 0,11,0,276 | L35P4 | 38660 | 38680 | 42240 | 42260 | | | | | |
| 0,11,0,300 | L36P1 | | | | | | | | | |
| 0,11,0,317 | L36P2 | | | | | | | | | |
| 0,11,0,323 | L36P3 | | | | | | | | | |
| 0,11,0,326 | L36P4 | | | | | | | | | |
| 0,10,1,000 | L37P1A | | | | | | | | | |
| 0,11,0,334 | L37P1 | 38760 | | | | | | | | |
| 0,10,1,004 | L37P2 | 39240 | 39330 | | | | | | | |
| 0,10,1,014 | L37P3 | 39170 | 39190 | 42300 | 42320 | | | | | |
| 0,10,1,016 | L37P4 | | | | | | | | | |
| 0,10,1,031 | L37P5 | | | | | | | | | |
| 0,10,1,032 | L38P1 | | | | | | | | | |
| 0,10,1,035 | L38P2 | | | | | | | | | |
| 0,10,1,040 | L38P3 | | | | | | | | | |
| 0,10,1,046 | L38P4 | 39270 | | | | | | | | |
| 0,10,1,060 | L39P1 | 39450 | | | | | | | | |
| 0,10,1,101 | L39P2A | | | | | | | | | |
| 0,10,1,071 | L39P2 | | | | | | | | | |
| 0,10,1,104 | L39P3A | | | | | | | | | |
| 0,10,1,103 | L39P3 | | | | | | | | | |
| 0,10,1,110 | L39P4 | | | | | | | | | |
| 0,00,0,071 | L3P1 | 3110 | | | | | | | | |
| 0,10,1,117 | L40P1 | | | | | | | | | |
| 0,10,1,134 | L40P2 | | | | | | | | | |
| 0,10,1,144 | L40P3 | | | | | | | | | |
| 0,10,1,154 | L41P1 | | | | | | | | | |
| 0,10,1,161 | L41P2 | | | | | | | | | |
| 0,10,1,202 | L41P3 | | | | | | | | | |
| 0,10,1,207 | L42P1 | | | | | | | | | |
| 0,10,1,223 | L42P2 | | | | | | | | | |
| 0,10,1,232 | L42P3 | 36350 | 36470 | 36900 | 36980 | 37060 | 37160 | 37240 | 37310 | 37360 |
| 0,10,1,232 | L42P3 | 37990 | 38070 | 38150 | 38260 | 39460 | 39550 | 39630 | 39680 | 39750 |
| 0,10,1,232 | L42P3 | 39900 | 39980 | 40060 | 40110 | 40300 | 40350 | 40490 | 40540 | |
| 0,11,0,343 | L42P4A | 38540 | | | | | | | | |
| 0,10,1,240 | L42P4 | 36160 | 36260 | 36540 | 36660 | 37670 | 39090 | | | |
| 0,10,1,242 | L43P1 | 36010 | 40550 | | | | | | | |
| 0,10,1,275 | L43P2 | 42310 | | | | | | | | |
| 0,10,0,040 | L45P1A | 35870 | | | | | | | | |
| 0,11,1,000 | L45P1 | | | | | | | | | |
| 0,11,1,005 | L45P2 | 42470 | | | | | | | | |
| 0,11,1,043 | L45P3A | 42620 | 42720 | 42780 | 43540 | | | | | |
| 0,11,1,051 | L45P3B | 42870 | | | | | | | | |
| 0,11,1,026 | L45P3 | | | | | | | | | |
| 0,11,1,052 | L45P4 | | | | | | | | | |
| 0,11,1,055 | L45P5 | | | | | | | | | |
| 0,11,1,062 | L46P1 | | | | | | | | | |
| 0,11,1,067 | L46P2 | | | | | | | | | |
| 0,11,1,074 | L46P3 | | | | | | | | | |
| 0,11,1,077 | L46P4 | | | | | | | | | |
| 0,11,1,103 | L46P5 | | | | | | | | | |
| 0,11,1,110 | L46P6 | | | | | | | | | |
| 0,11,1,115 | L46P7 | | | | | | | | | |
| 0,11,1,130 | L47P1A | 43440 | | | | | | | | |
| 0,11,1,126 | L47P1B | 42590 | 42750 | 43390 | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 28)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0,11,1,133 | L47P1C | 43400 | | | | | | | | |
| 0,11,1,122 | L47P1 | | | | | | | | | |
| 0,11,1,142 | L47P2 | | | | | | | | | |
| 0,11,1,266 | L47P3A | 44370 | | | | | | | | |
| 0,11,1,264 | L47P3 | 42680 | 42940 | | | | | | | |
| 0,11,1,273 | L47P4A | 44420 | | | | | | | | |
| 0,11,1,271 | L47P4 | 42970 | 43140 | 43170 | 43210 | 43260 | | | | |
| 0,11,1,300 | L47P5A | 44470 | | | | | | | | |
| 0,11,1,276 | L47P5 | 43040 | 43090 | 43310 | 43360 | 43570 | | | | |
| 0,11,1,303 | L48P1 | 43660 | 43690 | 43740 | 43770 | 43820 | 43850 | 43880 | 43910 | 43980 |
| 0,11,1,303 | L48P1 | 44030 | 44070 | 44120 | 44160 | 44250 | 44280 | 44310 | | |
| 0,11,1,155 | L48P2 | 43970 | | | | | | | | |
| 0,11,1,222 | L48P3 | 44240 | | | | | | | | |
| 0,00,0,153 | L4CP1 | 3340 | | | | | | | | |
| 0,00,0,156 | L4CP2 | 3360 | | | | | | | | |
| 0,00,0,161 | L4CP3 | 3380 | | | | | | | | |
| 0,00,0,123 | L4P1 | 3180 | | | | | | | | |
| 0,00,0,126 | L4P2 | 3200 | | | | | | | | |
| 0,00,0,131 | L4P3 | 3220 | | | | | | | | |
| 0,00,0,134 | L4P4 | 3240 | | | | | | | | |
| 0,00,0,137 | L4P5 | 3260 | | | | | | | | |
| 0,00,0,142 | L4P6 | 3280 | | | | | | | | |
| 0,00,0,145 | L4P7 | 3300 | | | | | | | | |
| 0,00,0,150 | L4P8 | 3320 | | | | | | | | |
| 0,11,1,004 | L50P1A | 42480 | | | | | | | | |
| 0,11,0,000 | L50P1 | | | | | | | | | |
| 0,11,0,012 | L50P2 | 44590 | | | | | | | | |
| 0,11,0,025 | L50P3 | | | | | | | | | |
| 0,11,0,034 | L50P4 | | | | | | | | | |
| 0,11,0,043 | L51P1 | | | | | | | | | |
| 0,11,0,052 | L51P2 | | | | | | | | | |
| 0,11,0,063 | L51P3 | | | | | | | | | |
| 0,11,0,107 | L52P1 | 44720 | 44840 | 44910 | 45000 | 45070 | 45160 | | | |
| 0,11,0,122 | L52P2A | 45590 | | | | | | | | |
| 0,11,0,116 | L52P2 | 45290 | 45310 | | | | | | | |
| 0,00,0,164 | L5P1 | 3160 | | | | | | | | |
| 1,12,0,376 | L5P2AA | | | | | | | | | |
| 0,01,0,062 | L5P2A | | | | | | | | | |
| 1,13,0,376 | L5P2BB | | | | | | | | | |
| 0,02,1,000 | L5P2B | | | | | | | | | |
| 1,14,0,177 | L5P2CC | | | | | | | | | |
| 0,03,0,376 | L5P2C | | | | | | | | | |
| 1,15,0,007 | L5P2DD | | | | | | | | | |
| 0,04,0,052 | L5P2D | | | | | | | | | |
| 1,16,1,000 | L5P2EE | | | | | | | | | |
| 0,05,0,003 | L5P2E | | | | | | | | | |
| 1,17,1,375 | L5P2FF | | | | | | | | | |
| 0,06,0,000 | L5P2F | | | | | | | | | |
| 0,07,0,177 | L5P2G | | | | | | | | | |
| 0,10,1,077 | L5P2H | | | | | | | | | |
| 0,11,1,257 | L5P2I | | | | | | | | | |
| 0,12,0,000 | L5P2J | | | | | | | | | |
| 0,13,1,376 | L5P2K | | | | | | | | | |
| 0,14,0,030 | L5P2L | | | | | | | | | |
| 0,15,0,376 | L5P2M | | | | | | | | | |
| 0,16,0,000 | L5P2N | | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 29)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0,17,1,322 | L5P2P | | | | | | | | | |
| 1,00,0,000 | L5P2Q | | | | | | | | | |
| 1,01,1,001 | L5P2R | | | | | | | | | |
| 0,00,0,167 | L5P2 | 3420 | 3740 | | | | | | | |
| 1,02,0,002 | L5P2S | | | | | | | | | |
| 1,03,0,003 | L5P2T | | | | | | | | | |
| 1,04,0,004 | L5P2U | | | | | | | | | |
| 1,05,1,005 | L5P2V | | | | | | | | | |
| 1,06,0,060 | L5P2W | | | | | | | | | |
| 1,07,0,037 | L5P2X | | | | | | | | | |
| 1,10,0,100 | L5P2Y | | | | | | | | | |
| 1,11,0,200 | L5P2Z | | | | | | | | | |
| 0,00,0,170 | L5P3 | | | | | | | | | |
| 0,00,0,177 | L5P4 | 5200 | | | | | | | | |
| 0,00,0,206 | L5P5 | 5280 | | | | | | | | |
| 0,00,0,216 | L5P6 | 5370 | | | | | | | | |
| 0,00,0,226 | L5P7A | 5080 | 5120 | | | | | | | |
| 0,00,1,373 | L5P7 | 5460 | | | | | | | | |
| 0,11,0,136 | L60P1 | 44600 | 45330 | | | | | | | |
| 0,04,1,011 | L60P2A | 47980 | 48020 | | | | | | | |
| 0,11,0,142 | L60P2B | 45650 | | | | | | | | |
| 0,04,1,043 | L60P2C | 46090 | | | | | | | | |
| 0,04,1,063 | L60P2D | 46360 | 46420 | | | | | | | |
| 0,04,1,101 | L60P2E | 46140 | | | | | | | | |
| 0,04,1,103 | L60P2F | 46170 | | | | | | | | |
| 0,04,1,111 | L60P2G | 46240 | | | | | | | | |
| 0,04,1,123 | L60P2H | 46270 | | | | | | | | |
| 0,04,1,024 | L60P2J | 45940 | | | | | | | | |
| 0,04,1,002 | L60P2 | | | | | | | | | |
| 0,04,1,136 | L60P3A | 46670 | 46690 | 47360 | 47390 | | | | | |
| 0,04,1,133 | L60P3 | 46340 | 46510 | 46580 | 46610 | 46800 | 47000 | 47060 | 47090 | 47120 |
| 0,04,1,133 | L60P3 | | | | | | | | | |
| 0,04,1,154 | L60P4 | | | | | | | | | |
| 0,04,1,156 | L60P5 | 46750 | | | | | | | | |
| 0,04,1,205 | L61P1A | 46950 | | | | | | | | |
| 0,04,1,175 | L61P1C | 46900 | | | | | | | | |
| 0,04,1,161 | L61P1 | | | | | | | | | |
| 0,04,1,213 | L61P2A | 46920 | | | | | | | | |
| 0,04,1,245 | L61P3A | 47290 | 47320 | | | | | | | |
| 0,04,1,221 | L61P4 | 46910 | | | | | | | | |
| 0,04,1,233 | L61P5 | 45770 | 46770 | 47210 | | | | | | |
| 0,04,1,266 | L62P1 | 47220 | | | | | | | | |
| 0,04,1,300 | L62P2 | 47540 | | | | | | | | |
| 0,04,1,304 | L62P3 | 47630 | | | | | | | | |
| 0,04,1,345 | L62P4 | 47960 | | | | | | | | |
| 0,04,1,306 | L62P5 | 47530 | 47600 | 47640 | | | | | | |
| 0,00,0,344 | L6P10 | | | | | | | | | |
| 0,00,0,354 | L6P11 | | | | | | | | | |
| 0,00,0,363 | L6P12 | | | | | | | | | |
| 0,00,1,000 | L6P13 | 6630 | | | | | | | | |
| 0,00,1,007 | L6P14 | | | | | | | | | |
| 0,00,1,016 | L6P15 | | | | | | | | | |
| 0,00,1,026 | L6P16 | | | | | | | | | |
| 0,00,1,035 | L6P17 | | | | | | | | | |
| 0,00,1,045 | L6P18 | | | | | | | | | |
| 0,00,1,054 | L6P19 | | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 30)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | |
|---|---|---|---|
| 0,00,0,234 | L6P1A | 5550 | |
| 0,00,0,230 | L6P1 | 3750 | 5480 |
| 0,00,1,063 | L6P20 | | |
| 0,00,1,073 | L6P21 | | |
| 0,00,1,102 | L6P22 | | |
| 0,00,1,111 | L6P23 | | |
| 0,00,0,251 | L6P2A | 5680 | |
| 0,00,0,235 | L6P2 | 3450 | 5540 |
| 0,00,0,253 | L6P3 | | |
| 0,00,0,264 | L6P4 | | |
| 0,00,0,276 | L6P5 | | |
| 0,00,0,306 | L6P6 | | |
| 0,00,0,315 | L6P7 | | |
| 0,00,0,325 | L6P8 | 6190 | |
| 0,00,0,335 | L6P9 | 6270 | |
| 0,00,1,222 | L7P10 | | |
| 0,00,1,232 | L7P11 | | |
| 0,00,1,242 | L7P12 | | |
| 0,00,1,252 | L7P13 | | |
| 0,00,1,262 | L7P14 | | |
| 0,00,1,272 | L7P15 | | |
| 0,00,1,301 | L7P16 | | |
| 0,00,1,310 | L7P17 | | |
| 0,00,1,320 | L7P18 | | |
| 0,00,1,330 | L7P19 | | |
| 0,00,1,120 | L7P1 | | |
| 0,00,1,337 | L7P20 | | |
| 0,00,1,346 | L7P21 | | |
| 0,00,1,356 | L7P22 | | |
| 0,01,0,003 | L7P23 | | |
| 0,01,0,013 | L7P24 | | |
| 0,01,0,023 | L7P25 | | |
| 0,01,0,033 | L7P26 | | |
| 0,01,0,043 | L7P27 | | |
| 0,01,0,052 | L7P28 | | |
| 0,01,0,061 | L7P29 | | |
| 0,00,1,127 | L7P2 | | |
| 0,01,0,075 | L7P30 | | |
| 0,01,0,105 | L7P31 | | |
| 0,01,0,115 | L7P32 | | |
| 0,01,0,125 | L7P33 | | |
| 0,01,0,135 | L7P34 | | |
| 0,01,0,145 | L7P35 | | |
| 0,01,0,155 | L7P36 | | |
| 0,01,0,164 | L7P37 | | |
| 0,01,0,173 | L7P38 | | |
| 0,01,0,203 | L7P39 | | |
| 0,00,1,136 | L7P3 | | |
| 0,01,0,213 | L7P40 | | |
| 0,01,0,223 | L7P41 | | |
| 0,01,0,235 | L7P42 | 11170 | |
| 0,01,0,245 | L7P43 | | |
| 0,01,0,255 | L7P44 | | |
| 0,01,0,264 | L7P45 | | |
| 0,01,0,273 | L7P46 | | |
| 0,01,0,307 | L7P47 | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 31)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0,01,0,317 | L7P48 | | | | | | | | |
| 0,01,0,327 | L7P49 | | | | | | | | |
| 0,00,1,145 | L7P4 | | | | | | | | |
| 0,01,0,337 | L7P50 | | | | | | | | |
| 0,01,0,347 | L7P51 | | | | | | | | |
| 0,01,0,357 | L7P52 | | | | | | | | |
| 0,01,1,002 | L7P53 | 12180 | | | | | | | |
| 0,03,0,023 | L7P54A | | | | | | | | |
| 0,03,0,027 | L7P54B | | | | | | | | |
| 0,03,0,017 | L7P54 | | | | | | | | |
| 1,17,1,356 | L7P55A | | | | | | | | |
| 1,17,1,352 | L7P55 | | | | | | | | |
| 0,00,1,154 | L7P5 | | | | | | | | |
| 0,00,1,163 | L7P6 | | | | | | | | |
| 0,00,1,174 | L7P7 | 8050 | | | | | | | |
| 0,00,1,203 | L7P8 | | | | | | | | |
| 0,00,1,212 | L7P9 | | | | | | | | |
| 0,01,1,040 | L8P1 | | | | | | | | |
| 0,01,1,050 | L8P2 | | | | | | | | |
| 0,01,1,060 | L8P3 | | | | | | | | |
| 0,01,1,070 | L8P4 | | | | | | | | |
| 0,01,1,100 | L8P5 | | | | | | | | |
| 0,01,1,110 | L8P6 | | | | | | | | |
| 0,01,1,120 | L8P7 | | | | | | | | |
| 0,01,1,126 | L8P8 | 13510 | | | | | | | |
| 0,01,1,134 | L8P9 | 13390 | 13410 | 13430 | | | | | |
| 0,16,1,012 | L90P1A | 50340 | | | | | | | |
| 0,06,1,120 | L90P1 | | | | | | | | |
| 0,06,1,126 | L90P2 | | | | | | | | |
| 0,06,1,132 | L90P3 | | | | | | | | |
| 0,06,1,164 | L90P4A | 52400 | 52430 | 52560 | 52580 | 52630 | | | |
| 0,06,1,155 | L90P4 | 52720 | | | | | | | |
| 0,06,1,230 | L90P6 | | | | | | | | |
| 0,06,1,245 | L94P1 | 52310 | 52800 | 52960 | | | | | |
| 0,06,1,256 | L94P2 | 53090 | 53120 | 53210 | 53230 | 53250 | | | |
| 0,06,1,272 | L94P3 | 52170 | 52190 | 52230 | 52330 | 52650 | 52680 | 52850 | 52890 |
| 0,03,0,030 | L95P1A | 12630 | | | | | | | |
| 0,16,0,001 | L95P1 | | | | | | | | |
| 0,16,0,004 | L95P2 | 49150 | 49170 | 49590 | 49610 | | | | |
| 0,16,0,006 | L95P3 | 49180 | 49200 | 49640 | 49660 | | | | |
| 0,16,0,010 | L95P4 | 49210 | 49230 | 49690 | 49710 | | | | |
| 0,16,0,012 | L95P5 | 49240 | 49260 | 49740 | 49760 | | | | |
| 0,16,0,026 | L95P6 | 49020 | | | | | | | |
| 0,16,0,002 | L95P7 | 49120 | 49140 | 49540 | 49560 | | | | |
| 0,16,0,033 | L96P1 | 49070 | | | | | | | |
| 0,16,0,054 | L96P2 | 49110 | | | | | | | |
| 0,16,0,057 | L96P3 | 49280 | | | | | | | |
| 0,16,1,007 | L97P1 | | | | | | | | |
| 0,16,1,013 | L97P2 | 50290 | 50950 | | | | | | |
| 0,16,1,023 | L97P3 | | | | | | | | |
| 0,16,1,041 | L97P4A | 50380 | 50400 | 50590 | 50610 | 50650 | | | |
| 0,16,1,035 | L97P4 | 50710 | | | | | | | |
| 0,16,1,060 | L97P5 | | | | | | | | |
| 0,16,1,113 | L98P1A | 51120 | | | | | | | |
| 0,16,1,111 | L98P1 | 50430 | 50540 | 50740 | 50840 | 51360 | | | |
| 0,16,1,133 | L98P2A | 51340 | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 32)

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LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

0,16,1,125 L98P2       50580    50800    50900
0,16,0,163 L98P3A      49990    50020    50180    50200
0,16,0,165 L98P3B      50090    50170
0,16,0,161 L98P3C      50240
0,16,0,152 L98P3       50470    50760    50880
0,16,1,151 L98P4       50350    50480    50660    50810    50910
0,16,1,160 L98P5       50490    50670    50820    50920
0,10,1,304 L99P1       52130
0,02,0,042 L9P10
0,02,0,051 L9P11
0,02,C,060 L9P12
0,02,C,066 L9P13
0,02,0,074 L9P14
0,02,C,103 L9P15
0,02,0,112 L9P16
0,02,C,121 L9P17
0,02,0,130 L9P18
0,02,0,137 L9P19
0,01,1,137 L9P1
0,02,C,146 L9P20
0,02,C,155 L9P21
0,02,C,164 L9P22
0,02,C,173 L9P23
0,02,0,202 L9P24
0,02,0,211 L9P25
0,02,0,220 L9P26
0,02,C,227 L9P27
0,02,0,236 L9P28
0,02,0,245 L9P29
0,01,1,144 L9P2        14660
0,02,C,254 L9P30
0,02,0,263 L9P31
0,02,C,272 L9P32
0,02,C,301 L9P33
0,02,C,310 L9P34
0,02,0,317 L9P35
0,02,0,326 L9P36
0,02,0,335 L9P37
0,02,C,344 L9P38
0,02,0,353 L9P39
0,01,1,154 L9P3        14770
0,02,1,002 L9P40       17400
0,02,1,011 L9P41
0,07,1,020 L9P42
0,02,1,027 L9P43
0,02,1,036 L9P44
0,02,1,045 L9P45
0,02,1,054 L9P46
0,02,1,063 L9P47
0,02,1,072 L9P48
0,02,1,101 L9P49
0,02,0,002 L9P4
0,02,1,110 L9P50
0,02,1,117 L9P51
0,02,1,126 L9P52
0,02,1,135 L9P53
```

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 33)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0,02,1,144 | L9P54 | | | | | | | | | |
| 0,02,1,153 | L9P55 | | | | | | | | | |
| 0,02,1,162 | L9P56 | | | | | | | | | |
| 0,02,1,171 | L9P57 | | | | | | | | | |
| 0,02,1,200 | L9P58 | | | | | | | | | |
| 0,02,1,207 | L9P59 | | | | | | | | | |
| 0,02,0,004 | L9P5 | | | | | | | | | |
| 0,02,1,216 | L9P60 | | | | | | | | | |
| 0,02,1,225 | L9P61 | | | | | | | | | |
| 0,02,1,234 | L9P62 | | | | | | | | | |
| 0,02,1,243 | L9P63 | | | | | | | | | |
| 0,02,1,252 | L9P64 | | | | | | | | | |
| 0,02,1,261 | L9P65 | | | | | | | | | |
| 0,02,1,270 | L9P66 | | | | | | | | | |
| 0,02,1,277 | L9P67 | | | | | | | | | |
| 0,02,1,306 | L9P68 | | | | | | | | | |
| 0,02,1,315 | L9P69 | | | | | | | | | |
| 0,02,0,012 | L9P6 | | | | | | | | | |
| 0,02,1,324 | L9P70 | | | | | | | | | |
| 0,02,1,333 | L9P71 | | | | | | | | | |
| 0,02,1,342 | L9P72 | | | | | | | | | |
| 0,02,0,017 | L9P7 | | | | | | | | | |
| 0,02,0,025 | L9P8 | | | | | | | | | |
| 0,02,0,033 | L9P9 | | | | | | | | | |
| 0,04,1,256 | LA | 47330 | 47410 | | | | | | | |
| 0,13,0,135 | LC1 | 3040 | 3140 | | | | | | | |
| 0,17,0,050 | LC2 | 3060 | 49270 | | | | | | | |
| 0,17,0,051 | LC3 | 3080 | 50280 | | | | | | | |
| 0,17,0,052 | LC5 | 48940 | 48980 | 49000 | 49080 | 49480 | 50790 | 52820 | | |
| 0,16,0,274 | LC6 | 49040 | 49100 | 49490 | | | | | | |
| 0,17,0,053 | LC7 | 49090 | 49500 | 50890 | 52980 | | | | | |
| 0,17,0,054 | LC8 | 2600 | 53690 | 54560 | 55360 | 55970 | 56610 | 57720 | 59990 | 60860 |
| 0,17,0,054 | LC8 | 61010 | 61470 | 78990 | 79010 | 79170 | 79880 | | | |
| 0,16,0,210 | LC9 | 48970 | 49060 | | | | | | | |
| 0,17,0,065 | LCR10 | 2980 | 3350 | 3650 | 74880 | | | | | |
| 0,17,0,066 | LCR11 | 3000 | 3370 | 3680 | 78970 | 79550 | | | | |
| 0,17,0,067 | LCR12 | 3020 | 3710 | 85540 | | | | | | |
| 0,13,0,134 | LCR1 | 2800 | 3170 | 3730 | | | | | | |
| 0,17,0,055 | LCR2 | 2820 | 3190 | 3410 | 5530 | 21680 | | | | |
| 0,17,0,056 | LCR3 | 2840 | 3210 | 3440 | 13400 | 14650 | | | | |
| 0,17,0,057 | LCR4 | 2860 | 3230 | 3470 | 13380 | 21570 | 31730 | | | |
| 0,17,0,060 | LCR5 | 2880 | 3250 | 3500 | 13420 | 22660 | 35850 | | | |
| 0,17,0,061 | LCR6 | 2900 | 3270 | 3530 | 42460 | | | | | |
| 0,17,0,062 | LCR7 | 2920 | 3290 | 3560 | 44580 | | | | | |
| 0,17,0,063 | LCR8 | 2940 | 3310 | 3590 | 45640 | | | | | |
| 0,17,0,064 | LCR9 | 2960 | 3330 | 3620 | 53330 | | | | | |
| 0,17,0,234 | LINE1 | 44650 | | | | | | | | |
| 0,17,0,244 | LINE2 | 44660 | | | | | | | | |
| 0,17,0,254 | LINE3 | 44670 | | | | | | | | |
| 0,17,0,266 | LINE4 | 44680 | | | | | | | | |
| 0,17,0,306 | LINE5A | 45120 | | | | | | | | |
| 0,17,0,300 | LINE5 | 44690 | | | | | | | | |
| 0,17,0,317 | LINE6A | 45280 | | | | | | | | |
| 0,17,0,320 | LINE6B | 45300 | | | | | | | | |
| 0,17,0,307 | LINE6 | 44700 | | | | | | | | |
| 0,02,1,357 | LPPA | | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 34)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0,03,1,362 LPRA | | | | | | | | | |
| 0,04,0,137 LPR | 25170 | 25260 | 25350 | 25440 | 25550 | 25650 | 25750 | 25850 | 25940 |
| 0,04,0,137 LPR | | | | | | | | | |
| 1,05,0,024 MAB1A | 74900 | | | | | | | | |
| 1,00,0,014 MAB1B | 53350 | | | | | | | | |
| 1,05,0,020 MAB1 | | | | | | | | | |
| 1,05,0,025 MAC1 | 74890 | | | | | | | | |
| 1,05,0,043 MAD1 | 75370 | | | | | | | | |
| 1,05,0,046 MAE1 | 74980 | 75040 | 75330 | 75350 | | | | | |
| 1,05,0,061 MAF1 | 75160 | | | | | | | | |
| 1,05,0,073 MAG1 | 75290 | | | | | | | | |
| 1,10,0,255 MAG | 85660 | 86890 | 87130 | 87800 | | | | | |
| 1,05,0,101 MAH1 | 75100 | 75240 | 75870 | 76430 | 77140 | 77650 | | | |
| 1,05,0,054 MAJ1 | 75150 | 78170 | 78180 | 78320 | 78330 | 78460 | 78470 | 78600 | 78610 |
| 1,05,0,054 MAJ1 | 78740 | 78750 | | | | | | | |
| 1,11,0,217 MCTR | 74950 | 75250 | 75270 | | | | | | |
| 1,11,0,136 MDAT4 | 75110 | 75310 | | | | | | | |
| 1,07,1,045 NAB1A | 79150 | 79520 | | | | | | | |
| 0,11,0,143 NAB1B | 45660 | | | | | | | | |
| 1,07,1,046 NAB1C | 79000 | | | | | | | | |
| 1,07,1,044 NAB1D | 79100 | | | | | | | | |
| 1,07,1,040 NAB1 | | | | | | | | | |
| 1,07,1,133 NAB2A | 79610 | | | | | | | | |
| 1,07,1,130 NAB2 | | | | | | | | | |
| 1,07,1,213 NAB3 | 79900 | 79930 | 79990 | 80180 | 80200 | | | | |
| 1,07,1,241 NAB4 | 80650 | | | | | | | | |
| 1,07,1,306 NAB5A | 80700 | | | | | | | | |
| 1,07,1,304 NAB5 | 80340 | 80360 | 80460 | 80520 | 80580 | | | | |
| 1,07,1,056 NAC1 | 78980 | | | | | | | | |
| 1,07,1,135 NAC2 | 79560 | | | | | | | | |
| 1,07,1,220 NAC3 | 80000 | 80060 | 80210 | 80230 | | | | | |
| 1,07,1,154 NAD2A | 79760 | | | | | | | | |
| 1,07,1,137 NAD2 | | | | | | | | | |
| 1,07,1,246 NAD4 | | | | | | | | | |
| 1,07,1,323 NAD5A | 80800 | | | | | | | | |
| 1,07,1,313 NAD5 | | | | | | | | | |
| 1,07,1,234 NAE3 | | | | | | | | | |
| 1,07,1,067 NAF1 | 79030 | 79180 | | | | | | | |
| 1,07,1,162 NAF2 | 79800 | | | | | | | | |
| 1,07,1,252 NAF3 | 80290 | | | | | | | | |
| 1,07,1,255 NAF4 | 80660 | | | | | | | | |
| 1,07,1,100 NAG1A | 79190 | | | | | | | | |
| 1,07,1,072 NAG1 | | | | | | | | | |
| 1,07,1,260 NAG3 | 80430 | | | | | | | | |
| 1,07,1,263 NAG4 | 80630 | | | | | | | | |
| 1,07,1,115 NAH1A | 79440 | | | | | | | | |
| 1,07,1,102 NAH1 | | | | | | | | | |
| 1,07,1,266 NAH3 | 80490 | | | | | | | | |
| 1,07,1,271 NAH4 | 80610 | | | | | | | | |
| 1,07,1,274 NAJ3 | 80550 | | | | | | | | |
| 1,07,1,126 NAJ5 | 79400 | 79490 | 79720 | 79810 | 80730 | 81940 | | | |
| 1,07,1,123 NAK1 | 79480 | | | | | | | | |
| 1,07,0,040 NBA1 | 80830 | | | | | | | | |
| 1,07,0,076 NBC2 | 80910 | | | | | | | | |
| 1,07,0,205 NBC4 | 81300 | 81440 | 81600 | 81740 | | | | | |
| 1,07,0,114 NBD2 | 80930 | | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 35)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,07,0,132 | NBE2 | 80950 | | | | | | | | |
| 1,07,0,214 | NBE4 | | | | | | | | | |
| 1,07,0,152 | NBF2 | 80970 | | | | | | | | |
| 1,07,0,170 | NBG2 | 80990 | | | | | | | | |
| 1,07,0,223 | NBG4 | 81160 | 82000 | | | | | | | |
| 1,07,0,055 | NBH1 | | | | | | | | | |
| 1,07,0,056 | NBH2 | | | | | | | | | |
| 0,16,0,354 | NINE | 51200 | 51310 | 51330 | | | | | | |
| 0,16,0,351 | N | 51030 | 51090 | 51110 | | | | | | |
| 0,12,0,056 | P45 | 32920 | | | | | | | | |
| 1,07,1,134 | PAB1A | 79570 | | | | | | | | |
| 1,06,1,030 | PAB1 | | | | | | | | | |
| 1,06,1,033 | PAC1 | 85550 | | | | | | | | |
| 1,06,1,116 | PAC2 | | | | | | | | | |
| 1,06,1,076 | PAD1 | 86420 | | | | | | | | |
| 1,06,1,121 | PAD2 | 85850 | 85880 | 87010 | 87030 | | | | | |
| 1,06,1,100 | PAE1 | 86180 | 86320 | 86660 | 87120 | 87140 | | | | |
| 1,06,1,103 | PAF1 | 85770 | 85800 | 86950 | 86970 | | | | | |
| 1,06,1,125 | PAF2 | 85890 | 85920 | 87040 | 87060 | | | | | |
| 1,06,1,127 | PAG2 | | | | | | | | | |
| 1,06,1,110 | PAH1 | 85810 | 85840 | 86980 | 87000 | | | | | |
| 1,06,1,132 | PAH2 | 86820 | | | | | | | | |
| 1,06,1,135 | PAJ2 | 86810 | | | | | | | | |
| 1,10,0,256 | PATH | 85690 | 86080 | 86360 | 86430 | | | | | |
| 0,15,0,116 | PATN1 | 36460 | 36650 | 38300 | | | | | | |
| 0,15,0,226 | PATN2 | 38530 | 38930 | | | | | | | |
| 0,15,0,245 | PATN3 | 39080 | 40650 | | | | | | | |
| 0,15,0,216 | PATN4 | 37660 | 38320 | | | | | | | |
| 0,12,0,001 | PATN | 32100 | 34340 | | | | | | | |
| 1,06,1,142 | PBA1 | 86370 | | | | | | | | |
| 1,06,1,144 | PBB1 | | | | | | | | | |
| 1,06,1,204 | PBB3 | 86530 | 87850 | | | | | | | |
| 1,06,1,154 | PBD1 | 86400 | | | | | | | | |
| 1,06,1,157 | PBF1 | 86520 | | | | | | | | |
| 1,06,1,174 | PBF2 | 86090 | | | | | | | | |
| 1,06,1,215 | PBF3 | 86900 | | | | | | | | |
| 1,06,1,244 | PCB1 | 86840 | | | | | | | | |
| 1,06,1,322 | PCB2 | 86880 | | | | | | | | |
| 1,06,1,273 | PCE1 | 86860 | | | | | | | | |
| 1,06,1,350 | PCF1 | 87370 | 87600 | | | | | | | |
| 1,06,1,353 | PCH1 | 86150 | 86270 | 86780 | 87180 | 87220 | 87280 | 87320 | 87410 | 87450 |
| 1,06,1,353 | PCH1 | 87510 | 87550 | 87640 | 87680 | 87740 | 87780 | | | |
| 0,05,0,001 | PGNR | 45760 | 45810 | 45830 | 46120 | 46150 | 46220 | 46350 | 46370 | 46470 |
| 0,05,0,001 | PGNR | 47070 | 47510 | 47610 | 47940 | | | | | |
| 0,15,0,042 | PRSC | 37630 | 38310 | | | | | | | |
| 1,10,0,251 | QUAD1 | 85620 | 86450 | 86510 | 86630 | | | | | |
| 1,10,0,252 | QUAD2 | 85630 | 86650 | 86830 | 87360 | | | | | |
| 1,10,0,253 | QUAD3 | 85640 | 86850 | 87340 | 87590 | | | | | |
| 1,10,0,254 | QUAD4 | 85650 | 86870 | 87570 | 87820 | | | | | |
| 0,13,0,237 | SAVE | 31050 | 31150 | | | | | | | |
| 0,17,0,100 | STOP | 2580 | 31900 | 32430 | 32450 | 32490 | 32530 | 32570 | 32620 | 32960 |
| 0,17,0,100 | STOP | 33370 | 33850 | 36090 | 36800 | 38460 | 38720 | 38740 | 38800 | 38970 |
| 0,17,0,100 | STOP | 39230 | 39250 | 39300 | 44790 | 44860 | 44930 | 45020 | 45090 | 45180 |
| 0,17,0,100 | STOP | 45480 | 45560 | 45580 | 45900 | 45920 | 46050 | 46070 | 49370 | 49430 |
| 0,17,0,100 | STOP | 49450 | 50210 | 50230 | 50450 | 50760 | 50860 | 52290 | 52460 | 52690 |
| 0,17,0,100 | STOP | 52710 | 52780 | 52940 | 53150 | 53170 | 85670 | 87080 | 87100 | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 36)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0,17,0,077 TEMP1 | 5650 | 5670 | 5780 | 5800 | 40590 | 40630 | 42370 | 42400 | 49810 |
| 0,17,0,077 TEMP1 | 49840 | 50040 | 50140 | 50160 | 50560 | 50620 | 50640 | | |
| 0,13,0,241 TEMP2 | 31100 | 31250 | 31330 | | | | | | |
| 0,13,0,243 TEMP3 | 31200 | 31230 | 31280 | 31310 | | | | | |
| 0,17,0,076 TEMP | 19790 | 19870 | 24080 | 24140 | 24990 | 25050 | 27080 | 27140 | 28180 |
| 0,17,0,076 TEMP | 28210 | 28330 | 28360 | 28480 | 28510 | 28630 | 28660 | 28780 | 28810 |
| 0,17,0,075 TEMP | 28930 | 28960 | 29080 | 29110 | 29230 | 29260 | 29380 | 29410 | 29530 |
| 0,17,0,076 TEMP | 29560 | 29680 | 29710 | 29830 | 29860 | 29980 | 30010 | 30130 | 30160 |
| 0,17,0,076 TEMP | 30280 | 30310 | 30920 | 30970 | 34390 | 34420 | 34480 | 34510 | 34590 |
| 0,17,0,076 TEMP | 34620 | 37430 | 37460 | 37500 | 37530 | 38480 | 38490 | 38620 | 38640 |
| 0,17,0,076 TEMP | 38820 | 38990 | 39000 | 39130 | 39150 | 39320 | 42120 | 42170 | 42230 |
| 0,17,0,076 TEMP | 42290 | 42360 | 42890 | 42920 | 45460 | 45520 | 45550 | 46250 | 46520 |
| 0,17,0,076 TEMP | 47280 | 47310 | 47350 | 47380 | 49320 | 49530 | 49580 | 49630 | 49680 |
| 0,17,0,076 TEMP | 49730 | 49820 | 49980 | 50010 | 50060 | 50100 | 50130 | 50370 | 52390 |
| 0,17,0,076 TEMP | 52420 | 52490 | 52600 | 52620 | 53070 | 53110 | 56650 | 56730 | 65520 |
| 0,17,0,076 TEMP | 65620 | 65730 | 65810 | 65920 | 66000 | 66060 | 66350 | 66450 | 66560 |
| 0,17,0,076 TEMP | 66640 | 66750 | 66830 | 67180 | 67280 | 67390 | 67470 | 67580 | 67660 |
| 0,17,0,076 TEMP | 68010 | 68110 | 68220 | 68300 | 68410 | 68490 | 68820 | 68920 | 69030 |
| 0,17,0,076 TEMP | 69110 | 69220 | 69300 | 69640 | 69740 | 69850 | 69930 | 70040 | 70120 |
| 0,17,0,076 TEMP | 70180 | 70500 | 70600 | 70710 | 70790 | 70900 | 70980 | 71300 | 71400 |
| 0,17,0,076 TEMP | 71510 | 71590 | 71700 | 71780 | 74050 | 74100 | 74150 | 74200 | 74250 |
| 0,17,0,076 TEMP | 74300 | 74350 | 74400 | 74460 | 74490 | 75000 | 75030 | 75900 | 75950 |
| 0,17,0,076 TEMP | 76000 | 76050 | 76160 | 76210 | 76460 | 76510 | 76560 | 76610 | 76660 |
| 0,17,0,076 TEMP | 76710 | 76760 | 76810 | 76860 | 76910 | 76960 | 77010 | 77280 | 77330 |
| 0,17,0,076 TEMP | 77440 | 77490 | 77950 | 78000 | 78210 | 78260 | 78360 | 78410 | 78500 |
| 0,17,0,076 TEMP | 78550 | 78640 | 78690 | 78780 | 78830 | 79950 | 79980 | 80020 | 80050 |
| 0,17,0,076 TEMP | 85760 | 85790 | 85830 | 85870 | 85910 | | | | |
| 1,13,0,000 TIME | 2620 | 79110 | 79130 | 79160 | 79600 | | | | |
| 0,17,0,070 V1 | 35910 | 36180 | 36280 | 36370 | 36490 | 36570 | 36860 | 36920 | 37000 |
| 0,17,0,070 V1 | 37090 | 37180 | 37260 | 37330 | 37580 | 37940 | 38010 | 38090 | 38180 |
| 0,17,0,070 V1 | 38390 | 38860 | 39370 | 39480 | 39570 | 39700 | 39790 | 39920 | 40000 |
| 0,17,0,070 V1 | 40080 | 40150 | 40320 | 40330 | 40510 | 71690 | 72950 | | |
| 0,17,0,071 V2 | 36000 | 36300 | 36390 | 36510 | 36590 | 37600 | 38420 | 38880 | 65250 |
| 0,17,0,071 V2 | 66120 | 56920 | 67770 | 68570 | 69390 | 70250 | 71050 | 71920 | 72980 |
| 0,17,0,071 V2 | | | | | | | | | |
| 0,17,0,072 V3 | | | | | | | | | |
| 0,17,0,073 V4 | 39580 | 39650 | 42630 | 42910 | 53780 | 53860 | 53920 | 54020 | 54080 |
| 0,17,0,073 V4 | 54180 | 55150 | 55210 | 55270 | 55330 | 55410 | 55490 | 55560 | 55620 |
| 0,17,0,073 V4 | 55680 | 55740 | 55800 | 55880 | 63440 | 63530 | 63600 | 63730 | 63800 |
| 0,17,0,073 V4 | 63730 | 63990 | 64090 | 64160 | 64230 | 65580 | 65770 | 65960 | 66410 |
| 0,17,0,073 V4 | 66600 | 66790 | 67240 | 67430 | 67620 | 68070 | 68260 | 68450 | 68880 |
| 0,17,0,073 V4 | 69070 | 69260 | 69700 | 69890 | 70080 | 70560 | 70750 | 70940 | 71360 |
| 0,17,0,073 V4 | 71550 | 71740 | 72160 | 72220 | 72280 | 72340 | 72400 | 72460 | 72520 |
| 0,17,0,073 V4 | 72580 | 72640 | 72700 | 72760 | 72820 | 73240 | 73300 | 73360 | 73420 |
| 0,17,0,073 V4 | 73480 | 73540 | 73600 | 73660 | 73720 | 73780 | 73840 | 73900 | 73950 |
| 0,17,0,073 V4 | | | | | | | | | |
| 0,17,0,074 V5 | 36420 | 36630 | 36640 | 36950 | 37030 | 37130 | 37640 | 39010 | |
| 0,17,0,070 VARI | 5160 | 5240 | 5320 | 5410 | 5590 | 5740 | 5850 | 5960 | 6050 |
| 0,17,0,070 VARI | 6130 | 6220 | 6310 | 6390 | 6490 | 6570 | 6670 | 6750 | 6830 |
| 0,17,0,070 VARI | 6920 | 7000 | 7090 | 7170 | 7250 | 7340 | 7420 | 7500 | 7590 |
| 0,17,0,070 VARI | 7670 | 7750 | 7830 | 7910 | 7990 | 8090 | 8170 | 8250 | 8340 |
| 0,17,0,070 VARI | 8430 | 8520 | 8610 | 8700 | 8790 | 8870 | 8950 | 9040 | 9150 |
| 0,17,0,070 VARI | 9230 | 9310 | 9400 | 9510 | 9600 | 9690 | 9780 | 9870 | 9950 |
| 0,17,0,070 VARI | 10040 | 10130 | 10220 | 10310 | 10400 | 10490 | 10580 | 10670 | 10750 |
| 0,17,0,070 VARI | 10830 | 10920 | 11010 | 11100 | 11230 | 11320 | 11410 | 11490 | 11570 |
| 0,17,0,070 VARI | 11660 | 11750 | 11840 | 11930 | 12020 | 12110 | 12220 | 12550 | 12690 |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 37)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 12850 | 12940 | 13030 | 13120 | 13210 | 13230 | 13300 | 19830 | 24120 |
| | 25010 | 27120 | 30960 | 31820 | 32750 | 32980 | 33030 | 33750 | 33830 |
| | 33970 | 42530 | 43480 | 48860 | 49300 | 56690 | | | |
| 0,17,0,071 VAR2 | 5180 | 5260 | 5340 | 5430 | 5610 | 5760 | 5870 | 5980 | 6070 |
| 0,17,0,071 VAR2 | 6150 | 6240 | 6330 | 6410 | 6510 | 6590 | 6690 | 6770 | 6850 |
| 0,17,0,071 VAR2 | 6940 | 7020 | 7110 | 7190 | 7270 | 7360 | 7440 | 7520 | 7610 |
| 0,17,0,071 VAR2 | 7690 | 7770 | 7850 | 7930 | 8010 | 8110 | 8190 | 8270 | 8360 |
| 0,17,0,071 VAR2 | 8450 | 8540 | 8630 | 8720 | 8810 | 8890 | 8970 | 9060 | 9170 |
| 0,17,0,071 VAR2 | 9250 | 9330 | 9420 | 9530 | 9620 | 9710 | 9800 | 9890 | 9970 |
| 0,17,0,071 VAR2 | 10060 | 10150 | 10240 | 10330 | 10420 | 10510 | 10600 | 10690 | 10770 |
| 0,17,0,071 VAR2 | 10850 | 10940 | 11030 | 11120 | 11250 | 11340 | 11430 | 11510 | 11590 |
| 0,17,0,071 VAR2 | 11680 | 11770 | 11860 | 11950 | 12040 | 12130 | 12240 | 12580 | 12720 |
| 0,17,0,071 VAR2 | 12870 | 12960 | 13050 | 13140 | 13330 | 19810 | 24100 | 25030 | 27100 |
| 0,17,0,071 VAR2 | 30940 | 34410 | 40610 | 42560 | 43510 | 49290 | 56670 | | |
| 0,17,0,072 VAR3 | 2700 | 2720 | 48880 | 48960 | 49050 | 49470 | | | |
| 0,17,0,073 VAR4 | 2750 | 14720 | 15030 | 15090 | 15140 | 15200 | 15270 | 15340 | 15410 |
| 0,17,0,073 VAR4 | 15480 | 15530 | 15600 | 15670 | 15740 | 15810 | 15880 | 15950 | 16020 |
| 0,17,0,073 VAR4 | 16090 | 16160 | 16230 | 16300 | 16370 | 16440 | 16510 | 16580 | 16650 |
| 0,17,0,073 VAR4 | 16720 | 16790 | 16860 | 16930 | 17000 | 17070 | 17140 | 17210 | 17280 |
| 0,17,0,073 VAR4 | 17350 | 17440 | 17510 | 17580 | 17650 | 17720 | 17790 | 17860 | 17930 |
| 0,17,0,073 VAR4 | 18000 | 18070 | 18140 | 18210 | 18280 | 18350 | 18420 | 18490 | 18560 |
| 0,17,0,073 VAR4 | 18630 | 18700 | 18770 | 18840 | 18910 | 18980 | 19050 | 19120 | 19190 |
| 0,17,0,073 VAR4 | 19260 | 19330 | 19400 | 19470 | 19540 | 19610 | 19680 | 19820 | 19850 |
| 0,17,0,073 VAR4 | 19940 | 20190 | 20240 | 20290 | 20390 | 20460 | 20530 | 20600 | 20670 |
| 0,17,0,073 VAR4 | 20740 | 20810 | 20860 | 20910 | 20980 | 21040 | 21100 | 21160 | 21230 |
| 0,17,0,073 VAR4 | 21330 | 21400 | 21500 | 21640 | 21820 | 21950 | 22070 | 22240 | 22420 |
| 0,17,0,073 VAR4 | 22560 | 22640 | 22810 | 22880 | 22950 | 23060 | 23120 | 23170 | 23230 |
| 0,17,0,073 VAR4 | 23280 | 23470 | 23560 | 23650 | 23740 | 23830 | 23920 | 24010 | 24630 |
| 0,17,0,073 VAR4 | 24690 | 24730 | 24800 | 24890 | 25000 | 25100 | 25190 | 25280 | 25370 |
| 0,17,0,073 VAR4 | 25480 | 25570 | 25670 | 25770 | 25870 | 25960 | 26040 | 26090 | 26150 |
| 0,17,0,073 VAR4 | 26220 | 26290 | 26360 | 26430 | 26500 | 26570 | 26640 | 26740 | 27780 |
| 0,17,0,073 VAR4 | 28250 | 28400 | 28550 | 28700 | 28850 | 29000 | 29150 | 29300 | 29450 |
| 0,17,0,073 VAR4 | 29600 | 29750 | 29900 | 30050 | 30200 | 30490 | 31800 | 32080 | 32130 |
| 0,17,0,073 VAR4 | 32190 | 32280 | 32700 | 32730 | 32830 | 32890 | 33010 | 33110 | 33170 |
| 0,17,0,073 VAR4 | 33230 | 33350 | 33530 | 33660 | 33720 | 33960 | 34050 | 34100 | 34170 |
| 0,17,0,073 VAR4 | 34230 | 34290 | 39720 | 48900 | 63380 | 80140 | | | |
| 0,17,0,074 VAR5 | 2760 | 14760 | 28200 | 28350 | 28500 | 28650 | 28800 | 28950 | 29100 |
| 0,17,0,074 VAR5 | 29250 | 29400 | 29550 | 29700 | 29850 | 30000 | 30150 | 30300 | 32060 |
| 0,17,0,074 VAR5 | 32780 | 33060 | 33460 | 33610 | 34300 | 38500 | 39390 | 48920 | 80090 |
| 0,17,0,074 VAR5 | | | | | | | | | |
| 0,16,0,341 WORD | 50050 | 51160 | 51240 | 51270 | 53140 | | | | |
| 1,10,0,105 X1 | 86000 | 86060 | 86200 | 86280 | 86550 | 86600 | 86670 | | |
| 1,10,0,101 Y1 | 85700 | 86380 | 86460 | | | | | | |
| 1,10,0,257 YN | 85710 | 85940 | 86330 | 86350 | 86390 | 86410 | | | |
| 0,17,0,020 ZERO | 2560 | 2740 | 3400 | 3430 | 3460 | 3490 | 3520 | 3550 | 3580 |
| 0,17,0,020 ZERO | 3610 | 3640 | 3670 | 3700 | 13460 | 14750 | 15150 | 19840 | 20200 |
| 0,17,0,020 ZERO | 20540 | 20610 | 20680 | 20750 | 20820 | 21240 | 21740 | 21980 | 22170 |
| 0,17,0,020 ZERO | 22360 | 22490 | 22570 | 22750 | 22980 | 23070 | 23130 | 24020 | 24650 |
| 0,17,0,020 ZERO | 26730 | 26900 | 26980 | 31860 | 32010 | 32220 | 33260 | 33560 | 34240 |
| 0,17,0,020 ZERO | 36020 | 36190 | 36310 | 37110 | 37270 | 37380 | 37960 | 38040 | 38120 |
| 0,17,0,020 ZERO | 38230 | 38430 | 38600 | 38890 | 39050 | 39380 | 39490 | 39590 | 39710 |
| 0,17,0,020 ZERO | 39950 | 40010 | 40240 | 40270 | 40430 | 40460 | 42830 | 43240 | 43340 |
| 0,17,0,020 ZERO | 43720 | 43800 | 45730 | 45780 | 45910 | 46060 | 47130 | 47710 | 47730 |
| 0,17,0,020 ZERO | 47750 | 47770 | 47790 | 47810 | 47830 | 47850 | 47870 | 47890 | 49380 |
| 0,17,0,020 ZERO | 52240 | 52250 | 52260 | 52500 | 52510 | 52520 | 52740 | 52750 | 52760 |
| 0,17,0,020 ZERO | 52830 | 52900 | 52910 | 52920 | 52990 | 53420 | 53790 | 53950 | 54110 |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 38)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 54170 | 54490 | 54580 | 54890 | 55160 | 55280 | 55340 | 55420 | 55450 |
| | 55520 | 55570 | 55630 | 55690 | 55750 | 55810 | 55870 | 56180 | 56890 |
| | 57780 | 57940 | 58580 | 58900 | 59560 | 59830 | 60010 | 60830 | 60880 |
| | 60960 | 61110 | 61180 | 61270 | 61330 | 61490 | 61570 | 61760 | 61830 |
| | 61900 | 61970 | 62240 | 62310 | 62380 | 62450 | 62680 | 62760 | 62840 |
| | 62950 | 63270 | 63330 | 63390 | 63540 | 63660 | 63740 | 63860 | 63940 |
| | 64100 | 64210 | 64670 | 64700 | 64710 | 65100 | 65320 | 65430 | 65470 |
| | 66240 | 66250 | 66260 | 66950 | 67050 | 67070 | 67080 | 67090 | 67880 |
| | 67900 | 67910 | 67920 | 68710 | 68720 | 68730 | 69420 | 69530 | 69540 |
| | 69550 | 70390 | 70400 | 70410 | 71080 | 71100 | 71190 | 71200 | 71210 |
| | 71250 | 71990 | 72050 | 72060 | 72130 | 73130 | 73170 | 73210 | 73560 |
| | 73940 | 74940 | 79060 | 85580 | 86620 | 87350 | 87580 | 87810 | |
| 0,13,0,154 =00000000 | | 5350 | 5440 | 5660 | 5770 | 5880 | 6000 | 6860 | 6950 |
| 0,13,0,154 =00000000 | | 6960 | 7370 | 7380 | 7460 | 7530 | 7700 | 7710 | 8290 |
| 0,13,0,154 =00000000 | | 8370 | 8740 | 8900 | 8910 | 8990 | 9900 | 9980 | 11440 |
| 0,13,0,154 =00000000 | | 11520 | 12250 | | | | | | |
| 0,13,0,133 =00000002 | | 2710 | 5270 | 5700 | 6090 | 6160 | 6600 | 6610 | 6870 |
| 0,13,0,133 =00000002 | | 7940 | 7950 | 8730 | 9000 | 10070 | 10700 | | |
| 0,14,0,311 =00000002 | | 23480 | | | | | | | |
| 0,15,0,040 =00000002 | | 28140 | | | | | | | |
| 0,12,0,167 =00000002 | | 31960 | | | | | | | |
| 1,10,0,065 =00000002 | | 58260 | 59240 | | | | | | |
| 1,13,0,261 =00000002 | | 79120 | | | | | | | |
| 0,13,0,214 =00000004 | | 10760 | | | | | | | |
| 0,14,0,272 =00000004 | | 21720 | 21960 | 22150 | 22340 | 23570 | | | |
| 0,15,0,277 =00000004 | | 28290 | 40400 | | | | | | |
| 0,12,0,170 =00000004 | | 31990 | 32200 | 33540 | | | | | |
| 1,10,0,062 =00000004 | | 57700 | 64610 | 65040 | | | | | |
| 1,11,0,010 =00000004 | | 66360 | 69650 | 73190 | 78580 | | | | |
| 1,13,0,307 =00000004 | | 80600 | 80900 | | | | | | |
| 0,14,0,261 =00000006 | | 21270 | 23000 | | | | | | |
| 0,15,0,350 =00000006 | | 38790 | 39290 | 40190 | | | | | |
| 0,11,0,363 =00000006 | | 45260 | | | | | | | |
| 0,16,0,355 =00000006 | | 51350 | | | | | | | |
| 1,11,0,034 =00000006 | | 71970 | | | | | | | |
| 0,14,0,314 =00000010 | | 23660 | | | | | | | |
| 0,15,0,301 =00000010 | | 28440 | 39610 | 39930 | | | | | |
| 0,12,0,203 =00000010 | | 33980 | | | | | | | |
| 0,16,0,340 =00000010 | | 50030 | | | | | | | |
| 0,16,0,345 =00000012 | | 50550 | 52480 | | | | | | |
| 1,11,0,030 =00000012 | | 70800 | 70850 | 71410 | 71460 | 72110 | 72780 | 73620 | |
| 1,13,0,264 =00000012 | | 79240 | 80540 | | | | | | |
| 0,12,0,175 =00000014 | | 32610 | | | | | | | |
| 0,15,0,354 =00000014 | | 39830 | 43640 | 44010 | | | | | |
| 0,11,0,360 =00000014 | | 45080 | 45470 | | | | | | |
| 0,16,0,346 =00000014 | | 50750 | 50850 | 52770 | 52930 | | | | |
| 1,10,0,242 =00000014 | | 64350 | 64400 | 64460 | 64560 | 64780 | 64830 | 64890 | 64990 |
| 1,10,0,242 =00000014 | | | | | | | | | |
| 1,11,0,206 =00000014 | | 73050 | | | | | | | |
| 1,13,0,313 =00000014 | | 81110 | 81550 | | | | | | |
| 0,15,0,355 =00000016 | | 39850 | | | | | | | |
| 0,11,0,357 =00000016 | | 45010 | 45170 | | | | | | |
| 0,14,0,312 =00000020 | | 23530 | 23750 | | | | | | |
| 0,15,0,303 =00000020 | | 28590 | 36210 | | | | | | |
| 0,12,0,173 =00000020 | | 32540 | 33240 | 33360 | | | | | |
| 0,11,0,351 =00000020 | | 44780 | 44850 | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 39)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0,05,0,006 =00000C020 | 46040 | | | | | | |
| 0,16,0,353 =00000C022 | 51190 | | | | | | |
| 1,13,0,320 =00000C022 | 81390 | 81830 | | | | | |
| 0,12,0,174 =00000C024 | 32580 | 33840 | | | | | |
| 0,11,0,354 =00000C024 | 44920 | | | | | | |
| 0,05,0,005 =00000C024 | 45890 | | | | | | |
| 0,16,0,211 =00000C024 | 49010 | 50420 | 50510 | 50530 | 50730 | 50830 | 52450 |
| 1,13,0,262 =00000C024 | 79140 | 81250 | 81690 | | | | |
| 0,15,0,347 =00000C030 | 38450 | 38750 | 38960 | 39260 | | | |
| 1,10,0,261 =00000C030 | 86920 | 87690 | | | | | |
| 0,16,0,344 =00000C034 | 50440 | 52280 | | | | | |
| 0,14,0,313 =00000C040 | 23620 | 23840 | | | | | |
| 0,15,0,305 =00000C040 | 28740 | 36110 | | | | | |
| 1,10,0,005 =00000C040 | 53510 | | | | | | |
| 1,11,0,003 =00000C040 | 65410 | | | | | | |
| 1,13,0,267 =00000C040 | 79330 | 81040 | 81620 | 81760 | 81850 | | |
| 1,11,0,033 =00000C044 | 71950 | 73150 | | | | | |
| 0,12,0,172 =00000C046 | 32500 | 32950 | | | | | |
| 1,13,0,316 =00000C050 | 81270 | | | | | | |
| 1,13,0,275 =00000C074 | 79670 | 79740 | 80750 | 81950 | | | |
| 0,13,0,244 =00000C076 | 31340 | | | | | | |
| 0,14,0,315 =00000C100 | 23710 | 23930 | | | | | |
| 0,15,0,307 =00000C100 | 28890 | | | | | | |
| 0,16,0,333 =00000C100 | 49410 | | | | | | |
| 1,10,0,016 =00000C100 | 54720 | | | | | | |
| 1,13,0,274 =00000C100 | 79650 | 81180 | 81320 | 81410 | 81480 | | |
| 0,15,0,352 =00000C110 | 39400 | | | | | | |
| 0,12,0,163 =00000C132 | 31890 | 32460 | | | | | |
| 1,13,0,304 =00000C136 | 80480 | | | | | | |
| 0,16,0,332 =00000C144 | 49360 | | | | | | |
| 1,10,0,236 =00000C146 | 64050 | | | | | | |
| 1,10,0,263 =00000C170 | 87460 | 87830 | | | | | |
| 0,14,0,305 =00000C176 | 22730 | 23400 | | | | | |
| 1,10,0,264 =00000C176 | 87910 | | | | | | |
| 0,14,0,316 =00000C200 | 23800 | | | | | | |
| 0,15,0,311 =00000C200 | 29040 | 36080 | | | | | |
| 1,13,0,314 =00000C200 | 81130 | 81570 | | | | | |
| 0,11,0,355 =00000C240 | 44960 | | | | | | |
| 1,10,0,036 =00000C252 | 56540 | 63690 | | | | | |
| 1,11,0,027 =00000C252 | 70610 | 70660 | 71600 | 71650 | | | |
| 1,13,0,302 =00000C262 | 80420 | | | | | | |
| 1,13,0,271 =00000C266 | 79420 | | | | | | |
| 1,10,0,240 =00000C300 | 64190 | 87230 | | | | | |
| 1,10,0,244 =00000C334 | 64510 | 64940 | | | | | |
| 1,11,0,223 =00000C360 | 75390 | | | | | | |
| 1,13,0,310 =00000C360 | 80680 | 81890 | | | | | |
| 0,14,0,317 =00000C400 | 23890 | | | | | | |
| 0,15,0,313 =00000C400 | 29190 | | | | | | |
| 1,10,0,040 =00000C400 | 56700 | | | | | | |
| 1,11,0,211 =00000C400 | 74470 | 78130 | 78440 | | | | |
| 1,13,0,277 =00000C406 | 80280 | | | | | | |
| 1,13,0,323 =00000C420 | 81710 | | | | | | |
| 0,16,0,275 =00000C500 | 49130 | 49160 | 49190 | 49220 | 49250 | | |
| 1,11,0,020 =00000C500 | 68310 | 68360 | | | | | |
| 1,11,0,205 =00000C512 | 72720 | 73680 | | | | | |
| 1,10,0,233 =00000C520 | 63830 | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 40)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1,10,0,035 | =00000C524 | 56500 | 59950 | 63490 | | | | | |
| 1,13,0,301 | =00000C530 | 80330 | | | | | | | |
| 1,10,0,234 | =000C00630 | 63890 | | | | | | | |
| 1,10,0,260 | =00000C652 | 85960 | 86020 | 86480 | 86570 | | | | |
| 0,15,0,334 | =000000770 | 37020 | | | | | | | |
| 1,10,0,037 | =0C0000776 | 56580 | | | | | | | |
| 0,14,0,320 | =000001000 | 23980 | | | | | | | |
| 0,15,0,315 | =000C01000 | 29340 | | | | | | | |
| 0,05,0,004 | =000001000 | 45820 | 46480 | | | | | | |
| 1,11,0,230 | =000001000 | 78150 | 78720 | | | | | | |
| 1,10,0,232 | =000001240 | 63630 | | | | | | | |
| 1,10,0,177 | =000001252 | 59910 | | | | | | | |
| 1,10,0,235 | =000001460 | 64020 | | | | | | | |
| 1,13,0,270 | =000001622 | 79350 | | | | | | | |
| 0,14,0,262 | =000001760 | 21290 | 21440 | 23090 | 23430 | 23520 | 23610 | 23700 | 23790 |
| 0,14,0,262 | =0C0001760 | 23880 | 23970 | 24050 | | | | | |
| 1,10,0,230 | =000001760 | 63460 | 63620 | 63820 | 64010 | 64180 | | | |
| 1,10,0,176 | =000001774 | 59870 | | | | | | | |
| 0,14,0,347 | =000002000 | 25900 | | | | | | | |
| 0,15,0,317 | =000002C00 | 29490 | | | | | | | |
| 0,13,0,240 | =000002000 | 31060 | | | | | | | |
| 0,05,0,254 | =000002000 | 46530 | | | | | | | |
| 1,13,0,311 | =000C02000 | 81020 | 81460 | | | | | | |
| 0,12,0,166 | =000002040 | 31950 | | | | | | | |
| 1,13,0,004 | =000002200 | 79040 | | | | | | | |
| 0,15,0,367 | =000002260 | 43600 | | | | | | | |
| 0,15,0,370 | =000002400 | 43620 | | | | | | | |
| 0,15,0,366 | =000002466 | 43420 | | | | | | | |
| 1,11,0,226 | =000003416 | 77100 | | | | | | | |
| 1,10,0,214 | =000003776 | 60800 | | | | | | | |
| 0,15,0,321 | =000004C00 | 29640 | 30320 | 30880 | | | | | |
| 0,16,0,347 | =000C04C00 | 50940 | | | | | | | |
| 1,13,0,263 | =000004000 | 79220 | | | | | | | |
| 1,10,0,052 | =000005252 | 57280 | | | | | | | |
| 1,11,0,023 | =000005252 | 69310 | 69440 | 69590 | 7030C | 70450 | 71790 | | |
| 1,11,0,225 | =000005322 | 76390 | | | | | | | |
| 1,11,0,204 | =000005512 | 72660 | 73740 | | | | | | |
| 1,11,0,203 | =000005536 | 72600 | 73800 | | | | | | |
| 1,11,0,022 | =000005752 | 69120 | 69170 | 69750 | 6980C | | | | |
| 1,11,0,021 | =000005776 | 68930 | 68980 | 69940 | 6999C | 72540 | 73860 | | |
| 0,14,0,236 | =000010000 | 16960 | 17310 | 19360 | | | | | |
| 0,15,0,323 | =00001C000 | 29790 | 30170 | 30850 | | | | | |
| 1,13,0,265 | =00001C000 | 79260 | 79390 | 79470 | 7971C | 79790 | 80720 | 80790 | 81090 |
| 1,13,0,265 | =000010000 | 81230 | 81370 | 81530 | 81670 | 81810 | 81930 | 81990 | |
| 0,05,0,007 | =000012000 | 46130 | 46190 | 46260 | 4638C | 46400 | 47970 | | |
| 1,11,0,004 | =000012000 | 65630 | 65680 | 72180 | 73500 | | | | |
| 1,11,0,224 | =000012070 | 75830 | | | | | | | |
| 1,11,0,135 | =000012240 | 72240 | 73440 | | | | | | |
| 1,11,0,201 | =000012264 | 72300 | 73380 | | | | | | |
| 1,11,0,005 | =000012500 | 65820 | 65870 | 68120 | 68170 | | | | |
| 1,10,0,051 | =000012524 | 57240 | | | | | | | |
| 1,11,0,006 | =000012524 | 66010 | 66150 | 66300 | 67670 | 67800 | 67960 | 78090 | |
| 1,11,0,011 | =000012764 | 66460 | 66510 | 67480 | 67530 | | | | |
| 0,05,0,251 | =000013000 | 46230 | 47520 | 47950 | | | | | |
| 1,11,0,227 | =000014744 | 77610 | | | | | | | |
| 1,11,0,202 | =000017264 | 72360 | 73320 | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 41)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,11,0,012 =000017764 | 66650 | 66700 | 67290 | 67340 | 72420 | 73260 | | |
| 1,10,0,053 =000017776 | 57320 | | | | | | | |
| 1,11,0,013 =000017776 | 66840 | 66970 | 67130 | 68620 | 68770 | 70130 | 72480 | 73070 |
| 1,11,0,013 =000017776 | 73920 | | | | | | | |
| 0,14,0,235 =00002C000 | 16820 | 17170 | 19290 | 19500 | | | | |
| 0,15,0,325 =00002C000 | 29940 | 30020 | 30820 | | | | | |
| 0,12,0,204 =00002C000 | 34070 | | | | | | | |
| 1,10,0,004 =00002C000 | 53490 | 62970 | | | | | | |
| 1,11,0,213 =00002C000 | 74640 | 74670 | | | | | | |
| 1,13,0,306 =000021000 | 80560 | | | | | | | |
| 1,13,0,305 =000022000 | 80500 | | | | | | | |
| 0,05,0,011 =000024000 | 46160 | | | | | | | |
| 1,13,0,303 =000024000 | 80440 | | | | | | | |
| 0,05,0,261 =000025000 | 47080 | 47620 | | | | | | |
| 1,11,0,221 =000025234 | 75180 | | | | | | | |
| 0,15,0,377 =000026202 | 44450 | | | | | | | |
| 1,13,0,300 =00003C000 | 80300 | | | | | | | |
| 0,16,0,335 =000037740 | 49830 | | | | | | | |
| 0,16,0,336 =000037776 | 49970 | | | | | | | |
| 0,14,0,234 =00004C000 | 16680 | 17030 | 17610 | 19220 | | | | |
| 0,15,0,324 =00004C000 | 29870 | 30090 | 30790 | | | | | |
| 1,10,0,225 =00004C000 | 62860 | | | | | | | |
| 1,11,0,212 =000040000 | 74610 | 75080 | 75780 | 76370 | 77080 | 77590 | 78070 | 78870 |
| 1,11,0,212 =000040C00 | | | | | | | | |
| 0,15,0,374 =000054402 | 44400 | | | | | | | |
| 0,15,0,333 =000077000 | 36940 | | | | | | | |
| 0,14,0,233 =000100000 | 16540 | 16890 | 18940 | 19150 | 19430 | | | |
| 0,15,0,322 =000100000 | 29720 | 30240 | 30760 | | | | | |
| 0,05,0,253 =000100000 | 46410 | | | | | | | |
| 1,10,0,224 =000100000 | 62780 | | | | | | | |
| 1,11,0,220 =000100000 | 75060 | 75130 | 75220 | 75850 | 76350 | 76410 | 77050 | 77120 |
| 1,11,0,220 =000100000 | 77570 | 77630 | 78050 | 78110 | 78850 | | | |
| 1,13,0,266 =000100000 | 79300 | 79630 | | | | | | |
| 0,15,0,373 =000131002 | 44350 | | | | | | | |
| 1,10,0,003 =000152204 | 53470 | | | | | | | |
| 0,14,0,232 =00020C000 | 16400 | 16750 | 17470 | 18800 | 19080 | | | |
| 0,15,0,320 =000200000 | 29570 | 30730 | | | | | | |
| 0,05,0,250 =000200000 | 46200 | | | | | | | |
| 1,10,0,223 =000200000 | 62700 | | | | | | | |
| 0,14,0,345 =000201000 | 25810 | | | | | | | |
| 1,11,0,014 =000340000 | 67000 | 67830 | 71160 | | | | | |
| 1,11,0,007 =000340064 | 66180 | | | | | | | |
| 1,11,0,024 =000340126 | 69470 | | | | | | | |
| 0,14,0,231 =000400000 | 16260 | 16610 | 17240 | 18660 | 19010 | | | |
| 0,15,0,316 =000400000 | 29420 | 30700 | | | | | | |
| 1,10,0,222 =00040C000 | 62260 | 62330 | 62400 | 62470 | | | | |
| 0,14,0,343 =000404400 | 25710 | | | | | | | |
| 0,14,0,230 =00100C000 | 16120 | 16470 | 17100 | 18520 | 18870 | 26680 | | |
| 0,15,0,314 =001000000 | 29270 | 30670 | | | | | | |
| 1,10,0,221 =001C00C00 | 61780 | 61850 | 61920 | 61990 | | | | |
| 0,14,0,341 =00101C200 | 25610 | | | | | | | |
| 0,15,0,356 =00102C000 | 39890 | | | | | | | |
| 1,11,0,036 =001100000 | 72080 | 73030 | | | | | | |
| 1,11,0,035 =001100002 | 72020 | | | | | | | |
| 1,11,0,207 =00110C010 | 73100 | | | | | | | |
| 1,10,0,021 =00124C000 | 56090 | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 42)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1,10,0,022 | =001250000 | 56260 | | | | | |
| 1,11,0,025 | =001500000 | 69500 | 70360 | | | | |
| 1,11,0,001 | =001500016 | 65350 | 68650 | | | | |
| 1,11,0,031 | =001500126 | 71130 | | | | | |
| 1,10,0,174 | =001770000 | 59710 | | | | | |
| 1,10,0,213 | =001774006 | 60720 | | | | | |
| 0,14,0,227 | =002000000 | 15980 | 16330 | 18380 | 18730 | 26610 | |
| 0,15,0,312 | =002000000 | 29120 | 30640 | | | | |
| 1,10,0,017 | =002000000 | 54980 | 61590 | | | | |
| 1,10,0,015 | =002000002 | 54700 | 54800 | 55000 | | | |
| 0,13,0,230 | =002010042 | 11980 | | | | | |
| 0,14,0,337 | =002020100 | 25510 | | | | | |
| 1,10,0,020 | =002520000 | 56050 | 56220 | | | | |
| 0,13,0,231 | =002525252 | 12070 | | | | | |
| 1,11,0,002 | =002540000 | 65380 | 66210 | 68680 | | | |
| 1,11,0,026 | =002540016 | 70330 | | | | | |
| 1,11,0,015 | =002540064 | 67020 | 67650 | | | | |
| 1,10,0,023 | =003770000 | 56300 | 59680 | | | | |
| 0,14,0,226 | =004000000 | 15840 | 16190 | 18240 | 18590 | 26540 | |
| 0,15,0,310 | =004000000 | 28970 | 30610 | | | | |
| 1,10,0,247 | =004000000 | 65150 | | | | | |
| 0,13,0,210 | =004020102 | 10430 | | | | | |
| 0,14,0,336 | =004040000 | 25400 | 25430 | | | | |
| 0,13,0,226 | =004040404 | 11890 | | | | | |
| 0,15,0,335 | =004700000 | 37150 | | | | | |
| 0,15,0,357 | =005320000 | 39970 | | | | | |
| 0,05,0,260 | =006000000 | 47020 | | | | | |
| 0,14,0,302 | =007000000 | 22530 | 22610 | | | | |
| 0,15,0,331 | =007700000 | 36630 | | | | | |
| 1,10,0,210 | =007700000 | 60370 | | | | | |
| 1,10,0,173 | =007777740 | 59650 | | | | | |
| 1,10,0,207 | =007777776 | 60340 | | | | | |
| 0,14,0,225 | =010000000 | 15700 | 16050 | 18100 | 18450 | 20470 | 26470 |
| 0,15,0,306 | =010000000 | 28620 | 30580 | | | | |
| 0,11,0,364 | =010000000 | 45400 | | | | | |
| 0,05,0,267 | =010000000 | 48000 | | | | | |
| 1,10,0,217 | =010000000 | 61130 | 61200 | 64740 | | | |
| 0,14,0,335 | =010100000 | 25310 | 25340 | | | | |
| 0,13,0,206 | =010101012 | 10340 | | | | | |
| 0,14,0,301 | =010220000 | 22390 | | | | | |
| 0,13,0,224 | =010604102 | 11800 | | | | | |
| 0,14,0,340 | =012020000 | 25540 | | | | | |
| 0,05,0,257 | =016000000 | 46890 | | | | | |
| 1,10,0,152 | =017600000 | 59020 | | | | | |
| 1,10,0,172 | =017770000 | 59620 | | | | | |
| 0,14,0,224 | =020000000 | 15560 | 15910 | 17960 | 18310 | 26400 | |
| 0,15,0,304 | =020000000 | 28670 | 30550 | | | | |
| 0,13,0,242 | =020000000 | 11110 | | | | | |
| 0,05,0,263 | =020000000 | 47180 | | | | | |
| 0,16,0,356 | =020000000 | 51450 | | | | | |
| 0,14,0,333 | =020000040 | 25220 | | | | | |
| 0,13,0,204 | =020410206 | 10250 | | | | | |
| 0,14,0,342 | =021010000 | 25640 | | | | | |
| 0,13,0,222 | =021042104 | 11710 | | | | | |
| 0,14,0,334 | =024000000 | 25250 | | | | | |
| 1,10,0,202 | =036000000 | 60190 | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 43)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1,10,0,212 | =036074170 | 60640 | | | | | |
| 1,10,0,201 | =036077776 | 60160 | | | | | |
| 1,10,0,151 | =037417036 | 58990 | | | | | |
| 1,10,0,171 | =037750000 | 59590 | | | | | |
| 0,14,0,222 | =040000000 | 15370 | 15770 | 17820 | 18170 | 22820 | 26330 |
| 0,15,0,302 | =040000000 | 28520 | 30530 | | | | |
| 0,16,0,357 | =040000000 | 51550 | | | | | |
| 1,10,0,231 | =040000000 | 63560 | 86170 | 86310 | 86800 | | |
| 0,14,0,331 | =040000020 | 25130 | | | | | |
| 0,14,0,332 | =042000000 | 25160 | | | | | |
| 0,13,0,202 | =042104212 | 10160 | | | | | |
| 1,13,0,322 | =044400000 | 81640 | | | | | |
| 0,13,0,166 | =046453224 | 7030 | | | | | |
| 0,13,0,146 | =050001240 | 3630 | | | | | |
| 0,11,0,365 | =050001240 | 45680 | | | | | |
| 1,10,0,055 | =052500000 | 57410 | | | | | |
| 0,13,0,220 | =052525252 | 11150 | | | | | |
| 0,14,0,275 | =056000000 | 22020 | | | | | |
| 0,14,0,300 | =060000000 | 22320 | | | | | |
| 1,11,0,222 | =060000000 | 75280 | | | | | |
| 0,12,0,206 | =070000500 | 34360 | | | | | |
| 0,12,0,162 | =070003100 | 31830 | 34310 | 34670 | | | |
| 1,10,0,262 | =072000000 | 87110 | | | | | |
| 0,05,0,256 | =074000000 | 46790 | | | | | |
| 0,14,0,277 | =076000000 | 22210 | | | | | |
| 1,10,0,150 | =077030000 | 58960 | | | | | |
| 1,10,0,175 | =077777400 | 59740 | | | | | |
| 0,14,0,167 | =100000000 | 15230 | 15630 | 17680 | 18030 | 20920 | 26260 |
| 0,15,0,300 | =100000000 | 28370 | 30420 | | | | |
| 0,11,0,362 | =100000000 | 45240 | | | | | |
| 1,10,0,226 | =100000000 | 62920 | 63760 | | | | |
| 1,11,0,210 | =100000000 | 74430 | | | | | |
| 0,14,0,326 | =100000010 | 24920 | | | | | |
| 0,14,0,346 | =100200000 | 25840 | | | | | |
| 0,14,0,327 | =101000000 | 24950 | | | | | |
| 0,13,0,162 | =107301660 | 6430 | | | | | |
| 0,14,0,245 | =110000000 | 20400 | | | | | |
| 0,15,0,365 | =110000110 | 42500 | 44320 | | | | |
| 0,13,0,145 | =110005110 | 3600 | | | | | |
| 1,13,0,324 | =111000000 | 81780 | | | | | |
| 0,13,0,167 | =114722350 | 7040 | | | | | |
| 0,14,0,266 | =120000000 | 21520 | | | | | |
| 0,13,0,236 | =120000270 | 13500 | | | | | |
| 0,14,0,271 | =120000270 | 21710 | | | | | |
| 0,12,0,164 | =120000270 | 31910 | | | | | |
| 0,12,0,165 | =120002670 | 31920 | | | | | |
| 0,15,0,330 | =120016100 | 31770 | | | | | |
| 0,12,0,205 | =120016100 | 34320 | | | | | |
| 0,13,0,143 | =120020500 | 3540 | | | | | |
| 0,15,0,341 | =122222222 | 38030 | | | | | |
| 0,13,0,234 | =123456702 | 12880 | 12900 | | | | |
| 0,14,0,273 | =125010000 | 21780 | | | | | |
| 1,10,0,054 | =125200000 | 57370 | | | | | |
| 1,10,0,060 | =125202524 | 57610 | | | | | |
| 1,10,0,067 | =125250000 | 58380 | | | | | |
| 0,13,0,217 | =125252524 | 11060 | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 44)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0,14,0,304 =130000000 | 22710 | | | | | | |
| 0,05,0,252 =130000000 | 46320 | | | | | | |
| 0,16,0,350 =130000000 | 50960 | | | | | | |
| 0,13,0,200 =130001410 | 9470 | | | | | | |
| 0,14,0,027 =130007000 | 14680 | | | | | | |
| 0,15,0,327 =130007000 | 31760 | 42490 | | | | | |
| 0,12,0,210 =130007000 | 35880 | | | | | | |
| 0,11,0,346 =130007000 | 44610 | 45670 | | | | | |
| 1,10,0,000 =130007000 | 53360 | | | | | | |
| 0,13,0,233 =130007430 | 12510 | | | | | | |
| 0,10,0,374 =130116010 | 12320 | | | | | | |
| 0,14,0,303 =132100000 | 22680 | | | | | | |
| 0,14,0,306 =137300000 | 22780 | 22850 | | | | | |
| 0,14,0,307 =137340000 | 22920 | | | | | | |
| 0,14,0,310 =137370000 | 23030 | 23250 | | | | | |
| 0,05,0,264 =140000000 | 47550 | | | | | | |
| 1,10,0,237 =140000000 | 64120 | | | | | | |
| 0,14,0,112 =140001020 | 14780 | | | | | | |
| 0,14,0,330 =140001040 | 24970 | | | | | | |
| 0,14,0,237 =140014430 | 19770 | | | | | | |
| 0,13,0,156 =140057610 | 5570 | | | | | | |
| 0,13,0,137 =140062210 | 3480 | | | | | | |
| 0,15,0,326 =140066210 | 30370 | | | | | | |
| 0,12,0,171 =140066210 | 32030 | 33290 | 33580 | | | | |
| 0,14,0,355 =140167620 | 27060 | | | | | | |
| 0,14,0,350 =140171230 | 26000 | | | | | | |
| 1,10,0,211 =146314630 | 60560 | | | | | | |
| 1,10,0,077 =147460000 | 58730 | | | | | | |
| 0,15,0,351 =150000300 | 38910 | | | | | | |
| 0,12,0,211 =150000310 | 35690 | | | | | | |
| 0,15,0,363 =150000310 | 40560 | | | | | | |
| 0,14,0,354 =150000460 | 27040 | | | | | | |
| 0,13,0,144 =150002710 | 3570 | | | | | | |
| 0,14,0,110 =150030260 | 14690 | | | | | | |
| 0,13,0,142 =150032660 | 3510 | | | | | | |
| 0,12,0,207 =150032660 | 34680 | | | | | | |
| 0,15,0,346 =150130110 | 38280 | | | | | | |
| 1,13,0,321 =155400000 | 81500 | | | | | | |
| 0,10,0,376 =160000360 | 42140 | 42190 | | | | | |
| 0,11,0,345 =160000360 | 42250 | | | | | | |
| 0,13,0,155 =160000560 | 5490 | 5640 | 5690 | 8060 | 11180 | 13520 | |
| 1,17,0,000 =160000560 | 12810 | | | | | | |
| 0,14,0,321 =160000560 | 24150 | | | | | | |
| 0,15,0,364 =160000560 | 40640 | | | | | | |
| 0,13,0,136 =160003760 | 3120 | | | | | | |
| 0,13,0,132 =160030160 | 26[illegible]0 | | | | | | |
| 0,11,0,356 =160044760 | 44970 | 45270 | | | | | |
| 0,16,0,343 =160050260 | 50310 | | | | | | |
| 0,11,0,361 =160052760 | 45130 | | | | | | |
| 0,11,0,347 =160064760 | 44710 | 44820 | 44890 | 45050 | 45140 | 45320 | |
| 0,11,0,352 =160065160 | 44810 | 44880 | 44950 | 45040 | 45110 | 45200 | |
| 0,11,0,353 =160070360 | 44830 | 44900 | 45060 | 45150 | | | |
| 0,16,0,342 =160142300 | 50300 | | | | | | |
| 0,15,0,343 =160300000 | 38140 | | | | | | |
| 0,15,0,340 =170300000 | 37980 | | | | | | |
| 1,10,0,073 =171440000 | 58610 | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 45)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0,15,0,345 =174300000 | 38250 | | | | | | | |
| 1,10,0,147 =17605C000 | 58930 | | | | | | | |
| 1,10,0,160 =17740C000 | 59210 | | | | | | | |
| 1,10,0,056 =1777CC000 | 57450 | | | | | | | |
| 0,14,0,242 =17777C000 | 20260 | 21770 | 22010 | 22200 | | | | |
| 1,10,0,170 =177770000 | 59530 | | | | | | | |
| 0,13,0,160 =200C0C000 | 6250 | 6260 | 9260 | | | | | |
| 0,14,0,223 =20000C000 | 15440 | 17540 | 17890 | 19640 | 23200 | 25930 | 26190 | |
| 0,15,0,054 =200000000 | 28220 | 30390 | 38200 | | | | | |
| 0,12,0,177 =20000C000 | 33080 | 33630 | | | | | | |
| 0,11,0,350 =200C0C000 | 44760 | | | | | | | |
| 1,10,0,220 =200CCC000 | 61350 | | | | | | | |
| 0,14,0,324 =200000004 | 24830 | | | | | | | |
| 0,14,0,325 =200400000 | 24860 | | | | | | | |
| 0,13,0,227 =201004220 | 11960 | | | | | | | |
| 0,13,0,225 =202020200 | 11870 | | | | | | | |
| 0,15,0,360 =205320000 | 40050 | | | | | | | |
| 0,13,0,221 =210421042 | 11690 | | | | | | | |
| 1,10,0,013 =212520000 | 54420 | | | | | | | |
| 0,13,0,223 =214102040 | 11780 | | | | | | | |
| 1,13,0,312 =222000000 | 81060 | | | | | | | |
| 0,15,0,342 =244444444 | 38110 | | | | | | | |
| 1,10,0,025 =2520C0000 | 56390 | | | | | | | |
| 1,10,0,042 =252400000 | 56810 | | | | | | | |
| 1,10,0,066 =252500000 | 58290 | 60130 | | | | | | |
| 1,10,0,057 =252505252 | 57550 | | | | | | | |
| 1,10,0,010 =252520000 | 54040 | 54090 | 54130 | 55100 | 58000 | 58060 | 58230 | 58410 |
| 1,10,0,010 =252520000 | | | | | | | | |
| 1,10,0,045 =252524000 | 57030 | | | | | | | |
| 0,13,0,212 =252525200 | 10540 | | | | | | | |
| 0,13,0,176 =252525250 | 9360 | 9650 | | | | | | |
| 0,14,0,353 =252525250 | 26840 | 27010 | | | | | | |
| 0,13,0,165 =252525252 | 6780 | 6790 | 7130 | 720C | 8200 | 8210 | 8470 | 8550 |
| 0,13,0,165 =252525252 | 9540 | 9630 | 10520 | 11040 | 11130 | 12050 | | |
| 0,14,0,351 =252525252 | 26750 | 26880 | | | | | | |
| 1,10,0,047 =252525252 | 57130 | 57880 | 58120 | 58160 | 58350 | 60100 | 60480 | |
| 0,13,0,161 =252642550 | 6420 | | | | | | | |
| 1,10,0,014 =25350C000 | 54640 | | | | | | | |
| 0,13,0,174 =265026500 | 9080 | | | | | | | |
| 1,13,0,317 =266400000 | 81340 | | | | | | | |
| 1,10,0,243 =277777776 | 64380 | 64490 | 64650 | 6511C | | | | |
| 0,14,0,276 =300000000 | 22130 | | | | | | | |
| 0,14,0,264 =300000040 | 21420 | | | | | | | |
| 1,10,0,076 =317140000 | 58700 | | | | | | | |
| 0,13,0,173 =331033100 | 9070 | | | | | | | |
| 1,13,0,315 =33300C000 | 81200 | | | | | | | |
| 0,13,0,163 =362144430 | 6440 | | | | | | | |
| 1,10,0,143 =363146314 | 58760 | | | | | | | |
| 1,10,0,164 =363770000 | 59360 | | | | | | | |
| 0,12,0,200 =371CCC000 | 33200 | | | | | | | |
| 1,10,0,154 =374170360 | 59080 | | | | | | | |
| 0,12,0,202 =37700C000 | 33770 | | | | | | | |
| 1,10,0,157 =377001774 | 59180 | | | | | | | |
| 1,10,0,061 =377707776 | 57660 | | | | | | | |
| 0,14,0,241 =37777C000 | 20160 | | | | | | | |
| 1,10,0,167 =377776000 | 59500 | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 46)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0,13,0,171 | =377777776 | 7660 | 7870 | | | | | | |
| 0,13,0,153 | =400000000 | 5190 | 6340 | 6350 | 6520 | 6530 | 7780 | 7790 | 9180 |
| 0,13,0,153 | =400000000 | 10090 | 11600 | | | | | | |
| 0,14,0,221 | =400000000 | 15300 | 17380 | 17750 | 19570 | 21190 | 21370 | 23180 | 26120 |
| 0,14,0,221 | =400000000 | | | | | | | | |
| 0,12,0,176 | =400000000 | 32800 | | | | | | | |
| 0,15,0,336 | =400000000 | 37610 | | | | | | | |
| 0,16,0,352 | =400000000 | 51070 | | | | | | | |
| 1,10,0,011 | =400000000 | 54190 | 56920 | | | | | | |
| 1,13,0,276 | =400000000 | 79860 | | | | | | | |
| 0,14,0,322 | =400000002 | 24740 | | | | | | | |
| 0,15,0,372 | =400000004 | 43860 | 44080 | 44130 | 44170 | | | | |
| 0,15,0,371 | =400000010 | 43780 | | | | | | | |
| 0,14,0,260 | =400010000 | 21130 | | | | | | | |
| 0,14,0,257 | =400030000 | 21070 | | | | | | | |
| 0,14,0,256 | =400070000 | 21010 | | | | | | | |
| 0,14,0,255 | =400170000 | 20950 | | | | | | | |
| 0,14,0,323 | =400200000 | 24770 | | | | | | | |
| 0,14,0,254 | =400370000 | 20880 | | | | | | | |
| 0,14,0,253 | =400770000 | 20780 | | | | | | | |
| 0,14,0,252 | =401770000 | 20710 | | | | | | | |
| 0,13,0,211 | =402010200 | 10450 | | | | | | | |
| 0,14,0,251 | =403770000 | 20640 | | | | | | | |
| 0,13,0,207 | =404040500 | 10360 | | | | | | | |
| 0,14,0,250 | =407770000 | 20570 | | | | | | | |
| 0,16,0,360 | =410000000 | 52340 | 52660 | 52860 | | | | | |
| 0,13,0,205 | =410204140 | 10270 | | | | | | | |
| 0,15,0,337 | =411111114 | 37950 | | | | | | | |
| 0,15,0,344 | =411111140 | 38220 | | | | | | | |
| 0,14,0,247 | =417770000 | 20500 | | | | | | | |
| 0,13,0,203 | =421042120 | 10180 | | | | | | | |
| 0,14,0,246 | =437770000 | 20430 | | | | | | | |
| 0,14,0,344 | =440400000 | 25740 | | | | | | | |
| 0,14,0,270 | =460000000 | 21660 | | | | | | | |
| 0,14,0,243 | =470000000 | 20310 | 20330 | | | | | | |
| 1,10,0,074 | =474630000 | 58640 | | | | | | | |
| 1,10,0,166 | =477600376 | 59420 | | | | | | | |
| 0,14,0,244 | =477770000 | 20360 | | | | | | | |
| 0,13,0,152 | =500000000 | 5110 | | | | | | | |
| 0,13,0,147 | =501004000 | 3660 | | | | | | | |
| 1,13,0,003 | =501004000 | 79020 | | | | | | | |
| 1,10,0,155 | =501005010 | 59100 | | | | | | | |
| 1,10,0,227 | =501006020 | 63300 | | | | | | | |
| 1,13,0,273 | =501014260 | 79590 | | | | | | | |
| 1,10,0,063 | =501034060 | 57740 | | | | | | | |
| 1,10,0,064 | =501045410 | 57750 | | | | | | | |
| 1,10,0,215 | =501047600 | 60920 | 64290 | | | | | | |
| 1,11,0,215 | =501047600 | 74840 | 78910 | | | | | | |
| 1,13,0,272 | =501047600 | 79540 | | | | | | | |
| 1,10,0,216 | =501066420 | 61040 | | | | | | | |
| 0,14,0,274 | =510000000 | 21900 | 21920 | | | | | | |
| 0,12,0,201 | =511000000 | 33490 | | | | | | | |
| 1,10,0,250 | =511006220 | 65170 | | | | | | | |
| 1,11,0,016 | =511010030 | 67710 | | | | | | | |
| 1,11,0,032 | =511010040 | 71830 | | | | | | | |
| 0,13,0,150 | =511010050 | 3690 | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 47)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,10,0,001 =511010050 | 53370 | | | | | | | |
| 1,11,0,214 =511010050 | 74820 | | | | | | | |
| 1,11,0,017 =511054620 | 67990 | 68200 | 68390 | 68800 | 69010 | 69200 | 69620 | 69830 |
| 1,11,0,017 =511054620 | 70020 | 70480 | 70690 | 70880 | 71280 | 71490 | 71680 | |
| 1,10,0,024 =524000000 | 56350 | | | | | | | |
| 1,10,0,041 =525000000 | 56770 | | | | | | | |
| 1,10,0,200 =525200000 | 60070 | | | | | | | |
| 1,10,0,007 =525240000 | 53930 | 53970 | 55220 | | | | | |
| 1,10,0,044 =525250000 | 56990 | 57910 | 57970 | 58090 | 58320 | | | |
| 0,13,0,213 =525252400 | 10630 | | | | | | | |
| 0,13,0,177 =525252520 | 9450 | | | | | | | |
| 0,13,0,164 =525252524 | 6700 | 6710 | 7120 | 7210 | 8120 | 8130 | 8460 | 8560 |
| 0,13,0,164 =525252524 | 9340 | 9430 | 9560 | 10610 | 10860 | 10950 | 12140 | |
| 0,14,0,352 =525252524 | 26780 | 26810 | 26930 | 26960 | | | | |
| 1,10,0,050 =525252524 | 57190 | 57840 | 58030 | 58200 | 58440 | 60040 | 60440 | |
| 0,15,0,362 =525300000 | 40480 | | | | | | | |
| 0,13,0,151 =531020270 | 3720 | | | | | | | |
| 0,11,0,366 =531020270 | 45690 | | | | | | | |
| 0,05,0,266 =531020270 | 47990 | | | | | | | |
| 1,11,0,216 =531054270 | 74920 | | | | | | | |
| 1,10,0,245 =537777776 | 64680 | 64810 | 64920 | 65080 | | | | |
| 0,14,0,265 =600000000 | 21470 | | | | | | | |
| 0,05,0,255 =600000000 | 46550 | | | | | | | |
| 0,14,0,267 =600010000 | 21550 | | | | | | | |
| 1,10,0,153 =607700000 | 59050 | | | | | | | |
| 0,05,0,265 =610000000 | 47650 | | | | | | | |
| 0,15,0,353 =612020000 | 39540 | 39620 | | | | | | |
| 1,10,0,070 =631463146 | 58480 | 60520 | | | | | | |
| 1,10,0,075 =636314630 | 58670 | | | | | | | |
| 1,10,0,161 =637700000 | 59270 | | | | | | | |
| 1,10,0,012 =652520000 | 54260 | | | | | | | |
| 0,13,0,215 =652525252 | 10880 | | | | | | | |
| 0,14,0,263 =660000176 | 21340 | | | | | | | |
| 1,10,0,241 =677777776 | 64330 | 64430 | 64540 | | | | | |
| 1,10,0,071 =714631462 | 58520 | | | | | | | |
| 1,10,0,162 =717740000 | 59300 | | | | | | | |
| 0,13,0,216 =725252524 | 10970 | | | | | | | |
| 0,15,0,361 =725300000 | 40290 | | | | | | | |
| 0,13,0,170 =731530654 | 7050 | | | | | | | |
| 0,13,0,175 =733773400 | 9090 | | | | | | | |
| 1,10,0,246 =737777776 | 64760 | 64860 | 64970 | | | | | |
| 0,05,0,262 =740000000 | 47100 | | | | | | | |
| 1,10,0,204 =741700000 | 60250 | | | | | | | |
| 1,10,0,144 =741703606 | 58800 | 60600 | | | | | | |
| 1,10,0,203 =741777776 | 60220 | | | | | | | |
| 1,10,0,072 =746310000 | 58550 | | | | | | | |
| 1,10,0,163 =747760036 | 59330 | | | | | | | |
| 1,10,0,145 =760741702 | 58840 | | | | | | | |
| 0,13,0,235 =765432106 | 12970 | 12990 | | | | | | |
| 1,10,0,206 =770000000 | 60310 | | | | | | | |
| 1,10,0,205 =770077776 | 60280 | | | | | | | |
| 1,10,0,146 =770360000 | 58870 | | | | | | | |
| 1,10,0,165 =771770000 | 59390 | | | | | | | |
| 0,15,0,332 =774300000 | 36690 | 36970 | 37050 | | | | | |
| 0,13,0,232 =775252524 | 12160 | | | | | | | |
| 1,10,0,026 =776000000 | 56430 | | | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 48)

LEFT HAND SYMBOLS AND THEIR POINTS OF REFERENCE

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,10,0,156 =776003770 | 59130 | 60680 | | | | | | |
| 1,10,0,043 =7774CC000 | 56850 | | | | | | | |
| 0,16,0,337 =77774C000 | 50000 | | | | | | | |
| 0,16,0,334 =77774C036 | 49600 | | | | | | | |
| 1,10,0,006 =77776C000 | 53810 | 56130 | 57500 | | | | | |
| 0,14,0,240 =777770000 | 20120 | | | | | | | |
| 1,10,0,046 =777774000 | 57070 | 59460 | 6C760 | | | | | |
| 0,13,0,201 =777777770 | 9830 | | | | | | | |
| 0,13,0,172 =777777774 | 8020 | 8030 | 8650 | 9740 | | | | |
| 0,13,0,157 =777777776 | 5620 | 5790 | 5890 | 5920 | 5990 | 6010 | 6080 | 6170 |
| 0,13,0,157 =777777776 | 6880 | 7280 | 7290 | 7300 | 7450 | 7540 | 7620 | 7630 |
| 0,13,0,157 =777777776 | 8280 | 8300 | 8380 | 8390 | 8480 | 8570 | 8640 | 8660 |
| 0,13,0,157 =777777776 | 8750 | 8820 | 8830 | 8980 | 9720 | 9810 | 11260 | 11280 |
| 0,13,0,157 =777777776 | 11350 | 11370 | 11620 | 13060 | 13150 | 13170 | 13240 | 13260 |
| 0,13,0,157 =777777776 | 13340 | 13360 | | | | | | |
| 0,14,0,111 =777777776 | 14730 | 15040 | | | | | | |
| 0,15,0,037 =777777776 | 28090 | 28260 | 28410 | 28560 | 28710 | 28860 | 29010 | 29160 |
| 0,15,0,037 =777777776 | 29310 | 29460 | 29610 | 29760 | 29910 | 30060 | 30210 | 30340 |
| 0,15,0,037 =777777776 | | | | | | | | |
| 1,10,0,002 =777777776 | 53450 | 53710 | 55890 | 5559C | 59770 | 60390 | 60990 | 64590 |
| 1,10,0,002 =777777776 | 65020 | | | | | | | |
| 1,11,0,000 =777777776 | 65260 | 68600 | 70280 | | | | | |

Figure 7-14. PTC ADAPT Self-Test Program Symbolic Table (Sheet 49)

MODULE 0 SECTOR 0

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 042742076003 | 151547566003 | 044750066003 | 163550166003 | 350745466003 | 350123334003 | 367200026003 | 044740176003 |
| 10 | 161540226003 | 046761334003 | 163561412003 | 352741530003 | 352101620003 | 367213200003 | 046747276003 | 161553316003 |
| 20 | 050747266003 | 163560412003 | 330742076003 | 266107366003 | 336107466003 | 367221412003 | 050743256003 | 161540134003 |
| 30 | 052753426003 | 163540134003 | 330745566003 | 330100134003 | 367205666003 | 052740134003 | 161545766003 | 054740134003 |
| 40 | 163546066003 | 354740134003 | 356106166003 | 360100134003 | 367206266003 | 054740134003 | 161546366003 | 056740134003 |
| 50 | 163546466003 | 350740134003 | 352306566003 | 367200134003 | 056746666003 | 161540134003 | 060746766003 | 163540134003 |
| 60 | 352753526003 | 350300134003 | 367205066003 | 060740134003 | 161545166003 | 062740134003 | 163547030003 | 336747120003 |
| 70 | 336313600003 | 336113536003 | 367207430003 | 062756420003 | 161553436003 | 064752330003 | 163545576003 | 330752630003 |
| 100 | 330305676003 | 367213130003 | 064745776003 | 161553430003 | 266746076003 | 163553730003 | 336746176003 | 330314230003 |
| 110 | 367206276003 | 066754530003 | 161546376003 | 070755030003 | 163546476003 | 330755330003 | 336306576003 | 367215630003 |
| 120 | 070746676003 | 161556130003 | 072741620003 | 163542076003 | 336745566003 | 336656720003 | 367202076003 | 072745666003 |
| 130 | 161563520003 | 074742076003 | 163545766003 | 330753700003 | 330642076003 | 367206066003 | 074754200003 | 161542076003 |
| 140 | 076740166003 | 163554300003 | 326742076003 | 326646266003 | 367214400003 | 076742076003 | 161546366003 | 100754500003 |
| 150 | 163542076003 | 362746466003 | 362654600003 | 367202076003 | 100746566003 | 161554700003 | 102742076003 | 163546666003 |
| 160 | 266755000003 | 266642076003 | 367206766003 | 102755100003 | 161553436003 | 104756730003 | 163563020003 | 364753100003 |
| 170 | 364640036003 | 367207066003 | 371400136003 | 332007166003 | 104755336003 | 161557730003 | 106742640003 | 163540136003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 1 of 64)

MODULE 0 SECTOR 0

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 350747066003 | 350640236003 | 367207166003 | 106753336003 | 161560610003 | 110742640003 | 163540236003 | 352747066003 |
| 210 | 352640336003 | 367207166003 | 110755436003 | 161562730003 | 112761620003 | 163542640003 | 336740336003 | 330647066003 |
| 220 | 336100436003 | 367207166003 | 112755436003 | 161562710003 | 114777360003 | 163542640003 | 330763030003 | 336655500003 |
| 230 | 336105576003 | 367223530003 | 114763410003 | 161541620003 | 116755600003 | 163540636003 | 350747066003 | 352640736003 |
| 240 | 336107166003 | 367215736003 | 116764410003 | 161555500003 | 120747766003 | 163555436003 | 352747776003 | 350665110003 |
| 250 | 336115500003 | 367213316003 | 120757350003 | 161540736003 | 122747066003 | 163541036003 | 336747166003 | 364155436003 |
| 260 | 336107766003 | 367215736003 | 122747776003 | 161557350003 | 124741036003 | 163547066003 | 266741136003 | 330147166003 |
| 270 | 336115436003 | 367215716003 | 124767410003 | 161557360003 | 126755704003 | 163557350003 | 336741136003 | 336147066003 |
| 300 | 367201236003 | 126747166003 | 161555736003 | 130755416003 | 163555704003 | 330757350003 | 330141236003 | 367207066003 |
| 310 | 130741336003 | 161547166003 | 132755736003 | 163553316003 | 336757350003 | 330141336003 | 266107066003 | 367201436003 |
| 320 | 132747166003 | 161553336003 | 134755716003 | 163557350003 | 366772520003 | 370141436003 | 372107066003 | 367201536003 |
| 330 | 134747166003 | 161556036003 | 136756016003 | 163573530003 | 326757360003 | 002701536003 | 367207066003 | 136741636003 |
| 340 | 161547166003 | 140755336003 | 163555316003 | 340757370003 | 004701636003 | 367207066003 | 140741736003 | 161547166003 |
| 350 | 142756136003 | 163556216003 | 350756304003 | 002717350003 | 374101736003 | 367207066003 | 142742036003 | 161547166003 |
| 360 | 144755336003 | 163555304003 | 350757350003 | 004702036003 | 376107066003 | 367202136003 | 400007166003 | 000013336001 |
| 370 | 000013304001 | 000017350001 | 000037420001 | 324762620003 | 454400060003 | 440000000003 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 2)

MODULE 0 SECTOR 1

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 000000000000 | 020000220003 | 240740100003 | 161546236003 | 242747066003 | 163546336003 | 330747166003 | 456716536003 |
| 10 | 772740134003 | 420716404003 | 033623410003 | 002706336003 | 035607066003 | 770006436003 | 772747166003 | 043616536003 |
| 20 | 033400234003 | 004717604003 | 051623410003 | 033406436003 | 002707066003 | 033206536003 | 400707166003 | 772755736003 |
| 30 | 426700134003 | 004717204003 | 470623410003 | 073206536003 | 470407066003 | 004706636003 | 470207166003 | 466015736003 |
| 40 | 260740234003 | 161560104003 | 250763410003 | 163546636003 | 470747066003 | 773046736003 | 470647166003 | 275215436003 |
| 50 | 250740134003 | 161563410003 | 252746736003 | 163547066003 | 472747036003 | 771047166003 | 472655436003 | 275200234003 |
| 60 | 252763410003 | 161547036003 | 254747066003 | 163547136003 | 336747166003 | 252053336003 | 252644034003 | 275204034003 |
| 70 | 254744034003 | 161544034003 | 256740134003 | 163555304003 | 336763410003 | 240247136003 | 336647066003 | 275207236003 |
| 100 | 256747166003 | 161560236003 | 260740434003 | 161560332003 | 336763410003 | 250247236003 | 336647066003 | 275207336003 |
| 110 | 260747166003 | 161560436003 | 302741034003 | 163560532003 | 336763410003 | 260247336003 | 336647066003 | 275207436003 |
| 120 | 137747166003 | 271620636003 | 135742034003 | 271620732003 | 141763410003 | 271607436003 | 067747066003 | 420247536003 |
| 130 | 041747166003 | 420261036003 | 047004034003 | 302021132003 | 474023410003 | 255407536003 | 332007066003 | 135747636003 |
| 140 | 311607166003 | 307216536003 | 056004034003 | 220021204003 | 000763410003 | 167547636003 | 222747066003 | 000247736003 |
| 150 | 041747166003 | 171556436003 | 331404034003 | 224021304003 | 775563410003 | 020247736003 | 030247066003 | 040250036003 |
| 160 | 050247166003 | 060253336003 | 070250134003 | 100263410003 | 110250036003 | 120247066003 | 130250136003 | 140247166003 |
| 170 | 150261436003 | 160250234003 | 170263410003 | 200250136003 | 210247066003 | 775010236003 | 000007166001 | 000016436001 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 3)

MODULE 0 SECTOR 1

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 000010134001 | 000021504001 | 000023410001 | 000010236001 | 000007066001 | 000010336001 | 000007166001 | 000016436001 |
| 210 | 000010234001 | 000021604001 | 000023410001 | 000010336001 | 000007066001 | 000010436001 | 000007166001 | 000016536001 |
| 220 | 000010134001 | 000021704001 | 000023410001 | 000010436001 | 000007066001 | 000010536001 | 000007166001 | 000016536001 |
| 230 | 000010234001 | 000022004001 | 000023410001 | 000023520001 | 000015500001 | 000010536001 | 000007066001 | 000010636001 |
| 240 | 000007166001 | 000015736001 | 000010134001 | 000015704001 | 000023410001 | 000010636001 | 000007066001 | 000010736001 |
| 250 | 000007166001 | 000015736001 | 000010234001 | 000015704001 | 000023410001 | 000010736001 | 000007066001 | 000011036001 |
| 260 | 000007166001 | 000015436001 | 000010134001 | 000023410001 | 000011036001 | 000007066001 | 000011136001 | 000007166001 |
| 270 | 000015436001 | 000010234001 | 000023410001 | 000011136001 | 000007066001 | 000011236001 | 000007166001 | 000015336001 |
| 300 | 000014034001 | 000014034001 | 000014034001 | 000014034001 | 000010134001 | 000015704001 | 000023410001 | 000011236001 |
| 310 | 000007066001 | 000011336001 | 000007166001 | 000022136001 | 000010434001 | 000022232001 | 000023410001 | 000011336001 |
| 320 | 000007066001 | 000011436001 | 000007166001 | 000022336001 | 000011034001 | 000022432001 | 000023410001 | 000011436001 |
| 330 | 000007066001 | 000011536001 | 000007166001 | 000022536001 | 000012034001 | 000022632001 | 000023410001 | 000011536001 |
| 340 | 000007066001 | 000011636001 | 000007166001 | 000022736001 | 000014034001 | 000023032001 | 000023410001 | 000011636001 |
| 350 | 000007066001 | 000011736001 | 000007166001 | 000016536001 | 000014034001 | 000023104001 | 000023410001 | 000011736001 |
| 360 | 000007066001 | 000012036001 | 000007166001 | 000016436001 | 000014034001 | 000023204001 | 000023410001 | 000000260001 |
| 370 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 420000000003 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 4)

MODULE 0 SECTOR 2

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 002000000002 | 030177030003 | 020255412003 | 116775650003 | 167540236003 | 174247366003 | 330251136003 | 464640012003 |
| 10 | 735215412003 | 140275650003 | 120740436003 | 167547366003 | 202240312003 | 330255412003 | 446675650003 | 735200436003 |
| 20 | 030247366003 | 122742076003 | 167540412003 | 204255412003 | 330275650003 | 470640536003 | 735207366003 | 160240112003 |
| 30 | 124755412003 | 167556732003 | 212275650003 | 330242012003 | 356640636003 | 735207366003 | 040240212003 | 126755412003 |
| 40 | 167562132003 | 214275650003 | 330241012003 | 442640736003 | 735207366003 | 020240512003 | 130755412003 | 167562232003 |
| 50 | 222275650003 | 330242412003 | 444641036003 | 735207366003 | 050240612003 | 132755412003 | 167562332003 | 224275650003 |
| 60 | 330241412003 | 446641136003 | 735207366003 | 030240712003 | 134755412003 | 167575650003 | 232241236003 | 330247366003 |
| 70 | 450641112003 | 735215412003 | 060262432003 | 136775650003 | 167543012003 | 234241336003 | 330247366003 | 356641212003 |
| 100 | 735215412003 | 040256732003 | 140775650003 | 167542012003 | 242241436003 | 330247366003 | 452641512003 | 735215412003 |
| 110 | 070262532003 | 142775650003 | 167543412003 | 244241536003 | 330247366003 | 444641612003 | 735215412003 | 050262232003 |
| 120 | 144775650003 | 167542412003 | 252241636003 | 330247366003 | 454642112003 | 735215412003 | 100262632003 | 146775650003 |
| 130 | 167544012003 | 254241736003 | 330247366003 | 450642212003 | 735215412003 | 060262432003 | 150775650003 | 167543012003 |
| 140 | 262242036003 | 330247366003 | 456642512003 | 735215412003 | 110262732003 | 152775650003 | 167544412003 | 264242136003 |
| 150 | 330247366003 | 452642612003 | 735215412003 | 070262532003 | 154775650003 | 167543412003 | 272242236003 | 330247366003 |
| 160 | 460643112003 | 735215412003 | 120263032003 | 156775650003 | 167545012003 | 274242336003 | 330247366003 | 454643212003 |
| 170 | 735215412003 | 100262632003 | 160775650003 | 167544012003 | 302242436003 | 330247366003 | 462643512003 | 735215412003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 5)

MODULE 0 SECTOR 2

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 130263132003 | 162775650003 | 167545412003 | 304242536003 | 330247366003 | 456643612003 | 735215412003 | 110262732003 |
| 210 | 164775650003 | 167544412003 | 312242636003 | 330247366003 | 464644112003 | 735215412003 | 140263232003 | 166775650003 |
| 220 | 167546012003 | 314243136003 | 330247366003 | 460644212003 | 735215412003 | 120263032003 | 170775650003 | 167545012003 |
| 230 | 322243236003 | 330247366003 | 466644512003 | 735215412003 | 150263332003 | 172775650003 | 167546412003 | 324243336003 |
| 240 | 330247366003 | 462644612003 | 735215412003 | 130263132003 | 174775650003 | 167545412003 | 334243436003 | 330247366003 |
| 250 | 464645112003 | 735215412003 | 140263432003 | 176775650003 | 167547012003 | 344243536003 | 330247366003 | 466645212003 |
| 260 | 735215412003 | 150263232003 | 200775650003 | 167546012003 | 354243636003 | 330247366003 | 470645512003 | 735215412003 |
| 270 | 160263532003 | 202775650003 | 167547412003 | 364243736003 | 330247366003 | 472645612003 | 735215412003 | 170263332003 |
| 300 | 204775650003 | 167546412003 | 374244036003 | 330247366003 | 474646112003 | 735215412003 | 200263632003 | 206775650003 |
| 310 | 167550012003 | 404244136003 | 330247366003 | 466646212003 | 735215412003 | 150263432003 | 210775650003 | 167547012003 |
| 320 | 414244236003 | 330247366003 | 472646512003 | 735215412003 | 170263032003 | 212775650003 | 167545012003 | 424244336003 |
| 330 | 330247366003 | 442646612003 | 735215412003 | 020263532003 | 214775650003 | 167547412003 | 434244436003 | 330247366003 |
| 340 | 446647112003 | 735215412003 | 030263132003 | 216775650003 | 167545412003 | 332244536003 | 342247366003 | 352247212003 |
| 350 | 362255412003 | 372263632003 | 735235650003 | 330250012003 | 735204636003 | 476007366003 | 777547512003 | 175555412003 |
| 360 | 777762132003 | 163575650003 | 167740260003 | 161540000002 | 041740000002 | 167540000002 | 047000000002 | 175740000002 |
| 370 | 055000000002 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 410000000003 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 6)

MODULE 0 SECTOR 3

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 000000000000 | 040025040003 | 306740000002 | 167540000002 | 040240000002 | 050240000002 | 100240000002 | 110240000002 |
| 10 | 044240000002 | 574740000002 | 260240000002 | 564740000002 | 420240000002 | 041740000002 | 420240000002 | 330277666003 |
| 20 | 504312136003 | 576647066003 | 613212236003 | 310747166003 | 167577676003 | 020242572003 | 030243010003 | 040254000003 |
| 30 | 050242640003 | 060261434003 | 100251336003 | 110247366003 | 600740212003 | 270240612003 | 564741212003 | 420241612003 |
| 40 | 041742212003 | 420242612003 | 330243212003 | 602643612003 | 613204212003 | 312744612003 | 167545212003 | 070245612003 |
| 50 | 140246212003 | 170246612003 | 064247212003 | 074240012003 | 104255412003 | 041764032003 | 300270550003 | 310241012003 |
| 60 | 330255412003 | 604664132003 | 613230550003 | 314751436003 | 167547366003 | 041742076003 | 320241412003 | 613230550003 |
| 70 | 330251536003 | 604647366003 | 613215412003 | 316764232003 | 167570550003 | 124251636003 | 141747366003 | 207600212003 |
| 100 | 606764336003 | 450242012003 | 231424332003 | 610770550003 | 340255412003 | 612764432003 | 420270550003 | 041751736003 |
| 110 | 420247366003 | 330264536003 | 614642412003 | 613215412003 | 320764632003 | 167570550003 | 444752036003 | 350247366003 |
| 120 | 330262536003 | 614643012003 | 613215412003 | 322764732003 | 167570550003 | 144252136003 | 360247366003 | 330242076003 |
| 130 | 616643412003 | 613215412003 | 324765032003 | 167570550003 | 154252236003 | 164247366003 | 041742076003 | 370244012003 |
| 140 | 542755412003 | 400265132003 | 330270550003 | 620652336003 | 613207366003 | 326742076003 | 167544412003 | 041755412003 |
| 150 | 430265232003 | 544330550003 | 613212436003 | 330747366003 | 167542076003 | 041745012003 | 410255412003 | 613225332003 |
| 160 | 332770550003 | 167552536003 | 442747366003 | 440242076003 | 446645412003 | 613230550003 | 334752636003 | 167547366003 |
| 170 | 330255412003 | 620665432003 | 613230550003 | 336752736003 | 167547366003 | 040256736003 | 060246012003 | 070255412003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 7)

MODULE 0 SECTOR 3

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 100265532003 | 110270550003 | 120253036003 | 140247366003 | 150246412003 | 160255412003 | 170265632003 | 200270550003 |
| 210 | 612753136003 | 420507366003 | 430247012003 | 544315412003 | 613225732003 | 340770550003 | 167553236003 | 622747366003 |
| 220 | 420247412003 | 430255412003 | 544326032003 | 624670550003 | 613213336003 | 342747366003 | 167550012003 | 564755412003 |
| 230 | 420262132003 | 430270550003 | 544313436003 | 626647366003 | 613202076003 | 344761012003 | 167570550003 | 630766136003 |
| 240 | 420261412003 | 430266214003 | 544330550003 | 632653536003 | 613207366003 | 346766336003 | 167551012003 | 624755412003 |
| 250 | 420262132003 | 430270550003 | 544313636003 | 634647366003 | 613200612003 | 350766436003 | 167561412003 | 626766214003 |
| 260 | 420270550003 | 430255412003 | 544326532003 | 636670550003 | 613213736003 | 352747366003 | 167547212003 | 632766636003 |
| 270 | 420250412003 | 430255412003 | 544326732003 | 640670550003 | 613205776003 | 354770230003 | 167541012003 | 041741412003 |
| 300 | 420250012003 | 430244560003 | 544314036003 | 613207366003 | 633401212003 | 175567036003 | 360752012003 | 163545576003 |
| 310 | 226771230003 | 161571320003 | 047027100003 | 175767236003 | 642021012003 | 360742076003 | 167561012003 | 047015412003 |
| 320 | 041764214003 | 450267332003 | 743230550003 | 362754136003 | 167547366003 | 330241012003 | 743202012003 | 364743012003 |
| 330 | 167544012003 | 644745012003 | 450250012003 | 330241612003 | 646667436003 | 743212412003 | 366767432003 | 167570550003 |
| 340 | 020254236003 | 140247366003 | 650767236003 | 450261012003 | 330242076003 | 652661012003 | 743215412003 | 370764214003 |
| 350 | 167567532003 | 030270550003 | 130240260003 | 654740000002 | 450240000002 | 330240000002 | 656640000002 | 743200000002 |
| 360 | 660000000002 | 777540000002 | 175540000002 | 167740000002 | 161540000002 | 777740000002 | 163540000002 | 047000000002 |
| 370 | 175740000002 | 055000000002 | 000000000000 | 000000000000 | 000000000000 | 404000000003 | 000000100001 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 8)

MODULE 0 SECTOR 4

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 000000000C00 | 050001450003 | 275757536003 | 340247366003 | 041742012003 | C00545012003 | 205573136003 | 002562412003 |
| 10 | 467415412003 | 041773232003 | 203553710003 | 004557636003 | 002747366003 | C10342412C03 | 002544412003 | 430273336003 |
| 20 | 065322412003 | 037215412003 | 360273432003 | 012753710003 | 201557736003 | C41047366003 | 201743012003 | 065104012003 |
| 30 | 051233536003 | 470062412003 | 472055412003 | 474073532003 | 476053710003 | 500060036003 | 502047366003 | 504043412003 |
| 40 | 506046412003 | 510073636003 | 014762412003 | 201555412003 | 041073632003 | 201753710C03 | 065105320003 | 107200000002 |
| 50 | 512040000002 | 514040000002 | 002740100003 | 016120136003 | 203607366003 | 002744012003 | 022107012003 | 207633736003 |
| 60 | 145222412003 | 016755412003 | 520674032003 | 773053710003 | 002760236003 | 522107366003 | 223604412003 | 175547412003 |
| 70 | 016103412003 | 247634136003 | 771062412003 | 430255412003 | 065334232003 | 167213710003 | 524760336003 | 340247366003 |
| 100 | 267403012003 | 002745012003 | 147410012003 | 002774336003 | 016122412003 | 217215412C03 | 016774432003 | 526653710003 |
| 110 | 147420436003 | 771047366003 | 430241012003 | 065302412003 | 225205412003 | C02774536003 | 010362412003 | 100715412003 |
| 120 | 100734632003 | 340253710003 | 267420536003 | 175747366003 | 530342012003 | 10C7C6012003 | 10C734736003 | 532662412003 |
| 130 | 340255412003 | 771062332003 | 267413710003 | 430260636003 | 065307366003 | 267201412003 | 024054120003 | 004777766003 |
| 140 | 075375000003 | 004560736003 | 410707366003 | 274740024003 | 075355412003 | 274570510C03 | 412721036003 | 203747366003 |
| 150 | 075340124003 | 203555412003 | 303122132003 | 335230510C03 | 203561136003 | 467407366003 | 004741012003 | 534100224003 |
| 160 | 267215412003 | 004562332003 | 771070510003 | 430261236003 | 065307366003 | 347201412003 | 0C0740424003 | 075355412003 |
| 170 | 000556732003 | 536130510003 | 373621336003 | 443207366003 | 427402012003 | C00741024C03 | 275315412003 | 413222232003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 9)

MODULE 0 SECTOR 4

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 000770510003 | 004721436003 | 331647366003 | 340242412003 | 267402024003 | 000755412003 | 540122432003 | 004730510003 |
| 210 | 323661536003 | 340247366003 | 267403012003 | 002744024003 | 542115412003 | 267222532003 | 544770510003 | 340261636003 |
| 220 | 267407366003 | 041743412003 | 000550024003 | 205755412003 | 075362632003 | 20557051C003 | 546121736003 | 463207366003 |
| 230 | 205544012003 | 467420024003 | 555415412003 | 775562732003 | 410730510003 | 532762036003 | 113307366C03 | 205344412003 |
| 240 | 175540064003 | 512755412003 | 101323032003 | 175670510003 | 512545012003 | 534777666003 | 113302076003 | 175547366003 |
| 250 | 274775136003 | 101323412003 | 175640112003 | 274575232003 | 775030710003 | 534777666003 | 024075236003 | 066063412003 |
| 260 | 130040112003 | 172075332003 | 234070710003 | 276077666003 | 340075136003 | 402040366003 | 002742076003 | 522123012003 |
| 270 | 615600364003 | 601235232003 | 550770710003 | 340277666003 | 430275236003 | C65300366003 | 571202076003 | 615423012003 |
| 300 | 002740364003 | 542135332003 | 611230710003 | 615402340003 | 552775400003 | 340277766003 | 350275500003 | 444077766003 |
| 310 | 041347666003 | 446077776003 | 041347166003 | 450077676003 | 041347066003 | 452042340003 | 041347676003 | 454042640003 |
| 320 | 04134C000002 | 456040000002 | 041340000002 | 460040000002 | 041340000002 | 462040C00002 | 04134000C002 | 464040000002 |
| 330 | 041340000002 | 466040000002 | 041340000002 | 771040000002 | 43024000C002 | C65300000002 | 671200000002 | 002740000002 |
| 340 | 52210CC00002 | 713600000002 | 016100000002 | 023200000002 | 55400000C002 | 556740C0C002 | 340240000002 | 023400000002 |
| 350 | 000000000000 | 0000C0000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 00000000C000 | 000000000000 |
| 360 | 0000C0C00000 | 0C00C000C000 | 000000000000 | 000000000000 | 000000C00000 | 000000000000 | 000000000000 | C00000000000 |
| 370 | 0000C0000000 | 0000C0000000 | 000000000000 | 000000000000 | 000000000000 | 40200000CC03 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 10)

MODULE 0 SECTOR 5

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 000000000003 | 000000000003 | 000000000003 | 000001000001 | 000001000003 | 000000024003 | 000000020003 | 000012000003 |
| 10 | 160000060003 | 000024000003 | 141516170003 | 323536370003 | 525556570003 | 727576770003 | 132040530003 | 336021340003 |
| 20 | 745473000003 | 616263640003 | 656667700003 | 714142430003 | 444546470003 | 505122230003 | 242526270003 | 303112010003 |
| 30 | 020304050003 | 060710110003 | 000000000003 | 111415160003 | 173235360003 | 375255560003 | 577275760003 | 771320400003 |
| 40 | 533360210003 | 347454730003 | 006162630003 | 646566670003 | 707141420003 | 434445460003 | 475051220003 | 232425260003 |
| 50 | 273031120003 | 010203040003 | 050607100003 | 000000000003 | 101114150003 | 161732350003 | 363752550003 | 565772750003 |
| 60 | 767713200003 | 405333600003 | 213474540003 | 730061620003 | 636465660003 | 677071410003 | 424344450003 | 464750510003 |
| 70 | 222324250003 | 262730310003 | 120102030003 | 040506070003 | 000000000003 | 071011140003 | 151617320003 | 353637520003 |
| 100 | 555657720003 | 757677130003 | 204053330003 | 602134740003 | 547300610003 | 626364650003 | 666770710003 | 414243440003 |
| 110 | 454647500003 | 512223240003 | 252627300003 | 311201020003 | 030405060003 | 000000000003 | 060710110003 | 141516170003 |
| 120 | 323536370003 | 525556570003 | 727576770003 | 132040530003 | 336021340003 | 745473000003 | 616263640003 | 656667700003 |
| 130 | 714142430003 | 444546470003 | 505122230003 | 242526270003 | 303112010003 | 020304050003 | 000000000003 | 050607100003 |
| 140 | 111415160003 | 173235360003 | 375255560003 | 577275760003 | 771320400003 | 533360210003 | 347454730003 | 006162630003 |
| 150 | 646566670003 | 707141420003 | 434445460003 | 475051220003 | 232425260003 | 273031120003 | 010203040003 | 000000000003 |
| 160 | 040506070003 | 101114150003 | 161732350003 | 363752550003 | 565772750003 | 767713200003 | 405333600003 | 213474540003 |
| 170 | 730061620003 | 636465660003 | 677071410003 | 424344450003 | 464750510003 | 222324250003 | 262730310003 | 120102030003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 11)

MODULE 0 SECTOR 5

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 000000000003 | 030405060003 | 071011140003 | 151617320003 | 353637520003 | 555657720003 | 757677130003 | 204053330003 |
| 210 | 602134740003 | 547300610003 | 626364650003 | 666770710003 | 414243440003 | 454647500003 | 512223240003 | 252627300003 |
| 220 | 311201020003 | 000000000003 | 012345670003 | 123456700003 | 234567012003 | 345670122003 | 456701234003 | 567012344003 |
| 230 | 670123456003 | 701234566003 | 012345670003 | 123456700003 | 514624230003 | 714565000003 | 100000000003 | 652765510003 |
| 240 | 637122650003 | 000104040003 | 030047510003 | 714523650003 | 510000000003 | 476167650003 | 004551000003 | 000000000003 |
| 250 | 000200000003 | 000013000003 | 130000000003 | 000100000003 | 000002000003 | 600000000003 | 074000000003 | 016000000003 |
| 260 | 006000000003 | 000025000003 | 740000000003 | 020000000003 | 140000000003 | 610000000003 | 531020270003 | 010000000003 |
| 270 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 300 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 310 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 320 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 330 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 340 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 350 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 360 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 370 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 401000000003 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 12)

MODULE 0 SECTOR 6

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 777576500003 | 044741736003 | 167547366003 | 777742036003 | 004640066003 | 101202136003 | 604740166003 | 204402236003 |
| 10 | 610740266003 | 240402336003 | 614740366003 | 274402436003 | 620740466003 | 330402536003 | 624740566003 | 364402636003 |
| 20 | 630740666003 | 420402736003 | 634740766003 | 454403036003 | 640741066003 | 510403136003 | 644741166003 | 544403236003 |
| 30 | 650741266003 | 600403336003 | 652741366003 | 634403436003 | 646741466003 | 670403536003 | 642741566003 | 724403636003 |
| 40 | 777541666003 | 175543736003 | 777762412003 | 163551012003 | 036744036003 | 161540412003 | 175777766003 | 055007666003 |
| 50 | 000037776001 | 000007466001 | 000007676001 | 000005432001 | 000004050001 | 000000036001 | 000007366001 | 000003736001 |
| 60 | 137740012003 | 153611012003 | 151227736003 | 656000412003 | 660037766003 | 424707666003 | 262777776003 | 167547466003 |
| 70 | 264747676003 | 161570032003 | 344004050003 | 067740136003 | 000247366003 | 041743736003 | 260240012003 | 203551012003 |
| 100 | 346770136003 | 201540412003 | 350037766003 | 352007666003 | 000037776001 | 000007466001 | 000007676001 | 000030232001 |
| 110 | 000004050001 | 000000236001 | 000007366001 | 000003736001 | 000000012001 | 000011012001 | 000030336001 | 000000412001 |
| 120 | 565437766003 | 771047666003 | 565437776003 | 275747466003 | 340247676003 | 360270432003 | 565404050003 | 041040336003 |
| 130 | 041047366003 | 041043736003 | 710740012003 | 201551012003 | 356770536003 | 513400412003 | 771077766003 | 565407666003 |
| 140 | 740777776003 | 340247466003 | 414707676003 | 510770632003 | 113304050003 | 175540436003 | 350747366003 | 101303736003 |
| 150 | 175640012003 | 350551012003 | 434730736003 | 422740412003 | 201577766003 | 360247666003 | 712777776003 | 175547466003 |
| 160 | 041047676003 | 041071032003 | 041044050003 | 350240536003 | 424047366003 | 414703736003 | 350740012003 | 075351012003 |
| 170 | 350571136003 | 434700412003 | 175777766003 | 065107666003 | 175577776003 | 351207466003 | 771047676003 | 565431232003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 13)

MODULE 0 SECTOR 6

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 740744050003 | 340240636003 | 565407366003 | 201743736003 | 065100012003 | 201551012003 | 333231336003 | 360240412003 |
| 210 | 041077766003 | 041047666003 | 041077776003 | 714747466003 | 201547676003 | 360771432003 | 513404050003 | 350240736003 |
| 220 | 125047366003 | 041343736003 | 771040012003 | 565411012003 | 740771536003 | 340240412003 | 360277766003 | 565407666003 |
| 230 | 041077776003 | 041047466003 | 041047676003 | 714771632003 | 201544050003 | 362741036003 | 513407366003 | 350243736003 |
| 240 | 127040012003 | 041351012003 | 771071736003 | 045000412003 | 424077766003 | 775547666003 | 113337776003 | 175547466003 |
| 250 | 414707676003 | 534772032003 | 101304050003 | 175641136003 | 534547366003 | 434703736003 | 702040012003 | 201751012003 |
| 260 | 065132136003 | 201540412003 | 551237766003 | 775007666003 | 414737776003 | 534747466003 | 075347676003 | 534572232003 |
| 270 | 434704050003 | 535401236003 | 775547366003 | 430243736003 | 065300012003 | 567211012003 | 775032336003 | 000000412001 |
| 300 | 000037766001 | 000007666001 | 000037776001 | 000007466001 | 000007676001 | 000032432001 | 000004050001 | 000001336001 |
| 310 | 000007366001 | 000003736001 | 000000012001 | 000011012001 | 000032536001 | 000000412001 | 000037766001 | 000007666001 |
| 320 | 000037776001 | 000007466001 | 000007676001 | 000032532001 | 000004050001 | 000001436001 | 000007366001 | 000003736001 |
| 330 | 000000012001 | 000011012001 | 000032436001 | 000000412001 | 000037766001 | 000007666001 | 000037776001 | 000007466001 |
| 340 | 000007676001 | 000032332001 | 000004050001 | 000001536001 | 000007366001 | 000003736001 | 000000012001 | 000011012001 |
| 350 | 000032236001 | 000000412001 | 000037766001 | 000007666001 | 000037776001 | 000007466001 | 000007676001 | 000032132001 |
| 360 | 000004050001 | 000003736001 | 000000012001 | 000011012001 | 000032600001 | 000006060001 | 000005436001 | 000004620001 |
| 370 | 000030036001 | 000006420001 | 000000000000 | 000000000000 | 000000000000 | 400400000003 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 14)

MODULE 0 SECTOR 7

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 775540000002 | 354740000002 | 356100000002 | 005200000002 | 775000000002 | 360740000002 | 420240000002 | 041740000002 |
| 10 | 420240000002 | 362000000002 | 211740000002 | 240240000002 | 171540000002 | 266740000002 | 167540000002 | 330240000002 |
| 20 | 002640000002 | 731200000002 | 270740000002 | 167540000002 | 430240000002 | 043300000002 | 061200000002 | 731400000002 |
| 30 | 272740000002 | 167540000002 | 360740000002 | 420240000002 | 041740000002 | 420240000002 | 047000000002 | 330240000002 |
| 40 | 731200000002 | 274740000002 | 167540000002 | 430240000002 | 043300000002 | 731200000002 | 416700000002 | 024740000002 |
| 50 | 075340000002 | 024540000002 | 040740000002 | 075340000002 | 040540000002 | 424700000002 | 203740000002 | 065340000002 |
| 60 | 203540000002 | 201100000002 | 025200000002 | 201740000002 | 346100000002 | 157200000002 | 235400000002 | 201740000002 |
| 70 | 364100000002 | 167200000002 | 325400000002 | 201740000002 | 366100000002 | 177200000002 | 561400000002 | 201740000002 |
| 100 | 370100000002 | 611200000002 | 203540000002 | 372740000002 | 201540000002 | 416700000002 | 026740000002 | 101300000002 |
| 110 | 103640000002 | 026540000002 | 424700000002 | 276740000002 | 167540000002 | 025400000002 | 300740000002 | 167540000002 |
| 120 | 306740000002 | 161540000002 | 343740000002 | 240240000002 | 171540000002 | 330240000002 | 374640000002 | 731200000002 |
| 130 | 302740000002 | 167540000002 | 430240000002 | 043300000002 | 275200000002 | 731400000002 | 304740000002 | 167540000002 |
| 140 | 001400000002 | 330240000002 | 134640000002 | 731200000002 | 203540000002 | 364740000002 | 201540000002 | 264740000002 |
| 150 | 161540000002 | 045400000002 | 310740000002 | 167540000002 | 306740000002 | 161540000002 | 211740000002 | 240240000002 |
| 160 | 171540000002 | 330240000002 | 376640000002 | 731200000002 | 312740000002 | 167540000002 | 430240000002 | 043300000002 |
| 170 | 365200000002 | 731400000002 | 314740000002 | 167540000002 | 001400000002 | 330240000002 | 400640000002 | 731236600003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 15)

MODULE 0 SECTOR 7

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 316740000002 | 167540000002 | 366740000002 | 420240000002 | 041740000002 | 420240000002 | 362000000002 | 430240000002 |
| 210 | 043300000002 | 731200000002 | 203540000002 | 320740000002 | 167540000002 | 366740000002 | 201540000002 | 416700000002 |
| 220 | 026740000002 | 101300000002 | 105640000002 | 026540000002 | 424700000002 | 401740000002 | 240240000002 | 171540000002 |
| 230 | 001400000002 | 330240000002 | 402640000002 | 731200000002 | 322740000002 | 167540000002 | 360740000002 | 420240000002 |
| 240 | 041740000002 | 420240000002 | 362000000002 | 411740000002 | 260240000002 | 171540000002 | 330240000002 | 376640000002 |
| 250 | 731200000002 | 324740000002 | 167540000002 | 430240000002 | 043300000002 | 537200000002 | 731400000002 | 326740000002 |
| 260 | 167540000002 | 001400000002 | 264740000002 | 161540000002 | 330240000002 | 404640000002 | 731200000002 | 045400000002 |
| 270 | 203540000002 | 264740000002 | 161540000002 | 370740000002 | 201540000002 | 416700000002 | 026740000002 | 101300000002 |
| 300 | 107640000002 | 026540000002 | 424700000002 | 025400000002 | 330740000002 | 167540000002 | 161540000002 | 406740000002 |
| 310 | 420240000002 | 430240000002 | 043300000002 | 633200000002 | 731400000002 | 332740000002 | 167540000002 | 330240000002 |
| 320 | 410640000002 | 731200000002 | 334740000002 | 167540000002 | 065740000002 | 420240000002 | 170240000002 | 330240000002 |
| 330 | 731200000002 | 336740000002 | 167540000002 | 430240000002 | 043300000002 | 677200000002 | 731400000002 | 340740000002 |
| 340 | 167540000002 | 041740000002 | 420240000002 | 430240000002 | 043300000002 | 731200000002 | 167540000002 | 171540000002 |
| 350 | 344000000002 | 412000000002 | 211740000002 | 002640000002 | 775540000002 | 414000000002 | 000000000000 | 000000000000 |
| 360 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 370 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 400001000003 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 16)

MODULE 0 SECTOR 10

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 742655412003 | 465233232003 | 226763250003 | 161546436003 | 047007066003 | 330242340003 | 465233402003 | 230747466003 |
| 210 | 161555412003 | 576773232003 | 420263250003 | 550246536003 | 041747066003 | 420242340003 | 773042076003 | 041377442003 |
| 220 | 330247466003 | 744655412003 | 465233532003 | 232763250003 | 161546636003 | 047007066003 | 330243276003 | 465221012003 |
| 230 | 505421412003 | 746003254003 | 775563410003 | 177563260003 | 775746736003 | 163547066003 | 047002076003 | 177761012003 |
| 240 | 750021412003 | 512643254003 | 775563250003 | 775747036003 | 207547066003 | 420702340003 | 760755412003 | 175563250003 |
| 250 | 300742076003 | 774010166003 | 300561034003 | 762777236003 | 175544654003 | 306747666003 | 774030136003 | 306544754003 |
| 260 | 422707672003 | 710770126003 | 175577336003 | 574744654003 | 712007666003 | 574570436003 | 420704754003 | 502747672003 |
| 270 | 175570426003 | 030761534003 | 573416412003 | 030547236003 | 207007066003 | 775547136003 | 101307166003 | 177573636003 |
| 300 | 175765012003 | 113304202003 | 177647466003 | 775015412003 | 230261632003 | 424764050003 | 426750176003 | 430743656003 |
| 310 | 432750166003 | 434761034003 | 436770136003 | 440743756003 | 442770126003 | 444770436003 | 446743756003 | 450770426003 |
| 320 | 452761534003 | 454742340003 | 456750176003 | 460753744003 | 462770110003 | 464747336003 | 466747066003 | 470773702003 |
| 330 | 472742056003 | 474755412003 | 476774032003 | 500763250003 | 502747436003 | 504747066003 | 506742340003 | 510774102003 |
| 340 | 512742056003 | 514755412003 | 516743472003 | 520763250003 | 522747536003 | 524747066003 | 526742340003 | 530774202003 |
| 350 | 532742056003 | 534755412003 | 536774332003 | 540763250003 | 542747636003 | 544747066003 | 546742340003 | 550745436003 |
| 360 | 552765012003 | 554774402003 | 556742056003 | 560755412003 | 562774532003 | 564763250003 | 566742340003 | 611434600003 |
| 370 | 000010442001 | 000011632001 | 000004202001 | 000021632001 | 130116010003 | 500000000003 | 160000360003 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 17)

MODULE 0 SECTOR 10

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 716777666003 | 201547666003 | 211777676003 | 175547166003 | 175747676003 | 171542640003 | 340277666003 | 065741236003 |
| 10 | 420244054003 | 041747666003 | 420275236003 | 330244554003 | 512647672003 | 501201226003 | 203741336003 | 065344054003 |
| 20 | 203544472003 | 175741326003 | 275342036003 | 175544054003 | 420707666003 | 030775336003 | 075344554003 | 030547672003 |
| 30 | 432702026003 | 047037640003 | 203756200003 | 201120700003 | 011206076003 | 201744130003 | 716104010003 | 115221000003 |
| 40 | 203561100003 | 720756136003 | 201547066003 | 325761534003 | 175545636003 | 011407166003 | 202764260003 | 161542076003 |
| 50 | 041757012003 | 171577542003 | 724756412003 | 420277542003 | 430250166003 | 065331136003 | 141210066003 | 465402340003 |
| 60 | 204770536003 | 161561012003 | 041761412003 | 420243254003 | 065746610003 | 420264060003 | 330245536003 | 726647066003 |
| 70 | 465202076003 | 206761012003 | 161570336003 | 167561012003 | 041761412003 | 420243254003 | 201410010003 | 756024060003 |
| 100 | 330245636003 | 726547066003 | 465205736003 | 210747166003 | 167542076003 | 430261012003 | 065321412003 | 465203254003 |
| 110 | 212763250003 | 161545736003 | 041747066003 | 167546036003 | 047007166003 | 330257012003 | 465210476003 | 214747466003 |
| 120 | 161577542003 | 360255412003 | 602751632003 | 420263250003 | 730746036003 | 420247066003 | 732772176003 | 420247166003 |
| 130 | 550242340003 | 330255412003 | 734664050003 | 465206236003 | 216747066003 | 161546136003 | 602747166003 | 420254520003 |
| 140 | 041050442003 | 330247466003 | 736655412003 | 465211632003 | 220764050003 | 161550176003 | 041743256003 | 420250166003 |
| 150 | 773061034003 | 330254036003 | 740643756003 | 465214026003 | 222754336003 | 161543756003 | 047014326003 | 330261534003 |
| 160 | 465202340003 | 224750176003 | 161550044003 | 350254010003 | 065773102003 | 420247466003 | 720744136003 | 420247066003 |
| 170 | 550255412003 | 065773232003 | 420263250003 | 041746336003 | 420247066003 | 773042340003 | 041373302003 | 330247466003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 18)

MODULE 0 SECTOR 11

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 143746276003 | 013601230003 | 011213610003 | 656034600003 | 752023476003 | 550764476003 | 161565476003 | 552766676003 |
| 10 | 163570076003 | 065770776003 | 320274700003 | 255410720003 | 430261412003 | 560302154003 | 107201410003 | 167575036003 |
| 20 | 554753412003 | 310275136003 | 551410066003 | 430240436003 | 560335200003 | 107234700003 | 560775300003 | 320250720003 |
| 30 | 255435136003 | 430250066003 | 560300536003 | 107235200003 | 562774700003 | 300275300003 | 041750720003 | 310275436003 |
| 40 | 430250066003 | 560300636003 | 123235200003 | 775575536003 | 175575600003 | 775750720003 | 167575736003 | 175750066003 |
| 50 | 055000736003 | 551435200003 | 564774700003 | 310275300003 | 563410720003 | 566776036003 | 300250066003 | 570741036003 |
| 60 | 310275200003 | 575430676003 | 570776100003 | 300274700003 | 570775300003 | 310250720003 | 575435736003 | 556750066003 |
| 70 | 300241136003 | 564775200003 | 310261412003 | 563402154003 | 556747210003 | 310276236003 | 563413412003 | 564776336003 |
| 100 | 300275600003 | 310271776003 | 563411620003 | 556772076003 | 300251620003 | 041774700003 | 310253620003 | 563437666003 |
| 110 | 065761412003 | 320242154003 | 570751010003 | 310276436003 | 575413412003 | 566777640003 | 300277666003 | 041747666003 |
| 120 | 310276036003 | 575410066003 | 560761412003 | 320242154003 | 255412210003 | 267407676003 | 777552412003 | 754741034003 |
| 130 | 065107666003 | 261210076003 | 777003244003 | 572750066003 | 161552210003 | 574777640003 | 163546376003 | 430254230003 |
| 140 | 560314310003 | 107234600003 | 570776500003 | 310276600003 | 575400000002 | 065740000002 | 320240000002 | 756740000002 |
| 150 | 300240000002 | 760740000002 | 310240000002 | 730740000002 | 203540000002 | 607400000002 | 560740000002 | 320240000002 |
| 160 | 607400000002 | 560740000002 | 300240000002 | 041740000002 | 310240000002 | 607400000002 | 065740000002 | 320240000002 |
| 170 | 607400000002 | 762740000002 | 300240000002 | 041740000002 | 310240000002 | 607400000002 | 560740000002 | 320240000002 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 19)

MODULE 0 SECTOR 11

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 607400000002 | 764740000002 | 310240000002 | 607400000002 | 065740000002 | 320240000002 | 607400000002 | 043740000002 |
| 210 | 310240000002 | 203740000002 | 065100000002 | 203540000002 | 333200000002 | 607400000002 | 560740000002 | 320240000002 |
| 220 | 730740000002 | 203540000002 | 607400000002 | 560740000002 | 300240000002 | 310240000002 | 607400000002 | 764740000002 |
| 230 | 300240000002 | 560740000002 | 310240000002 | 607400000002 | 764740000002 | 300240000002 | 310240000002 | 607400000002 |
| 240 | 764740000002 | 300240000002 | 560740000002 | 310240000002 | 203740000002 | 065100000002 | 203540000002 | 445200000002 |
| 250 | 607400000002 | 065740000002 | 320240000002 | 607400000002 | 073740000002 | 310240000002 | 541400000002 | 760000000002 |
| 260 | 607405236003 | 752007066003 | 000005336001 | 000007166001 | 775542076003 | 766750166003 | 065134736003 | 555210066003 |
| 270 | 775013676003 | 775547666003 | 770747676003 | 065107466003 | 567216012003 | 775015412003 | 775562632003 | 776774310003 |
| 300 | 065110176003 | 601203256003 | 775010166003 | 775543276003 | 430261012003 | 560302076003 | 611221012003 | 775007676003 |
| 310 | 000013656001 | 000007666001 | 000021134001 | 000027636001 | 000003756001 | 000027626001 | 000021534001 | 000002340001 |
| 320 | 000010176001 | 000010044001 | 000027210001 | 000010076001 | 000034704001 | 000033410001 | 000010166001 | 000035036001 |
| 330 | 000010066001 | 000011576001 | 000007666001 | 000027220001 | 000010036001 | 000007066001 | 000007736001 | 000007166001 |
| 340 | 000002076001 | 000010166001 | 000035100001 | 000002640001 | 000022632001 | 160000360003 | 130007000003 | 160064760003 |
| 350 | 200000000003 | 000000020003 | 160065160003 | 160070360003 | 000000024003 | 000000240003 | 160044760003 | 000000016003 |
| 360 | 000000014003 | 160052760003 | 100000000003 | 000000006003 | 010000000003 | 050001240003 | 531020270003 | 000000000000 |
| 370 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 400200000003 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 20)

MODULE 0 SECTOR 12

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | C00037100001 | 1710C0000003 | 061000000003 | 070000000003 | 12100000CC003 | 1300C0CCCC03 | 020000000003 | 031000000003 |
| 10 | 111000C00003 | 1CC000000CC03 | 174000000003 | 064000000003 | 075000000003 | 124C00000C03 | 135000000003 | 025000000003 |
| 20 | 034000000003 | 1140C0000003 | 105000000003 | 062000000003 | 073000000003 | 122C00000C03 | 133C00C00003 | 023000000003 |
| 30 | 0320C0000003 | 1120C0000003 | 103000000003 | 177000000003 | 067000000003 | 0760C0000003 | 127000000003 | 136000000003 |
| 40 | 026CC0000003 | 037CC0000003 | 117000000003 | 106000000003 | 016C00CCC003 | 0070C0000003 | 163000CC0003 | 172000000003 |
| 50 | 002000C00003 | 165000000003 | 004000000003 | 160000000003 | 001000000003 | 000010000003 | 517000000003 | 106000000003 |
| 60 | 016000000003 | 007CC0000003 | 032000000003 | 112000000003 | 103C00000003 | 1630C0C00003 | 002000000003 | 034000000003 |
| 70 | 114CC0000003 | 1050C0000003 | 165000000003 | 004000000003 | 031000000003 | 111000000003 | 100000000003 | 160000000003 |
| 100 | 0010C0000003 | 177CCC000003 | 067000000003 | 076000000003 | 127000000003 | 136C00C00003 | 02600C000003 | 037000000003 |
| 110 | 016000C00003 | 1770C000C003 | 067000000003 | 076000000003 | 1270000C0003 | 136000000C03 | 026000000003 | 037000000003 |
| 120 | 117000000003 | 106000000003 | 016000000003 | 000010000003 | 00040000C0003 | C0CC20000003 | 000200000003 | 000100000003 |
| 130 | 000040000003 | 150032660003 | 120002670003 | 120005270003 | 120011270003 | 120014270003 | 12C020670003 | 120041270003 |
| 140 | 120047270003 | 12005427C003 | 120057270003 | 120015100003 | 120065270003 | 12007227C003 | 120075270C03 | 120100270003 |
| 150 | 120105270003 | 12011627C003 | 120124670003 | 120127670003 | 120142270003 | 120146670C03 | 120151270003 | 120154670003 |
| 160 | 12015767C003 | 120020500003 | 070003100003 | 000000132003 | 120000270003 | 12C002670003 | 0C0002040003 | 000000002003 |
| 170 | 000000004003 | 140066210003 | 000000046003 | 000000020003 | 000C00024003 | 00CC00014003 | 400000000003 | 200000000003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 21)

MODULE 0 SECTOR 12

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 371000000003 | 511000000003 | 377000000003 | 000000010003 | 000020000003 | 120016100003 | 070000500003 | 150032660003 |
| 210 | 130007000003 | 150000310003 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 220 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 230 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 240 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 250 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 260 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 270 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 300 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 310 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 320 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 330 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 340 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 350 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 360 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 370 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 400100000003 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 22)

MODULE 0 SECTOR 13

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 130074000003 | 130077400003 | 130103000003 | 130107000003 | 130175600003 | 130114000003 | 130116400003 | 130125400003 |
| 10 | 130132000003 | 130137000003 | 130143000003 | 130146400003 | 130152400003 | 130156400003 | 130162000003 | 130166000003 |
| 20 | 130171400003 | 130000200003 | 130003600003 | 130007200003 | 130013200003 | 130016600003 | 130022600003 | 130026200003 |
| 30 | 130031600003 | 130035600003 | 130041200003 | 130044600003 | 130050200003 | 130053600003 | 130057200003 | 130062600003 |
| 40 | 130066200003 | 130071600003 | 130076200003 | 130101600003 | 130105200003 | 130111200003 | 130115200003 | 130121200003 |
| 50 | 130125200003 | 130131200003 | 130135200003 | 130140600003 | 130144200003 | 130150200003 | 130154200003 | 130157600003 |
| 60 | 130163200003 | 130167200003 | 130001410003 | 130005410003 | 130011410003 | 130015410003 | 130021410003 | 130025010003 |
| 70 | 130030410003 | 130036410003 | 130042410003 | 130046410003 | 130052410003 | 130056410003 | 130062410003 | 130066410003 |
| 100 | 130072010003 | 130075410003 | 130101410003 | 130105410003 | 130111410003 | 130116410003 | 130122410003 | 130126410003 |
| 110 | 130132010003 | 130135410003 | 130143410003 | 130147410003 | 130153410003 | 130157410003 | 130163410003 | 130167410003 |
| 120 | 130001210003 | 130007430003 | 130013430003 | 130020210003 | 130024210003 | 130030210003 | 130034210003 | 130040210003 |
| 130 | 130044210003 | 010001010003 | 160030160003 | 000000002003 | 000000000003 | 000000000003 | 160003760003 | 140062210003 |
| 140 | 571165370003 | 140057610003 | 150032660003 | 120020500003 | 150002710003 | 110005110003 | 050001240003 | 501004000003 |
| 150 | 511010050003 | 531020270003 | 500000000003 | 400000000003 | 000000000003 | 160000560003 | 140057610003 | 777777776003 |
| 160 | 200000000003 | 252642550003 | 107301660003 | 362144430003 | 525252524003 | 252525252003 | 046453224003 | 114722350003 |
| 170 | 731530654003 | 377777776003 | 777777774003 | 331033100003 | 265026500003 | 733773400003 | 252525250003 | 525252520003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 23)

MODULE 0 SECTOR 13

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 13C001410003 | 77777777CC03 | 042104212003 | 421042120003 | 020410206003 | 410204140003 | 010101012003 | 404040500003 |
| 210 | C04020102003 | 402010200C03 | 252525200003 | 525252400003 | 00C000004003 | 652525252003 | 725252524003 | 125252524003 |
| 220 | 052525252003 | 210421042003 | 021042104003 | 214102040003 | 010604102003 | 202020200003 | 004040404003 | 201004220003 |
| 230 | 002010042003 | 002525252003 | 775252524003 | 130007430003 | 123456702003 | 765432106003 | 120000270003 | 000000000003 |
| 240 | C0C002C00003 | 0000C0C0C003 | 020000000003 | 000000000003 | 000000076003 | C00C0000CC00 | 000000C00000 | 000000000000 |
| 250 | C0000C000003 | 4000C0000003 | 200000000003 | 100000000C03 | C40000C00003 | C20000000003 | 010000000003 | 004000000003 |
| 260 | 002000C00003 | 0010C0000003 | 000400000003 | 000200000003 | 000100000003 | 000040000003 | 000020000003 | 000010000003 |
| 270 | C0CC04000003 | 0000C2000003 | 000001000003 | 000000400003 | 000000200003 | 00CC00100003 | 000000040003 | 000000020003 |
| 300 | 0CCCCC010003 | 0CCCCCC04003 | 000000002003 | 000000000000 | 0000C0000000 | 000CCC000000 | 0000000CCC00 | 000000000000 |
| 310 | 000037766C01 | 000023726001 | 000024036001 | 000007566001 | 000022012001 | 000024126C01 | 0C0024214001 | C00032410001 |
| 320 | 000010412001 | 000011012001 | 000023736001 | 000037740001 | 000035336001 | C00C04654001 | 0C0024326001 | C00035036001 |
| 330 | C00004754001 | 000024332001 | 000035026001 | 000024136001 | 000010134001 | 00CC04654001 | 0C0024326001 | C00035136001 |
| 340 | CCC004754001 | 000024332001 | 000035126001 | 000024136001 | 000024414001 | C0CCC2034001 | 000035016001 | 000035026001 |
| 350 | C0C025C36C01 | 0C0CC0012001 | 000032020001 | 000025036C01 | 0000000000C00 | C0CCCC000C00C | 0C0C00CC0000 | 000000000000 |
| 360 | C0CCCC0C00000 | 0C0CC000C0C0 | 000000000000 | 0000000000C00 | 00000000000C | C0CC00000000 | 0CC000000000 | 0C0000000000 |
| 370 | C0C0C0000000 | 0C0CC000C000 | 000000000000 | 000000000000 | 000000000000 | 40CC40000C003 | 764000000002 | C00000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 24)

MODULE 0 SECTOR 14

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 140062210C03 | 1400C1C2CC03 | 140002070003 | 140005020C03 | 140007420003 | 14CC1242CC03 | 14C015420C03 | 140021020003 |
| 10 | 14C024420003 | 14C03002C003 | 140033020003 | 140036020C03 | 140041420003 | 14CC4502C0C3 | 140050420003 | 140054020003 |
| 20 | 140057420003 | 14C063C2C003 | 140066420003 | 14007202CC03 | 140075420003 | 14C1C1020003 | 140104420003 | 13000700C003 |
| 30 | C00037300001 | 14011C02C003 | 140113420003 | 140117020003 | 14012242CC03 | 14012602CC03 | 140131420003 | 14013502C003 |
| 40 | 140140420003 | 14014402C003 | 140147420003 | 140153020003 | 14015642CCC3 | 14C16202CCC3 | 140165420003 | 140001220003 |
| 50 | 14C0C4620003 | 14C01022C003 | 140013620003 | 140017220003 | 140022620003 | 14CC2622CCC3 | 14C031620003 | 140035220003 |
| 60 | 14C040620003 | 14C04422C003 | 140047620003 | 140053220003 | 140056620003 | 140062220003 | 14C065620003 | 140071220003 |
| 70 | 14C074620003 | 1401C022CC03 | 140103620003 | 140107220C03 | 140112620003 | 14011622CC03 | 140121620003 | 14012522CC03 |
| 100 | 14013062C003 | 14013422CC03 | 140137620003 | 140143220C03 | 14014662C0C3 | 14015222CCC3 | 140155620C03 | 140161220003 |
| 110 | 15C030260003 | 777777776003 | 140001070003 | 140014430003 | 140031430003 | 14CC34030003 | 140036430003 | 140043430003 |
| 120 | 14C047030003 | 14CC52430003 | 140056030003 | 140061430003 | 140065030003 | 14CC7C43C003 | 14CC73030003 | 140075430003 |
| 130 | 140101C30003 | 1401C4C3CC03 | 140107030003 | 140112030003 | 140115030003 | 140121430003 | 14012503CC03 | 140132030003 |
| 140 | 140141030003 | 14015143C0C3 | 140160030003 | 140001230003 | 140011630003 | 14CC2263CCC3 | 14C031630003 | 140035630003 |
| 150 | 140046230003 | 14005163C0C3 | 140055230003 | 140062630C03 | 14C065630003 | 140070230003 | 140073230003 | 140075630003 |
| 160 | 14C106630003 | 140112630003 | 140116630003 | 140122630003 | 140126630003 | 14C13263C0C3 | 140136630003 | 100000000003 |
| 170 | 140146630003 | 14C15163C003 | 140153630003 | 140157230003 | 14016363C003 | 14CCC1C4CC03 | 14CC05440003 | 140012040003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 25)

MODULE 0 SECTOR 14

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20C | 140016440003 | 140025440003 | 140032040003 | 140037040003 | 140044040003 | 140C5104C003 | 140055440003 | 140060440003 |
| 210 | 14CC6304CC03 | 14C066040003 | 140071440003 | 140075040003 | 1401C044C003 | 14C10404CC03 | 140107440003 | 140113040003 |
| 220 | 140116440003 | 40CCCC0CCC03 | 040000000003 | 200000000003 | 020C00GCC003 | C1CC0000CC03 | 004C00CC0003 | 00200000C003 |
| 230 | 001C00C0C003 | 0C04C0CC0003 | 000200000003 | 000100000003 | 000G400C0003 | 000020000003 | 0C0010C00003 | 140014430003 |
| 240 | 77777C000003 | 37777C000003 | 177770000003 | 470000000C03 | 477770000003 | 11CC0000C003 | 437770CCC003 | 417770000003 |
| 250 | 40777C000003 | 403770C0C003 | 401770000003 | 400770000003 | 4C037C000003 | 400170GC0003 | 400070000003 | 400030000003 |
| 260 | 40C010C00003 | 0000C0006003 | 000001760003 | 660000176003 | 30000004C003 | 60CCCCGGC003 | 120000C00003 | 600010000003 |
| 270 | 460C0CCC0003 | 12CCC0270003 | 000000004003 | 125010000003 | 510C00C0C003 | C56CC00CC003 | 30C0000C0003 | 076000000003 |
| 300 | 060CCCC00003 | 01C220000003 | 007000000003 | 132100000003 | 130000000003 | COCC00176C03 | 1373C0CC0003 | 137340000003 |
| 310 | 137370000003 | CCCCC0002003 | 000000020003 | 000000040003 | 000000010003 | 000C0C1C0003 | 00G000200003 | 000000400003 |
| 320 | C0C0C1000003 | 16C0CC56C003 | 400000002003 | 400200000C03 | 200CCC004003 | 2004CCC0C003 | 1000C001C003 | 101000000C003 |
| 330 | 14C001040003 | 0400C0020003 | 042000000003 | 020000040C03 | 0240000CC003 | C1C10000C003 | 004040000C03 | 002020100003 |
| 340 | 01202CC00003 | C0101020C003 | 021010000003 | 000404400003 | 440400G00003 | C0C2C1000003 | 1C02000C0003 | 000002000003 |
| 350 | 140171230003 | 252525252C03 | 525252524003 | 252525250003 | 150000460003 | 14016762CC03 | 000C00CCC000 | 000000000000 |
| 360 | 0CCCC0CCCC00 | 0000CCC0C000 | 000000000000 | 000000000000 | 000000000C000 | C0GCCGCCCC00 | 000000C0C000 | 000000000000 |
| 370 | 00C0C0C0CC00 | 00C0CC00C0C0 | 000000000000 | 0000000000C00 | 000C0CCCCC00 | 400C2000CC03 | 0CG00000C000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 26)

MODULE 0 SECTOR 15

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 150023060003 | 150032060003 | 150041060003 | 150050060003 | 150057060003 | 150066060003 | 150075060003 | 150104060003 |
| 10 | 150113060003 | 150122060003 | 150131060003 | 150140060003 | 150147060003 | 150156060003 | 150165060003 | 150000460003 |
| 20 | 150173060003 | 150174060003 | 150000260003 | 150004260003 | 150005260003 | 150006260003 | 150007260003 | 150010260003 |
| 30 | 150011260003 | 150012260003 | 150013260003 | 150014260003 | 150015260003 | 150016260003 | 150017260003 | 777777776003 |
| 40 | 000000002003 | 150072100003 | 000000000003 | 111111112003 | 222222222003 | 333333332003 | 444444444003 | 555555554003 |
| 50 | 666666666003 | 777777774003 | 150147510003 | 150140110003 | 200000000003 | 150033100003 | 150040100003 | 150044500003 |
| 60 | 150052100003 | 150062500003 | 150070100003 | 150075500003 | 150101500003 | 150105500003 | 150112100003 | 150116100003 |
| 70 | 150121500003 | 150143100003 | 150150500003 | 150152500003 | 150156100003 | 150162100003 | 150166100003 | 150007300003 |
| 100 | 150014700003 | 150023300003 | 150030300003 | 150034700003 | 150041700003 | 150044300003 | 150047700003 | 150056300003 |
| 110 | 150062300003 | 150066300003 | 150070700003 | 150101300003 | 150103700003 | 150111700003 | 614300000003 | 624300000003 |
| 120 | 634300000003 | 644300000003 | 654300000003 | 664300000003 | 674300000003 | 704300000003 | 714300000003 | 414300000003 |
| 130 | 424300000003 | 434300000003 | 444300000003 | 454300000003 | 464300000003 | 474300000003 | 504300000003 | 514300000003 |
| 140 | 224300000003 | 234300000003 | 244300000003 | 254300000003 | 264300000003 | 274300000003 | 304300000003 | 310300000003 |
| 150 | 014300000003 | 024300000003 | 034300000003 | 044300000003 | 054300000003 | 064300000003 | 074300000003 | 104300000003 |
| 160 | 114300000003 | 124300000003 | 134300000003 | 204300000003 | 214300000003 | 334300000003 | 404300000003 | 534300000003 |
| 170 | 604300000003 | 734300000003 | 004300000003 | 144300000003 | 154300000003 | 164300000003 | 174300000003 | 324300000003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 27)

MODULE 0 SECTOR 15

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 344300000003 | 354300000003 | 364300000003 | 374300000003 | 524300000003 | 544300000003 | 554300000003 | 564300000003 |
| 210 | 574300000003 | 724300000003 | 744300000003 | 754300000003 | 764300000003 | 774300000003 | 124300000003 | 130300000003 |
| 220 | 120300000003 | 134300000003 | 160300000003 | 174300000003 | 164300000003 | 170300000003 | 012100000003 | 022100000003 |
| 230 | 036100000003 | 042100000003 | 056100000003 | 066100000003 | 072100000003 | 102100000003 | 116100000003 | 126100000003 |
| 240 | 132100000003 | 146100000003 | 416100000003 | 426100000003 | 432100000003 | 612100000003 | 622100000003 | 636100000003 |
| 250 | 642100000003 | 656100000003 | 666100000003 | 672100000003 | 702100000003 | 716100000003 | 726100000003 | 732100000003 |
| 260 | 746100000003 | 216100000003 | 226100000003 | 232100000003 | 150002710003 | 110000110003 | 400003774003 | 400001774003 |
| 270 | 000000004003 | 000003774003 | 000001774003 | 000000776003 | 400000776003 | 150051310003 | 150061310003 | 000000004003 |
| 300 | 100000000003 | 000000010003 | 040000000003 | 000000020003 | 020000000003 | 000000040003 | 010000000003 | 000000100003 |
| 310 | 004000000003 | 000000200003 | 002000000003 | 000000400003 | 001000000003 | 000001000003 | 000400000003 | 000002000003 |
| 320 | 000200000003 | 000004000003 | 000100000003 | 000010000003 | 000040000003 | 000020000003 | 140066210003 | 130007000003 |
| 330 | 120016100003 | 007700000003 | 774300000003 | 000077000003 | 000000770003 | 004700000003 | 400000000003 | 411111114003 |
| 340 | 170300000003 | 122222222003 | 244444444003 | 160300000003 | 411111140003 | 174300000003 | 150130110003 | 000000030003 |
| 350 | 000000006003 | 150000300003 | 000000110003 | 612020000003 | 000000014003 | 000000016003 | 001020000003 | 005320000003 |
| 360 | 205320000003 | 725300000003 | 525300000003 | 150000310003 | 160000560003 | 110000110003 | 000002466003 | 000002260003 |
| 370 | 000002400003 | 400000010003 | 400000004003 | 000131002003 | 000054402003 | 400010000003 | 000037400001 | 000026202003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 28)

MODULE 0 SECTOR 16

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 775577600003 | 670324012003 | 177561426003 | 175747076003 | 672321326003 | 177647276003 | 775021226003 | 123747376003 |
| 10 | 027621526003 | 704007476003 | 706021626003 | 440245276003 | 025607010003 | 323407276003 | 220761026003 | 175545276003 |
| 20 | 102743256003 | 051005266003 | 102561104003 | 422742610003 | 223403376003 | 710767426003 | 201547276003 | 316761032003 |
| 30 | 324403310003 | 323405276003 | 341405366003 | 422767436003 | 203545430003 | 422740236003 | 223427516003 | 712740226003 |
| 40 | 177540436003 | 424767516003 | 253400476003 | 102740636003 | 075367516003 | 102540626003 | 177741036003 | 065127516003 |
| 50 | 177541026003 | 103201236003 | 323427516003 | 341401226003 | 203745076003 | 065105730003 | 203547140003 | 073207040003 |
| 60 | 422754436003 | 223407666003 | 714747036003 | 201540060003 | 320747026003 | 324433236003 | 125750066003 | 253402076003 |
| 70 | 323421226003 | 341407036003 | 422773316003 | 223407026003 | 714750760003 | 201543244003 | 322750066003 | 324406710003 |
| 100 | 127747266003 | 253405266003 | 323427426003 | 341405366003 | 430261012003 | 716314236003 | 027207666003 | 720000236003 |
| 110 | 424740060003 | 775540226003 | 722554336003 | 430247666003 | 043300436003 | 227200060003 | 724740426003 | 270254436003 |
| 120 | 722747666003 | 065100636003 | 722540060003 | 227200626003 | 775014536003 | 775547666003 | 702541036003 | 775740060003 |
| 130 | 207541026003 | 726754636003 | 730547666003 | 430241236003 | 043300060003 | 267201226003 | 702742240003 | 260240000002 |
| 140 | 010700000002 | 702540000002 | 730761476003 | 065121326003 | 730561226003 | 267221526003 | 732761626003 | 223427636003 |
| 150 | 207031436003 | 775572336003 | 430277666003 | 043333614003 | 325207666003 | 734756336003 | 270273714003 | 775007672003 |
| 160 | 775556326003 | 430274036003 | 043307766003 | 343234136003 | 736747666003 | 270261412003 | 775002154003 | 574056510003 |
| 170 | 630047676003 | 646052012003 | 000004034001 | 000007666001 | 000077760001 | 000003244001 | 000007766001 | 000016510001 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 29)

MODULE 0 SECTOR 16

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | COCC16336C01 | CCCOC3756001 | 000016326001 | 000010076001 | 000003244C01 | COCC1CC66C01 | OC0016110001 | 000037640001 |
| 210 | 00CCCOCCCC03 | OCCOC0024C03 | 000000000003 | 000000000003 | 00000OCOCOC3 | COCCCOCOCCC3 | OCCOCOCCC003 | C00000000003 |
| 220 | C00C00C00003 | CCCOCCCOCOC3 | 000000000003 | 000000000003 | 00CCC00CC003 | CCCCCC00C003 | OCOCC0000003 | CC0000000003 |
| 230 | 00CCCCC00003 | OCCOCOC00003 | 000000000003 | 000000000003 | 000000000003 | 00CCCCCCCC03 | 00CCCCOC0003 | 000000000003 |
| 240 | COCCCOCOC003 | OCCCCC000003 | 000000000003 | 000C00000003 | OCOCCCCCC003 | C00CCCOC0003 | 000C00000003 | 000000000003 |
| 250 | 000CCCC00003 | OCCCCCC00003 | 000000000003 | 000000000003 | OC0000CCOC03 | COCOCCCCCC03 | 0000COCCC003 | 000000000003 |
| 260 | COCCCOCOCC03 | CCCOCOCCCC03 | 000000000003 | 000000000003 | 0000000CCC03 | CCCCOC00C003 | OCOCCOC00C03 | 000000000003 |
| 270 | OCCOCCC00003 | OC00C0000003 | 000000000003 | 000000000003 | 000000000003 | C00C005C0003 | 004761220003 | 220045510003 |
| 300 | COCOCCC00003 | 43466361C003 | 237146450003 | 000000000003 | 000000610003 | 63632444CC03 | 000C00C00003 | 000025610003 |
| 310 | 5104CCC00003 | COCOCCC00003 | 000025610003 | 510500000003 | 23462361C003 | 43006551C003 | 514651CCC003 | 63462445C003 |
| 320 | 23CCCCC00003 | 000CCC00C003 | 000000000003 | 655151460C03 | 51006346CCC3 | 2445230CCC03 | 667151220C03 | 230047610003 |
| 330 | 2222COC00C03 | CCCCC0000003 | 000000144003 | 000000100003 | 777740036003 | COCC3774C303 | CCCC37776003 | 777740000003 |
| 340 | CCCC00010003 | OCCCC0000003 | 160142300003 | 160050260003 | 000000C34003 | COCCCC012003 | OCOC00014003 | 000004000003 |
| 350 | 13COCCC00003 | 00CCCCOCCC03 | 400000000003 | 000C00022C03 | 000COCCCC003 | COCCCC006003 | 020000COC003 | 04000000C003 |
| 360 | 4100CCCC0003 | OCOCCCOCCCC0 | 000000000000 | 000000000C00 | OCOC000CCC00 | 16C07747C003 | 160037700C03 | 160127710003 |
| 370 | 16COC0120003 | 16C177330003 | 160014140003 | 160177150003 | 16000160003 | 4CCCC40CC003 | 160151370003 | 401000000003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 30)

MODULE 0 SECTOR 17

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 |
| 10 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 130144130003 |
| 20 | 000000000003 | 000000010003 | 130007000003 | 140066210003 | 100136700003 | 130020210003 | 160000560003 | 160001160003 |
| 30 | 501047200003 | 501052200003 | 000000002003 | 777777776003 | 130300000003 | 000001520003 | 002000000003 | 000000100003 |
| 40 | 000777776003 | 270000000003 | 260000000003 | 250000000003 | 240000000003 | 777000000003 | 000037740003 | 777740036003 |
| 50 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 |
| 60 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 |
| 70 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 000000000003 |
| 100 | 000000000003 | 000000000003 | 000000000003 | 000000000003 | 610000000003 | 620000000003 | 630000000003 | 640000000003 |
| 110 | 650000000003 | 660000000003 | 670000000003 | 700000000003 | 710000000003 | 410000000003 | 420000000003 | 430000000003 |
| 120 | 440000000003 | 450000000003 | 460000000003 | 470000000003 | 500000000003 | 510000000003 | 220000000003 | 230000000003 |
| 130 | 240000000003 | 250000000003 | 260000000003 | 270000000003 | 300000000003 | 310101010003 | 010000000003 | 020000000003 |
| 140 | 030000000003 | 040000000003 | 050000000003 | 060000000003 | 070000000003 | 100000000003 | 110000000003 | 120000000003 |
| 150 | 130000000003 | 200000000003 | 210000000003 | 330000000003 | 400000000003 | 530000000003 | 600000000003 | 730000000003 |
| 160 | 000000000003 | 140000000003 | 150000000003 | 160000000003 | 170000000003 | 320000000003 | 340000000003 | 350000000003 |
| 170 | 360000000003 | 370000000003 | 520000000003 | 540000000003 | 550000000003 | 560000000003 | 570000000003 | 720000000003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 31)

MODULE 0 SECTOR 17

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 740000000003 | 750000000003 | 760000000003 | 770000000003 | 110000000003 | 210000000003 | 310000000003 | 410000000003 |
| 210 | 510000000003 | 610000000003 | 710000000003 | 010000000003 | 050000000003 | 110000000003 | 150000000003 | 210000000003 |
| 220 | 250000000003 | 310000000003 | 350000000003 | 410000000003 | 450000000003 | 510000000003 | 400000000003 | 010000000003 |
| 230 | 020000000003 | 040000000003 | 100000000003 | 200000000003 | 514624230003 | 714565000003 | 073300650003 | 276551630003 |
| 240 | 712265000003 | 233047650003 | 265171230003 | 655100000003 | 233047650003 | 006143430003 | 006143470003 | 706145240003 |
| 250 | 446551710003 | 630071450003 | 006243610003 | 634200000003 | 616263640003 | 656667700003 | 714142430003 | 444546470003 |
| 260 | 505122230003 | 242526270003 | 303133010003 | 020304050003 | 060710110003 | 120000000003 | 141516170003 | 323435360003 |
| 270 | 372052210003 | 565772740003 | 757677130003 | 543355400003 | 536073000003 | 000000000000 | 000000000000 | 645400000002 |
| 300 | 233047650003 | 004663230003 | 614300630003 | 706151610003 | 632365510003 | 220000000003 | 012345670003 | 233047650003 |
| 310 | 006465630003 | 714461430003 | 007145230003 | 656765510003 | 220071450003 | 005165640003 | 000000000003 | 044321260003 |
| 320 | 361150000003 | 150055500003 | 776000000002 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 330 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 340 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 350 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 360 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 370 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 400020000003 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 32)

MODULE 1 SECTOR 0

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 00C000100001 | 4110C0610003 | 000000000000 | 000000000000 | 000000000000 | 00C000000000 | 000000000000 | 000000000000 |
| 10 | 041746476003 | 167541530003 | 004741410003 | 024240000003 | 054240100003 | 064242076003 | 114277666003 | 124246612003 |
| 20 | 134240236003 | 014240012003 | 131740336003 | 061622352003 | 004740436003 | 044261352C03 | 074240536003 | 104243012003 |
| 30 | 775540412003 | 040751012003 | 034243376003 | 152252612003 | 775540612003 | 042741212003 | 034242612003 | 152243212003 |
| 40 | 775553612003 | 014754212003 | 034254612003 | 152244612003 | 775545212003 | 041745612003 | 142277764003 | 775545476003 |
| 50 | 040745530003 | 014240236003 | 132242212003 | 775543612003 | 044744212003 | 014277766C03 | 132277776003 | 775547366003 |
| 60 | 046742076003 | 014246112003 | 132240632003 | 775551650003 | 050777766C03 | C54277776003 | 172247366003 | 775546512003 |
| 70 | 052751650003 | 054277766003 | 172277776003 | 775547366003 | 054740736003 | 054241212003 | 172242076003 | 775546112003 |
| 100 | 072740732003 | 064251650003 | 202277766003 | 775577776003 | 074747366003 | 064246512003 | 202241032003 | 775551650003 |
| 110 | 076777766C03 | 064277776003 | 202247366003 | 131741036003 | 441601212003 | 263402076003 | 777546112003 | 175541032003 |
| 120 | 777751650003 | 163577666003 | 775742076003 | 161547366003 | 100741136003 | 407246612003 | 047003036003 | 175740466003 |
| 130 | 057037666003 | 775541236003 | 102746112003 | 074251660003 | 212277666003 | 775543012C03 | 104751012003 | 074277676003 |
| 140 | 212243132003 | 77555165C003 | 106777666003 | 074243236003 | 212240466003 | 041341336C03 | 775546112C03 | 330251660003 |
| 150 | 022303C76003 | 3272C0466003 | 235403012003 | 020251012003 | 220242076003 | 775540612003 | 110742612003 | 104243212003 |
| 160 | 222244612003 | 775545212003 | 112745612003 | 104245476003 | 222257130003 | 775542076003 | 114742212003 | 104243612003 |
| 170 | 222244212003 | 421437666003 | 000001436001 | 000006612001 | 000006112001 | 000037666001 | 00C001536001 | 000037366001 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 33)

MODULE 1 SECTOR 0

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 000001636001 | 000037364001 | 000037666001 | 000003376001 | 000006612001 | 000001536C01 | 000037364001 | 000037666001 |
| 210 | 116743336003 | 775540466003 | 044242076003 | 162277364003 | 775551660003 | 120743012003 | 044251012003 | 162277666003 |
| 220 | 775543436003 | 122740466003 | 124241736003 | 242277366003 | 775541536003 | 124777364003 | 124251660003 | 242243076003 |
| 230 | 775540466003 | 126743012003 | 124251012003 | 242277666003 | 775541036003 | 13C746112003 | 114277766003 | 232277776003 |
| 240 | 775547366003 | 132742076003 | 114245512003 | 232277766003 | 775577776003 | 134747366003 | 114240736003 | 232246512003 |
| 250 | 775577766003 | 014777776003 | 024247366003 | 142242076003 | 775547512003 | 136777766003 | 134277776C03 | 262247366003 |
| 260 | 302242C76003 | 775550112003 | 144245476003 | 140771330003 | 134277766003 | 262277776003 | 302247366003 | 775542076003 |
| 270 | 142750512C03 | 134242056003 | 262242340003 | 302277766003 | 144777776003 | 447247366003 | 131755412003 | 603611650003 |
| 300 | 146002056003 | 150037766003 | 000037776001 | 000007366001 | 000002076001 | 000011112001 | 000037766001 | 000037776001 |
| 310 | 000007366001 | 000002076001 | 000007112001 | 000037766001 | 000037776001 | 000007366001 | 000002076001 | 000012112001 |
| 320 | C00037766001 | 000037776001 | 000007366001 | 000002076001 | 000011512001 | C00037766001 | 000037776001 | 000007366001 |
| 330 | 000002076001 | 000013112001 | 000014112001 | 000001060001 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 340 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 0C0000000000 | 000000000000 |
| 350 | 00000C000000 | 0000C000C000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 360 | 0000CCC00000 | 000CC0000000 | 000000000000 | 000000000000 | 0000000C0000 | 00000000CC00 | 000000000000 | 000000000000 |
| 370 | 000000C00000 | 0000C000C000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 34)

MODULE 1 SECTOR 1

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 00COCOCCC000 | 0040CC0CC002 | 421001020003 | 0000000000C00 | 000C00C0C000 | C000COC0C000 | 0000000C0000 | 000000000000 |
| 10 | 000CC0CCC000 | 0000CC000000 | 047015636003 | 041777666003 | 154242212003 | C04747112C03 | 000277666003 | 131755736003 |
| 20 | 0456C0512C03 | 047437666003 | 434016036003 | 775541112003 | 330277666003 | 554206536003 | 775541512003 | 020537666003 |
| 30 | 041356136003 | 330242112003 | 436677666003 | 554216236003 | 775543112003 | 070277666003 | 002516336003 | 041343512003 |
| 40 | 330277666003 | 436656436003 | 554204112003 | 775577666003 | 070256536003 | C14504512C03 | 576537666003 | 000256636003 |
| 50 | 041345112C03 | 330277666003 | 554204636003 | 775542212003 | 074507112C03 | C41377666C03 | 330256736003 | 440640512003 |
| 60 | 554237666003 | 775557036C03 | 030241112003 | 076537666003 | 070502076003 | C64501512003 | 054537666C03 | 034517136003 |
| 70 | 17450211 2003 | 274537666C03 | 131757236003 | 175603112003 | 041777666003 | 074257336C03 | 070243512C03 | 330277666003 |
| 100 | 554202336003 | 775544112003 | 276537666003 | 041357436003 | 330244512003 | 036677666003 | 554217536003 | 775545112003 |
| 110 | 110240236003 | 2725C2212003 | 266507112003 | 256537666003 | 236500024003 | 376502076003 | 276252512003 | 070277666003 |
| 120 | 330277664003 | 554217636003 | 775552512003 | 446537666003 | 041352564003 | 330257736003 | 442652512003 | 554237666003 |
| 130 | 775565224003 | 120243536003 | 456512512003 | 041345476C03 | 330260530003 | 442642076003 | 554206612003 | 775577666003 |
| 140 | 120245036003 | 726513724003 | 041351112003 | 330260032003 | 442666610003 | 554237666003 | 775544736003 | 120253724003 |
| 150 | 746511112003 | 041346632003 | 330266610003 | 442677666C03 | 554220136003 | 775553724C03 | 120251112003 | 444520232003 |
| 160 | 442526610003 | 446277666C03 | 606520336003 | 626513724C03 | 636511112003 | 526520432C03 | 546526610003 | 766537666003 |
| 170 | 736520536003 | 646513724003 | 756511112003 | 406520632C03 | 426526610003 | C70277666003 | 330260736003 | 554213724003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 35)

MODULE 1 SECTOR 1

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 775551112003 | 506521032003 | 041366610003 | 330240236003 | 444644212003 | 554206612003 | 775577666003 | 130245036003 |
| 210 | 706500366003 | 041340364C03 | 330277666003 | 444644736C03 | 554200366003 | 775540364003 | 130277666003 | 466507036003 |
| 220 | 041340366003 | 330240364003 | 444677666003 | 554221136003 | 775540366003 | 130240364003 | 666537666003 | 041354436003 |
| 230 | 330240366003 | 44464C364C03 | 554237666003 | 775561236003 | 130240366003 | 516500364003 | 716537666003 | 476515636003 |
| 240 | 566500366003 | 7005C0364003 | 676537666003 | 106521336003 | 070240366003 | 330240364003 | 554237666003 | 775544636003 |
| 250 | 176500366003 | 041340364003 | 330277666003 | 446661436003 | 554200366003 | 775540364003 | 140242076003 | 136500366003 |
| 260 | 041343212003 | 330245476003 | 450641270003 | 554202076003 | 775543612003 | 15C241260003 | 046537766003 | 041361500003 |
| 270 | 330240C00C02 | 45264C000002 | 554200000002 | 775540000002 | 160240000002 | 44024000CC02 | 454300000002 | 613200000002 |
| 300 | 1565C0C00002 | 04134C0CC002 | 330240000002 | 010640000002 | 5542000C0002 | 775540000002 | 170240000002 | 166500000002 |
| 310 | 1725C0C00002 | 3365C0C0C002 | 536500000002 | 116500000002 | 03650000C002 | 126500000002 | 134500000002 | 246500000002 |
| 320 | 006500C00002 | 1465C000C002 | 066500000002 | 042500000002 | 044500000002 | C56500000002 | 356500C00002 | 556500000002 |
| 330 | 1165C0C00002 | 0565C0000002 | 154500000002 | 152500000002 | 146500000002 | C70240000002 | 046240000002 | 041340000002 |
| 340 | 33024C00C002 | 5542C000C002 | 456000000002 | 000000000000 | 000C00000000 | C00C00000000 | 000000000000 | 000000000000 |
| 350 | C0C0C0C00000 | 0000CC000C00 | 000000000000 | 0000000000C0 | 000000C00000 | CCCC00000000 | 000000000000 | 000000000000 |
| 360 | C0C0CCCCCC00 | 000C0C000000 | 000000000000 | 000000000000 | 00000000000C | CC0CC000C0C0 | 000000000000 | 000000000000 |
| 370 | CCCCCCCCCC0C | 000CC000C000 | 000000000000 | 000000000000 | 000000000000 | C000000000C0 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 36)

MODULE 1 SECTOR 2

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 000000C00000 | 0000C0000000 | 000000300001 | 431001430003 | 000000000000 | C0C000000000 | 000000000000 | 000000000000 |
| 10 | 000000CC0C00 | 0000C000C000 | 000000000000 | 000000000000 | 100742076003 | 775577666003 | 163543212003 | 000777766003 |
| 20 | 154277776003 | 264247366003 | 254242056003 | 061755412003 | 011555310003 | C41777766C03 | 124277776003 | 242247366003 |
| 30 | 002761412003 | 274263014003 | 304255310003 | 004777666003 | 314243536003 | 254243212003 | 006777766003 | 010277776003 |
| 40 | 041347366003 | 102742056003 | 011555412003 | 041763132003 | 242255310003 | 242277766C03 | 263437776003 | 777547366003 |
| 50 | 175561412003 | 043763014003 | 254263232003 | 060255310003 | 220277666003 | 777742076003 | 167543212003 | 104642412003 |
| 60 | 265203636003 | 175743212003 | 010677766003 | 263237776003 | 106747366003 | 011542056003 | 010755412003 | 242262632003 |
| 70 | 242255310003 | 263437766003 | 777577776003 | 175547366003 | 060261412003 | 220263014C03 | 777763332003 | 167555310003 |
| 100 | 110677666003 | 265202076003 | 175743212003 | 012642012003 | 2632234360C3 | 112743212003 | 011577766003 | 012777776003 |
| 110 | 242247366003 | 242242056003 | 263415412003 | 777555310003 | 175577766003 | 060277776003 | 220247366003 | 777761412003 |
| 120 | 167563014003 | 114663532003 | 265215310003 | 175777666003 | 014663636003 | 263203212003 | 067777766003 | 254277776003 |
| 130 | 267407366003 | 175542056003 | 063015412003 | 775563732003 | 116755310003 | 163577766003 | 061777776003 | 011547366003 |
| 140 | 014761412003 | 124263014003 | 242264032003 | 016755310003 | 274242076003 | 304243212003 | 004747366003 | 314242012003 |
| 150 | 254242412003 | 041351012003 | 041355520003 | 041377766003 | 120761500003 | C11564136003 | 014747212003 | 242264236003 |
| 160 | 242243244003 | 263416010C03 | 777564336003 | 175547212003 | 020764236003 | 254243244003 | 060256510003 | 220264136003 |
| 170 | 777747212003 | 167550212003 | 122664236003 | 265203244C03 | 17575731C0C3 | 022664336C03 | 263207212003 | 124764436003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 37)

MODULE 1 SECTOR 2

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 011543244003 | 022760010003 | 242264136003 | 242247212003 | 263424236003 | 777543244003 | 175560510003 | 060240236003 |
| 210 | 220247212003 | 777746236003 | 167547612003 | 126643244003 | 265221310003 | 175764336003 | 024647212003 | 263202056003 |
| 220 | 130764536003 | 011547612003 | 024742056003 | 242242056003 | 242262012003 | 263421714003 | 777555510003 | 175564636003 |
| 230 | 060247612003 | 220264236003 | 777743244003 | 167563210003 | 132664536003 | 265207612003 | 175764236003 | 026643244003 |
| 240 | 263223710003 | 067764636003 | 254247612003 | 775550212003 | 134764236003 | 163543244003 | 061764510003 | 011564536003 |
| 250 | 041747612003 | 264264436003 | 026743244003 | 124265210003 | 242264636003 | 030747612003 | 314264236003 | 032743244003 |
| 260 | 304265710003 | 274240236003 | 041747612003 | 254246236003 | 041347212003 | 041343244003 | 041366510003 | 136764536003 |
| 270 | 011547612003 | 026742056003 | 242264336003 | 242247212003 | 263422012003 | 777564714003 | 175562710003 | 065765000003 |
| 300 | 254240000002 | 060240000002 | 220240000002 | 777740000002 | 167540000002 | 140640000002 | 265200000002 | 175740000002 |
| 310 | 024640000002 | 263200000002 | 142740000002 | 011540000002 | 024740000002 | 242240000002 | 242240000002 | 263400000002 |
| 320 | 777540000002 | 175540000002 | 060240000002 | 220240000002 | 777740000002 | 167540000002 | 144640000002 | 265200000002 |
| 330 | 175740000002 | 022640000002 | 263200000002 | 146740000002 | 011540000002 | 022740000002 | 242240000002 | 242240000002 |
| 340 | 263400000002 | 777540000002 | 175540000002 | 060240000002 | 220240000002 | 777740000002 | 167540000002 | 150640000002 |
| 350 | 265200000002 | 175740000002 | 014640000002 | 263200000002 | 067740000002 | 254240000002 | 034000000002 | 000000000000 |
| 360 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 370 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 38)

MODULE 1     SECTOR 3

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | CCCCOCCOCCOC | OCOOCCOOOCOO | 000000000000 | 000000400001 | 441002040003 | CCCCCOOCCCOO | CCCC00000000 | 000000000000 |
| 10 | CCCCCCCCC000 | OOOOCC000000 | 000000000000 | 000000000000 | OOOCOOOCOOOO | COCCOOOOCCCO | 0C0000000000 | 000000000000 |
| 20 | 224746536003 | 775577666C03 | 163547166003 | 061743076003 | 011540466003 | COC740636C03 | 264245212003 | 046752112003 |
| 30 | 124241436C03 | 242254612C03 | 054741536003 | 314254212003 | 274253612OC3 | C52742076003 | 304252612C03 | 254242056003 |
| 40 | 041342C56C03 | 041342056CC3 | 041346636003 | 226740466003 | 011540636003 | 046752112003 | 242252112003 | 242241700003 |
| 50 | 036037766003 | 777547666C03 | 175543276003 | 043752612003 | 254243012003 | 060251012003 | 220277776003 | 777747366003 |
| 60 | 167546732003 | 230675610003 | 734207676003 | 175740532003 | 056675510003 | 7322C7036003 | 232740466003 | 011540536003 |
| 70 | 056752112003 | 242252112003 | 242241700003 | 036037766003 | 777547666003 | 175543012C03 | 060251012003 | 220277776003 |
| 100 | 777747366003 | 167547132C03 | 234675610003 | 734207676003 | 175742032003 | C6067551C003 | 732207236003 | 236740466003 |
| 110 | 011542C36C03 | 060752112003 | 242252112003 | 242241700C03 | 036037766003 | 777547666003 | 175543012C03 | 060251012003 |
| 120 | 220277776003 | 777747366C03 | 167547332003 | 24067561CC03 | 734207676CC3 | 17577551CC03 | 732203376003 | 067752612003 |
| 130 | 254277666003 | 775547436003 | 256747166003 | 163543076C03 | 06174C466003 | C11540036003 | 041753212003 | 264241336003 |
| 140 | 041745212003 | 124252112003 | 242240136003 | 062753612003 | 304254612003 | 274240236003 | 030754212C03 | 314252612003 |
| 150 | 254242056003 | 041342056003 | 041342056003 | 041347536003 | 242740466003 | C11541336003 | 041752112003 | 242252112003 |
| 160 | 242241700003 | 036037766003 | 777547666003 | 175542176003 | 065752612003 | 254243012003 | 060251012003 | 220277776003 |
| 170 | 777747366003 | 167547632CC3 | 244675610003 | 734207676C03 | 175742132003 | C60675510003 | 732207736003 | 246740466003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 39)

MODULE 1 SECTOR 3

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 011542136003 | 060752112003 | 242252112003 | 242241700003 | 036037766003 | 777547666003 | 175543012003 | 060251012003 |
| 210 | 220277776003 | 777747366003 | 167550032003 | 250675610003 | 734207676003 | 175742232C03 | 056675510003 | 732210136003 |
| 220 | 252740466003 | 011542236CC3 | 056752112003 | 242252112003 | 242241700003 | C36037766003 | 777547666003 | 175543012003 |
| 230 | 060251C12003 | 220277776003 | 777747366003 | 167550232003 | 254675610CC3 | 734207676C03 | 175742332003 | 046675510003 |
| 240 | 732203376C03 | 067752612003 | 254277666003 | 064010336C03 | 000007166001 | C00003076001 | 000000466001 | 000002076001 |
| 250 | COC013212001 | C0000C2336001 | 000005212001 | 000012112001 | 000002436001 | C00014212001 | C00013612001 | 000002536001 |
| 260 | COC014612001 | 000012612001 | 000002056001 | 000002056001 | C00002C56001 | COC010436001 | 000000466001 | 000002336001 |
| 270 | 000012112001 | 000012112001 | 000001700001 | 000037766001 | 000007666001 | C00001036001 | 0C0012612001 | 000003012001 |
| 300 | 000011012001 | COC037776001 | 000007366001 | 000010532001 | 000035610001 | COC007676001 | 0C0002232001 | 000035510001 |
| 310 | 00C010636C01 | 0CC0C0466001 | 000002236001 | 000012112001 | 000012112001 | COCC01700001 | 0C0037766001 | 000007666001 |
| 320 | 0C0003012001 | 000011012001 | 000037776001 | 000007366001 | 000010732001 | COC035610001 | 000007676001 | C00002132001 |
| 330 | 000035510001 | 000011036001 | 000000466001 | 000002136C01 | 0C0012112001 | C00012112001 | 000001700001 | 000037766001 |
| 340 | COC0C7666001 | COC0C3012001 | 000011012001 | 000037776C01 | 000007366001 | COC011132C01 | 000035610001 | 000007676001 |
| 350 | CCCCC1332001 | 000035510001 | 000003376001 | 000012612001 | 000002060001 | COCC07666001 | 000003140001 | 000000000000 |
| 360 | 0000C0C00000 | 0C00C0000000 | 000000000000 | 000000000000 | 000000000000 | COCCCC000000 | 00C000000C000 | 000000000000 |
| 370 | COC000000000 | 0C00CC0C0C00 | 000000000000 | 000000000000 | 0000000C0C00 | COCC0000C000 | 0C0000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 40)

MODULE 1 SECTOR 4

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | CCCCCC000000 | 000CCC000000 | 000000000000 | 000000000000 | 000C00500001 | 451C02650003 | 0000C0000000 | 000000000000 |
| 10 | C0C000000000 | 00C0C0000000 | 000000000000 | 000000000000 | 000000000000 | C0C0CC0CC000 | 000000000000 | 000000000000 |
| 20 | 262752736003 | 775577666003 | 161547066003 | 264753036003 | 163547166003 | C61743076003 | 011540466003 | 067743336003 |
| 30 | 154253612003 | 074743436003 | 314252612003 | 414742076003 | 254245212003 | C26752112003 | 124243536003 | 242254212003 |
| 40 | 416752612C03 | 304242056C03 | 254242076003 | 041746612C03 | 154243636003 | C66754612003 | 274252612C03 | 041743036003 |
| 50 | 254253212003 | 020742C56C03 | 264277766003 | 041377776003 | 777547366003 | 777752112003 | 167540432C03 | 242256410003 |
| 60 | C24677766003 | 507237776003 | 777547366003 | 777752112003 | 167553532003 | 242256410003 | 404677766003 | 507237776003 |
| 70 | 777547366C03 | 777752112003 | 167560132003 | 242256410003 | 402677766003 | 507237776C03 | 777547366003 | 777752112003 |
| 100 | 167560232003 | 242256410003 | 272677766003 | 507237776003 | 777547366003 | 777752112C03 | 167541232003 | 242256410003 |
| 110 | 010677766C03 | 507237776003 | 777547366003 | 777752112003 | 167541332003 | 242256410003 | 041377766003 | 507237776003 |
| 120 | 777547366003 | 777752112C03 | 167542132003 | 242256410003 | 060677766003 | 507237776C03 | 777547366003 | 777752112003 |
| 130 | 167560332003 | 242256410CC3 | 412677766003 | 507237776003 | 777547366003 | 777752112C03 | 167560432003 | 242256410003 |
| 140 | 410677766003 | 507237776003 | 777547366003 | 777752112003 | 167560532003 | 242256410C03 | 406677766C03 | 507237776003 |
| 150 | 777547366003 | 777752112003 | 167543032003 | 242256410003 | 042677766003 | 507237776003 | 777547366003 | 777752112003 |
| 160 | 167556410C03 | 242243376C03 | 026652612003 | 507202060003 | 041764360003 | 1675400CCC02 | 154240CC0002 | 775540000002 |
| 170 | 466240C00002 | 052240000002 | 175540000002 | 266100000002 | 571600000002 | 77554CCCCC02 | 270740000002 | 175100000002 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 41)

MODULE 1 SECTOR 4

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 5716C0C00002 | 77554000C002 | 506240000002 | 052240000C02 | 175540CCC002 | 2661C0000002 | 5716000C0002 | 775540000002 |
| 210 | 27074C000002 | 1751C0000002 | 571600000002 | 775540000002 | 526240000002 | C5224000CC02 | 175540C00002 | 266100000002 |
| 220 | 571600C00002 | 77554000C002 | 270740000002 | 175100000002 | 571600C0C002 | 77554CCCCC02 | 546240000002 | 052240000002 |
| 230 | 175540000002 | 2661C00CC002 | 571600000002 | 775540000002 | 270740C00002 | 17510000C002 | 571600000002 | 440240000002 |
| 240 | 42C3C0CCCC02 | 5212C0000002 | 547400000002 | 175540000002 | 4227400C0002 | 40724C00CC02 | 175740000002 | 057000000002 |
| 250 | 77554CC00002 | 06774C0CC002 | 000240000002 | 424740000002 | 427240C0C002 | 42674000C002 | 447240C00002 | 330240000002 |
| 260 | 42664CC00002 | 5712CCCC0002 | 170240000002 | 21424000C002 | 224240000002 | 23424C000002 | 2442400CC002 | 067740000002 |
| 270 | 00024CCC0002 | 047CC0C00002 | 220240000002 | 430000000002 | 777540000002 | 432000000002 | 000000C00000 | 000000000000 |
| 300 | 0C0CCC00CC00 | CCCCCC000000 | 000000000000 | 000000000000 | 000000000000 | 000C0C000000 | 000000CC0000 | 000000000000 |
| 310 | C0C0C0C00000 | 0CCCC0000000 | 000000000000 | 000000000000 | 000000C00000 | C0CCC0000000 | 0000C0CC0000 | 000000000000 |
| 320 | C0C0C0C0C000 | 0C0CCC0CC000 | 000000000000 | 000000000000 | 00C0C0000000 | C0C00000C000 | 00C000C00000 | 000000000000 |
| 330 | CCC0C0CCCC00 | 0000C0000000 | 000000000000 | 000000000000 | 0CCC0CCC0000 | C0CCCG00C0C0 | 00C000000000 | 000000000000 |
| 340 | CC000CCC0000 | 000CCC00C000 | 000000000000 | 0000000000C00 | 00000C0C0C0CC | C0CC0C0CC000 | 0000000C0000 | 000000000000 |
| 350 | 00CCCCC0C000 | 0000C0CCCC00 | 000000000000 | 000000C0C000 | 0000C0CC0000 | 0000C0C0C000 | 00000000C000 | 000000000000 |
| 360 | C0CCCCC00000 | CC0CCC000000 | 000000000000 | 000000000000 | C0CCCCCCC000 | 000C0C000000 | 00C000000000 | 000000000000 |
| 370 | CCCCCCCCC000 | CCCCC000C000 | 000000000000 | 000000000000 | 000000000000 | 00CCCC0CC000 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 42)

MODULE 1 SECTOR 5

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | COCOCOCCOOOO | 0000C000CCC0 | 000000000000 | 000000000000 | 000000000000 | 014000000002 | 461030060003 | 000000000000 |
| 10 | 00C0C0C00000 | 000CC0C00000 | 000000000000 | 000000000000 | 00CC0C0C0000 | 00C000C0CC000 | 000000C00000 | 000000000000 |
| 20 | 440746576C03 | 775542530003 | 447242410003 | 424742240003 | 44726l6C0003 | 454742076C03 | 044261726003 | 440746612003 |
| 30 | 427262534003 | 2C24C4636003 | 606244754003 | 052247666003 | 360107236003 | C77604654C03 | 617407672003 | 775544626003 |
| 40 | 626263134003 | 05226203660C3 | 362122352003 | 617621236C03 | 775562352003 | 64625012CC03 | 052253636003 | 175542212003 |
| 50 | 354122036003 | 617621352003 | 775545420003 | 356746120C03 | 175137766003 | 617622136003 | 775543244003 | 666245610003 |
| 60 | 052277740C03 | 360122036C03 | 151622352003 | 617410120C03 | 775561736003 | 706243656003 | 052261726003 | 175562204003 |
| 70 | 354107310003 | 61761062CC03 | 775553636003 | 356762534003 | 175104636003 | 617603756003 | 775544626003 | 726263134003 |
| 100 | 052244320003 | 362137766003 | 617622336003 | 775543244003 | 44075031C003 | 44727774C003 | 424761236003 | 447262352003 |
| 110 | 456777666003 | 044262436003 | 440742212003 | 427262036003 | 202421352003 | 60625012C0C3 | 052270312003 | 362102512003 |
| 120 | 61760766603 | 775556604003 | 626270770003 | 052277666003 | 360116736003 | 257607644003 | 617430770003 | 775577666003 |
| 130 | 646271312003 | 052242512C03 | 362107666003 | 617616604003 | 775570770003 | 666277666003 | 052256736003 | 362107644003 |
| 140 | 617630770003 | 775577666C03 | 706272312003 | 052242512C03 | 360117004003 | 31761473C003 | 617430760003 | 775577666003 |
| 150 | 726273312003 | 052242512003 | 175547666003 | 354116604003 | 617630770003 | 775577666C03 | 356756736C03 | 175107644003 |
| 160 | 61763C770003 | 775577666003 | 440774312003 | 447242512003 | 424757104003 | 44727077CC03 | 014777666003 | 044275312003 |
| 170 | 440742512003 | 427257004003 | 422757430003 | 447270760003 | 46C777666003 | 447262036003 | 130422352003 | 130421236003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 43)

MODULE 1 SECTOR 5

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 127262352003 | 052262536003 | 175542212003 | 364122036C03 | 617621352CC3 | 77555012CC03 | 366770312C03 | 175102512003 |
| 210 | 6176C7666003 | 775556604003 | 065770770003 | 427277666003 | 775556736003 | 130407644CC3 | 130430770003 | 127277666003 |
| 220 | 052271312003 | 175542512003 | 372107666003 | 617616604003 | 775570770003 | 370777666003 | 175116736003 | 617607644003 |
| 230 | 775570770003 | 422777666003 | 447272312003 | 130402512003 | 130407666003 | 127256604003 | 052270770003 | 175577666003 |
| 240 | 364116736003 | 6176C7644003 | 775570770003 | 366777666003 | 175133312003 | 617602512003 | 775547666003 | 020756604003 |
| 250 | 427270770003 | 130437666003 | 130416736003 | 127247644003 | 052270770003 | 175577666003 | 376134312003 | 617602512003 |
| 260 | 775547666003 | 374756604C03 | 175130770003 | 617637666003 | 775556736003 | 460747644C;3 | 447270770C03 | 130437666003 |
| 270 | 130435312C03 | 127242512003 | 052247666003 | 175556604003 | 3641307700C3 | 617637666C03 | 775556736003 | 366747644003 |
| 300 | 175130770003 | 6176C2C60003 | 440740000002 | 447240000002 | 424740C00002 | 44724C000C02 | 045000CC0002 | 777540000C02 |
| 310 | 432C0C0CC002 | 0000C0000000 | 000000000000 | 000000000000 | 000000C00000 | 000000000000 | 0C0000000000 | 000000000000 |
| 320 | CCCCC0C0C000 | 00C0C0000000 | 000000000000 | 000000000000 | 000000C00000 | 00CCCC000000 | 000000C00000 | 000000000000 |
| 330 | C0CCCC0000C00 | C0CCC0000000 | 000000000000 | 000000000000 | 000000C00000 | CCCCC0000C00 | 0C0000000000 | 000000000000 |
| 340 | 000CCCCC0000 | 0CCCC000C000 | 000000000000 | 000000000000 | 000000000000 | C0C000000000 | 0C00000C0000 | 000000000000 |
| 350 | C0C000CC0000 | 0000C000C000 | 000000000000 | 000000000000 | 000000C00000 | C0CC00000C00 | 0C0000000000 | 000000000000 |
| 360 | 0000C0CCC0C0 | 0000C0C00000 | 000000000000 | 000000000000 | 0000C0CC000C | C0CCCC00CCC0 | 000000000000 | 000000000000 |
| 370 | CCCCC0CCC000 | CC0CCCC0C000 | 000000000000 | 000000000000 | 000000C00000 | C0C000C00000 | 000000CCC000 | 00000000C000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 44)

MODULE 1 SECTOR 6

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 0000C0CCCC00 | 0000C000C000 | 000000000000 | 000000000000 | 0000C0CCCCCC | COCC00C0CC00 | 000000000000 | 471017470003 |
| 10 | COCOCOCCC000 | 0000CCC0C000 | 000000000000 | 000000000000 | 0000C000C00C | COCC0000CCCC | 0C000000C000 | 000000000000 |
| 20 | 0CC0CCCC0000 | COCCCCC0CC00 | 00C000000000 | 000000000000 | 00000000C000 | COCCCCC0C000 | 00C000CCC000 | 000000000000 |
| 30 | 15774CC0C002 | 0676CCCCC002 | 045000000002 | 041740000002 | 203540C00002 | 410240000002 | 42024C0CC002 | 522540000002 |
| 40 | 524540C00002 | 526540000002 | 530540000002 | 532540000002 | 201540000002 | C67740C0C002 | 53454C000002 | 202740000002 |
| 50 | 53654CC0C002 | 4547C000CC02 | 366740000002 | 113300000002 | 175540000002 | 206740CCC002 | 101300C00002 | 175640000002 |
| 60 | 206540700003 | 22C74000C002 | 101300000002 | 175640000002 | 220540000002 | 242740000C02 | 101300000002 | 175640000002 |
| 70 | 242542076003 | 252777666003 | 101302212003 | 175647112C03 | 252577666003 | 460705036CC3 | 536742212003 | 016247112003 |
| 100 | 540777666003 | 065104736003 | 203200512003 | 212777666003 | 036244436C03 | 540741112C03 | 065137666003 | 215202076C03 |
| 110 | 212741512003 | 036277666003 | 534744436003 | 371602112003 | 230277666003 | 727401036003 | 440243112003 | 462337666003 |
| 120 | 201205C36003 | 212743512003 | 036277666003 | 230241036003 | 7274C4112003 | 212777666C03 | 036244436003 | 440244512003 |
| 130 | 462337666003 | 2012C4736003 | 536745112003 | 202737666003 | 536544736003 | 534742212003 | 305607112003 | 202777666003 |
| 140 | 536545036C03 | 3314C0512C03 | 536777666003 | 175201036003 | 534541112003 | C67777666C03 | 522546536003 | 202741512003 |
| 150 | 016277666003 | 540746636003 | 065102112003 | 325237666003 | 5227444360C3 | 337603112003 | 411437666003 | 212744736003 |
| 160 | 376243512003 | 5407776660C3 | 065106736003 | 345204112C03 | 2127776660C3 | 376241036C03 | 041744512003 | 522577666003 |
| 170 | 067745C36003 | 524545112C03 | 201437666003 | 212747036003 | 204742212003 | 176247112C03 | 230277666003 | 727407136003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 45)

MODULE 1 SECTOR 6

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 440240512003 | 462337666003 | 273207236003 | 265401112003 | 524777666003 | 511602076003 | 526741512003 | 567637666003 |
| 210 | 530747336003 | 645602112003 | 532777666003 | 433607436C03 | 045003112003 | 542777666003 | 447247536003 | 454703512003 |
| 220 | 206777666003 | 075347636003 | 206544112003 | 220777666003 | 07534773 6CC3 | 220544512C03 | 242777666003 | 075354336003 |
| 230 | 242545112003 | 252777666003 | 075354436003 | 252542212003 | 460707112003 | 201777666C03 | 075354536C03 | 201540512003 |
| 240 | 544137666C03 | 201214636C03 | 532541112003 | 201437666003 | 210742076003 | 236241512C03 | 230277666003 | 727414736003 |
| 250 | 210742112003 | 236277666003 | 230255036003 | 727403112003 | 500777666003 | 447255136C03 | 204743512003 | 136277666003 |
| 260 | 230255236003 | 7274C4112003 | 204777666003 | 076255336003 | 230244512003 | 727437666003 | 067755436003 | 526545112003 |
| 270 | 041755500003 | 52454C000C02 | 721400000002 | 206740000002 | 236240000002 | 230240000002 | 727400000002 | 206740000002 |
| 300 | 23624CC00002 | 23024000CC02 | 727400000002 | 54674000CC02 | 447240000002 | 20674C00C002 | 136240000002 | 230240000002 |
| 310 | 727400C00002 | 20674C000002 | 076240000002 | 23024C000002 | 7274C0CCC002 | C67740000002 | 5305400C0002 | 041740000002 |
| 320 | 52654CC00002 | 7214C0000002 | 204740000002 | 236240000002 | 230240CCC002 | 727400000002 | 2047400C0002 | 236240000002 |
| 330 | 230240C00002 | 7274CCC00002 | 542740000002 | 447240000002 | 210740000002 | 136240000002 | 2302400C0002 | 727400000002 |
| 340 | 210740C00C02 | 07624C000002 | 230240Q00002 | 727400000002 | 067740C00002 | 532540000002 | 0417400C0002 | 530540000002 |
| 350 | 54674CC00002 | 447240000002 | 411400000002 | 775540000002 | 203740000002 | C6534CCCCC02 | 203540000002 | 410240000002 |
| 360 | 5503C0CC0002 | 7512C000CC02 | 065740000002 | 420240000002 | 775000C00002 | C0C0C0000000 | 00C0C0000000 | C00000000000 |
| 370 | C0C000CCC0C00 | 0CC0CC00C000 | 000000000000 | 000000000000 | 000000000000 | CCC000000000 | 0000000000C0 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 46)

MODULE 1 SECTOR 7

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | COCCC0000000 | 0CC0C0000000 | 000000000000 | 000000000000 | 000C00CC000C | COCCCOCOCOCO | 0COC00000000 | 000000000000 |
| 10 | 0000COCC0000 | CC00C00000C0 | 000000000000 | 000000000000 | 000000000000 | COCOC00CC000 | 00COC0000000 | 501040100003 |
| 20 | COCOCOCCCC00 | 00COCOCCC000 | 000000000000 | 000000000000 | 000CO0000000C | C00CC000CCC0 | 0000COCC00C0 | 000000000000 |
| 30 | 0000CC000000 | 0000CCC0C000 | 000000000000 | 000000000000 | 0000000CCC00 | COC00000CC00 | 0000000C0000 | 000001700001 |
| 40 | 155740236003 | 1356C3256003 | 131740226003 | 115630704003 | 131547630003 | C06C03244003 | 157411430003 | 010743244003 |
| 50 | 447253230003 | 041743244003 | 044255230003 | 104243244003 | 074257030003 | 111400226003 | CC0777666003 | 542371136003 |
| 60 | 000562352003 | 544126736003 | 113220352003 | 000571236003 | 131543612003 | 157410512003 | 201426536003 | 777562352003 |
| 70 | 546771336003 | 447260352003 | 550771436003 | 407262352003 | 552740264003 | 447262320003 | 154277666003 | 777027436003 |
| 100 | 554760352003 | C00271536C03 | 775543612003 | 556750512003 | 4672665360C3 | 560762352C03 | 065126236003 | 215220352003 |
| 110 | 330271636003 | 552321352003 | 255200264003 | 775560520003 | 562777666003 | C65127436C03 | 233220352003 | 330271736003 |
| 120 | 552303612003 | 247210512003 | 255426536003 | 200262352003 | 220272C36003 | 113420352003 | 777567436003 | 564021352003 |
| 130 | 155740264003 | 273620520003 | 271237666003 | 045031136003 | 566C22352003 | C0C767436C03 | 267220352003 | 775572136003 |
| 140 | 554743612003 | 000250512003 | 570766536003 | 467262352003 | 572771336003 | 065120352003 | 313231436003 | 330261352003 |
| 150 | 552300264003 | 255220520003 | 775577666003 | 572766736003 | 065120352003 | 331232236003 | 330243612C03 | 552310512003 |
| 160 | 345226536003 | 255422352003 | 200266236003 | 220260352003 | 061772336003 | C11561352C03 | 574740264003 | 154260520003 |
| 170 | 131577666003 | 002766736003 | 427220352003 | 456732436003 | 426743612003 | 101310512003 | 175566536003 | 520762352003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 47)

MODULE 1 SECTOR 7

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 113332036003 | 175660352003 | 426566736003 | 440761352003 | 101300264003 | 175577666003 | 522771036003 | 113303244003 |
| 210 | 175660710003 | 440555412003 | 466726514003 | 012752650003 | 171567536003 | C44243244003 | 162261510003 | 464715412003 |
| 220 | 000766514C03 | 16756231CC03 | 104243040003 | 222250012003 | 456711012003 | 42674224C003 | 075340000002 | 426540000002 |
| 230 | 440740C00002 | 075340CC0C02 | 440540000002 | 466700000002 | 002740000002 | 065340C0C002 | 002540000002 | 576100000002 |
| 240 | 5256CC0C0002 | 60074CC00002 | 427240000002 | 002740000002 | 6021C0C00002 | 6112C0GC0002 | 002540CC0002 | 611400000002 |
| 250 | 01274CC00002 | 000740000002 | 002740000002 | 604100000002 | 5416C0C00002 | 60674CC00002 | 427240000002 | 611400000002 |
| 260 | 00274CC00002 | 6101CC000002 | 555600000002 | 612740000002 | 427240C00002 | 6114C0000C02 | 002740C0002 | 550100000002 |
| 270 | 571600C00002 | 61474C0C0002 | 427240000002 | 611400000C02 | 002740000002 | 616100000002 | 563600000002 | 603200000002 |
| 300 | 5474C0C00002 | 0651C0000002 | 503200000002 | 533400000002 | 775540CC0002 | 62C74000C002 | 065100000002 | 615200000002 |
| 310 | 330240000002 | 5523C0C00002 | 255200000002 | 775540000002 | 572740C00002 | 065100000002 | 633200000002 | 330240000002 |
| 320 | 552300C00002 | 6472C00C0002 | 061000000002 | 200240000002 | 100400000002 | C000C000C0C0 | 0000C00000C0 | C00000000000 |
| 330 | 0000CCC00000 | 000C0CCC0000 | 000000000000 | 000000C00000 | 000000000000 | 0000C000CC000 | 000000000C000 | 000000000000 |
| 340 | CCC0CCC00000 | 000CC0000000 | 000000000000 | 000000000000 | 0C0C00CC0000 | 0CCC0CCC0000 | 000000C00000 | 000000000000 |
| 350 | C0CCC0C00000 | 000CC0000000 | 000000000000 | 000000000000 | 000000000000 | 00CC0C000000 | 000CC0C00000 | 000000000000 |
| 360 | CCCCCCC00000 | C0C000000000 | 000000000000 | 000000000000 | 0000000C0000 | 00CCCC00C000 | CCC000C00000 | 000000000000 |
| 370 | 000CC0C00000 | 0CC0CC000000 | 000000000000 | 000000000C00 | 0C0000000000 | 20C000000003 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 48)

MODULE 1 SECTOR 10

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 13CCC7000003 | 511C10050003 | 777777776003 | 000152204003 | 000020CC0003 | 00CCCC04C003 | 77776CCC0003 | 525240000003 |
| 10 | 252520C00003 | 4CC000000003 | 652520000003 | 212520000003 | 253500C00003 | C02CCC002003 | 0C0CC0100003 | 002000000003 |
| 20 | 002520000003 | 00124C000003 | 001250000003 | 003770000003 | 524C00000003 | 252C00000C03 | 77600C000003 | 511100110003 |
| 30 | 501056CCC003 | 501055400003 | 501064000003 | 501106400003 | 501113400003 | CCCC00524003 | 000000252003 | C00000776003 |
| 40 | C00000400003 | 525CCCCC0003 | 252400000003 | 777400000003 | 52525C0C0003 | 252524CCC003 | 777774CCC003 | 252525252003 |
| 50 | 525252524003 | 0C0012524003 | 000005252003 | 000017776003 | 125200000003 | 0525C0C00003 | 177700000003 | 252505252003 |
| 60 | 125202524003 | 3777C7776003 | 000000004003 | 501034060003 | 501045410003 | 00C000002003 | 2525C0C0C003 | 125250000003 |
| 70 | 631463146003 | 714631462003 | 746310000003 | 171440000003 | 474630CC0003 | 636314630003 | 317140C00003 | 147460000003 |
| 100 | C00002700001 | 001CC0000003 | 577777776003 | 777777776C03 | 377777776003 | 177777774C03 | 00016C016003 | 000140014003 |
| 110 | 000120012003 | 0001CC010003 | 000060006003 | 000040004003 | 000020002003 | 00160016C003 | 001400140003 | 001200120003 |
| 120 | C010C01CC003 | 000600060003 | 000400040003 | 000200020C03 | 016001600003 | C14C014CCC03 | 012001200003 | 010001000003 |
| 130 | C06000600003 | 0040C0400003 | 002000200003 | 160016000003 | 140014C0CCC3 | 12C0120C0003 | 100010CC0003 | 060006000003 |
| 140 | 04CC04C00003 | 020CC2C00003 | 000000000003 | 363146314003 | 741703606003 | 760741702003 | 770360C00003 | 17605000C003 |
| 150 | 077030000003 | 037417036003 | 017600000003 | 607700000003 | 374170360003 | 501005010003 | 776003770003 | 377001774003 |
| 160 | 1774CCC00003 | 637700000003 | 717740000003 | 747760036003 | 36377CC00003 | 77177CCC0003 | 47760376003 | 377776000003 |
| 170 | 177770000003 | 037750C00003 | 017770000003 | 007777740003 | 001770000003 | C77777400C03 | C00001774003 | 0C0001252003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 49)

MODULE 1 SECTOR 10

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 52520C000003 | 036077776003 | 036000000003 | 741777776003 | 74170CCCC003 | 770077776003 | 770000000003 | 007777776003 |
| 210 | 0077CCC00003 | 146314630003 | 036074170003 | 001774006003 | 000003776003 | 501047600003 | 501066420003 | 010000000003 |
| 220 | 20000C000003 | 0010C000C003 | 000400000003 | 000200000003 | 000100000003 | 000C40CCC003 | 10CCC00C0003 | 501006020003 |
| 230 | C000C1760003 | 0400C000C003 | 000001240003 | 000000520003 | 000000630003 | C00001460003 | 0CC000146003 | 140000000003 |
| 240 | 00C000300003 | 677777776003 | 000000014003 | 277777776C03 | 000000334003 | 537777776003 | 737777776003 | 004000000003 |
| 250 | 511006220003 | 0000C000C003 | 000000000003 | 000000000003 | 000000000003 | C0C00C00CC03 | 0CC0C0000C03 | 000000000003 |
| 260 | C000C0652003 | 000CCC030003 | 072000000003 | 000000170003 | 000000176003 | 000CC000C000 | 000000CCC000 | 000000000000 |
| 270 | 00C0C0C00000 | 0C00C0000000 | 000000000000 | 000000000000 | 000000CC0000 | 000000000000 | 000000000000 | 000000000000 |
| 300 | 00000CC00000 | 0000C0000000 | 000000000000 | 000000000000 | 000000000000 | 000C00000000 | 0000000C0000 | 000000000000 |
| 310 | 0000C0000000 | 00C0C0000000 | 000000000000 | 000000000000 | 00000000C000 | 00CCC0C00000 | 000000000000 | 000000000000 |
| 320 | 000000000000 | 0C00C000C000 | 000000000000 | 000000000000 | 000000000000 | 00CC00000000 | 000000000000 | C00000000000 |
| 330 | C000C0C00000 | 000000000000 | 000000000000 | 000000000000 | 00000000C00C | C000000000C0 | 000000000000 | 000000000000 |
| 340 | 00C00CCC0C00 | 00C0C0000000 | 000000000000 | 000000000000 | 000C0C0C0C00 | C00CC00CC0C0 | 000C00CCC000 | 000000000000 |
| 350 | C0CCCCCCC000 | 00C0C0000000 | 000000000000 | 000000000000 | 00000C000000 | C0CCC0CCC0C0 | 000000000000 | 000000000000 |
| 360 | C0CCCC000000 | 0CC0C0000000 | 000000000000 | 000000000000 | 000000000000 | 000CCC000000 | 0000C00C0000 | 000000000000 |
| 370 | C0CCCC000000 | 0000C0000000 | 000000000000 | 000000000000 | 000000000000 | C0CCC0C00000 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 50)

MOCULE 1 SECTOR 11

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 777777776003 | C015C0016003 | 002540000003 | 000000040003 | 0000120C0003 | C000125CC003 | 0C0012524003 | 000340064003 |
| 10 | COCOC0004003 | 0C0012764003 | 000017764003 | 000017776003 | 000340000003 | 002540064003 | 511010030003 | 511054620003 |
| 20 | CCCOC0500003 | CC0005776003 | 000005752003 | 000005252003 | 000340126003 | C015CC000003 | 002540016003 | 000000252003 |
| 30 | COCCC0012003 | 0015C0126003 | 511010040003 | 000000044003 | 000000006003 | C011CC002003 | 001100C00003 | 521177120003 |
| 40 | 511055620003 | 511023620003 | 511023220003 | 511035220003 | 511034620003 | 511045620003 | 511045220003 | 51112162C003 |
| 50 | 511071220003 | 511070620003 | 511102620003 | 511102220003 | 51111322C003 | 51111262CC03 | 511010030003 | 511136620003 |
| 60 | 511136220003 | 51115022C003 | 511147620003 | 511160620003 | 51116022C003 | 51105403CC03 | 511024030003 | 511023430003 |
| 70 | 511035430003 | 511035030003 | 511046030003 | 511045430003 | 511121030003 | 51107043C003 | 511070030003 | 511102030003 |
| 100 | 5111C1430003 | 511112430003 | 511112030003 | 511010230003 | 511135430003 | 511135030003 | 511147030003 | 511146430003 |
| 110 | 511157430003 | 511157030003 | 511054630003 | 511024630003 | 511024230003 | 511C36230003 | 511035630003 | 511046630003 |
| 120 | 511046230003 | 511071230003 | 511070630003 | 511102630003 | 511102230003 | 511113230003 | 511112630003 | 511010040003 |
| 130 | 511010240003 | 511010240003 | 511124240003 | 000311120003 | 000320340003 | COC012240003 | 0C0016524003 | 000012524003 |
| 140 | 000002524003 | 00C006524003 | 000007524003 | 000006524003 | 000004524003 | C00005524003 | 000005724003 | 000005524003 |
| 150 | 000005124003 | 0000C5324003 | 000005364003 | 000005324003 | 000005224003 | CCCC05264003 | 000005274003 | 000005264003 |
| 160 | C0C0C5244003 | CCOCC5254003 | 000005256003 | 000005254003 | 00000525C003 | 000C05252003 | 00000654C003 | 000010520003 |
| 170 | COCC06100003 | 000011160003 | 000106320003 | 000110740003 | 000051760003 | 0000477400C03 | 0C0025200003 | 000023560003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 51)

MODULE 1 SECTOR 11

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 00CC03700001 | 000012264003 | 000017264003 | 000005536C03 | 000005512003 | C00C00512C03 | 000000014003 | 001100010003 |
| 210 | 10CCCCC00003 | 0000C040C003 | 000040000003 | 000020000003 | 51101005C003 | 501047600003 | 531054270003 | 000000000003 |
| 220 | 0001CC000003 | 000025234003 | 060000000003 | 000000360003 | 000017070003 | 000C05322003 | 000003416003 | 000014744003 |
| 230 | 000001000003 | 0000C0000000 | 000000000000 | 000000000000 | 0C0C00C00000 | C0CC00000000 | 000000000000 | 000000000000 |
| 240 | 000CC0C00C00 | 0000C0000000 | 000000000000 | 000000000000 | 000000000000 | C0CCCC00C000 | 00C000000000 | 000000000000 |
| 250 | 00000C0C00000 | 0000CC000000 | 000000000000 | 000000000000 | 000C00000000 | C0CC0000C000 | 0CC000000000 | 000000000000 |
| 260 | C0000C0C00000 | 0C0C0000C000 | 000000000000 | 0000000000C00 | 000000000000 | 00C000000C00 | 00C000C00000 | 000000000000 |
| 270 | 00C00C000000 | 00C0CC000000 | 000000000000 | 000000000000 | 0000000C0000 | 000000000000 | 00000000C000 | 000000000000 |
| 300 | C0CCC0C00000 | 0C00CCCC0000 | 000000000000 | 000000000000 | 000000000000 | 00C0CCCCC000 | 000000CC0000 | 000000000000 |
| 310 | 0000C0000000 | 0C00C0000000 | 000000000000 | 000000000000 | 000000000000 | 000CC0000000 | 000000C00000 | 000000000000 |
| 320 | 000CC0C00000 | 00C0C0000000 | 000000000000 | 000000000000 | 000000000000 | 000C0C000000 | 00C000000000 | 000000000000 |
| 330 | CC00C0C00000 | 00C000000000 | 000000000000 | 000000000000 | 000000000000 | C0C0C000C0C0 | 000000000000 | 000000000000 |
| 340 | 000CCCC00000 | 00C0C0000000 | 000000000000 | 000000000000 | 000000000000 | C0C0C000C0C0 | 000000000000 | 000000000000 |
| 350 | 0000C0CC0000 | 000CC000C0C0 | 000000000000 | 000000000000 | 00000000C0000 | C000000C000 | 000000000000 | C00000000000 |
| 360 | 0000C0000000 | 0000C0C0C000 | 000000000000 | 000000000000 | 0000C0C0CCC0 | C0000000C000 | 0000000CC000 | 000000000000 |
| 370 | 0CCCC0C00000 | 0CCCC0000000 | 000000000000 | 000000000000 | 000C00C00000 | 00CC00000000 | 0000C0000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 52)

MODULE 1 SECTOR 12

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 774014C00003 | 777760C0CC03 | 777760000003 | 777774000003 | 774014C00003 | 774C140CC003 | 774014CC0C03 | 774014000003 |
| 10 | 774014C00003 | 77401C000003 | 774004000003 | 774014000003 | 774014C0CC03 | 774014C00003 | 774014CC0003 | 774014000003 |
| 20 | 774C14C00003 | 774C14000003 | 774034000003 | 774054000003 | 774114000003 | 7742140CC003 | 774414000003 | 775014000003 |
| 30 | 776014C00003 | 774C14000003 | 774014000003 | 774014000003 | 774014000003 | 774C14000003 | 774014C00003 | 774014000003 |
| 40 | 770014C00003 | 764014000003 | 754014000003 | 734014000003 | 6740140C00C3 | 574C14CC0003 | 374C1400C003 | 774014000003 |
| 50 | 77401400C003 | 774014C00003 | 774014000003 | 774014000003 | 774014000003 | 774C14000003 | 777760000003 | 777760000003 |
| 60 | 777760CCC003 | 77776C0CCC03 | 777760000003 | 777764000003 | 777770C0C003 | 77776000CC03 | 77776000C003 | 77776C000003 |
| 70 | 77776C000003 | 777760000003 | 777760000003 | 777760000003 | 777740000003 | 77772CCC0003 | 77766CCCC003 | 77756000CC03 |
| 100 | 777360000003 | 776760000003 | 775760000003 | 777760000003 | 77776CCCC003 | 77776C000003 | 777760CC0003 | 777760000003 |
| 110 | 777760000003 | 777760000003 | 773760000003 | 767760000003 | 757760000003 | 7377600CC003 | 677760C00003 | 577760000003 |
| 120 | 377760C00003 | 77776CC00003 | 777760000003 | 777760000003 | 777760000003 | 77776000C003 | 7777600CC003 | 777760000003 |
| 130 | 777760C00003 | 777760000003 | 777760000003 | 777760000C03 | 777760000003 | 77776400C003 | 777770000003 | 777760000003 |
| 140 | 77776CC00003 | 77776C00C003 | 777760000003 | 777760000003 | 777760CC0003 | 77776C0CC003 | 7777400C0003 | 777720000003 |
| 150 | 77766C000003 | 7775600CCC03 | 777360000003 | 776760000003 | 775760C00003 | 77776CCCC003 | 77776C00CC03 | 777760000003 |
| 160 | 77776C000003 | 77776C000003 | 777760000003 | 777760000003 | 773760000003 | 76776CCCC003 | 757760000003 | 7377600C0003 |
| 170 | 677760C00003 | 577760000003 | 377760000003 | 777760000003 | 77776CC0C003 | 77776C0C0003 | 77776CC00003 | 777760000003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 53)

MODULE 1 SECTOR 12

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 777760000003 | 77776CCCCC03 | 777774000003 | 777774000003 | 777774000003 | 777774CCC003 | 7777740CCC03 | 777770000003 |
| 210 | 777764000003 | 777774000003 | 777774000003 | 777774000003 | 777774000003 | 777774C00003 | 777774C00003 | 777774000003 |
| 220 | 777754C00003 | 777734C00003 | 777674000003 | 777574000003 | 7773740CC003 | 776774000003 | 7757740C0003 | 777774000003 |
| 230 | 777774000003 | 777774000003 | 777774000003 | 777774000003 | 777774000003 | 777774C0C003 | 773774000003 | 767774000003 |
| 240 | 757774C00003 | 737774000003 | 677774000003 | 577774000003 | 377774000003 | 777774CCCC03 | 777774000003 | 777774000003 |
| 250 | 777774C00003 | 777774000003 | 777774000003 | 777774000003 | 0000000C0000 | 00G000000000 | 000000000000 | 000000000000 |
| 260 | 000000C00000 | 00C0C0000000 | 000000000000 | 000000000000 | 000000000000 | 00000000C000 | 000000C00000 | 000000000000 |
| 270 | 0000C0CC0000 | 00C000000000 | 000000000000 | 000000000000 | 00000000C000 | C0C0C00000C0 | 000000000000 | 000000000000 |
| 300 | 0000C0CC0000 | 0000CCC0C000 | 000000000000 | 000000000000 | 0000C0C00000 | 0000C0G00000 | 0000000C0C000 | 000000000000 |
| 310 | 000C00000000 | 0000C00C0000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 320 | 00CCCCC00000 | 0000C0000000 | 000000000000 | 000000000000 | 00000000C000 | 00CCC0000000 | 000000000000 | 000000000000 |
| 330 | CCC00000C000 | 0000C0000000 | 000000000000 | 000000000000 | 000000000000 | C0CCC0000000 | 0C0000000000 | 000000000000 |
| 340 | C0C00000000C00 | 0000CC000C000 | 000000000000 | 000000000000 | 0000000C0000 | C0C000000000 | 00C000000000 | C00000000000 |
| 350 | 00C0C0000C00 | 0000C00nC000 | 000000000000 | 000000000000 | 000C0000000CC | C00C0000C000 | 000000000000 | C00000000000 |
| 360 | C000C0CCCCC00 | 00C0CC000000 | 000000000000 | 000000000C000 | 00000CC0C00C | C0CC00000C0C0 | 0CCC00000000 | 000000000000 |
| 370 | 00C0C0C00000 | 0000CCC00000 | 000000000000 | 000000000000 | 000000000000 | C0000C0CCCC00 | 0000377C0001 | 53117713C003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 54)

MODULE 1 SECTOR 13

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 0000CCCC0003 | 0000CCC0C003 | 000000000003 | 501004000C03 | 0C0002200003 | 740177776C03 | 000177774003 | 037600774003 |
| 10 | 777777776003 | 700177776003 | 640177776003 | 540177776C03 | 340177776C03 | 74C177774C03 | 740177776C03 | 740177776003 |
| 20 | 740177772003 | 740177766003 | 740177756003 | 740177736003 | 740177676003 | 740177576C03 | 740177376003 | 740177776003 |
| 30 | 740177776003 | 740177776003 | 740177776003 | 740177776003 | 740177776003 | 740177776C03 | 740176776003 | 740175776003 |
| 40 | 74C173776003 | 740167776003 | 740157776003 | 740137776C03 | 740077776003 | 74C177776C03 | 740177776003 | 740177776003 |
| 50 | 740177776003 | 740177776003 | 740177776003 | 740177776C03 | 740377776003 | 740577776C03 | 741177776003 | 742177776003 |
| 60 | 744177776C03 | 750177776003 | 760177776003 | 040177774003 | 100177774003 | 200177774C03 | 400177774003 | 000177776003 |
| 70 | 000177774003 | 000177774003 | 000177770003 | 000177764003 | C00177754003 | C0C177734003 | 000177674003 | 000177574003 |
| 100 | 000177374003 | 000177774003 | 000177774003 | 000177774003 | 000177774003 | C00177774C03 | 000177774003 | 000177774003 |
| 110 | 000176774003 | 000175774C03 | 000173774003 | 000167774C03 | 000157774003 | C00137774C03 | 000077774003 | 000177774003 |
| 120 | C00177774003 | 000177774003 | 000177774003 | 000177774003 | 000177774003 | C00177774003 | 000377774C03 | 000577774003 |
| 130 | 001177774003 | 002177774003 | 004177774003 | 010177774003 | 020177774003 | 0776C0774003 | 137600774003 | 237600774003 |
| 140 | 4376C0774003 | 0376C0776003 | 037600774003 | 037600774003 | 0376C0770003 | C37600764003 | 037600754003 | 037600734003 |
| 150 | 037600674003 | 037600574003 | 037600374003 | 037600774C03 | 037600774003 | C37600774003 | 037600774003 | 037600774003 |
| 160 | 037600774003 | 0376007740C3 | 037601774003 | 037602774C03 | 037604774003 | C37610774003 | 037620774003 | 037640774003 |
| 170 | 037700774C03 | 037600774003 | 037600774003 | 037600774C03 | 037600774003 | C376007740C3 | 037600774003 | 037600774003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 55)

MODULE 1 SECTOR 13

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 037400774003 | 037200774003 | 036600774003 | 035600774003 | 033600774003 | C27600774003 | 017600774003 | 737777776003 |
| 210 | 677777776003 | 577777776003 | 377777776003 | 777777774003 | 777777776003 | 777777776C03 | 777777772003 | 777777766003 |
| 220 | 777777756C03 | 777777736003 | 777777676003 | 777777576C03 | 777777376003 | 777777776C03 | 777777776003 | 777777776003 |
| 230 | 777777776003 | 777777776003 | 777777776003 | 777777776003 | 777776776003 | 777775776C03 | 777773776003 | 777767776003 |
| 240 | 777757776003 | 777737776003 | 777677776003 | 777777776003 | 777777776003 | 777777776003 | 777777776003 | 777777776003 |
| 250 | 777777776003 | 777777776003 | 777577776003 | 777377776003 | 776777776003 | 775777776003 | 773777776003 | 767777776003 |
| 260 | 757777776003 | 0CC0C0002003 | 000000024003 | 000004000003 | 0C0000012003 | 000010C0C003 | 0C0100000003 | 000000040003 |
| 270 | C00001622003 | 000CC0266C03 | 501047600003 | 501014260003 | 000000100003 | 000000074003 | 40C000000003 | CC0000406003 |
| 300 | 000030C00003 | 000000530003 | 000000262003 | 000024000003 | 000000136003 | C00022000003 | 000021000003 | C00000004003 |
| 310 | COCOC0360003 | 00C0C2000003 | 222000000003 | 000000014C03 | 000000200C03 | 33300C00C003 | 000000050003 | 266400000003 |
| 320 | C000C0C022003 | 1554C0000003 | 044400000003 | 000000420003 | 111000CC0003 | C00000000000 | 000000C00000 | 000000000000 |
| 330 | COCOCCC00000 | 0000CCCCCC00 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 340 | 000CC0C00000 | 0000CC000000 | 000000000000 | 000000000000 | 0000C000C000 | 000C00000000 | 000000000000 | 000000000000 |
| 350 | CCCC0CC00000 | 0C0CC0000C000 | 000000000000 | 000000000000 | 0000C0CC0000 | COCCCOC0C000 | 000C00000000 | 000000000000 |
| 360 | COCOCCC0C000 | 0CC0CC00C000 | 000000000000 | 000000000000 | 000000000000 | COCCC000C000 | 00C000000000 | C00000000000 |
| 370 | COCOCOCCCC00 | 0CC0CCCCC000 | 000000000000 | 000000000000 | 000000CC0000 | COOCC000C000 | 000037700001 | 541077540003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 56)

MODULE 1 SECTOR 14

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 10 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 20 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 30 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 40 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 50 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 60 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 70 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 100 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 110 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 120 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 130 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 140 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 150 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 160 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 170 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000037700001 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 57)

MODULE 1 SECTOR 14

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 00CC00C00000 | 0C00CC000000 | 000000000000 | 000000000000 | 000000000000 | C0CC00000000 | 000000000000 | 000000000000 |
| 210 | C0CCCC000000 | 0C00CC000000 | 000000000000 | 000000000000 | 000000C00000 | C0CCC0000000 | 000000000000 | 000000000000 |
| 220 | 0000C0C00000 | CCC0C000C000 | 000000000000 | 000000000000 | 0000000C0000 | C0C0C000C000 | 000C00000000 | 000000000000 |
| 230 | C0C0C0C00000 | 0000C0000000 | 000000000000 | 000000000000 | 0000000C0000 | 000C00000000 | 000000000000 | C00000000000 |
| 240 | 000CC0CC0000 | 0000CCC0C000 | 000000000000 | 000000000000 | 000000000000 | 000C00000000 | 000000C00000 | 000000000000 |
| 250 | 00CCCCC00000 | 0000C0000000 | 000000000000 | 000000000000 | 000000000000 | C00C0000C0C0 | 000000000000 | 000000000000 |
| 260 | 000CCCCC0000 | 0CC0CC00C000 | 000000000000 | 000000000000 | 000000000000 | 000000C0C000 | 0000C00C0000 | 000000000000 |
| 270 | 00CC00000000 | 00C0C000C000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 300 | CC0000000000 | 0C0CC0000000 | 000000000000 | 000000000000 | 000000000000 | C0CCC0000000 | 000000000000 | 000000000000 |
| 310 | 000000CCC000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | C0C00000C0C0 | 000000000000 | C00000000000 |
| 320 | C0C0C0C00000 | 0000C000C000 | 000000000000 | 000000000000 | 00000000000C | C0C00000C000 | 000000000000 | 000000000000 |
| 330 | 00C0C000C000 | 0000CC00C000 | 000000000000 | 000000000000 | 000000000000 | 00000000CC00 | 000000000000 | 000000000000 |
| 340 | CCCCCCC0C000 | 0CCCC0000000 | 000000000000 | 000000000000 | 00C000000000 | 000CCCC0C000 | 000000000000 | 000000000000 |
| 350 | C0C0CCC00000 | 000CCC000000 | 000000000000 | 000000000000 | 000000000000 | 00000C00C000 | 000000000000 | 000000000000 |
| 360 | 00C0C0C00000 | 00C0C0000000 | 000000000000 | 000000000000 | 0000000C0000 | 0000C0000000 | 0C0C00000000 | 000000000000 |
| 370 | C000C0C00C00 | 0000C0000000 | 000000000000 | 000000000000 | 000C00U00000 | C0C000000000 | 000000000000 | 551003550003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 58)

MODULE 1 SECTOR 15

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 00CCCC0C0000 | 0CCCCC000000 | 000000000000 | 000000000000 | 000000000000 | 000CC0000000 | 000CC0C00000 | 000017700001 |
| 10 | 00C0C0C00000 | 0000C0000000 | 000000000000 | 000000000000 | 000C00000000 | C0CCC000CC00 | 00CC00000000 | 000000000000 |
| 20 | 00000C00C00 | 0CC0C00C0000 | 000000000000 | 000000000C00 | 0C0000C0000C | C0C0C000C000 | C00000000000 | 000000000000 |
| 30 | C0CCC0000C00 | 00C00000C000 | 000000000000 | 000000000000 | 00000000C000 | C0CCC000C000 | 0C0C00000000 | 000000000000 |
| 40 | 000CC0C00000 | 0C0C0CC0CC00 | 000000000000 | 000000000000 | 000000000000 | C0CCC000CC00 | 0C0000000C00 | C00000000000 |
| 50 | 000CCC0C0000 | 00C0CCC0C000 | 000000000000 | 000000000000 | 000000000000 | 00000000C000 | 00000000C000 | 000000000000 |
| 60 | C00CC0C00000 | 00C0C0000000 | 000000000000 | 000000000000 | 000000000000 | 0000C0000000 | 000000000000 | 000000000000 |
| 70 | C0C0C0C00000 | 00C0CCC00000 | 000000000000 | 000000000000 | 000000000000 | 00C0CC000000 | 00C000000000 | 000000000000 |
| 100 | 00C0CCC00000 | 0CC0C0000000 | 000000000000 | 000000000000 | 000000000000 | C0C0000C0C00 | 000C00000000 | 000000000000 |
| 110 | C00000C0C000 | 0CC0C0000000 | 000000000000 | 000000000000 | 000CC000C000 | 00C0C0000000 | 00C000000000 | 000000000000 |
| 120 | C0C0CCCCCC00 | 0000C000C000 | 000000000000 | 000000000000 | 000C000000C0 | CCCC0000CCC0 | 0C0000000000 | 000000000000 |
| 130 | 0C00CCCC0000 | 0000CCC00000 | 000000000000 | 000000000000 | 00000000C0CC | C0CC0000CCC0 | 000C00000000 | 000000000000 |
| 140 | 0CCCCCC00000 | 0CCCCCC0C000 | 000000000000 | 0000C0000C00 | 000000C00000 | C0C0C0CCC000 | 0000000CC000 | 000000000000 |
| 150 | CCCC00C00000 | 000CC0000000 | 000000000000 | 000000000000 | 000000C00000 | C0CCC0000000 | 000000000000 | 000000000000 |
| 160 | C0C0C0C00000 | 0CCCC0000000 | 000000000000 | 000000000000 | 00000000C000 | 0000C0C0CC00 | 000CC0000000 | 000000000000 |
| 170 | 000000C00000 | 0C00C0000000 | 000000000000 | 000000000000 | 000000000000 | C0C0C0C0C000 | 000000000000 | 561000360003 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 59)

MODULE 1 SECTOR 15

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | CCCC00000000 | 0CC0C0000000 | 000000000000 | 000000000000 | 000000C00000 | C0CCCC000000 | 000000000000 | 000000000000 |
| 210 | 00C0CC000000 | 00C0CC000000 | 000000000000 | 000000000000 | 0000C00C0000 | C0000C00C000 | 000000C00000 | 000000000000 |
| 220 | 0C0C00C00000 | 00CCC0000000 | 000000000000 | 000000000000 | 0000C0000000 | 00C0C000C000 | 00C0C0000000 | 000000000000 |
| 230 | 000000C00000 | 0000C0000000 | 000000000000 | 000000000000 | 000000000000 | C0C000000000 | 000000000000 | 000000000000 |
| 240 | CC000CCCCC00 | 000000000000 | 000000000000 | 000000000000 | 0000C0C0C000 | C0C000000CC0 | 000000000000 | 000000000000 |
| 250 | C0000C000000 | 0C000000C0C0 | 000000000000 | 000000000000 | 000000000000 | C0000000CCC0 | 000000000000 | 000000000000 |
| 260 | 0000CCC00000 | 0000C0CCC000 | 000000000000 | 000000000000 | 000000000000 | C0000000C000 | 0000000000C0 | 000000000000 |
| 270 | 00C000000000 | 0CC0C0000000 | 000000000000 | 000000000000 | 00000CC00000 | C0C000000000 | 000000C00000 | 000000000000 |
| 300 | 0000C0000000 | 000CC0000000 | 000000000000 | 000000000000 | 000000000000 | C0CCC0000000 | 000000000000 | 000000000000 |
| 310 | 0000C0000000 | 00CCC000C000 | 000000000000 | 000000000000 | 000000000000 | 00C0C000C000 | 000000000000 | 000000000000 |
| 320 | 0C0000000000 | 00CCC000C0C0 | 000000000000 | 000000000000 | 0C0000000000 | C00000000000 | 00C0000C0000 | 000000000000 |
| 330 | C0CCC0CCC000 | 0000C0000000 | 000000000000 | 000000000000 | 000000000000 | C0CC0000CCC0 | 000000C00000 | C00000000000 |
| 340 | 00C0C0CCCC00 | 0000CC00CCC0 | 000000000000 | 000000000000 | 0000000C000C | C0CC0000C000 | 000000C00000 | C00000000000 |
| 350 | 00CCCCC0C000 | 0C00CCCCC000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000C00000 | 000000000000 |
| 360 | C0CCCCC00000 | 0CCCC0000000 | 000000000000 | 000000000000 | 000C00000000 | C00000000000 | 000000000000 | 000000000000 |
| 370 | C0C0C0000C00 | 0CC0C0000000 | 000000000000 | 000000000000 | 000000000000 | 0CC0CC000000 | 0000C0000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 60)

MODULE 1 SECTOR 16

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 2CCCCCC00002 | 0CCCCCC00000 | 000000000000 | 000000000000 | 000000C0C000 | C0C0CCC00000 | 000000CC0000 | 000000000000 |
| 10 | 000C00C00000 | 0C0CC0000000 | 000000000000 | 000000000000 | 000000CCC000 | C00000000000 | 000000000000 | 000000000000 |
| 20 | C0C0CCC00000 | CCC0C0000000 | 000000000000 | 000000000000 | 000000000000 | C0CCC0C00000 | 0CCCC0000000 | 000000000000 |
| 30 | C0CC00C00000 | 0CCCC0000000 | 000000000000 | 000000000000 | 000000000000 | 00C000C0C000 | 0C0C00C00000 | 000000000000 |
| 40 | 00CCC0C00C00 | 0C00C000C000 | 000000000000 | 000000000000 | 000000000000 | C00000000000 | 0C0000000000 | 000000000000 |
| 50 | 000000000000 | 0000C0000000 | 000000000000 | 000000000000 | 0000000C0000 | 000C0000C0C0 | 00C000000000 | 000000000000 |
| 60 | C00000CCC000 | 00C0CC00CC00 | 000000000000 | 000000000000 | 000000CC000C | 00C0CC00C0C0 | 0000000C0000 | 000000000000 |
| 70 | C0C0CCC00000 | 00C0C0000C00 | 000000000000 | 000000000000 | 000000C00000 | 00C00000C000 | 0000000CC000 | 00000000C000 |
| 100 | 571176770003 | 00CCCC000000 | 000000000000 | 000000000000 | 000000C00000 | 00C0C00C0000 | 0000C0000000 | 000000000000 |
| 110 | 0CCCCCC00000 | 0000C0000000 | 000000000000 | 000000000000 | 000C00C00000 | C0CCC000C000 | 000000000000 | 000000000000 |
| 120 | C000CCC00000 | 0000C000C000 | 000000000000 | 000000000000 | 0C0C00000000 | C0CCC000C0C0 | 000000000000 | 000000000000 |
| 130 | 0000C0C00000 | 0000C0000000 | 000000000000 | 000000000C00 | 000000000000 | C0000000C000 | 00C000000000 | 000000000000 |
| 140 | C0C000000000 | 0C00C000C000 | 000000000000 | 000000000000 | 000000C000C0 | CCC00000C000 | 000000000000 | 000000000000 |
| 150 | C00000CC0000 | 0000C0000000 | 000000000000 | 000000000000 | 00000000C0CC | C0C00000CCC0 | 0C00000CC000 | 000000000000 |
| 160 | C0000CC00000 | 0000C0C0C000 | 000000000000 | 000000000000 | 0000000C0000 | C00C0000C000 | 00000000C000 | 00000000C000 |
| 170 | C0C0C0000000 | 0CC0C0000000 | 000000000000 | 000000000000 | 000000C00000 | 00CC00000000 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 61)

MODULE 1 SECTOR 16

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | 0000C0C00000 | 0000C0000000 | 000000000000 | 000000000000 | 00000000C000 | 00CC0000CCC0 | 00C0000C0000 | 000000000000 |
| 210 | 000C00C00000 | 0000CC000C00 | 000000000000 | 000000000000 | 000000C00000 | 00C000000000 | 000000C00000 | 000000000000 |
| 220 | C0CCC0CC0000 | 00C0C0000000 | 000000000000 | 000000000000 | 000000000000 | 000C00000000 | 00C000C00000 | 000000000000 |
| 230 | 0C0CC0000000 | 00CC00000000 | 000000000000 | 000000000000 | 000000C0C000 | C0CCC0000000 | 000000000000 | 000000000000 |
| 240 | 00CCCC000000 | 00C000000000 | 000000000000 | 000000000000 | C00000C00000 | 00CCCCC00000 | 00CCC0000000 | 000000000000 |
| 250 | 000C00C00000 | 0C0CC000C000 | 000000000000 | 000000000000 | 000000000000 | C0C0C0000000 | 000000C00000 | 000000000000 |
| 260 | 00C000C00000 | 00000000C000 | 000000000000 | 000000000000 | 0C00C0C0C00C | C0CC00C0C000 | 000000000000 | 000000000000 |
| 270 | 00000C000000 | 000CC0C00000 | 000000000000 | 000000000000 | 0C0C0CCCC000 | 000000000C000 | 000000000000 | 000000000000 |
| 300 | 00CCC0000000 | 00CCCCC0C000 | 000000000000 | 000000000000 | 000000000000 | 000C000C0000 | 000000CC0000 | 00000000C000 |
| 310 | 0C0C00000000 | 0CCCCC000000 | 000000000000 | 000000000000 | 000000000000 | 00C000000000 | 000000000000 | 000000000000 |
| 320 | CUCCC0000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | C0C0C0C00000 | 000000000000 | 000000000000 |
| 330 | 00C000000000 | 0000C0000000 | 000000000000 | 000000000000 | 000000000000 | C00C0C0C0000 | 0C00C0C00000 | 000000000000 |
| 340 | 000000000000 | 0000C000C000 | 000000000000 | 000000000000 | 000000000000 | 00C00000C000 | 0CC0000000CC0 | 000000000000 |
| 350 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 00000000000C | C0C00000C0C0 | 000000000000 | 000000000000 |
| 360 | 00000000C000 | 00000000C000 | 000000000000 | 000000000000 | 000000000000 | C0C00000CCC0 | 0C0000000000 | 000000000000 |
| 370 | 000000000000 | 00000000C000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000C00000 | 000000000C000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 62)

MODULE 1 SECTOR 17

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 160000560003 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 10 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 20 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 30 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 40 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 50 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 60 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 70 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 130074000003 |
| 100 | 130014030003 | 571165370003 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 110 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 120 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 130 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 140 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 150 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 160 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 170 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 63)

MODULE 1 SECTOR 17

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200 | C00000000000 | 00C0C0000000 | 000000000000 | 000000000000 | 000000000000 | C00000000000 | 0C0000000000 | 000000000000 |
| 210 | 000000000000 | 00000000C000 | 000000000000 | 000000000000 | 00000000000C | CnCCC0000000 | 000C00000C00 | C00000000000 |
| 220 | 000C00C00000 | 000000000000 | 000000000000 | 000000000000 | 00C0000CC0C0 | C0CC0000CC00 | 0C0000000000 | 000000000000 |
| 230 | 000C00000000 | 0000CCC00000 | 000000000000 | 000000000000 | 000000000000 | 0000000C0000 | 00000CC00000 | 000000000000 |
| 240 | 000CC0000000 | 000CC0000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 |
| 250 | C00000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | CCCC00000C000 | 000000000000 | 000000000000 |
| 260 | 000000C00000 | 000000000000 | 000000000000 | 000000000000 | 00000000C000 | C00000000000 | 000000000000 | 000000000000 |
| 270 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | C00000000000 | 000000000000 | 000000000000 |
| 300 | 000000C00000 | 000000000000 | 000000000000 | 000000000000 | 000000000000 | C00000000000 | 000000000000 | C00000000000 |
| 310 | 000CC0C00000 | 000C00000000 | 000000000000 | 000000000000 | 000000C00000 | 00CCC0C000C0 | 000000000000 | 000000000000 |
| 320 | 000CC0000000 | C0C0C0000000 | 000000000000 | 000000000000 | 000000000000 | 000CC0000000 | 0CC0C0000000 | 000000000000 |
| 330 | 000000C00000 | 0C0000000000 | 000000000000 | 000000000000 | 000000000000 | C0CC0000C000 | 0C0000000000 | 000000000000 |
| 340 | C0C0000C0000 | 000C00000000 | 000000000000 | 000000000000 | C00000C00000 | CCCC00000000 | 000000000000 | 000000000000 |
| 350 | 000000000000 | 000000C0CC000 | 777540000002 | 202740000002 | 161540000002 | C53740000002 | 163540000002 | 777740000002 |
| 360 | 200640CC0002 | 7472000CC002 | 053000000002 | 000000000002 | 0000000C0000 | C0000000C000 | 00000000CC00 | 000000000000 |
| 370 | 00C0C0000000 | 0[illegible]0CC000C000 | 000000000000 | 000000000000 | 000CCCCC0000 | 17600C000002 | 0000000C0000 | 000000000000 |

Figure 7-15. PTC ADAPT Self-Test Program Memory Location Contents (Sheet 64)

| Column | Column Heading | Definition of Column Data |
|---|---|---|
| 1 | IM | Instruction Module |
| 2 | IS | Instruction Sector |
| 3 | S | Syllable |
| 4 | LOC | Location (memory) |
| 5 | OP | Operation Code (octal) |
| 6 | DM | Data Module |
| 7 | DS | Data Sector |
| 8 | 9 | A9 Bit (0 or 1) |
| 9 | ADR | Operand Address |
| 10 | OCT VAL | Octal Value (constant) |
| 11 | LHS | Left Hand Side (symbolic code) |
| 12 | OPC | Operation Code (alphabetic) |
| 13 | VARIABLE | Data or Operand |
| 14 | COMMENT | Description of Operation |
| 15 | SEQ NO | Sequence Number of punched card in program listing. |

Figure 7-16. PTC ADAPT Test Program Column Information

SECTION VIII

# TROUBLE ISOLATION

## 8-1. SCOPE.

8-2. This section describes the basic operations involved in isolating troubles in the PTC. (General trouble isolating procedures keyed to the calibration procedures will be supplied in changes to this manual.)

## 8-3. BASIC TROUBLE SHOOTING PROCEDURE.

### 8-4. ANALYSIS.

8-5. When a PTC malfunction is discovered, the pertinent calibration procedures in Section VII should be performed to localize the malfunction to a particular functional unit of the PTC.

8-6. When the malfunctioning unit has been determined, analyze its circuits with the aid of the Second Level Logic and Electrical Schematic Diagrams in Section X and the circuit descriptions in Section II. Reference is made from the Second Level Logic Diagrams to the Automated Logic Diagrams (ALD's) by the "LN" numbers of the ALD sheets. The ALD's show the point to point wiring of the gate assemblies; circuit points for testing signal levels can be determined from these diagrams. Reference is also made between the ALD's and the Electrical Schematic Diagrams by "LN" numbers.

NOTE

Descriptions of the format and contents of these types of diagrams are given in Section X. The format of the "LN" numbers is also explained in Section X.

### 8-7. PROBING GATE ASSEMBLIES.

8-8. Signal levels in the gate assembly circuits can be observed by probing the pins of the SMS card receptacles. (The logic blocks on the ALD's specify the pins used for logic signals and the locations of the cards (and receptacles) in the gate assemblies.)

CAUTION

To prevent damage to the equipment, take care to locate the correct pins while probing a gate assembly.

8-9. Figure 8-1 shows the SMS card receptacle pin arrangement on the wiring side of a gate assembly; the gate assembly is shown in its extended or open position.

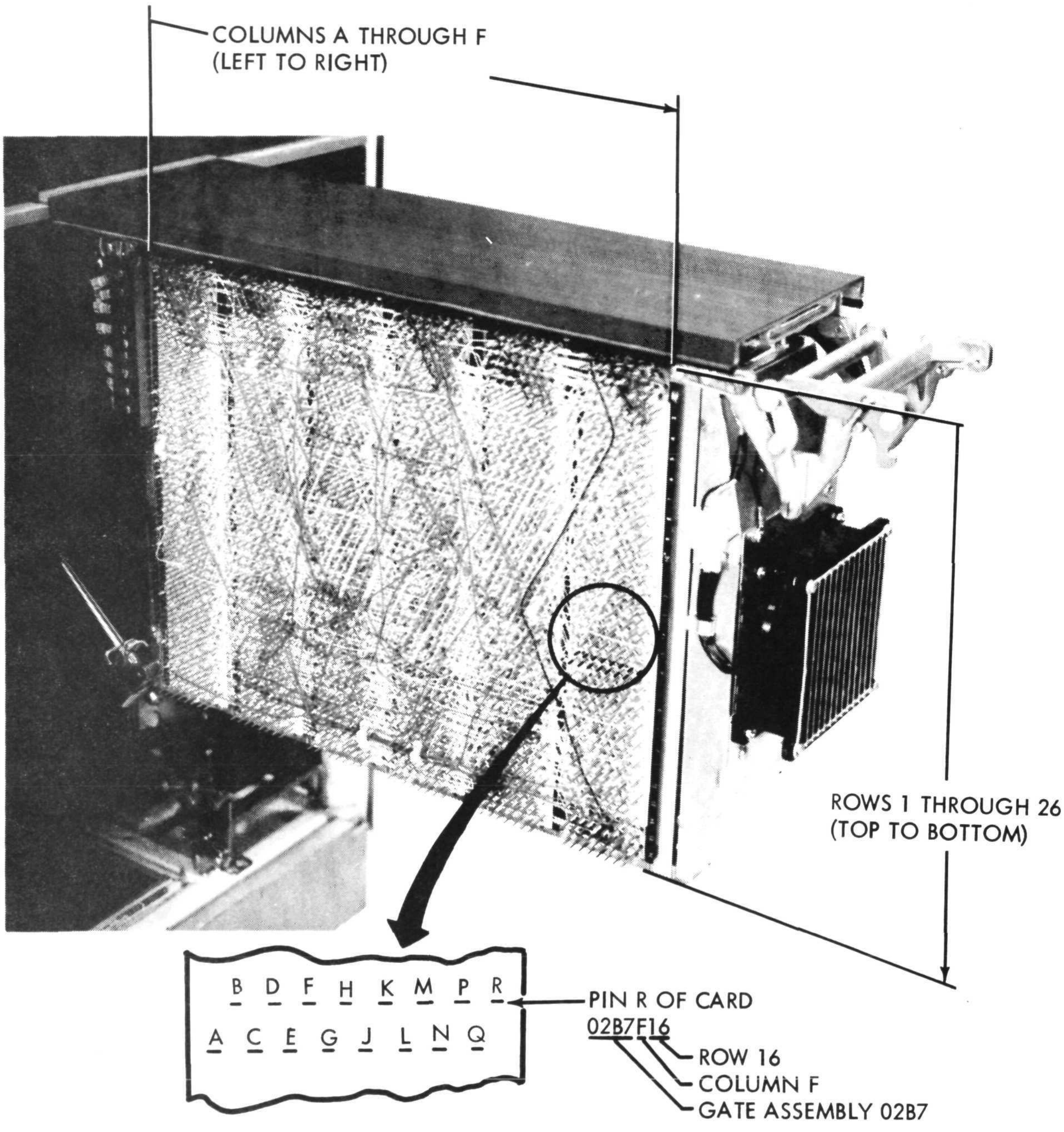


Figure 8-1. SMS Card Location and Pin Arrangement in Gate Assemblies

8-10. TROUBLE SHOOTING SMS CARDS.

8-11. Except for the special printed circuit board assemblies (figure 9-2), SMS cards are considered nonreparable and should be replaced by a new card when a failure occurs. If a special printed circuit board assembly (card) is determined to be faulty, the card should be checked to determine the faulty component. To check the card circuits:

a. Turn off PTC power.

b. Pull the card from its receptacle (use SMS Card Puller, IBM part number 6072429, shown on figure 4-4, part A).

c. Insert Card Extender (IBM part number 6072431, shown on figure 4-3, part C) into the card receptacle.

d. Insert the card into the Card Extender, and apply power to the PTC.

With the aid of the special card schematic diagrams (figures 10-38 and 10-39) the defective card component can be determined; the card should then be repaired as described in Section IX.

SECTION IX

REPAIR

## 9-1. SCOPE.

9-2. This section contains (1) lists of replaceable PTC assemblies and parts; (2) descriptions of recommended methods of replacement and repair of these assemblies and parts; (3) a list of materials required to refurbish the PTC exterior surfaces; and (4) a description of recommended methods for refurbishing these surfaces.

WARNING

Hazards to service personnel exist in the following PTC assemblies:

1. Interlock and Filter Box Assembly (01B5) - Line voltage is present when PTC power is off.

2. Memory Arrays (02A4 and 02A5) - The memory unit is not connected to the equipment ground when connector J1 is disconnected; potentials of +30 VDC and -28 VDC are present when J1 is disconnected.

3. Tape Reader and Tape Spooler Assemblies (03A2 and 03A3) - when the assemblies are pulled forward, the motor shafts and belts are exposed.

## 9-3. REPLACEABLE ASSEMBLIES AND PARTS.

9-4. Figure 9-1 lists the replaceable PTC assemblies. Figures 9-2 through 9-11 list the recommended replaceable parts to be supplied by the International Business Machines Corporation. Figure 9-12 identifies the vendors and their codes as contained in the Federal Supply Code for Manufacturers, Cataloging Handbook H4-1. Reference should be made to the assembly drawings (figures 10-29 through 10-37) when replacing assemblies.

## 9-5. REPAIR TECHNIQUES.

9-6. The following paragraphs discuss repair techniques applicable to the PTC. Many of the special tools listed and illustrated in Section IV are referenced in these discussions.

## 9-7. PUSHBUTTON SWITCH ASSEMBLIES.

9-8. As shown on figure 9-13, a pushbutton switch assembly consists of four basic parts: switch, switch housing, light module, and screen. All of these parts and the lamp bulbs within the light modules are replaceable parts, as indicated on figures 9-8 through 9-11.

WARNING

> Remove main power from PTC before dismantling any switch assemblies on the control panels.

9-9. The screen of any PTC pushbutton switch can be removed from the switch housing by inserting the arms of the Switch Assembly Extractor (IBM part number 6900020) into the spaces between the sides of the screen and the switch housing until the arms of the extractor engage the openings in the frame which supports the screen; the screen (and its frame) can then be pulled out of the switch housing. When the screen has been removed, the light module can be removed in the same manner. The switch can be removed from its housing by using the Switch Assembly Wrench (IBM part number 6900017) to loosen the nut which holds the switch to its housing.

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| 01A1 | Plotter Assembly | 6900170 | 14668 |
| 01B1 | Gate Assembly | Refer to figure 10-2 | |
| 01B2 | Gate Assembly | Refer to figure 10-2 | |
| 01B3 | Gate Assembly | Refer to figure 10-2 | |
| 01B4 | Power Supply Assembly | Refer to figure 9-3 | |
| 01B5 | Interlock and Filter Box Assembly | Refer to figure 9-4 | |
| 01B6 | Resonator Supply Assembly | Refer to figure 9-5 | |
| 01B7 | Power Supply Assembly | Refer to figure 9-6 | |
| 01B8 | Power Supply Assembly | Refer to figure 9-7 | |
| 02A1 | Memory Load and Data Display Panel Assembly | Refer to figure 9-8 | |
| 02A2 | Processor Panel Assembly | Refer to figure 9-9 | |
| 02A4 | Memory Array | 6900634 | 03640 |
| 0245 | Memory Array | 6900633 | 03640 |
| 02B1 | Gate Assembly | Refer to figure 10-2 | |
| 02B2 | Gate Assembly | Refer to figure 10-2 | |
| 02B3 | Gate Assembly | Refer to figure 10-2 | |
| 02B4 | Gate Assembly | Refer to figure 10-2 | |
| 02B5 | Gate Assembly | Refer to figure 10-2 | |
| 02B6 | Unused | | |
| 02B7 | Unused | | |
| 02B8 | Unused | | |
| 03A1 | Tape Reader Control Panel Assembly | Refer to figure 9-10 | |
| 03A2 | Tape Reader Assembly | Model RR-1002B-333 | 16550 |

Figure 9-1. PTC Replaceable Assemblies (Sheet 1 of 2)

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| 03A3 | Tape Spooler Assembly | Model RS-500A | 16550 |
| 03A4 | C. E. Panel Assembly | Refer to figure 9-11 | |
| 03A5 | Gate Assembly | Refer to figure 10-2 | |
| 03A6 | Power Supply | Model M36-5-0V | 09206 |
| 03A7 | Power Supply | Model M36-5-0V | 09206 |
| 03A8 | Power Supply | Model M15-10-0V | 09206 |
| 03A9 | Power Supply | Model M15-10-0V | 09206 |
| 03A10 | Power Supply | Model M36-10A-0V | 09206 |
| 03A11 | Power Supply | Model M15-30A-0V | 09206 |
| 03B1 | Cable Entry, AC Outlets | (Not Available) | |
| 03B2 | Gate Assembly | Refer to figure 10-2 | |
| 03B3 | Gate Assembly | Refer to figure 10-2 | |
| 03B4 | Gate Assembly | Refer to figure 10-2 | |
| 03B5 | Gate Assembly | Refer to figure 10-2 | |
| 03B6 | Gate Assembly | Refer to figure 10-2 | |
| 03B7 | Gate Assembly | Refer to figure 10-2 | |
| 03B8 | Gate Assembly | Refer to figure 10-2 | |

Figure 9-1. PTC Replaceable Assemblies (Sheet 2)

| Vendor Code | Part Number | Nomenclature | Description |
|---|---|---|---|
| 03640 | 6900227 | Inhibit Current Control | See figure 10-38 |

Figure 9-2. Repairable Printed Circuit Board (SMS Card) Assemblies.

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| F1 | Fan | 480991 | 88360 |
| Note: Refer to figure 10-29 when replacing parts. | | | |

Figure 9-3. Power Supply Assembly (01B4) Replaceable Parts

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| CB1 | Circuit Breaker | 6080248 | 03640 |
| CB2 | Circuit Breaker | 6081594 | |
| CB3 | Circuit Breaker | 6080356 | |
| Fl 1 thru Fl 4 | Filter | 6076162 | |
| K1 | Relay | 6080429 | |
| K2 | Contactor | 6050355 | |
| T1 | Transformer | 6077905 | |
| XK1 | Relay Socket | 6080442 | |
| Note: Refer to figure 10-30 when replacing parts. | | | |

Figure 9-4. Interlock and Filter Box Assembly (01B5) Replaceable Parts

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| NA | Differential Card | 370612 | 88360 |
| NA | Over-Voltage Card | 370575 | 88360 |

Note: Refer to figure 10-31 when replacing parts.

Figure 9-5. Resonator Supply Assembly (01B6) Replaceable Parts

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| F1 | Fan | 480991 | 88360 |
| NA | Differential Card | 370612 | |
| NA | Differential Card | 370613 | |
| NA | Differential Card | 370576 | |

Note: Refer to figure 10-32 when replacing parts.

Figure 9-6. Power Supply Assembly (01B7) Replaceable Parts

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| F1 | Fan | 480991 | 88360 |
| NA | Differential Card | 370608 | |
| NA | Differential Card | 370613 | |
| NA | Over-Voltage Card | 370576 | |
| NA | Over-Voltage Card | 370578 | |

Note: Refer to figure 10-33 when replacing parts.

Figure 9-7. Power Supply Assembly (01B8) Replaceable Parts

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| CR1 thru CR4 | Diode | 492543 | 88360 |
| DS1 thru DS76 | Lamp | 6078990 | 03640 |
| S1 thru S4 | Switch (Light module 6079720) | 6078534 | |
| S5 and S6 | Switch (Light module 6078420) | 6078534 | |
| S7 thru S14 | Switch (Light module 6079720) | 6078534 | |
| S15 | Switch (Light module 6078420) | 6078534 | |
| S16 thru S32 | Switch (Light module 6079720) | 6078534 | |
| S33 | Switch (Light module 6079721) | 6078534 | |
| S34 thru S59 | Switch (Light module 6079722) | 6078534 | |
| S60 thru S62 | Switch (Light module 6079732) | 6078534 | |
| S63 | Switch (Light module 6079719) | 6078534 | |
| S64 | Switch (Light module 6079732) | 6078534 | |
| S65 | Switch (Light module 6079719) | 6078529 | |
| S66 | Switch | 6035426 | |
| S67 | Switch | 6035429 | |
| XDS20 | Light Module | 6079731 | |
| XDS34 | Light Module | 6079732 | |
| XDS35 and XDS36 | Light Module | 6079725 | |
| XDS68 | Light Module | 6079730 | |

Figure 9-8. Memory Load and Data Display Panel Assembly (02A1) Replaceable Parts (Sheet 1 of 2)

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| XDS70 thru XDS73 | Light Module | 6079718 | |
| XDS74 | Light Module | 6079727 | |
| XDS75 | Light Module | 6079718 | 03640 |
| XDS77 | Light Module | 6079732 | 03640 |

Notes: Use switch housing part number 6078422 and screen 6078943 for all switches except S66 and S67.

Refer to figure 10-34 when replacing parts.

Figure 9-8. Memory Load and Data Display Panel Assembly (02A1) Replaceable Parts (Sheet 2)

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| CR1 thru CR7 | Diode | 492543 | 88360 |
| DS1 thru DS74 | Lamp | 6078990 | 03640 |
| S1 and S2 | Switch (Light module 6079732) | 6078529 | |
| S3 | Switch (Light module 6080638) | 6078529 | |
| S4 | Switch (Light module 6079732) | 6078534 | |
| S5 thru S7 | Switch (Light module 6079732) | 6078529 | |
| S8 thru S15 | Switch (Light module 6080637) | 6078534 | |
| S16 | Switch (Light module 6079732) | 6078529 | |
| S17 | Switch (Light module 6079732) | 6078534 | |
| S18 thru S24 | Switch (Light module 6080637) | 6078534 | |
| S25 and S26 | Switch (Light module 6079733) | 6078534 | |
| S27 | Switch (Light module 6079732) | 6078534 | |
| S28 | Switch (Light module 6079732) | 6078529 | |
| S29 thru S80 | Switch | 6900674 | |
| S81 | Switch | 6900229 | |
| S82 | Switch (Light module 6079732) | 6078534 | |
| S83 | Switch (Light module 6079733) | 6078534 | |
| S84 | Switch (Light module 6079732) | 6078534 | |
| S85 | Switch (Light module 6079733) | 6078534 | |

Figure 9-9. Processor Panel Assembly (02A2) Replaceable Parts (Sheet 1 of 2)

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| S86 | Switch (Light module 6079730) | 6078534 | 03640 |
| XDS1 thru XDS17 | Light Module | 6079733 | |
| XDS20 | Light Module | 6079733 | |
| XDS25 thru XDS33 | Light Module | 6079731 | |
| XDS34 and XDS35 | Light Module | 6079725 | |
| XDS36 thru XDS40 | Light Module | 6080637 | |
| XDS41 | Light Module | 6079733 | |
| XDS62 thru XDS67 | Light Module | 6079724 | |

Notes: Use switch housing part number 6078422 and screen 6078943 for all switches except S29 through S81.

Refer to figure 10-35 when replacing parts.

Figure 9-9. Processor Panel Assembly (02A2) Replaceable Parts (Sheet 2)

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| CR1 thru CR4 | Diode | 492543 | 88360 |
| DS1 thru DS22 | Lamp | 6078990 | 03640 |
| S1 | Switch (Light module 6078918) | 6078534 | |
| S2 | Switch (Light module 6079719) | 6078534 | |
| S3 | Switch (Light module 6079719) | 6078529 | |
| S4 thru S7 | Switch (Light module 6078417) | 6078534 | |
| S8 | Switch (Light module 6081684) | 6078534 | |
| S10 | Switch (Light module 6079730) | 6078534 | |
| S11 | Switch (Light module 6079719) | 6078529 | |
| S12 and S13 | Switch (Light module 6079732) | 6078529 | |
| S14 | Switch (Light module 6079730) | 6078534 | |
| S15 | Switch (Light module (6079733) | 6078534 | |
| S16 | Switch (Light module 6079732) | 6078529 | |
| S17 | Switch (Light module 6079732) | 6078534 | |
| S18 | Switch (Light module 6079719) | 6078534 | |
| S19 | Switch (Light module 6079723) | 6078529 | |
| S20 | Switch (Light module 6079730) | 6078529 | |
| S21 | Switch (Light module 6079732) | 6078529 | |

Notes: Use switch housing part number 6078422 and screen 6078943 for all switches.

Refer to figure 10-36 when replacing parts.

Figure 9-10. Tape Reader Control Panel Assembly (03A1) Replaceable Parts

| Reference Designation | Nomenclature | Manufacturer's Part Number | Vendor Code |
|---|---|---|---|
| CR1 thru CR18 | Diode | 492543 | 88360 |
| DS1 thru DS54 | Lamp | 6078990 | 03640 |
| S2 thru S14 | Switch (Light module 6080637) | 6078529 | |
| S15 | Switch (Light module 6079730) | 6078534 | |
| S16 | Switch (Light module 6079733) | 6078534 | |
| S17 | Switch (Light module 6080637) | 6078529 | |
| S18 | Switch (Light module 6079733) | 6078529 | |
| S19 | Switch (Light module 6079732) | 6078534 | |
| S20 and S21 | Switch | 6900198 | |
| S22 | Switch | 6900199 | |
| S23 | Switch | 6900198 | |
| S24 | Switch | 6080558 | |
| XDS1 thru XDS33 | Light Module | 6080636 | |
| XDS51 thru XDS53 | Light Module | 6079733 | |
| XDS55 thru XDS61 | Light Module | 6080636 | |

Notes: Use switch housing part number 6078422 and screen 6078943 for all switches except S20 through S24.

Refer to figure 10-37 when replacing parts.

Figure 9-11. C. E. Panel Assembly (03A4) Replaceable Parts

| Vendor Code | Name | Address |
|---|---|---|
| 03640 | International Business Machines Corp. | Owego, N. Y. |
| 09206 | Trygon Electronics, Inc. | Roosevelt, N. Y. |
| 14668 | California Computer Products, Inc. | Anaheim, California |
| 16550 | Rheem Electronics Corp. | Los Angeles, California |
| 88360 | International Business Machines Corp. | Endicott, N. Y. |

Figure 9-12. Vendor Code Cross-Reference

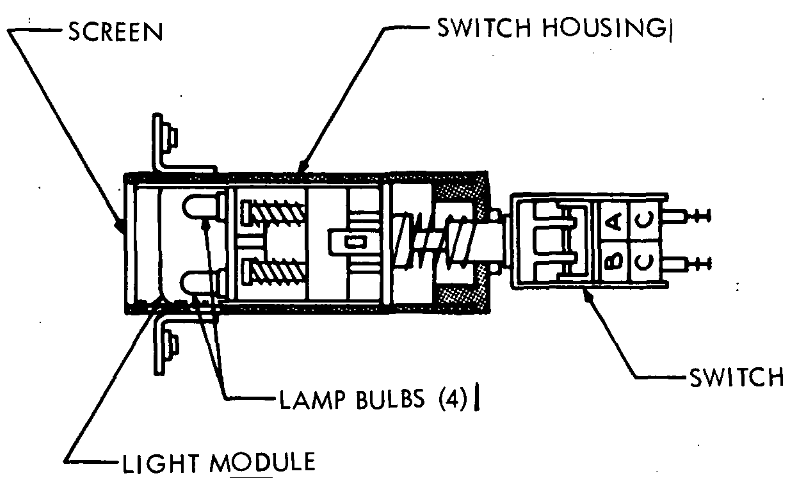


Figure 9-13. Pushbutton Switch Assembly

9-10. WRAPPED CONNECTIONS.

9-11. The wire wrapped connection is a precision pressure junction. A special wrapping tool wraps the stripped end of a wire tightly around the stationary terminal on a gate assembly. The resulting connection is a highly reliable permanent connection because of the high local residual stresses produced in the wire and terminal. Figure 9-14 illustrates a typical wrapped connection. The following paragraphs discuss the processes for using manual tools to wrap and unwrap connections. Recommended tools for wrapped connections are listed on figure 9-15.

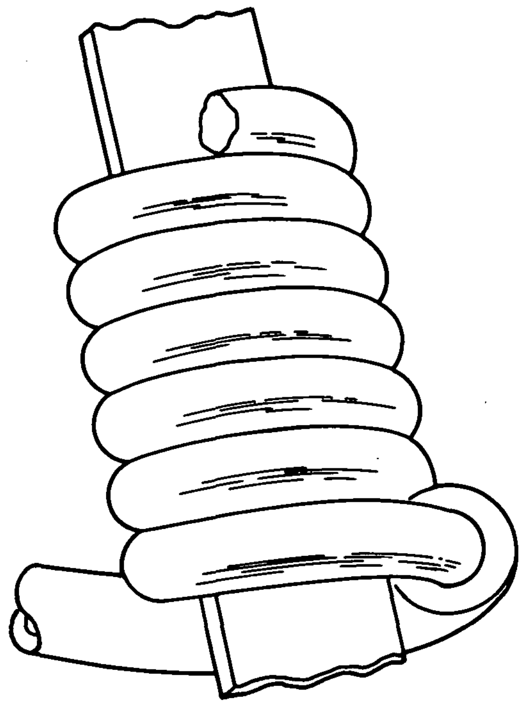

Figure 9-14. Wrapped Connection

| Tool | Vendor/Part Number | Description |
|---|---|---|
| Hand Unwrap Tool | IBM 6072437 | See figure 4-3, part O |
| Hand Wire Wrap Tool | IBM 6072438 | See figure 4-3, part G |
| Wrapping Bit (No. 20) | Keller A-18633 | See figure 4-3, part H |
| Wrapping Bit (No. 22) | Keller A-18632 | |
| Wrapping Bit (No. 24) | Keller A-26232 | |
| Wrapping Bit (No. 26) | Keller A-27611 | |
| Sleeve (No. 20) | Keller A-18285 | See figure 4-3, part I |
| Sleeve (No. 22, 24) | Keller A-18840 | |
| Sleeve (No. 26) | Keller A-17611-2 | |

Figure 9-15. Recommended Wrapping Tools

CAUTION

Only nylon-jacketed or semi-rigid PVC (polyvinyl chloride-insulated) wire should be used for re-wiring back panels. Teflon-insulated wire, used in panels produced by automation, is unsuitable for re-wiring in the field due to the difficulty in stripping without damaging the conductor.

9-12. WRAPPING. The following procedure indicates the necessary steps in making a wrapped connection.

a. Select the bit and sleeve for the wire size to be used.

| Wire Size AWG | Wrapping Bit | Sleeve |
|---|---|---|
| 26 | Keller, A-27611 | Keller, A-17611-2 |
| 24 | Keller, A-26232 | Keller, A-18840 |
| 22 | Keller, A-18632 | Keller, A-18840 |
| 20 | Keller, A-18633 | Keller, A-18285 |

b. Install bit and sleeve in the nose assembly of the wrapping tool (figure 9-16):

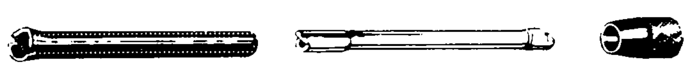


Figure 9-16. Wrapping Tool Assembly

1. Loosen the collet nut on the nose assembly.

2. Insert the wrapping bit into the collet. Rotate the bit while applying slight pressure against the end until it seats itself. (To remove the bit, reverse this process.)

3. Place the sleeve over the bit and into the collet. Rotate until sleeve is seated and positioned. Apply slight pressure to the end of the sleeve and tighten collet nut.

c. Strip 1-3/8 to 1-1/2 inch of insulation from the end of the wire to be wrapped. This will result in about six wraps around the terminal. The completed terminal must have at least five turns of bare wire.

CAUTION

Do not nick or scrape the wire. A nicked wire is subject to breaks that are difficult to detect. Areas where plating is removed will oxidize, causing an unreliable connection.

d. Insert the stripped wire into the small hole of the wrapping bit (figure 9-17, part A) taking care to insert the wire up to the insulation. Do not bend the bare end of the wire; it may be difficult to slide into the bit. If the wire is not inserted in the wrapping bit up to the insulation, a "shiner" (bare wire between insulation and terminal) may result. There should be 1/4 turn to 3/4 turn of insulation at the beginning of each wrap, except for coaxial cable. Coaxial cable insulation should not be wrapped, but it must end no more than 1/16 inch from the terminal.

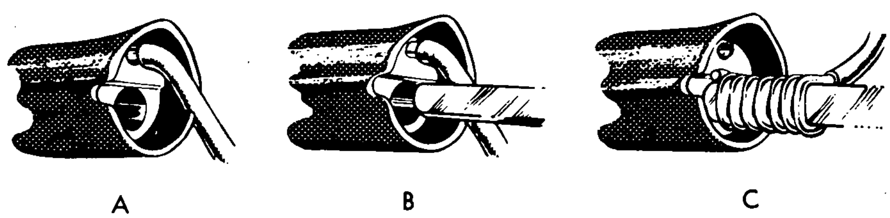


Figure 9-17. Wrapping Procedure

e. Hold the wire with the fingers and bend the insulated portion of the lead into the retaining notch in the sleeve (figure 9-17, part B). Use the right or left notch as determined by the direction of the approach (or exit) of the lead. Place the wrapping bit on the terminal. Be sure the terminal is inserted into the bit as far as it will go. Hold the tool in line with the terminal.

f. Hold the tool on the terminal and squeeze the trigger to wrap the wire on the terminal. The tool will automatically recede as the wire coils on the terminals. Release trigger and remove tool from terminal. The wrapped connection is complete (figure 9-17, part C).

NOTE

If too much pressure is used to push the tool on the terminal, a turn of wire will wrap over a previous turn. If too little pressure is exerted, the adjacent wraps of wire may not touch each other. Maximum separation between individual turns on the terminal must not exceed 0.005 inch, excluding the first and last wrap (figure 9-18).

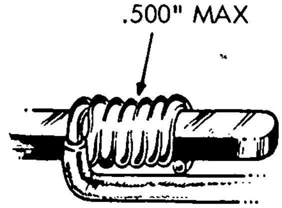


Figure 9-18. Wrap Spacing

9-13. UNWRAPPING. Wires can be removed from a terminal by using the hand unwrap tool illustrated on figure 9-19. This tool can unwrap both right and left-hand wraps.

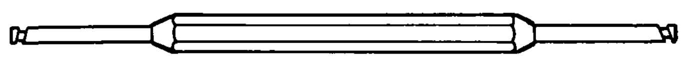

Figure 9-19. Unwrap Tool

9-14. Unwrapping is accomplished by catching the tail of the wire with the unwrap point and turning the tool in a direction opposite to that of the wrap. In some cases, it may be necessary to lift the wire tail away from the pin before the wire can be unwrapped. Apply only enough pressure to loosen turns.

CAUTION

An unwrapped wire must never be rewrapped. A new wire must be used as a replacement.

Never slide a termination on a pin because this rounds the sharp corner of the pin and makes subsequent connections unreliable. As you unwrap a wire, see that the first coil does not break off and drop into the panel. This breakage is often caused by the lip of the tool not engaging the tail of the wire. Terminals may be wrapped ten times before replacement is necessary.

9-15. WRAPPED CONNECTION QUALITY. Because the connection is destroyed if a wrap is disturbed in any manner, it is difficult to determine if a good quality junction has been made. The most common factors causing poor quality wraps are:

1. Incorrect wrapping bit for the wire size in use.

2. Worn or damaged wrapping bit.

3. Dirty wrapping bit.

9-16. A defective wrapped connection may be either too tight or too loose. If the wrap is made too tight, the wire is deformed to such an extent that it becomes brittle. The wire may then break under vibration and handling. A loose wrap will not have sufficient pressure to bond the wire to the terminal.

9-17. SMS back panel wires are frequently routed around, but not attached to, an intermediate terminal. If a wire is pulled too tight or excessive pressure is exerted at the point of contact with the intermediate terminal, insulation damage may result, allowing the wire to short to the terminal. This short may be intermittent. When wiring back panels, do not pull wires tightly around intermediate terminals, or allow a wire to rub along a terminal pin.

9-18. CRIMPED CONNECTIONS.

9-19. A crimped connection is a union of two electrical conductors formed by pressure. A crimped connection is usually made with a terminal that has a barrel or trough to accept a short length of wire. The wire is inserted in the terminal, which is then formed to compress and restrict the wire inside the terminal barrel as indicated on figure 9-20. If the correct pressure is applied during the forming process, a homogeneous mass will result in the crimped area.

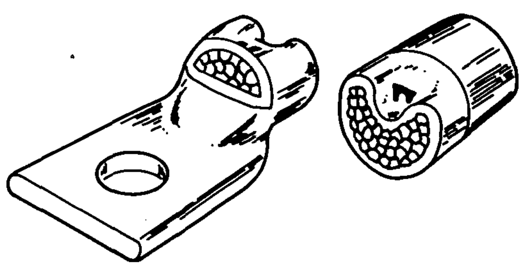

Figure 9-20. Crimped Connection, Cross Section

9-20. The critical factor in making a crimped connection is the extent to which the terminal and conductor are formed. Pressure produced in the process must be high enough to cause a bond between the terminal and conductor materials, yet low enough to prevent embrittlement of the formed parts.

9-21. RECOMMENDED CRIMPING TOOLS. Recommended crimping tools and their intended applications are listed in figure 9-21.

9-22. AMP tool 59501 is a ratchet crimping tool to be used with 22-24 AWG solid or stranded wire only. The die-set is not replaceable, and no adjustments are provided on the tool.

| Crimping Tool | Application | Description |
|---|---|---|
| AMP 59501 | Used to crimp AWG 22-24 solid or stranded wire. | See figure 4-3, part Q. |
| Berg HT-3-20 | Used to crimp AWG 20 solid or stranded wire to a slip-on terminal. | See figure 4-3, part R. |
| Berg HT-3-22 | Used to crimp AWG 22 solid or stranded wire to a slip-on terminal. | |
| Berg HT-3-24 | Used to crimp AWG 24 solid or stranded wire to a slip-on terminal. | |
| Bendix 11-7295 | Used to crimp size 12, 16, and 20 type connector contacts. | See figure 4-3, part K. |

Figure 9-21. Recommended Crimping Tools

9-23. Terminals used with the AMP ratchet tool have a two-section crimping barrel as illustrated in figure 9-22. The tool crimps one section on the conductor and the other section on the insulation. Make certain to insert terminals into the die so that the larger die opening crimps the insulation.

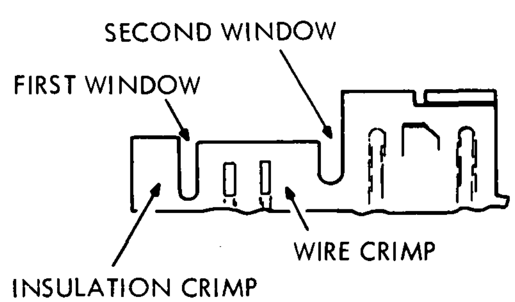


Figure 9-22. Slip-on Connector Terminal

9-24. CRIMPED CONNECTION QUALITY. The quality of a crimped connection depends largely on the correct combination of wire, terminal, and tool for each application. The following procedure is recommended for determining the quality of crimped connections:

a. Visually inspect all completed connections for the following:

CAUTION

Do not use a connection that does not meet these criteria.

1. Stripped portion of the wire centrally located under the crimp.

2. No deformation of the terminal outside of the crimp area.

3. No fractures of the terminal or wire.

b. Test completed connections having no visual defects as follows:

1. Grip the wire between the thumb and forefinger of one hand and the terminal between the thumb and forefinger of the other hand.

2. Pull the wire, exerting only enough pressure to make the wire taut. Check for any movement of the wire within the terminal barrel.

NOTE

Wire movement in the terminal barrel can often be heard, but not seen. Such a connection is called a clicker and must not be used.

3. Bend the wire about 30 from center and repeat step 2. Bend the wire in the opposite direction about 30 from center and repeat step 2.

9-25. SOLDERED CONNECTIONS

9-26. The soldering process involves six steps: selection of materials, preparing the soldering iron and tip, preparing the work, heating the work, applying the flux and solder, and cooling.

9-27. SELECTION OF MATERIALS. Recommended soldering tools are listed in figure 9-23.

CAUTION

Do not use acid-core solder.

| Tool | Vendor/Part No. | Description |
|---|---|---|
| Soldering Handle | Hexacon P25 | See figure 4-3, part E. |
| Soldering Tip | Hexacon HT248D | See figure 4-3, part F. |

Figure 9-23. Recommended Soldering Tools

9-28. Rosin cored wire solder (conforming to Federal Specification QQ-S-571) is similar to a piece of spaghetti; the hollow center is filled with flux that flows over the work when heated to a moderate temperature (about 300° F). This temperature is below the melting point of the solder (about 360° F). The flux becomes active upon further heating, but prolonged exposure to heat causes it to decompose.

9-29. PREPARING THE SOLDERING IRON AND TIP. The soldering iron is used only to transmit heat to the work. Before using the iron, heat it to operating temperature and tin it: wip the tip with a clean cloth or canvas; then apply flux and solder, giving the tip a clean, shiny coat of solder. Tinning is done to insure good heat transfer and to keep the connection area free of contamination. Subsequent accumulation of flux residue and solder dross can be removed in the same manner.

9-30. PREPARING THE WORK. The work must be clean. No grease, wax, paint, dust or other foreign material should be present on the surfaces to be soldered. These surfaces should be pretinned. Pretinning is the application of a tin layer of solder over the surfaces of the metals to be joined, using the same process as for tinning the soldering iron tip.

9-31. Use extreme care when stripping insulation from wire. The stripping tools should be adjusted so that no metal is removed from the wire during the stripping operation. Cutting the strands in stranded wire reduces the cross-sectional area, which decreases current carrying capacity and presents a mechanically weak spot; a nick in solid wire has much the same effect.

9-32. Unless otherwise specified, insulation should be stripped so that not more than 1/8 inch nor less than 1/16 inch of wire will be exposed between the soldered terminal and the insulation (figure 9-24). Leads of an axial lead component should not be formed closer than 1/16 inch from the component body (figure 9-25).

9-33. HEATING THE WORK. The joint must be thoroughly heated before applying solder. Efficient heat transfer from the iron to the work depends on the cleanliness of the surfaces and the size of the contact area. A small amount of clean solder on the iron tip will insure effective heat transfer.

9-34. Poor solder connections are often the result of insufficient heat. Protect components, but remember that a destroyed component is less expensive than a cold soldered joint that causes intermittent failures.

9-35. APPLYING THE FLUX AND SOLDER. The solder should be applied to the work, not to the iron. If the surfaces are clean and are at the correct temperature, flux and solder will flow freely over the surfaces and wet the metal. This wetting action is the basic solder bond. After the solder solidifies, it will remain adhered to the surface and will provide electrical continuity.

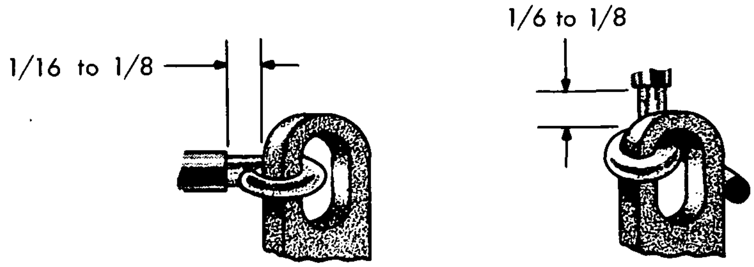


Figure 9-24. Terminal Connections

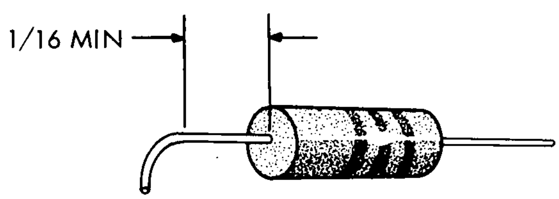


Figure 9-25. Axial Lead Connection

9-36. The proper amount of solder is important. The solder bond occurs on the metal surfaces and excessive solder does not improve the joint but can introduce undesirable side effects. Use enough solder to cover the parts to be joined, but leave the outlines visible.

9-37. COOLING. Once the solder has been applied, withdraw the soldering iron and allow the joint to cool. Solidification of solder is not instantaneous, and any movement during this time may cause a solder bond of unacceptable quality. Keep the parts perfectly still until the solder is frozen.

9-38. VISUAL INSPECTION. A good soldered connection is bright and smooth. The solder feathers out to a thin edge from the main body of solder in the joint. It also approximately outlines the wire and terminal. Figure 9-26 illustrates good soldered connections.

9-39. Figure 9-27 illustrates defective soldered connections.

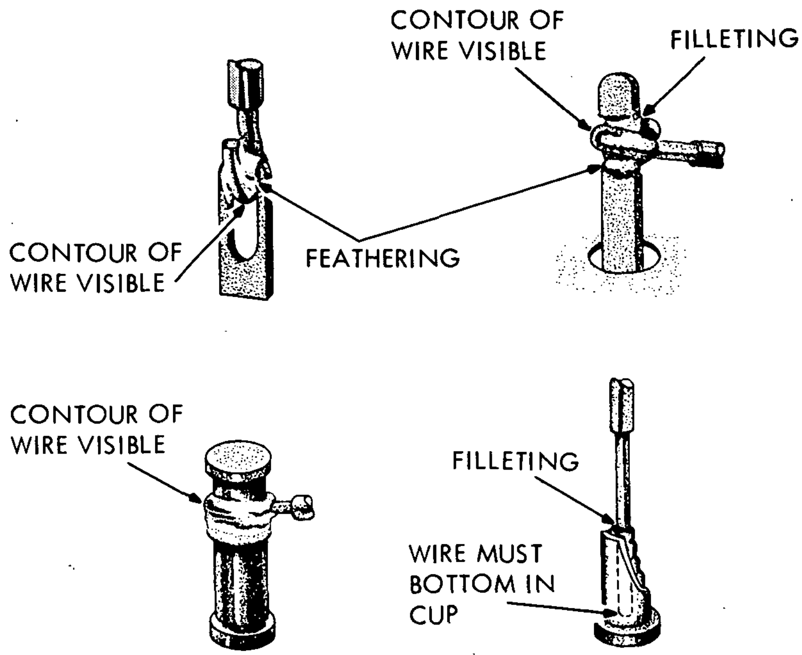


Figure 9-26. Good Soldered Connections

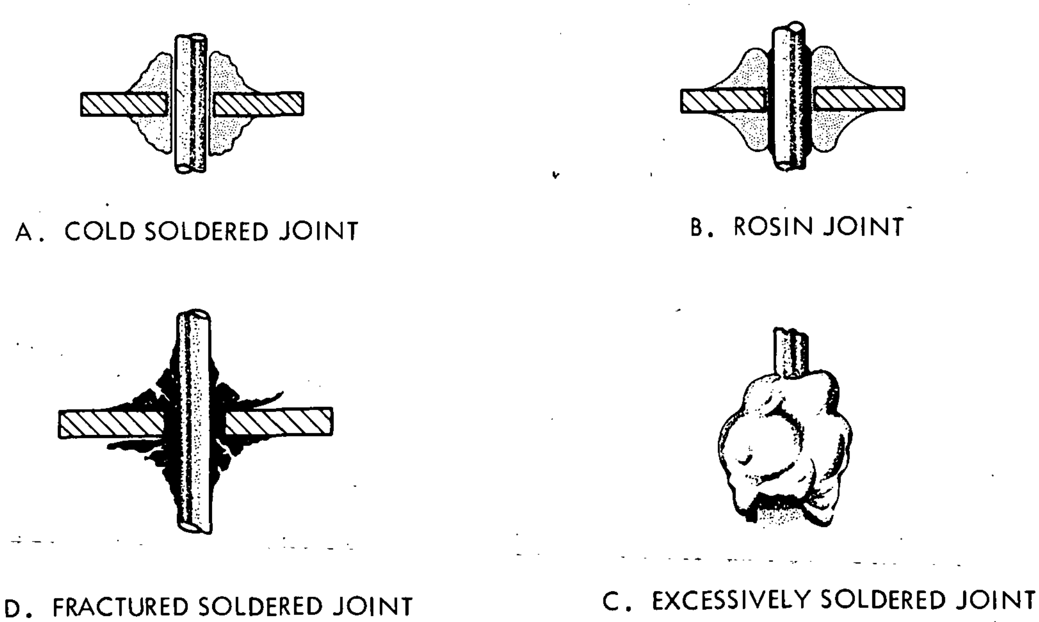


Figure 9-27. Defective Soldered Connections

9-40. The Cold Soldered Joint (figure 9-27, part A) has a dull, granular appearance. It is caused by insufficient heating, or movement of the work during cooling.

9-41. The Rosin Joint (figure 9-27, part B) has a rosin inclusion. Rosin joints can be due to insufficient heat to permit the rosin to be displaced by the solder, or insufficient heat to permit adequate melting of the flux.

9-42. The Excessively Soldered Joint (figure 9-27, part C) hides the outline of the joint components with an excessive amount of solder.

9-43. The Fractured Soldered Joint (figure 9-27, part D) is one in which small cracks are present. This condition can be due to stress applied before the solder is completely solidified.

9-44. SMS CARD REPLACEMENT.

9-45. The SMS card puller (IBM 6072429) facilitates insertion or removal of SMS cards from their sockets. Use of this tool reduces the probability of dropping cards and other handling damage. This tool is illustrated on figure 4-3, part A.

9-46. In operation, the card puller fits over the edges of an SMS card. When the tool is properly positioned, a tooth on the spring-loaded latch seats in a hole in the card. The card is released by depressing the latch.

CAUTION

Before removing an SMS card, insert IBM punched cards or similar material between the card to be removed and adjacent SMS cards. Damage to SMS cards or components may be eliminated in this manner.

Oil or moisture from the fingers can critically decrease the insulation resistance on the land pattern side of the card. Cards should be carefully handled by the edges only.

9-47. When an SMS card is removed from its socket, the card contacts should be cleaned and lubricated before the card is reinstalled if either of the following conditions exists:

1. The card contacts are visibly contaminated.

2. The card contacts have been handled. If there is any doubt about the contamination of the contacts, clean and relubricate them.

9-48. The following cleaning and lubricating procedure insures low contact resistance and reduces wear of the gold-plated contact surfaces. The procedure may be performed any number of times without affecting contact reliability. To clean and lubricate the contacts:

a. Apply lubricant (IBM part number 6072430) either directly to the contacts or indirectly with a saturated, clean, lint-free cloth or tissue.

b. Wipe the contacts toward the component section of the card with a cloth or tissue moistened with the lubricant.

CAUTION

Do not allow the lubricant to contact the clear plastic coating on the component portion of the card. The solvents in the lubricant can dissolve the plastic coating, which will act as an insulator if rubbed on the contacts.

c. Rub the contacts with a clean, dry piece of cloth or tissue until there is no visible trace of the lubricant. The cloth or tissue will darken if further cleaning is necessary. Repeat the procedure from step a if further cleaning is needed.

9-49. SMS CARD REPAIR.

9-50. Repair of printed circuit cards primarily consists of soldering and unsoldering operations. The specific jobs involved are:

1. Removal of defective components.

2. Installation of replacement components.

3. Joining broken printed conductors.

9-51. Care must be taken to avoid damage to the card assembly during the repair process. The card assembly is easily damaged in two ways:

1. Heat damage to the card or to components on the card.

2. Physical damage.

9-52. The card is made of an insulating material that will withstand a dipsolder temperature of about 515° F for 30 seconds. This compares with a minimum solder melting temperature of 361° F and an average soldering iron temperature of 750° F. This means that the soldering iron must contact the card for only a short interval of time. Excessive heat may damage a card in two ways by:

1. Destroying the bond between the insulated board and a printed conductor, resulting in a raised conductor;

2. Scorching or burning the board.

9-53. Excessive heat may also damage components on the card. Semiconductors are especially sensitive to heat. Use of the soldering tools recommended under SOLDERED CONNECTIONS will help avoid heat damage.

9-54. Physical damage in the form of a raised conductor is easily inflicted if stress is applied in a direction that ends to separate the conductor from the board (figure 9-28).

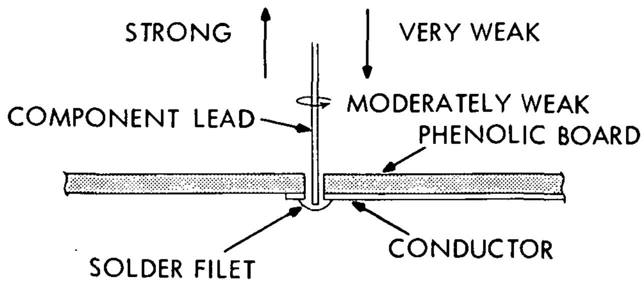


Figure 9-28. Stress Applied to Component Leads

9-55. COMPONENT REMOVAL. When the leads of the defective component must be saved, use the following procedure to remove the component:

a. Straighten the component leads that are bent over on the wiring side of the board. Figure 9-29 illustrates a method of using the soldering iron tip as a wedge to prevent pulling the land away from the board. A pair of long-nose pliers may be used on the component side of the card to prevent downward movement of the lead.

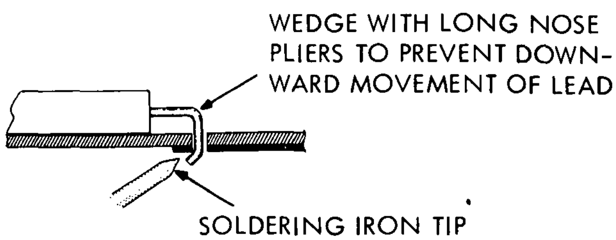


Figure 9-29. Component Removal

b. Heat the component leads and pull them through the holes from the component side of the board.

9-56. If the leads of the defective component may be destroyed, use the following removal procedure:

a. Cut the leads of the defective component as close as possible to the board on the component side of the card. Do not camage the board or adjacent components.

b. Hold the card in your hand and use a clean, tinned soldering iron to heat the solder connection between the remaining portion of the leads and the conductor pattern.

c. When the solder starts to flow, rap the hand holding the card on the work surface.

d. Repeat steps b and c if the solder and piece of lead do not leave the hole.

9-57. COMPONENT INSTALLATION. Use the following procedure for installing components on SMS cards.

a. Insert component leads through the holes in the board. Cut the leads so that about 1/16 inch remains to bend over on the conductor pattern. Bend the leads parallel to the component body and toward each other. Axial lead components, such as resistors, are mounted flush against the surface of the board.

CAUTION

Do not bend leads close to components (see SOLDERED CONNECTIONS for technique). The leads on tantalum capacitors are particularly subject to damage.

b. Solder the component leads to the conductor pattern. Avoid excessive heat and solder, particularly with transistors and diodes. It is not desirable to fill the hole in the board with solder.

c. Wash the general area of repair using a typewriter cleaning brush and IBM cleaning fluid (IBM part number 450608). Dry the affected area by wiping with a clean piece of cloth or tissue.

9-58. PRINTED CONDUCTOR REPAIR. Two printed conductor defects may be found: broken conductor, or delaminated conductor (raised land).

9-59. To repair a broken conductor, solder a 24 AWG solid wire jumper across the break. The wire should overlap the printed conductor at least 1/16 inch on each end. If the break is long, and the possibility of a short exists, use insulated wire stripped on each end.

9-60. To repair a delaminated conductor, cut both ends of the loose section at a point where the bond is not broken. After the loose section is removed, repair the conductor using the same method used for a broken conductor.

9-61. EXTERIOR SURFACE COATINGS.

9-62. Figure 9-30 lists the solvents, reducers, primers and paints needed to refurbish PTC coatings that become chipped, discolored, or otherwise defective.

NOTE

The dark gray, white, and black paints listed in figure 9-30 for the functional areas and panel markings are actually vinyl inks, originally applied by silk screen processes.

9-63. REPAINTING TECHNIQUES.

9-64. The following paragraphs indicate the recommended consistencies for the paints and other fluids needed to repair the exterior coatings of the PTC. A fine brush should be used to retouch defective panel markings and any small scratches on the PTC. For repainting areas greater than 1 in. square, the paint should be applied by spraying.

9-65. SOLVENTS. The surface to be repainted should be thoroughly cleaned by wiping it with the solvent indicated in figure 9-30. The surface should then be allowed to dry for at least 30 minutes.

9-66. PRIMERS. If the coating has been marred so that the metal surface is exposed, a primer coating should be applied before the paint is applied. The primer need not be diluted for brush application; however, for spray application the primer should be diluted with one part reducer to two parts primer. The primer coating should be air dried for at least three minutes before paint is applied.

9-67. PAINTS. The paints need not be diluted for brush application; however, for spray application the paint should be diluted with one part reducer to four parts paint. Four or more sprayed coats should be applied, allowing a minimum time of one minute between the application of each coat. For a non-textured finish, these applications are the finish coat; however, for a textured finish these applications are only the first finish coat.

NOTE

The number of paint coats required to adequately repair the defective surface depends on the depth of the defect and the thickness of the original coatings.

9-68. If the final surface is to be textured, a second finish coat of paint should be applied after the first finish coat has been air dried. The paint for this second finish coat need not be diluted for brush application; however, for spray application the paint should be diluted with one part reducer to eight parts paint. Five or more sprayed coats should be applied, allowing a minimum time of one minute between the application of each coat. (See note in preceding paragraph.)

9-69. TEXTURING AGENT. The texturing agent should not be diluted before being sprayed as a fine mist coat over the second finish coat.

| Surface | Solvent | Reducer* | Primer* | Paint (Vinyl)* | Notes* |
|---|---|---|---|---|---|
| Frame Covers | Xylene conforming to Federal Specification TT-X-916. | John L. Armitage Co., A-903 | Charcoal-John L. Armitage Co., P-318 | Deep Charcoal-John L. Armitage Co., U-211. | Use texturing agent, John L. Armitage Co., M-411. |
| Feature Strips Control Panels Background | | John L. Armitage Co., A-903 or M-130. | Blue-Gray, John L. Armitage Co., P-350. | Light Gray-John L. Armitage Co., U-662S. | |
| Functional Areas | | | | Dark Gray-John L. Armitage Co., M-1085. | |
| Panel Markings | | | | White-John L. Armitage Co., M-1027. | Used on Dark Gray functional areas. |
| | | | | Black-John L. Armitage Co., M-1035. | Used on Light Gray areas. |
| Name Plate | Xylene conforming to Federal Specification TT-X-916. | John L. Armitage Co., A-903, or M-130. | Yellow-John L. Armitage Co., P-321. | Yellow-John L. Armitage Co., U-396. | |
| | | | Blue-John L. Armitage Co., P-300. | Sky Blue-John L. Armitage Co., U-333. | |
| | | | | White-John L. Armitage Co., M-1027. | Used as a filler for engraving. |

*Equivalent materials may be used.

Figure 9-30. Recommended Repainting Materials

SECTION X

DIAGRAMS

## 10-1. SCOPE.

10-2. This section contains three types of Engineering drawings required for maintenance of the PTC (Electrical Schematic Diagrams, Second Level Logic Diagrams, and Assembly Drawings) as follows:


Figure 10-7. Filter and Interlock Box Assembly (01B5) Electrical Schematic Diagram (LN 00. 03. 10. 0)

Figure 10-8. Relay Gate Assembly (03A5) Electrical Schematic Diagram (LN 00. 03. 20. 0 and LN 00. 03. 20. 1)

Figure 10-9. AC Power Distribution (01 Frame) Diagram (LN 00. 03. 30. 0)

Figure 10-10. AC Power Distribution (02 and 03 Frames) Diagram (LN 00. 03. 40. 0)

Figure 10-11. DC Power Distribution (01 Frame) Diagram (LN 00. 03. 50. 0)

Figure 10-12. DC Power Distribution (02 and 03 Frames) Diagram (LN 00. 03. 60. 0, LN 00. 03. 60. 1, LN 00. 03. 60. 2 and LN 00. 03. 60. 3)

Figure 10-13. 115 VAC System Flow Diagram (LN 00. 03. 70. 0, LN 00. 03. 70. 1, LN 00. 03. 70. 2 and LN 00. 03. 70. 3)

Figure 10-14. AC Power Control Signal Flow Diagram (LN 00. 03. 70. 4)

Figure 10-15. Chassis Ground System Flow Diagram (LN 00. 03. 71. 0)

Figure 10-16. Bus Bar System Flow Diagram (LN 00. 03. 72. 0)

Figure 10-17. +30 VDC System Flow Diagram (LN 00. 03. 73. 0)

Figure 10-18. +12 VDC System Flow Diagram (LN 00. 03. 74. 0)

Figure 10-19. -12 VDC System Flow Diagram (LN 00. 03. 75. 0)

Figure 10-20. -28 VDC System Flow Diagram (LN 00. 03. 76. 0)

Figure 10-21. -48, -20, and -6 VDC System Flow Diagram (LN 00. 03. 77. 0)

Figure 10-22. Relay Cross Reference List

Figure 10-23. Tape Reader Control Panel Assembly (03A1) Electrical Schematic Diagram (LN 00. 04. 01. 0 and LN 00. 04. 01. 1)

Figure 10-24. C. E. Panel Assembly (03A4) Electrical Schematic Diagram (LN 00. 04. 05. 0, LN 00. 04. 05. 1 and LN 00. 04. 05. 2)

Figure 10-25. Memory Load and Data Display Panel Assembly (02A1) Electrical Schematic Diagram (LN 00. 04. 10. 0, LN 00. 04. 10. 1, LN 00. 04. 10. 2 and LN 00. 04. 10. 3)

Figure 10-26. Processor Display Panel Assembly (02A2) Electrical Schematic Diagram (LN 00. 04. 15. 0 through LN 00. 04. 15. 4)

Figrue 10-27. Memory AC-DC Power Diagram (LN 00. 04. 20. 1 and 00. 04. 20. 0)

Figure 10-28. PTC Second Level Logic Diagrams

Figure 10-29. Power Supply Assembly (01B4) Assembly Drawing

Figure 10-30. Filter and Interlock Box Assembly (01B5) Assembly Drawing

Figure 10-31. Resonator Supply Assembly (01B6) Assembly Drawing

Figure 10-32. Power Supply Assembly (01B7) Assembly Drawing

Figure 10-33. Power Supply Assembly (01B8) Assembly Drawing

Figure 10-34. Memory Load and Data Display Panel Assembly (02A1) Assembly Drawing

Figure 10-35. Processor Display Panel Assembly (02A2) Assembly Drawing

Figure 10-36. Tape Reader Control Panel Assembly (03A1) Assembly Drawing

Figure 10-37. C. E. Panel Assembly (03A4) Assembly Drawing

Figure 10-38. Inhibit Current Control Printed Circuit Board Assembly (6900227)

Figure 10-39. SDTDL 2. 048 MC Oscillator Printed Circuit Board Assembly (6901352)

10-3. Automated Logic Diagrams (ALD's), Circuit Card Location Charts, and Edge Connector Lists are not included in this manual; they are supplied in a set of five volumes entitled SATURN V LTE - Programmable Test Controller Automated Logic Diagrams. However, the ALD page format and the contents of the Circuit Card Location Charts and Edge Connector Lists are explained in this section.

10-4. DRAWING REFERENCES.

10-5. References are made between and within the Electrical Schematic Diagrams, ALD's, Circuit Card Location Charts, and Edge Connector Lists by an "LN" seven digit number (XX. XX. XX. X) assigned to each page (or sheet). The LN number indicates the type of drawing as follows:

1. Electrical Schematic Diagrams - LN 00. 03. XX. X or LN 00. 04. XX. X
2. Signal Interface List - 04. XX. XX. X
3. ALD's, Circuit Card Location Charts and Edge Connector Lists - LN 05. XX. XX. X

The digit positions filled here by X's specify the page number sequence.

10-6. Figure 10-1 lists the PTC ALD's by logic page (LN) number and page part number. The page part number is used for ordering a specific page. Figure 10-2 lists the Circuit Card Location Charts and figure 10-3 lists the Edge Connector Lists in alpha numeric order by PTC gate assembly. The page part number, page (LN) number and the number of sheets for each gate assembly are given for ordering a specific page or series of pages.

10-7. When tracing signals from page-to-page of the ALD's or from pages of the ALD's to the panel assembly electrical schematic diagrams, the LN number is used to locate the origin or destination of the signals. Reference from one page of the ALD's to another page is designated by a 05. XX. XX. X LN number. However when tracing signals between the ALD pages and the panel assembly electrical schematic diagrams, a 04. XX. XX. X LN number is used. This LN number (04. XX. XX. X) references a sheet of the Signal Interface List, figure 10-4. The Signal Interface List gives the origins and destinations of the interface signals. Sheet 1 of figure 10-4 is the table of contents for the remaining sheets and may be used for locating interface signals between assemblies of the PTC.

10-8. SECOND LEVEL LOGIC DIAGRAMS.

10-9. Second level logic diagrams are so called because they do not contain the degree of detail found on the automated or "first level" logic diagrams. Second level logic diagrams do not contain such details as pin connection designations, voltage levels, SMS card types, or location of SMS cards in the gate assemblies; all these details are included on the automated logic diagrams.

10-10. The second level logic diagrams (figure 10-28) are provided to aid in the logical analysis of the PTC. These diagrams are arranged by PTC functions. Included with these diagrams is the chart of logic symbol definitions (figure 10-28, sheets 1 and 2) which define the logic symbols used in these diagrams. A block diagram (figure 10-28, sheet 3) showing the relationship of the PTC functions is also included.

NOTE

The Logic Symbols listing (located at the end of this Volume) also defines each second level logic symbol and the corresponding ALD symbol.

10-11. In the lower left corner of each second level logic diagram except sheets 1, 2, and 3 is a table which lists (by LN number) the ALD pages that are represented on the diagram.

10-12. In the upper left corner of each second level diagram except sheets 1, 2, and 3 are tables that list (by sheet number) the origins of the input signals to the sheet and the destinations of the outputs from the sheet; however, common timing signals and signals whose origin or destination is on the Electrical Schematic Diagrams are not listed in these tables.

| Logic Page Number | Page Part Number | Logic Page Number | Page Part Number | Logic Page Number | Page Part Number |
|---|---|---|---|---|---|
| 05. 02. 01. 1 | 6903405 | 05. 03. 26. 1 | 6903458 | 05. 06. 04. 1 | 6903203 |
| 05. 02. 02. 1 | 6903406 | 05. 03. 27. 1 | 6903459 | 05. 06. 05. 1 | 6903204 |
| 05. 03. 03. 1 | 6903407 | 05. 03. 28. 1 | 6903460 | 05. 06. 06. 1 | 6903205 |
| 05. 02. 04. 1 | 6903408 | 05. 04. 01. 1 | 6903746 | 05. 06. 06. 2 | 6903372 |
| 05. 02. 05. 1 | 6903409 | 05. 04. 02. 1 | 6903747 | 05. 06. 07. 1 | 6903206 |
| 05. 02. 06. 1 | 6903410 | 05. 04. 03. 1 | 6903748 | 05. 06. 07. 2 | 6903373 |
| 05. 02. 07. 1 | 6903411 | 05. 04. 04. 1 | 6903749 | 05. 06. 08. 1 | 6903207 |
| 05. 02. 08. 1 | 6903412 | 05. 04. 05. 1 | 6903750 | 05. 06. 09. 1 | 6903208 |
| 05. 02. 09. 1 | 6903413 | 05. 04. 06. 1 | 6903751 | 05. 06. 11. 1 | 6903210 |
| 05. 02. 10. 1 | 6903414 | 05. 04. 07. 1 | 6903752 | 05. 06. 12. 1 | 6903211 |
| 05. 02. 11. 1 | 6903415 | 05. 04. 08. 1 | 6903753 | 05. 06. 13. 1 | 6903212 |
| 05. 02. 12. 1 | 6903416 | 05. 04. 09. 1 | 6903754 | 05. 06. 14. 1 | 6903213 |
| 05. 02. 13. 1 | 6903417 | 05. 04. 10. 1 | 6903755 | 05. 06. 15. 1 | 6903214 |
| 05. 02. 14. 1 | 6903418 | 05. 04. 11. 1 | 6903756 | 05. 06. 16. 1 | 6903215 |
| 05. 02. 15. 1 | 6903419 | 05. 04. 12. 1 | 6903757 | 05. 06. 17. 1 | 6903216 |
| 05. 02. 16. 1 | 6903420 | 05. 04. 12. 2 | None | 05. 06. 18. 1 | 6903217 |
| 50. 02. 17. 1 | 6903421 | 05. 04. 12. 3 | None | 05. 06. 19. 1 | 6903218 |
| 05. 02. 18. 1 | 6903422 | 05. 04. 13. 1 | 6903758 | 05. 06. 20. 1 | 6903219 |
| 05. 02. 19. 1 | 6903423 | 05. 04. 14. 1 | 6903759 | 05. 06. 21. 1 | 6903220 |
| 05. 02. 20. 1 | 6903424 | 05. 04. 15. 1 | 6903760 | 05. 06. 22. 1 | 6903221 |
| 05. 02. 21. 1 | 6903425 | 05. 04. 16. 1 | 6903761 | 05. 06. 23. 1 | 6903222 |
| 05. 02. 22. 1 | 6903426 | 05. 05. 01. 1 | 6900300 | 05. 06. 24. 1 | 6903223 |
| 05. 02. 23. 1 | 6903427 | 05. 05. 02. 1 | 6900301 | 05. 06. 25. 1 | 6903224 |
| 05. 03. 01. 1 | 6903433 | 05. 05. 03. 1 | 6900302 | 05. 06. 26. 1 | 6903225 |
| 05. 03. 02. 1 | 6903434 | 05. 05. 04. 1 | 6900303 | 05. 06. 27. 1 | 6903226 |
| 05. 03. 03. 1 | 6903435 | 05. 05. 05. 1 | 6900304 | 05. 06. 28. 1 | 6903227 |
| 05. 03. 04. 1 | 6903436 | 05. 05. 06. 1 | 6900305 | 05. 06. 29. 1 | 6903228 |
| 05. 03. 05. 1 | 6903437 | 05. 05. 07. 1 | 6900306 | 05. 06. 30. 1 | 6903229 |
| 05. 03. 06. 1 | 6903438 | 05. 05. 08. 1 | 6900307 | 05. 06. 31. 1 | 6903230 |
| 05. 03. 07. 1 | 6903439 | 05. 05. 09. 1 | 6900308 | 05. 06. 32. 1 | 6903231 |
| 05. 03. 08. 1 | 6903440 | 05. 05. 10. 1 | 6900309 | 05. 07. 01. 1 | 6903150 |
| 05. 03. 09. 1 | 6903441 | 05. 05. 11. 1 | 6900310 | 05. 07. 02. 1 | 6903151 |
| 05. 03. 10. 1 | 6903442 | 05. 05. 12. 1 | 6900311 | 05. 07. 03. 1 | 6903152 |
| 05. 03. 11. 1 | 6903443 | 05. 05. 13. 1 | 6900312 | 05. 07. 04. 1 | 6903153 |
| 05. 03. 12. 1 | 6903444 | 05. 05. 14. 1 | 6900313 | 05. 07. 05. 1 | 6903154 |
| 05. 03. 13. 1 | 6903445 | 05. 05. 15. 1 | 6900314 | 05. 07. 06. 1 | 6903155 |
| 05. 03. 14. 1 | 6903446 | 05. 05. 16. 1 | 6900315 | 05. 07. 07. 1 | 6903156 |
| 05. 03. 15. 1 | 6903447 | 05. 05. 17. 1 | 6900316 | 05. 07. 08. 1 | 6903157 |
| 05. 03. 16. 1 | 6903448 | 05. 05. 18. 1 | 6900317 | 05. 07. 09. 1 | 6903158 |
| 05. 03. 17. 1 | 6903449 | 05. 05. 19. 1 | 6900318 | 05. 07. 10. 1 | 6903159 |
| 05. 03. 18. 1 | 6903450 | 05. 05. 20. 1 | 6900319 | 05. 07. 11. 1 | 6903160 |
| 05. 03. 19. 1 | 6903451 | 05. 05. 21. 1 | 6900320 | 05. 07. 12. 1 | 6903161 |
| 05. 03. 20. 1 | 6903452 | 05. 05. 22. 1 | 6900321 | 05. 07. 13. 1 | 6903162 |
| 05. 03. 21. 1 | 6903453 | 05. 05. 23. 1 | 6900322 | 05. 07. 14. 1 | 6903163 |
| 05. 03. 22. 1 | 6903454 | 05. 05. 24. 1 | 7900323 | 05. 07. 15. 1 | 6903164 |
| 05. 03. 23. 1 | 6903455 | 05. 05. 25. 1 | 6900324 | 05. 07. 16. 1 | 6903165 |
| 05. 03. 24. 1 | 6903456 | 05. 05. 26. 1 | 6900325 | 05. 07. 17. 1 | 6903166 |
| 05. 03. 25. 1 | 6903457 | 05. 05. 27. 1 | 6900326 | 05. 07. 18. 1 | 6903167 |

Figure 10-1. PTC Automated Logic Diagrams (Sheet 1 of 3)

| Logic Page Number | Page Part Number | Logic Page Number | Page Part Number | Logic Page Number | Page Part Number |
|---|---|---|---|---|---|
| 05.07.19.1 | 6903168 | 05.09.15.1 | 6903344 | 05.13.16.1 | 6903192 |
| 05.07.20.1 | 6903169 | 05.09.16.1 | 6903345 | 05.13.17.1 | 6903193 |
| 05.07.21.1 | 6903170 | 05.09.17.1 | 6903346 | 05.13.18.1 | 6903194 |
| 05.07.22.1 | 6903171 | 05.09.18.1 | 6903347 | 05.13.19.1 | 6903195 |
| 05.07.23.1 | 6903172 | 05.10.01.1 | 6903463 | 05.13.20.1 | 6903196 |
| 05.07.24.1 | 6903173 | 05.10.02.1 | 6903464 | 05.13.21.1 | 6903197 |
| 05.07.25.1 | 6903174 | 05.10.03.1 | 6903465 | 05.13.22.1 | 6903198 |
| 05.07.26.1 | 6903175 | 05.10.04.1 | 6903466 | 05.14.01.1 | 6903375 |
| 05.07.27.1 | 6903233 | 05.10.05.1 | 6903467 | 05.14.02.1 | 6903376 |
| 05.08.01.1 | 6903475 | 05.10.06.1 | 6903468 | 05.14.03.1 | 6903377 |
| 05.08.02.1 | 6903476 | 05.10.07.1 | 6903469 | 05.14.04.1 | 6903378 |
| 05.08.02.2 | 6903477 | 05.10.08.1 | 6903470 | 05.14.05.1 | 6903379 |
| 05.08.03.1 | 6903478 | 05.10.09.1 | 6903471 | 05.14.06.1 | 6903380 |
| 05.08.04.1 | 6903479 | 05.10.10.1 | 6903472 | 05.14.07.1 | 6903381 |
| 05.08.05.1 | 6903480 | 05.10.11.1 | 6903473 | 05.14.08.1 | 6903382 |
| 05.08.06.1 | 6903481 | 05.10.12.1 | 6903474 | 05.14.09.1 | 6903383 |
| 05.08.07.1 | 6903482 | 05.11.01.1 | 6903725 | 05.14.10.1 | 6903384 |
| 05.08.08.1 | 6903483 | 05.11.02.1 | 6903726 | 05.14.11.1 | 6903385 |
| 05.08.09.1 | 6903484 | 05.11.03.1 | 6903727 | 05.14.12.1 | 6903386 |
| 05.08.10.1 | 6903485 | 05.11.04.1 | 6903728 | 05.13.13.1 | 6903387 |
| 05.08.11.1 | 6903486 | 05.11.05.1 | 6903729 | 05.14.14.1 | 6903388 |
| 05.08.12.1 | 6903487 | 05.11.06.1 | 6903730 | 05.14.15.1 | 6903389 |
| 05.08.13.1 | 6903488 | 05.11.07.1 | 6903731 | 05.14.16.1 | 6903390 |
| 05.08.14.1 | 6903489 | 05.11.08.1 | 6903732 | 05.14.17.1 | 6903391 |
| 05.08.15.1 | 6903490 | 05.11.09.1 | 6903733 | 05.14.18.1 | 6903392 |
| 05.08.16.1 | 6903491 | 05.11.10.1 | 6903734 | 05.14.19.1 | 6903393 |
| 05.08.17.1 | 6903492 | 05.11.11.1 | 6903735 | 05.14.20.1 | 6903394 |
| 05.08.18.1 | 6903493 | 05.11.12.1 | 6903736 | 05.14.21.1 | 6903395 |
| 05.08.19.1 | 6903494 | 05.11.13.1 | 6903737 | 05.14.22.1 | 6903396 |
| 05.08.20.1 | 6903495 | 05.11.14.1 | 6903738 | 05.14.23.1 | 6903397 |
| 05.08.21.1 | 6903496 | 05.11.15.1 | 6903739 | 05.15.01.1 | 6903350 |
| 05.08.22.1 | 6903497 | 05.11.16.1 | 6903740 | 05.15.02.1 | 6903351 |
| 05.08.23.1 | 6903498 | 05.11.17.1 | 6903741 | 05.15.03.1 | 6903352 |
| 05.08.24.1 | 6903499 | 05.13.01.1 | 6903177 | 05.15.04.1 | 6903353 |
| 05.09.01.1 | 6903330 | 05.13.02.1 | 6903178 | 05.15.05.1 | 6903354 |
| 05.09.02.1 | 6903331 | 05.13.03.1 | 6903179 | 05.15.06.1 | 6903355 |
| 05.09.03.1 | 6903332 | 05.13.04.1 | 6903180 | 05.15.07.1 | 6903356 |
| 05.09.04.1 | 6903333 | 05.13.05.1 | 6903181 | 05.15.08.1 | 6903357 |
| 05.09.05.1 | 6903334 | 05.13.06.1 | 6903182 | 05.15.09.1 | 6903358 |
| 05.09.06.1 | 6903335 | 05.13.07.1 | 6903183 | 05.15.10.1 | 6903359 |
| 05.09.07.1 | 6903336 | 05.13.08.1 | 6903184 | 05.15.11.1 | 6903360 |
| 05.09.08.1 | 6903337 | 05.13.09.1 | 6903185 | 05.15.12.1 | 6903361 |
| 05.09.09.1 | 6903338 | 05.13.10.1 | 6903186 | 05.15.13.1 | 6903362 |
| 05.09.10.1 | 6903339 | 05.13.11.1 | 6903187 | 05.15.14.1 | 6903363 |
| 05.09.11.1 | 6903340 | 05.13.12.1 | 6903188 | 05.15.15.1 | 6903364 |
| 05.09.12.1 | 6903341 | 05.13.13.1 | 6903189 | 05.15.16.1 | 6903365 |
| 05.09.13.1 | 6903342 | 05.13.14.1 | 6903190 | 05.15.17.1 | 6903366 |
| 05.09.14.1 | 6903343 | 05.13.15.1 | 6903191 | 05.15.18.1 | 6903367 |

Figure 10-1. PTC Automated Logic Diagrams (Sheet 2)

| Logic Page Number | Page Part Number | Logic Page Number | Page Part Number | Logic Page Number | Page Part Number |
|---|---|---|---|---|---|
| 05. 15. 19. 1 | 6903368 | 05. 20. 04. 1 | 6900353 | 05. 26. 06. 1 | 6903283 |
| 05. 15. 20. 1 | 6903369 | 05. 20. 05. 1 | 6900354 | 05. 26. 07. 1 | 6903284 |
| 05. 15. 21. 1 | 6903370 | 05. 20. 06. 1 | 6900355 | 05. 26. 08. 1 | 6903285 |
| 05. 15. 22. 1 | 6903371 | 05. 20. 07. 1 | 6900356 | 05. 26. 09. 1 | 6903286 |
| 05. 16. 01. 1 | 6903245 | 05. 20. 08. 1 | 6900357 | 05. 27. 01. 1 | 6903287 |
| 05. 16. 02. 1 | 6903246 | 05. 20. 09. 1 | 6900358 | 05. 27. 02. 1 | 6903288 |
| 05. 16. 03. 1 | 6903247 | 05. 20. 10. 1 | 6900359 | 05. 27. 03. 1 | 6903289 |
| 05. 16. 04. 1 | 6903248 | 05. 20. 11. 1 | 6900360 | 05. 27. 04. 1 | 6903290 |
| 05. 16. 05. 1 | 6903249 | 05. 20. 12. 1 | 6900361 | 05. 27. 05. 1 | 6903291 |
| 05. 16. 06. 1 | 6903250 | 05. 20. 13. 1 | 6900362 | 05. 27. 06. 1 | 6903292 |
| 05. 16. 07. 1 | 6903251 | 05. 20. 14. 1 | 6900363 | 05. 27. 07. 1 | 6903293 |
| 05. 16. 08. 1 | 6903252 | 05. 20. 15. 1 | 6900364 | 05. 27. 08. 1 | 6903294 |
| 05. 16. 09. 1 | 6903253 | 05. 20. 16. 1 | 6900365 | 05. 27. 09. 1 | 6903295 |
| 05. 16. 10. 1 | 6903254 | 05. 20. 17. 1 | 6900366 | 05. 27. 10. 1 | 6903296 |
| 05. 16. 11. 1 | 6903255 | 05. 20. 18. 1 | 6900367 | 05. 27. 11. 1 | 6903297 |
| 05. 16. 12. 1 | 6903256 | 05. 20. 19. 1 | 6900368 | 05. 27. 12. 1 | 6903298 |
| 05. 16. 13. 1 | 6903257 | 05. 20. 20. 1 | 6900369 | 05. 27. 13. 1 | 6903299 |
| 05. 16. 14. 1 | 6903258 | 05. 20. 21. 1 | 6900370 | 05. 27. 14. 1 | 6903300 |
| 05. 16. 15. 1 | 6903259 | 05. 20. 22. 1 | 6900371 | 05. 27. 15. 1 | 6903301 |
| 05. 16. 16. 1 | 6903260 | 05. 20. 23. 1 | 6900372 | 05. 27. 16. 1 | 6903302 |
| 05. 16. 17. 1 | 6903261 | 05. 20. 24. 1 | 6900373 | 05. 27. 17. 1 | 6903303 |
| 05. 16. 18. 1 | 6903262 | 05. 26. 01. 1 | 6903278 | 05. 28. 01. 1 | 6903274 |
| 05. 16. 19. 1 | 6903263 | 05. 26. 02. 1 | 6903279 | 05. 28. 02. 1 | 6903275 |
| 05. 20. 01. 1 | 6900350 | 05. 26. 03. 1 | 6903280 | 05. 28. 03. 1 | 6903276 |
| 05. 20. 02. 1 | 6900351 | 05. 26. 04. 1 | 6903281 | 05. 28. 04. 1 | 6903277 |
| 05. 20. 03. 1 | 6900352 | 05. 26. 05. 1 | 6903282 | | |

Figure 10-1. PTC Automated Logic Diagrams (Sheet 3)

| Gate Assembly | Page Part Number | "LN" Number | Number of Sheets |
|---|---|---|---|
| 01B1 | 6900328 | 05. 09. 00. 1 | 3 |
| 01B2 | 6900329 | 05. 10. 00. 1 | 2 |
| 01B3 | 6900330 | 05. 11. 00. 1 | 3 |
| 02A4 | 6903310 | 05. 26. 00. 1 | 2 |
| 02A5 | 6903311 | 05. 27. 00. 1 | 2 |
| 02A6 | 6903312 | 05. 28. 00. 1 | 2 |
| 02B1 | 6900331 | 05. 05. 00. 1 | 4 |
| 02B2 | 6900332 | 05. 06. 00. 1 | 3 |
| 02B3 | 6900333 | 05. 07. 00. 1 | 3 |
| 02B4 | 6900334 | 05. 08. 00. 1 | 2 |
| 02B5 | 6900335 | 05. 20. 00. 1 | 3 |
| 03B2 | 6900339 | 05. 02. 00. 1 | 2 |
| 03B3 | 6900340 | 05. 03. 00. 1 | 2 |
| 03B4 | 6900341 | 05. 04. 00. 1 | 2 |
| 03B5 | 6900342 | 05. 16. 00. 1 | 3 |
| 03B6 | 6900343 | 05. 15. 00. 1 | 2 |
| 03B7 | 6900344 | 05. 14. 00. 1 | 3 |
| 03B8 | 6900345 | 05. 13. 00. 1 | 1 |

Figure 10-2. PTC Circuit Card Location Charts

| Gate Assembly | Page Part Number | "LN" Number | Number of Sheets |
|---|---|---|---|
| 01B1 | 6900375 | 05. 09. 00. 2 | 3 |
| 01B2 | 6900376 | 05. 10. 00. 2 | 1 |
| 01B3 | 6900377 | 05. 11. 00. 2 | 2 |
| 02A4 | 6903313 | 05. 26. 00. 2 | 4 |
| 02A5 | 6903314 | 05. 27. 00. 2 | 3 |
| 02A6 | 6903315 | 05. 28. 00. 2 | 1 |
| 02B1 | 6900378 | 05. 05. 00. 2 | 4 |
| 02B2 | 6900379 | 05. 06. 00. 2 | 4 |
| 02B3 | 6900380 | 05. 07. 00. 2 | 4 |
| 02B4 | 6900381 | 05. 08. 00. 2 | 4 |
| 02B5 | 6900382 | 05. 20. 00. 2 | 3 |
| 03B2 | 6900386 | 05. 02. 00. 2 | 3 |
| 03B3 | 6900387 | 05. 03. 00. 2 | 5 |
| 03B4 | 6900388 | 05. 04. 00. 2 | 4 |
| 03B5 | 6900389 | 05. 16. 00. 2 | 4 |
| 03B6 | 6900390 | 05. 15. 00. 2 | 3 |
| 03B7 | 6900391 | 05. 14. 00. 2 | 4 |
| 03B8 | 6900392 | 05. 13. 00. 2 | 4 |

Figure 10-3. PTC Edge Connector Lists

10-13. AUTOMATED LOGIC DIAGRAMS (ALD's).

10-14. PAGE LAYOUT. Each ALD page contains page identification, edge information, logic blocks, connecting lines, and an area for comments. Figure 10-5 shows a typical logic page. Each page has a possible logic format of five blocks wide and nine blocks long, so logic blocks can occupy any of 45 possible positions.

10-15. PAGE IDENTIFICATION. As shown on figure 10-5, the following information appears at the top of each logic diagram page:

a. Page part number (1), used for ordering a specific page or series of pages.

b. Title (2), a description of the logic contained on the page.

c. Equipment name or code number (3).

d. Logic page (LN) number (4), a seven-digit number (05. xx. xx. x) assigned to the page. (Refer to paragraph 10-5 for the explanation of the seven digits in the LN number.)

10-16. SIGNAL LINES. All lines entering or leaving a logic page are labeled to correspond to the labeling on the logic page to which they interconnect. Lines enter on the left side of the page and leave on the right side of the page. If a line leaves a page and goes to several locations on another page, the line is usually distributed on the destination page and not the origin page. If a line leaves a page and goes to several other pages, it is shown as a branched line on the origin page.

10-17. EDGE INFORMATION. Data shown at the extreme left and extreme right of each page are called edge information. Edge information includes names of input and output signals, and numbers of the logic pages on which these signals also appear. The first line (and second line, if necessary) contains the signal name. The last line lists the number of the logic page on which the signal appears again. The logic page number is directly opposite the signal line.

10-18. EDGE CONNECTORS. When a signal or service wire enters or leaves a gate assembly, it may be routed through an edge connector. An edge connector is a modified SMS card whose contacts lead to an inter-chassis cable instead of to a printed circuit. An edge connector plugs into an SMS card receptacle exactly like a standard SMS card. An edge connector is so called because it is usually plugged into a receptacle near one edge of a gate assembly.

10-19. On ALD pages, a signal line connected to an edge connector is indicated by an asterisk or lozenger and a number or letter combination (for example, *2, *C, ⌑ ⊥, ⌑ F, ⊥ ⌑, etc) located on the entry or exit line. This notation refers to an entry in the table of edge connector locations and pin letters near the bottom of the ALD page.

10-20. Edge connector locations and pin letters are given in the standard SMS card location code. (See figure 10-5.) For example, *⊥ -- 0⊥A8A25A indicates that the signal line designated *⊥ (in the upper left corner of figure 10-5) is routed through the edge connector in frame 0⊥, gate assembly A8, column A, position 25, via pin A, of this edge connector.

h. Logic Block Location. Each ALD page is composed on a grid containing seven columns (designated 1 through 7, left to right) and nine rows A through H and J, top to bottom). A logic block may occupy any of the 45 locations in columns 2 through 6 (columns 1 and 7 are reserved for edge information); each location is designated by a two-character code designating the column and row.

10-22. COMMENTS. An area (5 on figure 10-5) at the bottom of each ALD page is reserved for comments. These comments usually indicate the designer(s) and the dates an numbers of the revisions that have been made to this ALD page.

10-23. CIRCUIT CARD LOCATION CHARTS.

10-24. The circuit card location charts (included with the ALD's) designate the SMS card (by type and IBM part number) used in each card location on the gate assemblies. These charts also indicate the total number of block configurations for that card and the ALD page(s) on which a logic block representing a circuit on that card is shown; each page entry indicates one logic block printed on that page.

10-25. EDGE CONNECTOR LISTS.

10-26. The edge connector lists (included with the ALD's) list the edge connectors for each SMS gate assembly, the signal present on each edge connector pin, and the ALD page (by LN number) on which the edge connector pin and signal are shown.

10-27. ASSEMBLY DRAWINGS.

10-28. The assembly drawings are provided to aid in the location of replaceable parts. Only the assembly drawings that are required for part replacement are included in this section.

NOTE

Many assembly drawings contain notes referring to IBM specifications; these notes are for manufacturing purposes only and should be disregarded for maintenance purposes.

## TABLE OF CONTENTS
## SIGNAL INTERFACE, PTC


| LOGIC SHEET | TITLE | PAGE |
|---|---|---|
| 04.00.01.0 | CE PANEL to MEMORY | 2 |
| 04.02.01.0 | ML & DD PANEL to 03B2 | 3 |
| 04.03.01.0 | ML & DD PANEL to 03B3 | 4 |
| 04.03.02.0 | ML & DD PANEL to 03B3, TR PANEL to 03B3 | 5 |
| 04.04.01.0 | 03B4 to I/O and PROCESSOR PANEL | 6 |
| 04.04.02.0 | 03B4 to CE PANEL | 7 |
| 04.05.01.0 | 01 to 02 FRAME | 8 |
| 04.05.02.0 | 01B1 to 02A4 | 9 |
| 04.06.01.0 | 02 FRAME to 01 FRAME and ADAPT I/O | 10 |
| 04.07.01.0 | 01 to 02 FRAME and CE PANEL | 11 |
| 04.07.02.0 | 02B3 to MEMORY | 12 |
| 04.08.01.0 | ADAPT I/O to 02B4 | 13 |
| 04.08.02.0 | ADAPT I/O to 02B4 | 14 |
| 04.08.03.0 | ADAPT I/O to 02B4 | 15 |
| 04.08.04.0 | ADAPT I/O to 02B4 | 16 |
| 04.08.05.0 | 01 to 02 FRAME | 17 |
| 04.09.01.0 | TYPEWRITER to 01B1 | 18 |
| 04.09.02.0 | CPU to 01B1 | 19 |
| 04.09.03.0 | 01B1 to SLFCK CONN | 20 |
| 04.09.04.0 | 01B1 to SLFCK CONN | 21 |
| 04.09.05.0 | 01B1 to SLFCK CONN | 22 |
| 04.09.06.0 | 01B1 to SLFCK CONN | 23 |
| 04.09.07.0 | 01B1 to SLFCK CONN | 24 |
| 04.10.01.0 | PLOTTER to 01B2 | 25 |
| 04.10.02.0 | CPU to 01B2 | 26 |
| 04.11.01.0 | 01B3 to 1443 PRINTER | 27 |
| 04.11.02.0 | 01 to 02 FRAME | 28 |
| 04.13.01.0 | CE PANEL to 03B8 | 29 |
| 04.13.03.0 | PROC. PANEL to 03B8 | 30 |
| 04.13.04.0 | PROC. PANEL to 03B8 | 31 |
| 04.13.05.0 | 03B8 to ADAPT I/O | 32 |
| 04.13.06.0 | 01 to 02 FRAME | 33 |
| 04.14.01.0 | ML & DD, CE, TR PANELS to 03B7 | 34 |
| 04.15.01.0 | ML & DD PANEL to 03B6, TR PANEL to 03B6 | 35 |
| 04.15.02.0 | 03B6 to CE PANEL | 36 |
| 04.16.01.0 | 03B5 to ML & DD PANEL | 37 |
| 04.16.02.0 | 03B5 to ML & DD PANEL | 38 |
| 04.20.01.0 | PROC. PANEL to 02B5 | 39 |
| 04.20.02.0 | PROC. PANEL to 02B5 | 40 |
| 04.20.03.0 | ADAPT I/O to 02B5 | 41 |
| 04.26.01.0 | 02A4 to MEMORY DIODE BD | 42 |
| 04.26.02.0 | 02A4 to MEMORY DIODE BD | 43 |
| 04.26.03.0 | 02A4 to MEMORY DIODE BD | 44 |
| 04.26.04.0 | 02A4 to MEMORY DIODE BD | 45 |
| 04.26.05.0 | 02A4 to 02B1 | 46 |
| 04.27.01.0 | 02A3 to 02A5 | 47 |
| 04.27.02.0 | 02A5 to 02A3 | 48 |
| 04.27.03.0 | 02A5 to CE PANEL | 49 |
| 04.27.04.0 | 02A5 to 02B3 | 50 |
| 04.28.01.0 | 02A6 to 02A3 | 51 |
| 04.28.02.0 | 02A6 to MEMORY | 52 |


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Figure 10-4. Signal Interface List (Sheet 1 of 52)

| FROM | | | | TO | | REFERENCE |
|---|---|---|---|---|---|---|
| PLUG | MATE | LOGIC SHEET | SIGNAL NAME | PLUG | MATE | LOGIC SHEET |
| 03P18- b | J2- b | 00. 04. 05. 1 | MBR SW 1 | 02P10- j | 02A3J2- j | 05. 27. 05. 1 |
| Z | Z | | 2 | k | k | 05. 27. 05. 1 |
| X | X | | 3 | m | m | 05. 27. 06. 1 |
| V | V | | 4 | n | n | 05. 27. 06. 1 |
| T | T | | 5 | p | p | 05. 27. 07. 1 |
| R | R | | 6 | q | q | 05. 27. 07. 1 |
| N | N | | 7 | r | r | 05. 27. 08. 1 |
| L | L | | 8 | s | s | 05. 27. 08. 1 |
| J | J | | 9 | t | t | 05. 27. 09. 1 |
| G | G | | 10 | u | u | 05. 27. 09. 1 |
| E | E | | 11 | v | v | 05. 27. 10. 1 |
| C | C | | 12 | w | w | 05. 27. 10. 1 |
| A | A | | 13 | x | x | 05. 27. 11. 1 |
| d | d | | PAR | y | y | 05. 27. 11. 1 |
| j | j | | SPARE | EE | EE | |
| k | k | | | FF | FF | |
| m | m | | | GG | GG | |
| n | n | | | HH | HH | |

LN 04. 00. 01. 0 6900505-REL (66118KR)

Figure 10-4. Signal Interface List (Sheet 2)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B2D01-A | 05.02.01.1 | CETRS IND | 02J6-t | 00.04.10.0 | P3 t |
| B | | *CEHOPC1 IND* | w | | w |
| C | 05.02.02.1 | CESS MBR IND | y | | y |
| D | 05.02.03.1 | CESER IND | v | | v |
| E | | CEAI3 IND | u | | u |
| F | 05.02.04.1 | CESS MSC IND | x | | x |
| G | 05.02.05.1 | CEDOAC IND | z | | z |
| H | | CEBR14 IND | AA | | AA |
| 03B2D01-K | 05.02.06.1 | TRCP ERR IND | 02J6-s | 00.04.10.0 | P3 s |
| L | 05.02.23.1 | SS MDR SYL0 IND | A | 00.04.10.3 | A |
| M | | SS MDR SYL1 IND | B | | B |
| N | | SS MDR IS1 IND | C | | C |
| P | | SS MDR IS2 IND | D | | D |
| Q | | SS MDR IS3 | E | | E |
| R | | SS MDR IS4 IND | F | | F |
| 03B2E01-A | 05.02.22.1 | DTDR SIGN IND | 02J6-PP | 00.04.10.1 | P3 PP |
| B | | B1 | R | | R |
| C | | B2 | S | | S |
| D | | B3 | T | | T |
| E | | B4 | U | | U |
| F | | B5 | V | | V |
| G | | B6 | W | | W |
| H | | B7 | X | | X |
| J | | B8 | Y | | Y |
| K | | B9 | Z | | Z |
| L | | B10 | a | | a |
| M | | B11 | b | | b |
| N | | B12 | c | | c |
| P | | B13 | d | | d |
| Q | | B14 | e | | e |
| R | | B15 | f | | f |
| 03B2E02-A | 05.02.22.1 | DTDR B16 IND | 02J6-g | 00.04.10.1 | P3 g |
| B | | B17 | h | | h |
| C | | B18 | i | | i |
| D | | B19 | j | | j |
| E | | B20 | k | | k |
| F | | B21 | m | | m |
| G | | B22 | n | | n |
| H | | B23 | p | | p |
| J | | B24 | q | | q |
| K | | B25 | r | | r |
| L | | SSMDR DS1 IND | J | 00.04.10.2 | J |
| M | | DS2 | K | | K |
| N | | DS3 | L | | L |
| P | | DS4 | M | | M |
| Q | | IA IM0 IND | G | 00.04.10.3 | G |
| R | | IA IM1 IND | H | 00.04.10.3 | H |
| 03B2F01-A | 05.02.23.1 | SSMDR DA DM0 IND | 02J6-N | 00.04.10.2 | P3 N |
| B | | SSMDR DA DM1 IND | P | 00.04.10.2 | P |
| C | 05.02.14.1 | SW A13 IA | FF | 00.04.10.0 | FF |
| D | | SW A13 DATA | EE | | EE |
| E | | SW TRS | DD | | DD |
| F | 05.02.06.1 | INV ERR 1 IND | BB | | BB |
| G | | INV ERR 2 IND | CC | | CC |
| H | 05.02.05.1 | SW LAMP TEST 2 | GG | | GG |



Figure 10-4. Signal Interface List (Sheet 3)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B3D01-A | 05.03.08.1 | IA A1 IND | 02J7-R | 00.04.10.3 | P4-R |
| B | | IA A2 IND | S | | S |
| C | | IA A3 IND | T | | T |
| D | | IA A4 IND | U | | U |
| E | | IA A5 IND | V | | V |
| F | | IA A6 IND | W | | W |
| G | | IA A7 IND | X | | X |
| H | | IA A8 IND | Y | | Y |
| J | 05.03.19.1 | SW OP1 | d | 00.04.10.2 | d |
| K | | SW OP2 | c | | c |
| L | | SW OP3 | b | | b |
| M | | SW OP4 | a | | a |
| 03B3E01-A | 04.03.08.1 | INS OA1 IND | 02J8-C | 00.04.10.2 | P5-C |
| B | | INS OA2 IND | D | | D |
| C | | INS OA3 IND | E | | E |
| D | | INS OA4 IND | F | | F |
| E | | INS OA5 IND | G | | G |
| F | | INS OA6 IND | H | | H |
| G | | INS OA7 IND | J | | J |
| H | | INS OA8 IND | K | | K |
| J | | INS OA9 IND | L | | L |
| K | 05.03.16.1 | SW CD RST NOT | y | 00.04.10.0 | y |
| L | 05.03.18.1 | SYL O BR IND | u | | w |
| M | | SYL 1 BR IND | v | | v |
| N | 05.03.08.1 | INS OP1 IND | M | 00.04.10.2 | M |
| P | | INS OP2 IND | N | | N |
| Q | | INS OP3 IND | P | | P |
| R | | INS OP4 IND | R | | R |
| 03B3E02-A | 05.03.19.1 | SW DS4 | 02J7-p | 00.04.10.2 | P4-p |
| B | | DS3 | q | | q |
| C | | DS2 | r | | r |
| D | | DS1 | s | | s |
| E | | OA1 | h | | h |
| F | | OA2 | m | | m |
| G | | OA3 | k | | k |
| H | 05.03.20.1 | OA4 | j | | j |
| J | 05.03.19.1 | OA5 | i | | i |
| K | | OA6 | h | | h |
| L | | OA7 | g | | g |
| M | | OA8 | f | | f |
| N | | OA9 | e | | e |
| P | | DA MM | Z | | Z |
| 03B3F01-A | 05.03.22.1 | SW SYL | 02J7-P | 00.04.10.3 | P4-P |
| B | | IS4 | N | | N |
| C | | IS3 | M | | M |
| D | | IS2 | L | | L |
| E | | IS1 | K | | K |
| F | | A8 | B | | B |
| G | | A7 | C | | C |
| H | | A6 | D | | D |
| J | | A5 | E | | E |
| K | | A4 | F | | F |
| L | | A3 | G | | G |
| M | | A2 | H | | H |
| N | | A1 | J | | J |
| P | | IA MM | A | | A |



Figure 10-4. Signal Interface List (Sheet 4)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B3F02-A | 05.03.20.1 | SW B1 | 02J8-s | 00.04.10.1 | P5-s |
| B | | B2 | r | | r |
| C | | B3 | q | | q |
| D | | B4 | p | | p |
| E | | B5 | n | | n |
| F | | B6 | m | | m |
| G | | B7 | k | | k |
| H | | B8 | j | | j |
| J | | B9 | i | | i |
| K | | B10 | h | | h |
| L | | B11 | g | | g |
| M | | B12 | f | | f |
| N | | B13 | e | | e |
| P | | B14 | d | | d |
| Q | | B15 | c | | c |
| R | 05.03.21.1 | B16 | b | | b |
| 03B3F03-A | | B17 | a | | a |
| B | | B18 | Z | | Z |
| C | | B19 | Y | | Y |
| D | | B20 | X | | X |
| E | | B21 | W | | W |
| F | | B22 | V | | V |
| G | | B23 | U | | U |
| H | | B24 | T | | T |
| J | | B25 | S | | S |
| K | 05.03.19.1 | SIGN | t | | t |
| L | 05.03.15.1 | SW CD RST | x | 00.04.10.0 | x |
| N | 05.03.14.1 | SW RPT PRG CYC | z | | z |
| P | | SW SING STEP MODE | AA | | AA |
| Q | | SW ADR HOLD MODE | BB | | BB |
| R | 05.03.16.1 | SW SINGLE DIS | CC | | CC |
| 03B3F04-A | 05.03.21.1 | SW TAA DR1 | 03J10-FF | 00.04.01.1 | P2-FF |
| B | | SW TAA DR2 | b | | b |
| C | | SW TAA DR3 | d | | d |
| D | | SW TAA DR4 | f | | f |
| E | | SW TAA DR5 | h | | h |
| 03B3E03-A | 05.03.18.1 | INS BR PB IND 1 | 02J8-A | 00.04.10.2 | P5-A |
| B | 05.03.18.1 | INS BR PB IND 2 | 02J8-B | 00.04.10.2 | B |
| C | | | | | |
| D | | | | | |
| E | | | | | |
| F | | | | | |
| G | | | | | |
| H | | | | | |
| J | | | | | |
| K | | | | | |
| L | | | | | |
| M | 05.03.08.1 | SW LAMP TEST 2 | 02J8-w | 00.04.10.0 | P5-w |
| N | | | | | |
| P | | | | | |
| Q | | | | | |
| R | | | | | |



Figure 10-4. Signal Interface List (Sheet 5)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B4A01-A | 05.04.10.1 | DISCR OUT 1 | Twisted Pair | 00.04.52.0 | 9009J3-H |
| | | SIG RET | | | J |
| B | | DISCR OUT 2 | | | K |
| | | SIG RET | | | L |
| C | 05.04.09.1 | DISCR OUT 3 | | | M |
| | | SIG RET | | | N |
| D | | DISCR OUT 4 | | | P |
| | | SIG RET | | | R |
| E | | DISCR OUT 5 | | | S |
| | | SIG RET | | | T |
| F | | DISCR OUT 6 | | | U |
| | | SIG RET | | | V |
| J | See Note | | | | |
| 03B4D04-C | 05.04.01.1 | PBN | | | Y |
| | | SIG RET | | | Z |
| D | 05.04.02.1 | W | | | a |
| | | SIG RET | | | b |
| G | 05.04.14.1 | ACGACISS | | 00.04.53.0 | 9009J4-b |
| | | SIG RET | | | c |
| E | 05.04.04.1 | CLDIS | | | Z |
| 03W1A16 | 00.03.60.1 | CLDISG | | | a |
| 03TB2-3 | 00.03.40.0 | EOSTV | | | A |
| 03TB2-6 | | EOSTVR | | | B |
| 03W1A-17 | 00.03.60.1 | TESPG | | | q |
| 03W1A-18 | | TESPG | | | r |
| 02TB01-01 | 00.03.40.0 | EOSW | | | s |
| 02TB01-02 | | EOSWN | | | t |
| 02TB01-03 | | EOHI | | | u |
| 02TB02-06 | | EO RET | | | v |
| 03TB04-14 | | CHASSIS | | | 9009J4-PP |
| 03B4C04-A | 05.04.07.1 | P40 IND | 02J19- s | 00.04.15.2 | P4-s |
| B | | P20 | u | | u |
| C | | P10 | w | | w |
| D | 05.04.08.1 | P4 | y | | y |
| E | | P2 | AA | | AA |
| F | | P1 | CC | | CC |
| G | 05.04.09.1 | D6 | r | | r |
| H | | D5 | t | | t |
| J | | D4 | v | | v |
| K | | D3 | x | | x |
| L | 05.04.10.1 | D2 | z | | z |
| M | | D1 | BB | | BB |
| N | 05.04.12.1 | CST SW | i | | i |
| P | 05.04.11.1 | HALT SW ON | p | | p |
| Q | | HALT SW OFF | q | | q |
| R | 05.04.12.1 | ERROR HOLD SW | m | 00.04.15.1 | m |
| 03B4D01-D | 05.04.01.1 | MACH RST SW | 02J19- n | 00.04.15.2 | P4-n |
| 03B4A02-B | | MACH RST RLY | 03TB3-17 | 00.03.60.0 | 03P13-J |
| 03B4A04-A | 05.04.13.1 | PR ADV ON | 02J19- k | 00.04.15.2 | P4-k |
| B | | PR ADV OFF | EE | | EE |



Figure 10-4. Signal Interface List (Sheet 6)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B4B04-A | 05.04.05.1 | SW BG 1 | 03P19-p | 00.04.05.2 | J3-p |
| B | | 2 | n | | n |
| C | | 3 | m | | m |
| D | | 4 | k | | k |
| E | | 5 | j | | j |
| F | | 6 | i | | i |
| G | | 7 | h | | h |
| H | | 8 | g | | g |
| J | | 9 | f | | f |
| K | | 10 | e | | e |
| L | | 11 | d | | d |
| M | | 12 | c | | c |
| N | | 13 | b | | b |
| P | | 14 | a | | a |
| Q | 05.04.06.1 | SW ALL PHASE | u | | u |
| R | | SW ALL BG | q | | q |
| 03B4B03-A | 05.04.06.1 | SW PA | 03P19-t | 00.04.05.2 | J3-t |
| B | | PB | s | | s |
| C | | PC | r | | r |
| D | | CCW | w | | w |
| E | | CCX | x | | x |
| F | | CCY | y | | y |
| G | | CCZ | z | | z |
| H | | SCOPE SYNC | BB | | BB |
| J | | SW ALL CLOCKS | v | | v |
| K | 05.04.13.1 | CE ADV ON | DD | | DD |
| L | | CE ADV OFF | CC | | CC |
| M | | REM ADV ON | Z | | Z |
| N | | REM ADV OFF | Y | | Y |
| P | | SINGLE PHASE SW | V | | V |
| Q | | SINGLE BIT SW | W | | W |
| R | | NORMAL MODE | X | | X |
| 03B4B02-A | 05.04.16.1 | BG 1 IND | 03P19-E | 00.04.05.1 | J3-E |
| B | | 2 | G | | G |
| C | | 3 | J | | J |
| D | | 4 | L | | L |
| E | | 5 | N | | N |
| F | | 6 | R | | R |
| G | | 7 | T | | T |
| H | | 8 | D | | D |
| J | | 9 | F | | F |
| K | | 10 | H | | H |
| L | | 11 | K | | K |
| M | | 12 | M | | M |
| N | | 13 | P | | P |
| P | | 14 | S | | S |
| Q | | LAMP TEST CE 1 | AA | | AA |
| R | | | | | |
| 03B4A03-A | 05.04.16.1 | PA IND | 03P19-A | 00.04.05.1 | J3-A |
| B | | PB IND | B | | B |
| C | | PC IND | C | | C |
| D | 05.04.13.1 | SINGLE INST SW | U | | U |

| | | | JACK | MATE | REFERENCE LOGIC SHEET |
|---|---|---|---|---|---|
| 03B4A02-A | 05.04.01.1 | -Y MACH RST | 02J12-q | 01P15-q | 05.11.07.1 |
| 03B4E03-A | 05.04.12.1 | +Y MACH RST | 02J13-N | 01P16-N | 05.09.07.1 |
| 03B4E03-B | 05.04.01.1 | CIO 224 | 02J13-J | 01P1[illegible] | 05.09.13.1 |



Figure 10-4. Signal Interface List (Sheet 7)

| FROM | | | TO | | REFERENCE |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | JACK | MATE | LOGIC SHEET |
| 02B1A04-A | 05.05.25.1 | BG8 | 02J12-n | 01P15-n | 05.11.06.1 |
| B | 05.05.26.1 | BG9 | p | p | |
| C | 05.05.26.1 | BG10 | m | m | |
| D | | SPARE | u | u | |
| E | | SPARE | v | v | |
| 02B1D03-A | 05.05.24.1 | BG1 | 02J13-C | 01P16-C | 05.09.01.1 |
| B | 05.05.24.1 | BG2 | D | D | 05.09.01.1 |
| C | 05.05.24.1 | BG3 | E | E | 05.09.02.1 |
| D | | SPARE | b | b | |
| E | | SPARE | c | c | |
| 02B1D04-A | 05.05.25.1 | BG6 | 02J13-W | 01P16-W | 05.10.01.1 |
| B | 05.05.26.1 | BG12 | Y | Y | 05.10.01.1 |
| C | | SPARE | h | h | |
| D | | SPARE | i | i | |



Figure 10-4. Signal Interface List (Sheet 8)

| FROM | | | TO | | REFERENCE | |
|---|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | PLUG | MATE | LOGIC SHEET | |
| 02B1E03-A | 05.05.15.1 | RD DLY 2.25 A | 02P13-C | 02A3J4-C | 05.27.03.1 | |
| B | 05.05.15.1 | RD DLY 1.75 A | K | K | | |
| C | 05.05.14.1 | INHIBIT GATE A | E | E | | |
| D | 05.05.16.1 | RD & WR DLY 0.75 A | A | A | 05.27.01.1 | |
| E | 05.05.16.1 | RD & WR DLY 2.75 A | D | D | | |
| F | 05.05.15.1 | PTC READ GATE A | H | H | | |
| G | 05.05.15.1 | PTC WRITE GATE A | J | J | | |
| H | 05.05.16.1 | RD & WR DLY 12.5 A | B | B | | |
| J | 05.05.05.1 | SYL 1 | 02P10-f | 02A3J2-f | 05.27.01.1 | 05.27.02.1 |
| K | 05.05.20.1 | MAR 5 READ | b | b | | |
| L | 05.05.20.1 | MAR 5 NOT READ | c | c | | |
| M | 05.05.01.1 | STROBE A INH | 02P13-N | 02A3J4-N | 05.27.03.1 | |
| N | | SPARE | 02P10-d | 02A3J2-d | | |
| Q | | | 02P13-R | 02A3J4-R | | |
| R | | | 02P13-S | 02A3J4-S | | |
| 02B1E04-A | 05.05.19.1 | RD DLY 2.25 B | 02P14-C | 02A3J5-C | 05.27.04.1 | |
| B | 05.05.19.1 | RD DLY 1.75 B | K | K | | |
| C | 05.05.17.1 | INHIBIT GATE B | E | E | | |
| D | 05.05.18.1 | RD & WR DLY 0.75 B | A | A | 05.27.02.1 | |
| E | 05.05.18.1 | RD & WR DLY 2.75 B | D | D | | |
| F | 05.05.19.1 | PTC READ GATE B | H | H | | |
| G | 05.05.19.1 | PTC WRITE GATE B | J | J | | |
| H | 05.05.18.1 | RD & WR DLY 1.25 B | B | B | | |
| J | | SPARE | P | P | | |
| K | 05.05.01.1 | STROBE B INH | N | N | 05.27.04.1 | |
| L | | SPARE | R | R | | |
| M | | SPARE | S | S | | |
| 02B1F02-A | 05.05.09.1 | MAR 1 | 02P10-A | 02A3J2-A | 05.26.02.1 | 05.26.06.1 |
| B | 05.05.09.1 | 1 NOT | N | N | | |
| C | 05.05.10.1 | 3 NOT | R | R | | |
| D | | 2 NOT | P | P | | |
| E | | 2 | B | B | | |
| F | | 3 | C | C | | |
| G | | 4 NOT | S | S | 05.26.03.1 | 05.26.07.1 |
| H | | 5 NOT | T | T | | |
| J | 05.05.11.1 | 6 NOT | U | U | | |
| K | 05.05.10.1 | 4 | D | D | | |
| L | 05.05.10.1 | 5 | E | E | | |
| M | 05.05.11.1 | 6 | F | F | | |
| N | | 7 NOT | V | V | 05.26.04.1 | 05.26.08.1 |
| P | | 8 NOT | W | W | | |
| Q | 05.05.08.1 | 9 NOT | X | X | | |
| R | 05.05.11.1 | 7 | G | G | | |
| 02B1F03-A | 05.05.11.1 | MAR 8 | 02P10-H | 02A3J2-H | 05.26.04.1 | 05.26.08.1 |
| B | 05.05.08.1 | 9 | J | J | | |
| C | 05.05.08.1 | 10 NOT | Y | Y | 05.26.05.1 | 05.26.09.1 |
| D | 05.05.06.1 | 11 NOT | Z | Z | | |
| E | 05.05.07.1 | 10 | K | K | | |
| F | 05.05.06.1 | 12 NOT | a | a | | |
| G | 05.05.07.1 | 11 | L | L | | |
| H | 05.05.07.1 | 12 | M | M | | |



Figure 10-4. Signal Interface List (Sheet 9)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 02B2A01-A | 05.06.32.1 | PTC - AI3 | Twisted Pair | 00.04.52.0 | 9009J3- e |
| 02B2A01-B | | SIG RET | | | J3- f |
| | | | JACK | MATE | REFERENCE LOGIC SHEET |
| 02B2D02-A | 05.06.08.1 | PCB | 02J13- X | 01P16- X | 05.10.01.1 |
| 02B2E01-A | 05.06.08.1 | PA-A | 02J13- A | 01P16- A | 05.09.01.1 |
| B | 05.06.08.1 | PB-A | B | B | 05.09.01.1 |
| C | 05.06.05.1 | CPZ-B | F | F | 05.09.02.1 |
| E | | SPARE | a | a | |

LN 04.06.01.0 6900505-REL (66118KR)

Figure 10-4. Signal Interface List (Sheet 10)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 02B3D04-A | 05.07.27.1 | BIT 1 IND | 03P18-c | 00.04.05.1 | J2-c |
| B | | 2 | a | | a |
| C | | 3 | Y | | Y |
| D | | 4 | W | | W |
| E | | 5 | U | | U |
| F | | 6 | S | | S |
| G | | 7 | P | | P |
| H | | 8 | M | | M |
| J | | 9 | K | | K |
| K | | 10 | H | | H |
| L | | 11 | F | | F |
| M | | 12 | D | | D |
| N | | 13 | B | | B |
| P | | 14 | e | | e |
| Q | | LAMP TEST CE 2 | g | | g |
| 02B3C01-A | 05.07.24.1 | MEM LOAD SW | 03P18-f | 00.04.05.1 | J2-f |
| 02B3F05-A | 05.07.03.1 | CIO DATA | Twisted Pair | 00.04.52.0 | 9009J3-c |
| | | SIG RET | | 00.04.52.0 | 9009J3-d |
| B | 05.07.04.1 | PIO DATA | | 00.04.55.0 | 9009J6-P |
| | | SIG RET | | 00.04.55.0 | 9009J6-R |
| C | 05.07.16.1 | PTRS | | 00.04.54.0 | 9009J5-F |
| | | SIG RET | | 00.04.54.0 | 9009J5-G |

| | | | TO | | REFERENCE |
|---|---|---|---|---|---|
| | | | JACK | MATE | LOGIC |
| 02B3A02-A | | CIO | 02J13-M | 01P16-M | 05.09.01.1 |
| 02B3F01-A | | PRS | 02J12-h | 01P15-h | 05.11.01.1 |
| B | | SPARE | w | w | |
| C | | | x | x | |
| D | | | y | y | |



Figure 10-4. Signal Interface List (Sheet 11)

| FROM | | | TO | | REFERENCE |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | PLUG | MATE | LOGIC SHEET |
| 02B3E04-A | 05.07.24.1 | NT MBR 1 | 02P12- P | 02A3J3- P | 05.27.05.1 |
| B | 05.07.26.1 | MBR 1 | A | A | |
| C | 05.07.26.1 | MBR 2 | B | B | |
| D | 05.07.24.1 | NT MBR 2 | R | R | |
| E | 05.07.24.1 | NT MBR 3 | S | S | 05.27.06.1 |
| F | 05.07.26.1 | MBR 3 | C | C | |
| G | 05.07.26.1 | MBR 4 | D | D | |
| H | 05.07.24.1 | NT MBR 4 | T | T | |
| J | 05.07.24.1 | NT MBR 5 | U | U | 05.27.07.1 |
| K | 05.07.26.1 | MBR 5 | E | E | |
| L | 05.07.26.1 | MBR 6 | F | F | |
| M | 05.07.24.1 | NT MBR 6 | V | V | |
| N | 05.07.25.1 | NT MBR 7 | W | W | 05.27.08.1 |
| P | 05.07.26.1 | MBR 7 | G | G | |
| Q | 05.07.26.1 | MBR 8 | H | H | |
| R | 05.07.25.1 | NT MBR 8 | X | X | |
| 02B3F04-A | 05.07.25.1 | NT MBR 9 | 02P12- Y | 02A3J3- Y | 05.27.09.1 |
| F | 05.07.26.1 | MBR 9 | J | J | |
| C | 05.07.26.1 | MBR 10 | K | K | |
| D | 05.07.25.1 | NT MBR 10 | Z | Z | |
| E | 05.07.25.1 | NT MBR 11 | a | a | 05.27.10.1 |
| F | 05.07.26.1 | MBR 11 | ! | L | |
| F | 05.07.26.1 | MBR 12 | M | M | |
| H | 05.07.25.1 | NT MBR 12 | b | b | |
| J | 05.07.25.1 | NT MBR 13 | c | c | 05.27.11.1 |
| K | 05.07.26.1 | MBR 13 | N | N | |
| L | 05.07.26.1 | MBR 14 | d | d | |
| M | 05.07.25.1 | NT MBR 14 | e | e | |
| N | 05.07.08.1 | CBR 1 | 02P10- h | 02A3J2- h | 05.27.05.1 05.27.06.1<br>05.27.07.1 05.27.08.1 |
| P | 05.07.08.1 | CBR 2 | i | i | 05.27.09.1 05.27.10.1<br>05.27.11.1 |
| Q | 05.07.24.1 | SET MBR 1 | z | z | 05.27.05.1 05.27.06.1<br>05.27.07.1 05.27.08.1 |
| R | 05.07.24.1 | SET MBR 2 | AA | AA | 05.27.09.1 05.27.10.1<br>05.27.11.1 |



Figure 10-4. Signal Interface List (Sheet 12)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 02B4A04-A | 05.08.14.1 | CIO 001 | Twisted Pair | 00.04.50.0 | 9009J1-K |
| | | SIG RET | | | L |
| B | 05.08.10.1 | CIO 002 | | | M |
| | | SIG RET | | | N |
| C | 05.08.14.1 | CIO 005 | | | P |
| | | SIG RET | | | R |
| D | 05.08.10.1 | CIO 006 | | | S |
| | | SIG RET | | | T |
| E | 05.08.14.1 | CIO 011 | | | U |
| | | SIG RET | | | V |
| F | 05.08.10.1 | CIO 012 | | | W |
| | | SIG RET | | | X |
| G | 05.08.14.1 | CIO 015 | | | Y |
| | | SIG RET | | | Z |
| H | 05.08.10.1 | CIO 016 | | | a |
| | | SIG RET | | | b |
| J | See Note I. | | | | |
| K | 05.08.14.1 | CIO 021 | | | c |
| | | SIG RET | | | d |
| L | 05.08.10.1 | CIO 022 | | | e |
| | | SIG RET | | | f |
| M | 05.08.14.1 | CIO 025 | | | g |
| | | SIG RET | | | h |
| N | 05.08.10.1 | CIO 026 | | | i |
| | | SIG RET | | | j |
| P | 05.08.14.1 | CIO 031 | | | k |
| | | SIG RET | | | m |
| Q | 05.08.10.1 | CIO 032 | | | n |
| | | SIG RET | | | p |
| R | 05.08.14.1 | CIO 035 | | | q |
| | | SIG RET | | | r |
| 02B4B04-A | 05.08.10.1 | CIO 036 | Twisted Pair | 00.04.50.0 | 9009J1-s |
| | | SIG RET | | | t |
| B | 05.08.14.1 | CIO 041 | | | u |
| | | SIG RET | | | v |
| C | 05.08.10.1 | CIO 042 | | | w |
| | | SIG RET | | | x |
| D | 05.08.15.1 | CIO 045 | | | y |
| | | SIG RET | | | z |
| E | 05.08.11.1 | CIO 046 | | | AA |
| | | SIG RET | | | BB |
| F | 05.08.15.1 | CIO 051 | | | CC |
| | | SIG RET | | | DD |
| G | 05.08.11.1 | CIO 052 | | | EE |
| | | SIG RET | | | FF |
| H | 05.08.15.1 | CIO 055 | | | GG |
| | | SIG RET | | | HH |
| J | See Note I. | | | | |
| K | 05.08.11.1 | CIO 056 | | | JJ |
| | | SIG RET | | | KK |
| L | 05.08.15.1 | CIO 061 | | | LL |
| | | SIG RET | | | MM |
| | | BLANK | | | NN |
| 03TB04- 13 | 00.03.60.0 | CHASSIS | | | PP |



Figure 10-4. Signal Interface List (Sheet 13)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 02B4C04-A | 05.08.11.1 | CIO 062 | Twisted Pair | 00.04.51.0 | 9009J2- F |
| | | SIG RET | | | G |
| B | 05.08.15.1 | CIO 065 | | | H |
| | | SIG RET | | | J |
| C | 05.08.11.1 | CIO 066 | | | K |
| | | SIG RET | | | L |
| D | 05.08.15.1 | CIO 071 | | | M |
| | | SIG RET | | | N |
| E | 05.08.11.1 | CIO 072 | | | P |
| | | SIG RET | | | R |
| F | 05.08.15.1 | CIO 075 | | | S |
| | | SIG RET | | | T |
| G | 05.08.11.1 | CIO 076 | | | U |
| | | SIG RET | | | V |
| H | 05.08.15.1 | CIO 101 | | | W |
| | | SIG RET | | | X |
| J | See Note I | | | | |
| K | 05.08.11.1 | CIO 102 | | | Y |
| | | SIG RET | | | Z |
| L | 05.08.15.1 | CIO 105 | | | a |
| | | SIG RET | | | b |
| M | 05.08.11.1 | CIO 106 | | | c |
| | | SIG RET | | | d |
| N | 05.08.16.1 | CIO 111 | | | e |
| | | SIG RET | | | f |
| P | 05.08.12.1 | CIO 112 | | | g |
| | | SIG RET | | | h |
| Q | 05.08.16.1 | CIO 115 | | | i |
| | | SIG RET | | | j |
| R | 05.08.12.1 | CIO 116 | | | k |
| | | SIG RET | | | m |
| 02B4D04-A | 05.08.16.1 | CIO 121 | Twisted Pair | 00.04.51.0 | 9009J2- n |
| | | SIG RET | | | p |
| B | 05.08.12.1 | CIO 122 | | | q |
| | | SIG RET | | | r |
| C | 05.08.16.1 | CIO 125 | | | s |
| | | SIG RET | | | t |
| D | 05.08.12.1 | CIO 126 | | | u |
| | | SIG RET | | | v |
| E | 05.08.16.1 | CIO 131 | | | w |
| | | SIG RET | | | x |
| F | 05.08.12.1 | CIO 132 | | | y |
| | | SIG RET | | | z |
| G | 05.08.16.1 | CIO 135 | | | AA |
| | | SIG RET | | | BB |
| H | 05.08.12.1 | CIO 136 | | | CC |
| | | SIG RET | | | DD |
| J | See Note I | | | | |
| K | 05.08.16.1 | CIO 141 | | | EE |
| | | SIG RET | | | FF |
| L | 05.08.12.1 | CIO 142 | | | GG |
| | | SIG RET | | | HH |
| M | 05.08.16.1 | CIO 145 | | | JJ |
| | | SIG RET | | | KK |
| N | 05.08.16.1 | CIO 146 | | | LL |
| | | SIG RET | | | MM |
| | | BLANK | | | NN |
| 03TB04- 13 | 00.03.60.0 | CHASSIS | | | PP |
| 03W1A- 14 | 00.03.60.3 | TESPG | | | D |
| 03W1A- 15 | 00.03.60.3 | TESPG | | | E |



Figure 10-4. Signal Interface List (Sheet 14)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 02B4E04-A | 05.08.12.1 | CIO 146 | Twisted | 00.04.55.0 | 9009J6-S |
| | | SIG RET | Pair | | T |
| B | | CIO 152 | | | U |
| | | SIG RET | | | V |
| C | 05.08.13.1 | CIO 156 | | | W |
| | | SIG RET | | | X |
| D | | CIO 162 | | | Y |
| | | SIG RET | | | Z |
| E | | CIO 166 | | | a |
| | | SIG RET | | | b |
| F | | CIO 172 | | | c |
| | | SIG RET | | | d |
| G | | CIO 176 | | | e |
| | | SIG RET | | | f |
| H | | CIO 202 | | | g |
| | | SIG RET | | | h |
| J | See Note | | | | |
| K | 05.08.13.1 | CIO 206 | | | i |
| | | SIG RET | | | j |
| L | | CIO 212 | | | k |
| | | SIG RET | | | m |
| M | | CIO 216 | | | n |
| | | SIG RET | | | p |
| N | 05.08.17.1 | A1 PTC | | | q |
| | | SIG RET | | | r |
| P | | A2 PTC | | | s |
| | | SIG RET | | | t |
| Q | | A3 PTC | | | u |
| | | SIG RET | | | v |
| R | | A4 PTC | | | w |
| | | SIG RET | | | x |
| 02B4F04-A | 05.08.17.1 | A5 PTC | Twisted | 00.04.55.0 | 9009J6-y |
| | | SIG RET | Pair | | z |
| B | | A6 PTC | | | AA |
| | | SIG RET | | | BB |
| C | | A7 PTC | | | CC |
| | | SIG RET | | | DD |
| D | | A8 PTC | | | EE |
| | | SIG RET | | | FF |
| E | | A9 PTC | | | GG |
| | | SIG RET | | | HH |
| F | | CIO PTC | | | JJ |
| | | SIG RET | | | KK |
| G | | PIO PTC | | | LL |
| | | SIG RET | | | MM |
| J | See Note | | | | |
| 02B4A03-A | 05.08.17.1 | ACNCST | Twisted | 00.04.53.0 | 9009J4-g |
| | | SIG RET | Pair | | h |
| B | | PTC CST | | | LL |
| | | SIG RET | | | MM |
| C | | ACNCCST | | | e |
| | | SIG RET | | | f |
| J | See Note | | | | |
| | | BLANK | | | NN |
| 03TB04- 15 | 00.03.60.0 | CHASSIS | | | PP |



Figure 10-4. Signal Interface List (Sheet 15)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 02B4F03-A | 05.08.18.1 | ACC BIT SIGN | Twisted Pair | 00.04.54.0 | 9009J5- H |
| | | SIG RET | | | J |
| B | | ACC BIT 1 | | | K |
| | | SIG RET | | | L |
| C | | ACC BIT 2 | | | M |
| | | SIG RET | | | N |
| D | | ACC BIT 3 | | | P |
| | | SIG RET | | | R |
| E | 05.08.19.1 | ACC BIT 4 | | | S |
| | | SIG RET | | | T |
| F | | ACC BIT 5 | | | U |
| | | SIG RET | | | V |
| G | | ACC BIT 6 | | | W |
| | | SIG RET | | | X |
| H | | ACC BIT 7 | | | Y |
| | | SIG RET | | | Z |
| J | See Note | | | | |
| K | 05.08.20.1 | ACC BIT 8 | | | a |
| | | SIG RET | | | b |
| L | | ACC BIT 9 | | | c |
| | | SIG RET | | | d |
| M | | ACC BIT 10 | | | e |
| | | SIG RET | | | f |
| N | | ACC BIT 11 | | | g |
| | | SIG RET | | | h |
| P | | | | | |
| Q | | | | | |
| R | | | | | |
| 02B4D03-A | 05.08.21.1 | ACC BIT 12 | Twisted Pair | 00.04.54.0 | 9009J5- i |
| | | SIG RET | | | j |
| B | | ACC BIT 13 | | | k |
| | | SIG RET | | | m |
| C | | ACC BIT 14 | | | n |
| | | SIG RET | | | p |
| D | | ACC BIT 15 | | | q |
| | | SIG RET | | | r |
| E | 05.08.22.1 | ACC BIT 16 | | | s |
| | | SIG RET | | | t |
| F | | ACC BIT 17 | | | u |
| | | SIG RET | | | v |
| G | | ACC BIT 18 | | | w |
| | | SIG RET | | | x |
| H | | ACC BIT 19 | | | y |
| | | SIG RET | | | z |
| J | See Note | | | | |
| K | 05.08.23.1 | ACC BIT 20 | | | AA |
| | | SIG RET | | | BB |
| L | | ACC BIT 21 | | | CC |
| | | SIG RET | | | DD |
| M | | ACC BIT 22 | | | EE |
| | | SIG RET | | | FF |
| N | | ACC BIT 23 | | | GG |
| | | SIG RET | | | HH |
| P | 05.08.24.1 | ACC BIT 24 | | | JJ |
| | | SIG RET | | | KK |
| Q | | ACC BIT 25 | | | LL |
| | | SIG RET | | | MM |
| 03TB04-14 | 00.03.60.0 | CHASSIS | | | PP |

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Figure 10-4. Signal Interface List (Sheet 16)

| FROM | | | TO | | REFERENCE |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | JACK | MATE | LOGIC SHEET |
| 02B4A02-A | 05.08.06.1 | CODE 140 | 02J13-T | 01P16-T | 05.10.01.1 |
| B | | 144 | U | U | |
| C | | 150 | V | V | |
| D | | SPARE | f | f | |
| E | | SPARE | g | g | |
| 02B4C01-A | 05.08.06.1 | CODE 120 | 02J13-G | 01P16-G | 05.09.01.1 |
| B | | 124 | H | H | |
| C | | 130 | K | K | |
| D | | 134 | L | L | |
| E | | SPARE | d | d | |
| F | | SPARE | e | e | |
| 02B4E02-A | 05.08.07.1 | CODE 164 | 02J12-e | 01P15-e | 05.11.01.1 |
| B | | 170 | f | f | |
| C | | 160 | g | g | |
| D | 05.08.02.2 | -Y CODE 774 | i | i | |
| E | | SPARE | j | j | |
| F | 05.08.02.2 | +Y CODE 774 | k | k | 05.11.01.1 |
| G | | SPARE | z | z | |
| H | | SPARE | AA | AA | |



Figure 10-4. Signal Interface List (Sheet 17)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 01B1D01-A | 05.09.10.1 | □A | 01P13-a | | 01A2J1-a |
| B | | □B | b | | b |
| C | | □C | c | | c |
| D | | □E | e | REFER TO | e |
| E | | □F | f | IBM ETD | f |
| F | | □Y | Y | CUSTOMER | Y |
| G | 05.09.06.1 | UC SHIFT MAG | S | ENGINEERING | S |
| H | 05.09.06.1 | LC SHIFT MAG | T | MANUAL | T |
| J | 05.09.10.1 | TYPE RET | d | SERIES 73 | d |
| K | 05.09.10.1 | Z | Z | SELECTRIC | Z |
| L | 05.09.09.1 | SPACE MAG | M | I/O WRITER | M |
| M | 05.09.11.1 | CHECK MAG | B | FORM PART NO | B |
| N | | SPARE | m | | m |
| P | | SPARE | n | 241-5159-1 | n |
| Q | | SPARE | r | | r |
| R | | SPARE | j | | j |
| | | | | | |
| 01B1A01-A | | SPARE | 01P13-K | | 01A2J1-K |
| B | | SPARE | N | | N |
| C | 05.09.08.1 | R1 | E | | E |
| D | | R2 | F | | F |
| E | | R2-A | D | | D |
| F | | R5 | H | | H |
| G | 05.09.09.1 | T1 | C | | C |
| H | | T2 | A | | A |
| J | | TAB MAG | L | | L |
| K | | INDEX MAG | R | | R |
| L | | RED MAG | U | | U |
| M | | BLK MAG | V | | V |
| N | | CARR RET MAG | P | | P |
| P | | SPARE | W | | W |
| Q | | SPARE | h | | h |
| R | | SPARE | k | | k |



Figure 10-4. Signal Interface List (Sheet 18)

| FROM | | | TO | | REFERENCE |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | PLUG | MATES | LOGIC SHEET |
| 01B1A02-A | 05.09.01.1 | PA A | 01P16-A | 02J13-A | 05.06.08.1 |
| B | | PB A | B | B | 05.06.08.1 |
| C | | BG 1 | C | C | 05.05.24.1 |
| D | | BG 2 | D | D | |
| E | 05.09.02.1 | BG 3 | E | E | |
| F | 05.09.02.1 | CPZ B | F | F | 05.06.05.1 |
| G | 05.09.01.1 | CODE 120 | G | G | 05.08.06.1 |
| H | | 124 | H | H | |
| K | | 130 | K | K | |
| L | | 134 | L | L | |
| M | | CIO | M | M | 05.07.21.1 |
| N | 05.09.07.1 | MACH RST | N | N | 05.04.01.1 |
| P | 05.09.07.1 | TYPR READY | P | P | 00.04.15.3 |
| Q | 05.09.04.1 | PLOTTER READY | R | R | 00.04.15.3 |
| R | 05.09.06.1 | 10 CPS MV | S | S | 05.15.07.1 |

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Figure 10-4. Signal Interface List (Sheet 19)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 01B1D02-A | 05.09.14.1 | SLFCK 1A • ACC SIGN | Twisted Pair | 00.04.54.0 | 01J6-H |
| | | SIG RET | | | J |
| B | 05.09.14.1 | SLFCK 2A • ACC 1 | | | K |
| | | SIG RET | | | L |
| C | 05.09.14.1 | SLFCK 3A • ACC 2 | | | M |
| | | SIG RET | | | N |
| D | 05.09.15.1 | SLFCK 4A • ACC 3 | | | P |
| | | SIG RET | | | R |
| E | 05.09.15.1 | SLFCK 5A • ACC 4 | | | S |
| | | SIG RET | | | T |
| F | 05.09.15.1 | SLFCK 6A • ACC 5 | | | U |
| | | SIG RET | | | V |
| G | 05.09.16.1 | SLFCK 7A • ACC 6 | | | W |
| | | SIG RET | | | X |
| H | 05.09.16.1 | SLGCK 8A • ACC 7 | | | Y |
| | | SIG RET | | | Z |
| J | See Note | | | | |
| K | 05.09.16.1 | SLFCK 9A • ACC 8 | | | a |
| | | SIG RET | | | b |
| L | 05.09.17.1 | SLFCK 10A • ACC 9 | | | c |
| | | SIG RET | | | d |
| M | 05.09.17.1 | SLFCK 11A • ACC 10 | | | e |
| | | SIG RET | | | f |
| N | 05.09.17.1 | SLFCK 12A • ACC 11 | | | g |
| | | SIG RET | | | h |
| P | 05.09.18.1 | SLFCK 13A • ACC 12 | | | i |
| | | SIG RET | | | j |
| Q | 05.09.18.1 | SLFCK 14A • ACC 13 | | | k |
| | | SIG RET | | | m |
| R | 05.09.18.1 | SLFCK 15A • ACC 14 | | | n |
| | | SIG RET | | | p |
| 01B01D03-A | 05.09.14.1 | SLFCK 1A • ACC 15 | | | q |
| | | SIG RET | | | r |
| B | 05.09.14.1 | SLFCK 2A • ACC 16 | | | s |
| | | SIG RET | | | t |
| C | 05.09.14.1 | SLFCK 3A • ACC 17 | | | u |
| | | SIG RET | | | v |
| D | 05.09.15.1 | SLFCK 4A • ACC 18 | | | w |
| | | SIG RET | | | x |
| E | 05.09.15.1 | SLFCK 5A • ACC 19 | | | y |
| | | SIG RET | | | z |
| F | 05.09.15.1 | SLFCK 6A • ACC 20 | | | AA |
| | | SIG RET | | | BB |
| G | 05.09.16.1 | SLFCK 7A • ACC 21 | | | CC |
| | | SIG RET | | | DD |
| H | 05.09.16.1 | SLFCK 8A • ACC 22 | | | EE |
| | | SIG RET | | | FF |
| J | See Note | | | | |
| K | 05.09.16.1 | SLFCK 9A • ACC 23 | | | GG |
| | | SIG RET | | | HH |
| L | 05.09.16.1 | SLFCK 10A • ACC 24 | | | JJ |
| | | SIG RET | | | KK |
| M | 05.09.16.1 | SLFCK 11A • ACC 25 | | | LL |
| | | SIG RET | | | MM |
| N | 05.09.14.1 | A1 PTC SLFCK | | 00.04.55.0 | 01J7-q |
| | | SIG RET | | | r |
| P | 05.09.14.1 | A2 PTC SLFCK | | | s |
| | | SIG RET | | | t |
| Q | 05.09.14.1 | A3 PTC SLFCK | | | u |
| | | SIG RET | | | v |
| R | 05.09.15.1 | A4 PTC SLFCK | | | w |
| | | SIG RET | | | x |

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Figure 10-4. Signal Interface List (Sheet 20)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 01B1B03-A | 05.09.16.1 | SLFCK 8 • CODE 025 SIG RET | Twisted Pair | 00.04.50.0 | 01J08- g h |
| B | 05.09.16.1 | SLFCK 8 • CODE 131 SIG RET | | 00.04.51.0 | 01J09- w x |
| C | 05.09.16.1 | SLFCK 9 • CODE 042 SIG RET | | 00.04.50.0 | 01J08- w x |
| D | 05.09.16.1 | SLFCK 9 • CODE 146 SIG RET | | 00.04.55.0 | 01J07- S T |
| E | 05.09.16.1 | SLFCK 9 • CODE 031 SIG RET | | 00.04.50.0 | 01J08- k m |
| F | 05.09.16.1 | SLFCK 9 • CODE 135 SIG RET | | 00.04.51.0 | 01J09- AA BB |
| G | 05.09.17.1 | SLFCK 10 • CODE 071 SIG RET | | 00.04.51.0 | 01J09- M N |
| H | 05.09.17.1 | SLFCK 10 • CODE 046 SIG RET | | 00.04.50.0 | 01J08- AA BB |
| J | See Note | | | | |
| K | 05.09.17.1 | SLFCK 10 • CODE 152 SIG RET | | 00.04.55.0 | 01J07- U V |
| L | 05.09.17.1 | SLFCK 10 • CODE 035 SIG RET | | 00.04.50.0 | 01J08- q r |
| M | 05.09.17.1 | SLFCK 10 • CODE 141 SIG RET | | 00.04.51.0 | 01J09- EE FF |
| N | 05.09.17.1 | SLFCK 11 • CODE 052 SIG RET | | 00.04.50.0 | 01J08- EE FF |
| P | 05.09.17.1 | SLFCK 11 • CODE 156 SIG RET | | 00.04.55.0 | 01J07- W S |
| Q | 05.09.17.1 | SLFCK 11 • CODE 041 SIG RET | | 00.04.50.0 | 01J08- u v |
| R | 05.09.17.1 | SLFCK 11 • CODE 145 SIG RET | | 00.04.51.0 | 01J09- JJ KK |
| 01B04- A | 05.09.17.1 | SLFCK 12 • CODE 056 SIG RET | | 00.04.50.0 | 01J08- JJ KK |
| B | 05.09.17.1 | SLFCK 12 • CODE 162 SIG RET | | 00.04.55.0 | 01J07- Y Z |
| C | 05.09.17.1 | SLFCK 12 • CODE 045 SIG RET | | 00.04.50.0 | 01J08- y z |
| D | 05.09.17.1 | SLFCK 12 • CODE 151 SIG RET | | 00.04.51.0 | 01J09- LL MM |
| E | 05.09.18.1 | SLFCK 13 • CODE 062 SIG RET | | 00.04.51.0 | 01J09- F G |
| F | 05.09.18.1 | SLFCK 13 • CODE 166 SIG RET | | 00.04.55.0 | 01J07- a b |
| G | 05.09.18.1 | SLFCK 13 • CODE 051 SIG RET | | 00.04.50.0 | 01J08- CC DD |
| H | 05.09.18.1 | SLFCK 13 • CODE 102 SIG RET | | 00.04.51.0 | 01J09- Y Z |
| J | See Note | | | | |
| K | 05.09.18.1 | SLFCK 14 • CODE 066 SIG RET | | 00.04.51.0 | 01J09- K L |
| L | 05.09.18.1 | SLFCK 14 • CODE 206 SIG RET | | 00.04.55.0 | 01J07- i j |
| M | 05.09.18.1 | SLFCK 14 • CODE 172 SIG RET | | 00.04.55.0 | 01J07- c d |
| N | 05.09.18.1 | SLFCK 14 • CODE 055 SIG RET | | 00.04.50.0 | 01J08- GG HH |
| P | 05.09.18.1 | SLFCK 15 • CODE 072 SIG RET | | 00.04.51.0 | 01J09- P R |
| Q | 05.09.18.1 | SLFCK 15 • CODE 176 SIG RET | | 00.04.55.0 | 01J07- e f |
| R | 05.09.18.1 | SLFCK 15 • CODE 061 SIG RET | | 00.04.50.0 | 01J08- LL MM |

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Figure 10-4. Signal Interface List (Sheet 21)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 01B1B01-A | 05.09.14.1 | SLFCK 1 • CODE 002 | Twisted Pair | 00.04.50.0 | 01J08- M |
| | | SIG RET | | | ⊥ N |
| B | | SLFCK 1 • CODE 106 | | 00.04.51.0 | 01J09- c |
| | | SIG RET | | | ⊥ d |
| C | | SLFCK 1 • CODE 212 | | 00.04.55.0 | 01J07- k |
| | | SIG RET | | | ⊥ m |
| D | | SLFCK 1 • CODE 075 | | 00.04.51.0 | 01J09- S |
| | | SIG RET | | | ⊥ T |
| E | | SLFCK 2 • CODE 006 | | 00.04.50.0 | 01J08- S |
| | | SIG RET | | | ⊥ T |
| F | | SLFCK 2 • CODE 112 | | 00.04.51.0 | 01J09- g |
| | | SIG RET | | | ⊥ h |
| G | | SLFCK 2 • CODE 216 | | 00.04.55.0 | 01J07- n |
| | | SIG RET | | | ⊥ p |
| H | | SLFCK 2 • CODE 101 | | 00.04.51.0 | 01J09- W |
| | | SIG RET | | | ⊥ X |
| J | See Note | | | | |
| K | 05.09.14.1 | SLFCK 3 • CODE 012 | | 00.04.50.0 | 01J08- W |
| | | SIG RET | | | ⊥ X |
| L | | SLFCK 3 • CODE 116 | | 00.04.51.0 | 01J09- k |
| | | SIG RET | | | ⊥ l |
| M | | SLFCK 3 • CODE 001 | | 00.04.50.0 | 01J08- K |
| | | SIG RET | | | ⊥ L |
| N | | SLFCK 3 • CODE 105 | | 00.04.51.0 | 01J09- a |
| | | SIG RET | | | ⊥ b |
| P | 05.09.15.1 | SLFCK 4 • CODE 016 | | 00.04.50.0 | 01J08- a |
| | | SIG RET | | | ⊥ b |
| Q | | SLFCK 4 • CODE 122 | | 00.04.51.0 | 01J09- q |
| | | SIG RET | | | ⊥ r |
| R | | SLFCK 4 • CODE 005 | | 00.04.50.0 | 01J08- P |
| | | SIG RET | | | ⊥ R |
| 01B1B02-A | 05.09.15.1 | SLFCK 4 • CODE 111 | | 00.04.51.0 | 01J09- e |
| | | SIG RET | | | ⊥ f |
| B | | SLFCK 5 • CODE 022 | | 00.04.50.0 | 01J08- e |
| | | SIG RET | | | ⊥ f |
| C | | SLFCK 5 • CODE 126 | | 00.04.51.0 | 01J09- u |
| | | SIG RET | | | ⊥ v |
| D | | SLFCK 5 • CODE 011 | | 00.04.50.0 | 01J08- U |
| | | SIG RET | | | ⊥ V |
| E | | SLFCK 5 • CODE 115 | | 00.04.51.0 | 01J09- i |
| | | SIG RET | | | ⊥ j |
| F | | SLFCK 6 • CODE 026 | | 00.04.50.0 | 01J08- i |
| | | SIG RET | | | ⊥ j |
| G | | SLFCK 6 • CODE 132 | | 00.04.51.0 | 01J09- y |
| | | SIG RET | | | ⊥ z |
| H | | SLFCK 6 • CODE 015 | | 00.04.50.0 | 01J08- Y |
| | | SIG RET | | | |
| J | See Note | | | | |
| K | 05.09.15.1 | SLFCK 6 • CODE 121 | | 00.04.51.0 | 01J09- n |
| | | SIG RET | | | ⊥ p |
| L | 05.09.16.1 | SLFCK 7 • CODE 032 | | 00.04.50.0 | 01J08- n |
| | | SIG RET | | | ⊥ p |
| M | | SLFCK 7 • CODE 136 | | 00.04.51.0 | 01J09- MM |
| | | SIG RET | | | ⊥ NN |
| N | | SLFCK 7 • CODE 021 | | 00.04.50.0 | 01J08- c |
| | | SIG RET | | | ⊥ d |
| P | | SLFCK 7 • CODE 125 | | 00.04.51.0 | 01J09- s |
| | | SIG RET | | | ⊥ t |
| Q | | SLFCK 8 • CODE 036 | | 00.04.50.0 | 01J08- s |
| | | SIG RET | | | ⊥ t |
| R | | SLFCK 8 • CODE 142 | | 00.04.51.0 | 01J09- GG |
| | | SIG RET | | | ⊥ HH |

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Figure 10-4. Signal Interface List (Sheet 22)

| FROM | | | | TO | | |
|---|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG | |
| 01B1A04-A | 05.09.16.1 | SLFCK 8 * INTERRUPT 8 | Twisted | 00.04.52.0 | 01J10- | w |
| | | SIG RET | Pair | | | x |
| B | | SLFCK 9 * INTERRUPT 9 | | | | y |
| | | SIG RET | | | | z |
| C | 05.09.17.1 | SLFCK 10 * INTERRUPT 10 | | | | AA |
| | | SIG RET | | | | BB |
| D | | SLFCK 11 * INTERRUPT 11 | | | | CC |
| | | SIG RET | | | | DD |
| E | | SLFCK 12 * INTERRUPT 12 | | | | EE |
| | | SIG RET | | | | FF |
| F | 05.09.18.1 | SLFCK 13 * INTERRUPT 13 | | | | GG |
| | | SIG RET | | | | HH |
| G | | SLFCK 14 * INTERRUPT 14 | | | | JJ |
| | | SIG RET | | | | KK |
| H | | SLFCK 15 * INTERRUPT 15 | | | | LL |
| | | SIG RET | | | | MM |
| J | See Note | | | | | |
| K | 05.09.13.1 | PTC PIO SLFCK | | 00.04.55.0 | 01J07- | LL |
| | | SIG RET | | | | MM |
| L | 05.09.12.1 | SLFCK ☐A | | 04.09.01.0 | 01J13- | a |
| 01B1C01-A | 05.09.17.1 | SLFCK 11 * CODE 076 | Twisted | 00.04.51.0 | 01J09- | U |
| | | SIG RET | Pair | | | V |
| B | | SLFCK 12 * CODE 202 | | 00.04.55.0 | 01J07- | g |
| | | SIG RET | | | | h |
| C | 05.09.16.1 | SLFCK 9 * CODE 065 | | 00.04.51.0 | 01J09- | H |
| | | SIG RET | | | | J |
| D | 05.09.12.1 | SLFCK DISC OUT 1 | | 00.04.52.0 | 01J10- | H |
| | | SIG RET | | | | J |
| E | | SLFCK DISC OUT 2 | | | | K |
| | | SIG RET | | | | L |
| F | | SLFCK DISC OUT 3 | | | | M |
| | | SIG RET | | | | N |
| G | | SLFCK DISC OUT 4 | | | | P |
| | | SIG RET | | | | R |
| H | | SLFCK DISC OUT 5 | | | | S |
| | | SIG RET | | | | T |
| J | See Note | | | | | |
| K | 05.09.12.1 | SLFCK DISC OUT 6 | | | | U |
| | | SIG RET | | | | V |
| L | | SLFCK DISC IN 1 | | 00.04.52.0 | 01J11- | w |
| | | SIG RET | | | | x |
| M | | SLFCK DISC IN 2 | | | | y |
| | | SIG RET | | | | z |
| N | | SLFCK DISC IN 3 | | | | AA |
| | | SIG RET | | | | BB |
| P | | SLFCK DISC IN 4 | | | | CC |
| | | SIG RET | | | | DD |
| Q | | SLFCK DISC IN 5 | | | | EE |
| | | SIG RET | | | | FF |
| R | | SLFCK DISC IN 6 | | | | GG |
| | | SIG RET | | | | HH |
| 01B1D04-A | 05.09.15.1 | A5 PTC SLFCK | | 00.04.55.0 | 01J07- | y |
| | | SIG RET | | | | z |
| B | | A6 PTC SLFCK | | | | AA |
| | | SIG RET | | | | BB |
| C | 05.09.16.1 | A7 PTC SLFCK | | | | CC |
| | | SIG RET | | | | DD |
| D | | A8 PTC SLFCK | | | | EE |
| | | SIG RET | | | | FF |
| E | | A9 PTC SLFCK | | | | GG |
| | | SIG RET | | | | HH |
| J | See Note | | | | | |

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Figure 10-4. Signal Interface List (Sheet 23)

| FROM | | | | TO | | |
|---|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG | |
| 01B1C02-A | 05.09.14.1 | DATA B SLFCK | | 04.11.01.0 | 01J12- | n |
| B | | DATA A SLFCK | | | | p |
| C | | DATA 8 SLFCK | | | | q |
| D | 05.09.15.1 | DATA 4 SLFCK | | | | r |
| E | | DATA 2 SLFCK | | | | s |
| F | | DATA 1 SLFCK | | | | t |
| G | 05.09.16.1 | DATA C SLFCK | | | | u |
| H | 05.09.14.1 | UC SHIFT MAGSLFCK | | 04.09.01.0 | 01J13- | S |
| J | See Note | | | | | |
| K | 05.09.14.1 | LC SHIFT MAGSLFCK | | | | T |
| L | | R1 SLFCK | | | | E |
| M | 05.09.15.1 | R2 SLFCK | | | | F |
| N | | R2A SLFCK | | | | D |
| P | | R5 SLFCK | | | | H |
| Q | 05.09.16.1 | T1 SLFCK | | | | C |
| R | | CARR CTRL SLFCK | | | 01J12- | v |
| 01B1C02-A | 05.09.16.1 | T2 SLFCK | | | 01J13- | A |
| B | | PR CHECK RST SLFCK | | 04.11.01.0 | 01J12- | B |
| C | | CK MAG SLFCK | | 04.09.01.0 | 01J13- | B |
| D | 05.09.17.1 | BLOCK DATA SLFCK | | 04.11.01.0 | 01J12- | D |
| E | | TAB MAG SLFCK | | 04.09.01.0 | 01J13- | L |
| F | | PRINT INSTR SLFCK | | 04.11.01.1 | 01J12- | K |
| G | | INDEX MAG SLFCK | | 04.09.01.0 | 01J13- | R |
| H | | PROCESS - D CYCLE SC | | 04.11.01.0 | 01J12- | F |
| J | See Note | | | | | |
| K | 05.09.17.1 | RED MAG SLFCK | | 04.09.01.0 | 01J13- | U |
| L | 05.09.18.1 | BLK MAG SLFCK | | | 01J13- | V |
| M | | CARR RET MAG SLCK | | | 01J13- | P |
| N | | SPACE MAG SLFCK | | | 01J13- | M |
| P | 05.09.12.1 | SLFCK PROC RELEASE | | 04.11.01.0 | 01J12- | D |
| Q | | SLFCK Y | | 04.09.01.0 | 01J13- | Y |
| R | | SLFCK □C | | | 01J13- | c |
| 01B1C04-A | 05.09.12.1 | SLFCK PARITY CHECK | | 04.11.01.0 | 01J12- | A |
| B | | □B | | 04.09.01.0 | 01J12- | b |
| C | | CARR BUSY | | | 01J12- | BB |
| D | | □E | | | 01J13- | e |
| E | | □F | | | | f |
| F | | PRINT READY | | 04.11.01.0 | 01J12- | E |
| G | | RUN LATCH | | 04.11.01.0 | | y |
| H | | CHAN 12 | | | | DD |
| J | See Note | | | | | |
| K | 05.09.14.1 | SLFCK 1 • INTERRUPT 1 | Twisted Pair | 00.04.52.0 | 01J10- | g |
| | | SIG RET | | | | h |
| L | | SLFCK 2 • INTERRUPT 2 | | | | i |
| | | SIG RET | | | | j |
| M | | SLFCK 3 • INTERRUPT 3 | | | | k |
| | | SIG RET | | | | m |
| N | 05.09.15.1 | SLFCK 4 • INTERRUPT 4 | | | | n |
| | | SIG RET | | | | p |
| P | | SLFCK 5 • INTERRUPT 5 | | | | q |
| | | SIG RET | | | | r |
| Q | | SLFCK 6 • INTERRUPT 6 | | | | s |
| | | SIG RET | | | | t |
| R | 05.09.16.1 | SLFCK 7 • INTERRUPT 7 | | | | u |
| | | SIG RET | | | | v |
| 01TB02-12 | 00.03.30.0 | EOSW | | 00.04.53.0 | 01J11- | s |
| 01J11- u | 00.04.53.0 | EOSWN | | 00.04.53.0 | | t |
| 01TB02-13 | 00.03.30.0 | EOSET | | 00.04.53.0 | | v |

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Figure 10-4. Signal Interface List (Sheet 24)

| FROM | | | VIA | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 01B2C01-A | 05.10.05.1 | PEN UP | 01P17-9 | | 01A1P5-9 |
| B | | PEN DOWN | 10 | REFER TO | 10 |
| C | | DRUM UP PLOT | 1 | INSTRUCTION | 1 |
| D | | DRUM DOWN PLOT | 2 | MANUAL FOR | 2 |
| E | | CARR RIGHT PLOT | 4 | CALCOMP | 4 |
| F | | CARR LEFT PLOT | 3 | DIGITAL | 3 |
| G | | SPARE | 11 | INCREMENTAL | 11 |
| H | | SPARE | 12 | PLOTTER | 12 |
| J | 05.10.05.1 | EXT GND | 15 | MODEL | 15 |
| K | | SPARE | 7 | 565 | 7 |
| L | | | 8 | | 8 |
| M | | | 6 | | 6 |
| N | | | 5 | | 5 |
| P | | CHASSIS | 14 | | 14 |
| Q | | SPARE | 13 | | 13 |
| R | | SPARE | 16 | | 16 |

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Figure 10-4. Signal Interface List (Sheet 25)

| FROM | | | TO | | REFERENCE |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | PLUG | MATE | LOGIC SHEET |
| 01B2B01-A | 05. 10. 01. 1 | CODE 140 | 01P16- T | 02J13- T | 05. 08. 06. 1 |
| B | | CODE 144 | U | U | |
| C | | CODE 150 | V | V | |
| D | | BG 6 | W | W | 05. 05. 25. 1 |
| E | | PC B | X | X | 05. 06. 08. 1 |
| F | | BG 12 | Y | Y | 05. 05. 26. 1 |
| G | 05. 10. 04. 1 | FREE RUN SS | Z | Z | 05. 15. 03. 1 |
| H | | SPARE | a | a | |
| J | | | b | b | |
| K | | | c | c | |
| L | | | d | d | |
| M | | | e | e | |
| N | | | f | f | |
| P | | | g | g | |
| Q | | | h | h | |
| R | | | i | i | |



Figure 10-4. Signal Interface List (Sheet 26)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 01B3C01-A | 05.11.13.1 | DATA 1 | 01J05- t | | P5- t |
| B | 05.11.13.1 | 2 | s | | s |
| C | 05.11.14.1 | 4 | r | | r |
| D | | 8 | q | | q |
| E | | A | p | | p |
| F | 05.11.15.1 | B | n | | n |
| G | 05.11.16.1 | C | u | | u |
| H | 05.11.08.1 | TIME 015-030 | G | | G |
| K | | 060-090 | H | | H |
| L | | 090-000 | d | | d |
| M | | 105-000 | c | | c |
| N | 05.11.17.1 | PRINT READY | E | | E |
| P | 05.11.02.1 | PROC RELEASE | D | | D |
| Q | 05.11.07.1 | PARITY CHECK | A | | A |
| R | 05.11.15.1 | CARR BUSY | BB | | BB |
| 01B3C02-A | 05.11.16.1 | BLOCK DATA | 01J05- R | | P5- R |
| B | 05.11.15.1 | CARR CH 12 | DD | | DD |
| C | 05.11.06.1 | SP SUPP MOD | M | | M |
| D | 05.11.17.1 | RUN LATCH | y | | y |
| E | 05.11.02.1 | DT OFF | z | | z |
| F | | START RST | S | | S |
| G | | POWER ON RST | x | | x |
| H | | PR CHECK RESET | B | | B |
| K | 05.11.01.1 | CARR CONTROL | v | | v |
| L | 05.11.01.1 | PRINT INSTR | K | | K |
| M | 05.11.02.1 | PROC +D CYCLE | F | | F |
| N | | SPARE | AA | | AA |
| P | | SPARE | CC | | CC |
| Q | 05.11.17.1 | I/O CHK STP SW ON | C | | C |
| R | | SPARE | L | | L |

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Figure 10-4. Signal Interface List (Sheet 27)

| FROM | | | TO | | REFERENCE |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | PLUG | MATE | LOGIC SHEET |
| 01B3A02-A | 05.11.03.1 | DATA BIT SIGN | 01P15-A | 02J12-A | 05.13.10.1 |
| B | | 1 | B | B | |
| C | | 2 | C | C | |
| D | | 3 | D | D | |
| E | | 4 | E | E | |
| F | | 5 | F | F | |
| G | | 6 | G | G | |
| H | | 7 | H | H | |
| J | | SPARE | z | z | |
| K | 05.11.04.1 | DATA BIT 8 | K | K | 05.13.11.1 |
| L | | 9 | L | L | |
| M | | 10 | M | M | |
| N | | 11 | N | N | |
| P | | 12 | P | P | |
| Q | | 13 | R | R | |
| R | | 14 | S | S | |
| 01B3A03-A | 05.11.04.1 | DATA BIT 15 | 01P15-T | 02J12-T | 05.13.11.1 |
| B | 05.11.05.1 | 16 | U | U | |
| C | | 17 | V | V | |
| D | | 18 | W | W | 05.13.12.1 |
| E | | 19 | X | X | |
| F | | 20 | Y | Y | |
| G | | 21 | Z | Z | |
| H | | 22 | a | a | |
| J | | SPARE | AA | AA | |
| K | 05.11.05.1 | DATA BIT 23 | b | b | 05.13.12.1 |
| L | 05.11.06.1 | 24 | c | c | |
| M | 05.11.06.1 | 25 | d | d | |
| N | 05.11.01.1 | CODE 164 | e | e | 05.08.07.1 |
| P | | 170 | f | f | |
| Q | | 160 | g | g | |
| R | | PRS | h | h | 05.07.03.1 |
| 01B3A04-A | 05.11.01.1 | -Y CODE 774 | 01P15-i | 02J12-i | 05.08.02.2 |
| B | | SPARE | j | j | |
| C | | SPARE | J | J | |
| D | 05.11.06.1 | BG 10 | m | m | 05.05.26.1 |
| E | | BG 8 | n | n | 05.05.25.1 |
| F | | BG 9 | p | p | 05.05.26.1 |
| G | 05.11.01.1 | +Y CODE 774 | k | k | 05.08.02.2 |
| H | 05.11.07.1 | MACH RST | q | q | 05.04.01.1 |
| J | 05.11.07.1 | 500 CPS MV | r | r | 05.15.03.1 |
| K | 05.11.17.1 | PRNTR READY | s | s | 00.04.15.3 |
| L | 05.11.17.1 | FREE RUN SS NT | t | t | 05.15.03.1 |
| M | | SPARE | u | u | |

| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | PLUG | MATE | REFERENCE LOGIC SHEET |
|---|---|---|---|---|---|---|
| 01B3D0[illegible]-A | 05.11.02.1 | PRNTR HAMMER HOLD | 01TB02-14 | 01P11-P | 02J2-P | 00.03.50.0 |



Figure 10-4. Signal Interface List (Sheet 28)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B8B01-A | 05.13.10.1 | A/S IND | 03P17-B | 00.04.05.0 | J1-B |
| B | | DLA 2 | D | | D |
| C | 05.13.09.1 | 3 | F | | F |
| D | 05.13.10.1 | 4 | H | | H |
| E | | 5 | K | | K |
| F | | 6 | M | | M |
| G | 05.13.09.1 | 7 | P | | P |
| H | 05.13.10.1 | 8 | S | | S |
| J | | 9 | U | | U |
| K | | 10 | W | | W |
| L | 05.13.09.1 | 11 | Y | | Y |
| M | 05.13.10.1 | 12 | a | | a |
| N | 05.13.11.1 | 13 | c | | c |
| P | | 14 | A | | A |
| Q | 05.13.09.1 | 15 | C | | C |
| R | 05.13.11.1 | 16 | E | | E |
| 03B8B02-A | 05.13.11.1 | DLA 17 IND | 03P17-G | 00.04.05.0 | J1-G |
| B | | 18 | J | | J |
| C | 05.13.09.1 | 19 | L | | L |
| D | 05.13.11.1 | 20 | N | | N |
| E | | 21 | R | | R |
| F | | 22 | T | | T |
| G | 05.13.09.1 | 23 | V | | V |
| H | 05.13.11.1 | 24 | X | | X |
| J | 05.13.12.1 | 25 | Z | | Z |
| K | | 26 | b | | b |
| L | 05.13.09.1 | 27 | e | | e |
| M | 05.13.12.1 | 28 | g | | g |
| N | | 29 | i | | i |
| P | | 30 | k | | k |
| Q | 05.13.08.1 | ACC0 IND | n | | n |
| R | 05.13.12.1 | ACC1 IND | q | | q |
| 03B8B03-A | 05.13.08.1 | DLB 1 IND | 03P17-s | 00.04.05.0 | J1-s |
| B | 05.13.12.1 | 2 | u | | u |
| C | | 3 | w | | w |
| D | 05.13.08.1 | 4 | y | | y |
| E | | 5 | AA | | AA |
| F | | 6 | CC | | CC |
| G | | 7 | EE | | EE |
| H | | 8 | d | | d |
| J | | 9 | f | | f |
| K | | 10 | h | | h |
| L | | 11 | j | | j |
| M | | 12 | m | | m |
| N | | 13 | p | | p |
| P | | 14 | r | | r |
| Q | | 15 | t | | t |
| R | | 16 | v | | v |
| 03B8B04-A | 05.13.09.1 | DLB 17 IND | 03P17-x | 00.04.05.0 | J1-x |
| B | | 18 | z | | z |
| C | | 19 | BB | | BB |
| D | | 20 | DD | | DD |
| E | | 21 | FF | | FF |
| F | | AI 0 IND | GG | | GG |
| G | | 1 | HH | | HH |
| H | 05.13.08.1 | 2 | JJ | | JJ |
| J | | 3 | KK | | KK |
| K | | 4 | LL | | LL |
| L | | LAMP TEST CE 3 | MM | | MM |



Figure 10-4. Signal Interface List (Sheet 29)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B8D01-A | 05.13.02.1 | DATA 1 IND 1 | 02J16-B | 00.04.15.0 | P1-B |
| B | | DATA 1 IND 2 | A | | A |
| C | | DATA 2 IND 1 | D | | D |
| D | | DATA 2 IND 2 | C | | C |
| E | | DATA 3 IND 1 | F | | F |
| F | | DATA 3 IND 2 | E | | E |
| G | | DATA 4 IND 1 | H | | H |
| H | | DATA 4 IND 2 | G | | G |
| J | 05.13.03.1 | DATA 5 IND 1 | K | | K |
| K | | DATA 5 IND 2 | J | | J |
| L | | DATA 6 IND 1 | M | | M |
| M | | DATA 6 IND 2 | L | | L |
| N | | DATA 7 IND 1 | P | | P |
| P | | DATA 7 IND 2 | N | | N |
| Q | | DATA 8 IND 1 | S | | S |
| R | | DATA 8 IND 2 | R | | R |
| 03B8D02-A | 05.13.04.1 | DATA 9 IND 1 | 02J16-U | 00.04.15.0 | P1-U |
| B | | DATA 9 IND 2 | T | | T |
| C | | DATA 10 IND 1 | W | | W |
| D | | DATA 10 IND 2 | V | | V |
| E | | DATA 11 IND 1 | Y | | Y |
| F | | DATA 11 IND 2 | X | | X |
| G | | DATA 12 IND 1 | a | | a |
| H | | DATA 12 IND 2 | Z | | Z |
| J | 05.13.05.1 | DATA 13 IND 1 | c | | c |
| K | | DATA 13 IND 2 | b | | b |
| L | 05.13.14.1 | DISCR IN 1 SW | 02J18-e | 00.04.15.3 | P3-e |
| M | | DISCR IN 2 SW | c | | c |
| N | | DISCR IN 3 SW | a | | a |
| P | | DISCR IN 4 SW | Y | | Y |
| Q | | DISCR IN 5 SW | W | | W |
| R | | DISCR IN 6 SW | U | | U |
| 03B8D03-A | 05.13.07.1 | OP1 IND 1 | 02J16-e | 00.04.15.0 | P1-e |
| B | | OP1 IND 2 | d | | d |
| C | | OP2 IND 1 | g | | g |
| D | | OP2 IND 2 | f | | f |
| E | | OP3 IND 1 | i | | i |
| F | | OP3 IND 2 | h | | h |
| G | | OP4 IND 1 | k | | k |
| H | | OP4 IND 2 | j | | j |
| J | 05.13.01.1 | MEM REG SW | 02J19-U | 00.04.15.2 | P4-U |
| K | | TR REG SW | V | | V |
| L | | ERROR RST SW | 02J17-FF | 00.04.15.1 | P2-FF |
| M | | CST IND 1 | 02J19-h | 00.04.15.2 | P4-h |
| N | | CST IND 2 | j | | P4-j |
| P | 05.13.05.1 | MEM BUFF PAR IND 1 | 02J17-U | 00.04.15.1 | P2-U |
| Q | | MEM BUFF PAR IND 2 | T | | P2-T |
| R | | | | | |



Figure 10-4. Signal Interface List (Sheet 30)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B8D04-A | 05.13.16.1 | SW PREG A 1 | 02J18-B | 00.04.15.3 | P3-B |
| B | | B 1 | p | | p |
| C | | A 2 | C | | C |
| D | | B 2 | q | | q |
| E | 05.13.17.1 | A 3 | D | | D |
| F | | B 3 | r | | r |
| G | | A 4 | E | | E |
| H | | B 4 | s | | s |
| J | | A 5 | F | | F |
| K | | B 5 | t | | t |
| L | 05.13.18.1 | A 6 | G | | G |
| M | | B 6 | u | | u |
| N | | A 7 | H | | H |
| P | | B 7 | v | | v |
| Q | | A 8 | J | | J |
| R | | B 8 | w | | w |
| 03B8E04-A | 05.13.20.1 | SW PREG A 9 | 02J18-K | 00.04.15.3 | P3-K |
| B | | B 9 | x | | x |
| C | | A 10 | L | | L |
| D | | B 10 | y | | y |
| E | 05.13.19.1 | A 11 | M | | M |
| F | | B 11 | z | | z |
| G | | A 12 | N | | N |
| H | | B 12 | AA | | AA |
| J | | A 13 | P | | P |
| K | | B 13 | BB | | BB |
| L | 05.13.22.1 | A 14 | R | | R |
| M | | B 14 | CC | | CC |
| N | 05.13.20.1 | A 15 | S | | S |
| P | | B 15 | DD | | DD |
| Q | 05.13.21.1 | A 16 | T | | T |
| R | | B 16 | EE | | EE |
| 03B8E05-A | 05.13.21.1 | SW PREG A 17 | 02J18-V | 00.04.15.3 | P3-V |
| B | | B 17 | FF | | FF |
| C | | A 18 | X | | X |
| D | | B 18 | GG | | GG |
| E | | A 19 | Z | | Z |
| F | | B 19 | HH | | HH |
| G | 05.13.14.1 | A 20 | b | | b |
| H | | B 20 | JJ | | JJ |
| J | | A 21 | d | | d |
| K | | B 21 | KK | | KK |
| L | 05.13.15.1 | A 22 | f | | f |
| M | | B 22 | LL | | LL |
| N | | A 23 | k | | k |
| P | | B 23 | MM | | MM |
| Q | | A 24 | j | | j |
| R | | B 24 | NN | | NN |
| 03B8F05-A | 05.13.15.1 | SW PREG A 25 | 02J18-m | 00.04.15.3 | P3-m |
| B | | B 25 | PP | | PP |
| C | 05.13.16.1 | A SGN | A | | A |
| D | | B SGN | m | | n |
| E | 05.13.01.1 | PAR ERROR IND | 02J17-W | 00.04.15.1 | P2-W |

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Figure 10-4. Signal Interface List (Sheet 31)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 03BB-D05-A | 05.13.14.1 | DISCR IN 1 | Twisted | 00.04.53.0 | 9009J4- w |
| | | SIG RET | Pair | | x |
| B | | DISCR IN 2 | | | y |
| | | SIG RET | | | z |
| C | | DISCR IN 3 | | | AA |
| | | SIG RET | | | BB |
| D | | DISCR IN 4 | | | CC |
| | | SIG RET | | | DD |
| E | | DISCR IN 5 | | | EE |
| | | SIG RET | | | FF |
| F | | DISCR IN 6 | | | GG |
| | | SIG RET | | | HH |

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Figure 10-4. Signal Interface List (Sheet 32)

| FROM | | | TO | | REFERENCE |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | JACK | MATE | LOGIC SHEET |
| 03B8F02-A | 04.13.10.1 | DATA BIT SIGN | 02J12- A | 01P15- A | 05.11.03.1 |
| B | | 1 | B | B | |
| C | | 2 | C | C | |
| D | | 3 | D | D | |
| E | | 4 | E | E | |
| F | | 5 | F | F | |
| G | | 6 | G | G | |
| H | | 7 | H | H | |
| J | | 8 | K | K | 05.11.04.1 |
| K | 04.13.11.1 | 9 | L | L | |
| L | | 10 | M | M | |
| M | | 11 | N | N | |
| N | | 12 | P | P | |
| P | | 13 | R | R | |
| Q | | 14 | S | S | |
| R | | 15 | T | T | |
| 03B8F03-A | 04.13.11.1 | DATA BIT 16 | 02J12- U | 01P15- U | 05.11.05.1 |
| B | 04.13.11.1 | 17 | V | V | |
| C | 04.13.12.1 | 18 | W | W | |
| D | | 19 | X | X | |
| E | | 20 | Y | Y | |
| F | | 21 | Z | Z | |
| G | | 22 | a | a | |
| H | | 23 | b | b | |
| J | | 24 | c | c | 05.11.06.1 |
| K | | 25 | d | d | 05.11.06.1 |
| L | | SPARE | J | J | |

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Figure 10-4. Signal Interface List (Sheet 33)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B7B01-A | 05.14.06.1 | SW ERR RST | 02J9- c | 00.04.10.0 | P6-c |
| B | 05.14.21.1 | SW SGDTC NOT | h | | h |
| C | 05.14.21.1 | SW SGDTC | i | | i |
| D | 05.14.23.1 | SW RPT | g | | g |
| E | 05.14.23.1 | SW RPT NOT | f | | f |
| F | 05.14.01.1 | TPE IND | d | | d |
| G | 05.14.07.1 | TR SYL 1 PB IND | b | 00.04.10.1 | b |
| H | 05.14.08.1 | TR SYL 0 PB IND | a | | a |
| J | 05.14.10.1 | SER PB IND 1 | n | 00.04.10.0 | n |
| K | 05.14.10.1 | SER PB IND 2 | p | | p |
| L | 05.14.17.1 | SPE IND | e | | e |
| M | 05.14.23.1 | DTRPT IND | k | | k |
| N | 05.14.23.1 | DTRPT NOT IND | m | | m |
| P | 05.14.07.1 | SW LAMP TEST 2 | K | | K |
| 03B7A01-A | 05.14.02.1 | TRACK 1 | 03P16- 1 | Reference RHEEM | 03A2J1-1 |
| B | | 2 | 2 | TAPE READER | 2 |
| C | 05.14.03.1 | 3 | 3 | MAINTENANCE | 3 |
| D | | 4 | 4 | MANUAL | 4 |
| E | 05.14.04.1 | 5 | 5 | MODEL RR-1002B, L, R | 5 |
| F | | 6 | 6 | | 6 |
| G | 05.14.06.1 | 7 | 7 | | 7 |
| H | | 8 | 8 | | 8 |
| 03B7B02-A | 05.14.02.1 | CHANL 1 NOT | 03P15- A | 00.04.05.2 | J4- A |
| B | | 2 | C | | C |
| C | 05.14.03.1 | 3 | E | | E |
| D | | 4 | G | | G |
| E | 05.14.04.1 | 5 | J | | J |
| F | | 6 | L | | L |
| G | 05.14.06.1 | SEQ BIT NOT | D | | D |
| H | | TAPB NOT | F | | F |
| 03B7C03-A | 05.14.05.1 | SW TRCH 1 - 01 | 03J10- a | 00.04.01.1 | P2-a |
| B | | SW TRCH 2 - 01 | c | | c |
| C | | SW TRCH 3 - 01 | e | | e |
| D | | SW TRCH 4 - 01 | g | | g |
| E | | SW TRCH 5 - 01 | i | | i |
| 03B7C01-A | 05.14.05.1 | SW TRCH 1 - 02 | 02J9- L | 00.04.10.2 | P6-L |
| B | | SW TRCH 2 - 02 | K | | K |
| C | | SW TRCH 3 - 02 | J | | J |
| D | | SW TRCH 4 - 02 | H | | H |
| E | | SW TRCH 5 - 02 | G | | G |
| F | | SW TRCH 6 - 02 | F | | F |
| 03B7C03- F | 05.14.15.1 | 2 to SEVEN IND | 03J10- U | 00.04.01.1 | P2-U |
| G | | 2 to EIGHT IND | q | | q |
| H | | 2 to NINE IND | r | | r |
| J | | 2 to TEN IND | s | | s |
| K | | 2 to ELEVEN IND | t | | t |



Figure 10-4. Signal Interface List (Sheet 34)

| FROM | | | VIA | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 03B6C01-A | 05.15.01.1 | SW ML | 03J10-A | 00.04.01.1 | P2-A |
| B | 05.15.01.1 | SW DD | B | | B |
| C | 05.15.17.1 | START | C | | C |
| D | | START NOT | D | | D |
| E | | ADV NOT | E | | E |
| F | | ADV | F | | F |
| G | 05.15.01.1 | MAN | G | | G |
| H | 05.15.01.1 | AUTO | H | | H |
| J | 05.15.18.1 | STOP | J | | J |
| K | 05.15.16.1 | TA PWR | L | | L |
| L | 05.15.21.1 | TA PWR RLY GRD | N | | N |
| M | 05.15.20.1 | SW LAMP TEST 1A | P | | P |
| N | 05.15.03.1 | FR SS NOT | S | | S |
| P | 05.15.14.1 | FRTR | X | | X |
| Q | 05.15.15.1 | DIR | V | | V |
| R | 05.15.15.1 | DIR NOT | W | | W |
| 03B6C02-A | 05.15.17.1 | FRTR NOT | Y | | Y |
| B | 05.15.19.1 | VER ONLY NOT | Z | | Z |
| C | 05.15.19.1 | VER ONLY | AA | | AA |
| D | 05.15.05.1 | SEL ADR | BB | | BB |
| E | 05.15.02.1 | ERR TEST | DD | | DD |
| F | 05.15.02.1 | ERR TEST NOT | EE | | EE |
| G | 05.15.13.1 | RESET 2 | HH | | HH |
| H | 05.15.01.1 | LAMP TEST 1 | T | | T |
| K | 05.15.13.1 | TRGB9 | GG | | GG |
| 03B6B01-A | 05.15.20.1 | DD IND | 03J9-A | 00.04.01.0 | P1-A |
| B | 05.15.01.1 | ML IND | B | | B |
| C | 05.15.16.1 | START IND 2 | C | | C |
| D | 05.15.16.1 | START IND 1 | D | | D |
| E | 05.15.15.1 | ADV IND 2 | E | | E |
| F | 05.15.17.1 | ADV IND 1 | F | | F |
| G | 05.15.20.1 | MAN IND | G | | G |
| H | 05.15.01.1 | AUTO IND | H | | H |
| J | 05.15.16.1 | STOP IND 2 | J | | J |
| K | 05.15.16.1 | STOP IND 1 | K | | K |
| L | 05.15.15.1 | RVS IND | N | | N |
| M | 05.15.15.1 | FWD IND | P | | P |
| N | 05.15.19.1 | VER ONLY IND B | R | | R |
| P | 05.15.19.1 | VER ONLY IND A | S | | S |
| Q | 05.15.05.1 | SEL ADR IND | T | | T |
| 03B6B02-A | 05.15.02.1 | SW IA | 02J9-r | 00.04.10.0 | P6-r |
| B | 05.15.02.1 | SW IA NOT | q | 00.04.10.0 | q |
| C | 05.15.03.1 | SW RESET 1 | M | 00.04.10.2 | M |
| D | 05.15.03.1 | SW START SS | A | 00.04.10.3 | A |
| E | 05.15.21.1 | SW LAMP TEST 2A | v | 00.04.10.0 | v |
| L | 05.15.20.1 | SW TR RST | j | | j |
| M | 05.15.21.1 | IA COMP IND | t | | t |
| N | 05.15.21.1 | DA COMP IND | s | | s |
| P | 05.15.22.1 | SE1 IND | LL | | LL |
| Q | 05.15.22.1 | SE2 IND | MM | | MM |

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Figure 10-4. Signal Interface List (Sheet 35)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B6D03-A | 05.15.03.1 | 500 CPS MV | 03P15-K | 00.04.05.2 | 03A4J4-K |
| B | 05.15.04.1 | TRCP 1 A | N | | N |
| C | 05.15.04.1 | 2 A | R | | R |
| D | 05.15.05.1 | 3 A | T | | T |
| E | 05.15.05.1 | 4 A | U | | U |
| F | 05.15.07.1 | 10 CPS MV | M | | M |
| G | 05.15.11.1 | TRCB 1 A | V | | V |
| H | 05.15.11.1 | 2 A | W | | W |
| J | 05.15.12.1 | 3 A | X | | X |
| K | | 4 A | Y | | Y |
| L | | 5 A | Z | | Z |
| M | | 6 A | a | | a |
| N | 05.15.13.1 | 7 A | b | | b |
| P | | 8 A | c | | c |
| Q | | 9 A | H | | H |
| R | | SPARE | B | | K |
| 03B6C03-A | 05.15.07.1 | TRCP ERR DLY | 03P15-S | 00.04.05.2 | 03A4J4-S |
| B | | SPARE | | | P |
| 03B6B03-A | 05.15.03.1 | FEED TRACK | 03P16-9 | 00.04.05.2 | 03A2J1-9 |
| B | 05.15.14.1 | DRIVE LEFT | 11 | Reference RHEEM | 11 |
| C | 05.15.14.1 | DRIVE RIGHT | 10 | Tape Reader | 10 |
| | | | | Maintenance | |
| | | | | Manual | |
| | | | | Model RR-1002-2B, L, R | |
| 03B6A01-A | 05.15.11.1 | SW TRCB1 | 02J9-E | 00.04.10.2 | 02A1P6-E |
| B | 05.15.11.1 | TRCB2 | D | | D |
| C | 05.15.12.1 | TRCB3 | C | | C |
| D | | TRCB4 | B | | B |
| E | | TRCB5 | S | 00.04.10.1 | S |
| F | | TRCB6 | R | | R |
| G | 05.15.13.1 | TRCB7 | P | | P |
| H | 05.15.13.1 | TRCB8 | N | | N |
| K | | SPARE | T | | T |
| L | | | U | | U |
| M | | | V | | V |
| N | | | W | | W |
| P | | | X | | X |
| Q | | | Y | | Y |
| R | | | Z | | Z |
| | | | JACK | MATE | REFERENCE LOGIC SHEET |
| 03B6A03-A | 05.15.03.1 | 500 CPS MV | 02J12-r | 01P15-r | 05.11.07.1 |
| B | 05.15.03.1 | FREE RUN SS NT | 02J12-t | 01P15-t | 05.11.17.1 |
| C | 05.15.17.1 | 10 CPS MV | 02J13-S | 01P16-S | 05.09.06.1 |
| D | 05.15.03.1 | FREE RUN SS | 02J13-Z | 01P16-Z | 05.10.04.1 |



Figure 10-4. Signal Interface List (Sheet 36)

| FROM | | | TO | | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 03B5B02-A | 05.16.14.1 | SECK IND | 03J9-U | 00.04.01.0 | 03P1-U |
| B | 05.16.09.1 | 2 to ZERO | a | | a |
| C | 05.16.13.1 | TAADR1 | V | | V |
| D | | TAADR2 | W | | W |
| E | | TAADR3 | X | | X |
| F | 05.16.14.1 | TAADR4 | Y | | Y |
| G | 05.16.14.1 | TAADR5 | Z | | Z |
| H | 05.16.09.1 | 2 TO ONE | g | | g |
| J | 05.16.09.1 | 2 TO TWO | h | | h |
| K | 05.16.07.1 | 2 TO THREE | q | | q |
| L | 05.16.14.1 | SEL CNTR | r | | r |
| 03B5C03-A | 05.16.16.1 | TRIS1 IND | 02J4-C | 00.04.10.3 | 02P1-C |
| B | | TRIS2 | D | | D |
| C | | TRIS3 | E | | E |
| D | | TRIS4 | F | | F |
| E | 05.16.17.1 | TRA 1 | G | | G |
| F | | TRA 2 | H | | H |
| J | | TRA 3 | J | | J |
| H | | TRA 4 | K | | K |
| J | 05.16.18.1 | TRA 5 | L | | L |
| K | | TRA 6 | M | | M |
| L | | TRA 7 | N | | N |
| M | | TRA 8 | P | | P |
| 03B5E02-A | 05.16.12.1 | TRDS 1 IND | 02J4-W | 00.04.10.2 | P1-W |
| B | | TRDS 2 | X | | X |
| C | | TRDS 3 | Y | | Y |
| D | | TRDS 4 | Z | | Z |
| E | 05.16.19.1 | TRSYL 0 | A | 00.04.10.3 | A |
| F | 05.16.19.1 | TRSYL 1 | B | 00.04.10.3 | B |
| G | 05.16.15.1 | TRDM 1 | q | 00.04.10.2 | q |
| H | 05.16.15.1 | TRDM 0 | p | 00.04.10.2 | p |
| J | 05.16.19.1 | TRIM0 IA | R | 00.04.10.3 | R |
| K | 05.16.19.1 | TRIM1 IA | S | 00.04.10.3 | S |



Figure 10-4. Signal Interface List (Sheet 37)

| FROM | | | | | TO | |
|---|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | VIA | LOGIC SHEET | PLUG |
| 03B5A01-A | 05.16.01.1 | TR SIGN | IND | 02J5-A | 00.04.10.1 | 02P2-A |
| B | | TRB1 | | B | | B |
| C | | TRB2 | | C | | C |
| D | | TRB3 | | D | | D |
| E | 05.16.02.1 | TRB4 | | E | | E |
| F | | TRB5 | | F | | F |
| G | | TRB6 | | G | | G |
| H | | TRB7 | | H | | H |
| J | 05.16.03.1 | TRB8 | | J | | J |
| K | | TRB9 | | K | | K |
| L | | TRB10 | | L | | L |
| M | | TRB11 | | M | | M |
| N | 05.16.04.1 | TRB12 | | N | | N |
| P | | TRB13 | | P | | P |
| Q | | TRB14 | | R | | R |
| R | | TRB15 | | S | | S |
| 03B5A04-A | 05.16.05.1 | TRB16 | IND | 02J5-T | 00.04.10.1 | 02P2-T |
| B | | TRB17 | | U | | U |
| C | | TRB18 | | V | | V |
| D | | TRB19 | | W | | W |
| E | 05.16.06.1 | TRB20 | | X | | X |
| F | | TRB21 | | Y | | Y |
| G | | TRB22 | | Z | | Z |
| H | | TRB23 | | a | | a |
| J | 05.16.07.1 | TRB24 | | b | | b |
| K | 05.16.07.1 | TRB25 | | c | | c |
| L | 05.16.01.1 | SW LAMP | TEST 2 | d | | d |
| 03B5B01-A | 05.16.08.1 | TROA1 | IND | 02J4-a | 00.04.10.2 | 02P1-a |
| B | | TROA2 | | b | | b |
| C | | TROA3 | | c | | c |
| D | | TROA4 | | d | | d |
| E | 05.16.09.1 | TROA5 | | e | | e |
| F | | TROA6 | | f | | f |
| G | | TROA7 | | g | | g |
| H | 05.16.10.1 | TROA8 | | h | | h |
| J | 05.16.10.1 | TROA9 | | i | | i |
| K | 05.16.11.1 | TROP1 | | j | | j |
| L | | TROP2 | | k | | k |
| M | | TROP3 | | m | | m |
| N | | TROP4 | | n | | n |

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Figure 10-4. Signal Interface List (Sheet 38)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 02B5C04-A | 05.20.13.1 | A1 IND 2 | 02J16-m | 00.04.15.0 | P1-m |
| B | | A1 IND 1 | n | | n |
| C | | A2 IND 2 | p | | p |
| D | | A2 IND 1 | q | | q |
| E | | A3 IND 2 | r | | r |
| F | | A3 IND 1 | s | | s |
| G | | A4 IND 2 | t | | t |
| H | | A4 IND 1 | u | | u |
| J | 05.20.14.1 | A5 IND 2 | v | | v |
| K | | A5 IND 1 | w | | w |
| L | | A6 IND 2 | x | | x |
| M | | A6 IND 1 | y | | y |
| N | | A7 IND 2 | z | | z |
| P | | A7 IND 1 | AA | | AA |
| Q | | A8 IND 2 | BB | | BB |
| R | | A8 IND 1 | CC | | CC |
| 02B5C03-A | 05.20.18.1 | A9 IND 2 | 02J16-DD | 00.04.15.0 | P1-DD |
| B | | A9 IND 1 | EE | | EE |
| 02B5D04-A | 05.20.17.1 | IM 1 IND | 02J17-A | 00.04.15.1 | P2-A |
| B | | IM 0 IND | B | | B |
| C | | DM 1 IND | C | | C |
| D | | DM 0 IND | D | | D |
| E | 05.20.16.1 | DS 1 IND | E | | E |
| | 05.20.15.1 | IS 1 IND | F | | F |
| G | 05.20.16.1 | DS 2 IND | G | | G |
| H | 05.20.15.1 | IS 2 IND | H | | H |
| J | 05.20.16.1 | DS 3 IND | J | | J |
| K | 05.20.15.1 | IS 3 IND | K | | K |
| L | 05.20.16.1 | DS 4 IND | L | | L |
| M | 05.20.18.1 | IS 4 IND | M | | M |
| N | | SYL 1 IND 2 | N | | N |
| P | | SYL 1 IND 1 | P | | P |
| Q | | SYL 0 IND 2 | R | | R |
| R | | SYL 0 IND 1 | S | | S |
| 02B5D03-A | 05.20.12.1 | IND B 1 | 02J17-X | 00.04.15.1 | P2-X |
| B | | IND I 1 | Y | | Y |
| C | | B 2 | Z | | Z |
| D | | I 2 | a | | a |
| E | 05.20.11.1 | B 3 | b | | b |
| F | | I 3 | c | | c |
| G | | B 4 | d | | d |
| H | | I 4 | e | | e |
| J | 05.20.10.1 | B 5 | f | | f |
| K | | I 5 | g | | g |
| L | | B 6 | h | | h |
| M | | I 6 | i | | i |
| N | 05.20.09.1 | B 7 | j | | j |
| P | | I 7 | k | | k |
| Q | | B 8 | m | | m |
| R | | I 8 | n | | n |



Figure 10-4. Signal Interface List (Sheet 39)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | VIA | LOGIC SHEET | PLUG |
| 02B5E04-A | 05.20.08.1 | IND B 9 | 02J17-p | 00.04.15.2 | P2-p |
| B | | I 9 | q | | q |
| C | | B 10 | r | | r |
| D | | I 10 | s | | s |
| E | 05.20.07.1 | B 11 | t | | t |
| F | | I 11 | u | | u |
| G | | B 12 | v | | v |
| H | | I 12 | w | | w |
| J | 05.20.06.1 | B 13 | x | | x |
| K | | I 13 | y | | y |
| L | | B 14 | z | | z |
| M | | I 14 | AA | | AA |
| N | 05.20.05.1 | B 15 | BB | | BB |
| P | | I 15 | CC | | CC |
| Q | | INT 16 IND 2 | DD | | DD |
| R | | INT 16 IND 1 | EE | | EE |
| 02B5E03-A | 05.20.12.1 | INH SW 1 | 02J19-A | 00.04.15.1 | P4-A |
| B | | 2 | B | | B |
| C | 05.20.11.1 | 3 | C | | C |
| D | | 4 | D | | D |
| E | 05.20.10.1 | 5 | E | | E |
| F | | 6 | F | | F |
| G | 05.20.09.1 | 7 | G | | G |
| H | | 8 | H | | H |
| J | 05.20.08.1 | 9 | J | 00.04.15.2 | J |
| K | | 10 | K | | K |
| L | 05.20.07.1 | 11 | L | | L |
| M | | 12 | M | | M |
| N | 05.20.06.1 | 13 | N | | N |
| P | | 14 | P | | P |
| Q | 05.20.05.1 | 15 | R | | R |
| R | 05.20.24.1 | INT 16 SW OFF | S | | S |
| 02B5F04-A | 05.20.15.1 | MEM ADD SW | 02J19-Y | 00.04.15.2 | P4-Y |
| B | | HOPSAVE SW | a | | a |
| C | 05.20.02.1 | INH CTRL OFF | d | | d |
| D | | | | | |
| E | 05.20.18.1 | LAMP TEST | DD | | DD |
| F | 05.20.24.1 | INT 16 SW ON | b | | b |
| G | 05.20.02.1 | INH CTRL ON | c | | c |



Figure 10-4. Signal Interface List (Sheet 40)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PLUG |
| 02B5A04-A | 05.20.01.1 | INTRPT 1 | Twisted Pair | 00.04.52.0 | 9009J3-g |
| | | SIG RET | | | h |
| B | | INTRPT 2 | | | i |
| | | SIG RET | | | j |
| C | | INTRPT 3 | | | k |
| | | SIG RET | | | m |
| D | | INTRPT 4 | | | n |
| | | SIG RET | | | p |
| E | | INTRPT 5 | | | q |
| | | SIG RET | | | r |
| F | | INTRPT 6 | | | s |
| | | SIG RET | | | t |
| G | | INTRPT 7 | | | u |
| | | SIG RET | | | v |
| H | | INTRPT 8 | | | w |
| | | SIG RET | | | x |
| J | See Note | | | | |
| K | 05.20.01.1 | INTRPT 9 | | | y |
| | | SIG RET | | | z |
| L | | INTRPT 10 | | | AA |
| | | SIG RET | | | BB |
| M | | INTRPT 11 | | | CC |
| | | SIG RET | | | DD |
| N | | INTRPT 12 | | | EE |
| | | SIG RET | | | FF |
| P | | INTRPT 13 | | | GG |
| | | SIG RET | | | HH |
| Q | | INTRPT 14 | | | JJ |
| | | SIG RET | | | KK |
| R | | INTRPT 15 | | | LL |
| | | SIG RET | | | MM |
| 03TB4 - 14 | 00.03.60.0 | CHASSIS | | | PP |
| 03W1A- 19 | | TESPG | | | F |
| 03W1A- 20 | | TESPG | | | G |



Figure 10-4. Signal Interface List (Sheet 41)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PIN |
| 02A4 E01-A | 05.26.02.1 | X UNITS 0 DR A | Twisted Pair | 01.01.01.0 | 02A03MBADB-R |
| E02-A | | 0 RET A | | | J |
| E01-B | | 1 DR A | | | S |
| E02-B | | 1 RET A | | | K |
| E01-C | | 2 DR A | | | T |
| E02-C | | 2 RET A | | | L |
| E01-D | | 3 DR A | | | U |
| E02-D | | 3 RET A | | | M |
| E01-E | | 4 DR A | | | V |
| E02-E | | 4 RET A | | | N |
| E01-F | | 5 DR A | | | W |
| E02-F | | 5 RET A | | | O |
| E01-G | | 6 DR A | | | X |
| E02-G | | 6 RET A | | | P |
| E01-H | | 7 DR A | | | Y |
| E02-H | | 7 RET A | | | Q |
| E01-J | 05.26.03.1 | X EIGHTS 0 DR A | | | A |
| E02-J | | 0 RET A | | | E |
| E01-K | | 1 DR A | | | B |
| E02-K | | 1 RET A | | | F |
| E01-L | | 2 DR A | | | C |
| E02-L | | 2 RET A | | | G |
| E01-M | | 3 DR A | | | D |
| E02-M | | 3 RET A | | | H |
| E01-N | | 4 DR A | | | 02A03MBADB-A |
| E02-N | | 4 RET A | | | E |
| E01-P | | 5 DR A | | | B |
| E02-P | | 5 RET A | | | F |
| E01-Q | | 6 DR A | | | C |
| E02-Q | | 6 RET A | | | G |
| E01-R | | 7 DR A | | | D |
| E02-R | | 7 RET A | | | H |
| E03-A | 05.26.02.1 | X UNITS 0 DR A | | | R |
| E04-A | | 0 RET A | | | J |
| E03-B | | 1 DR A | | | S |
| E04-B | | 1 RET A | | | K |
| E03-C | | 2 DR A | | | T |
| E04-C | | 2 RET A | | | L |
| E03-D | | 3 DR A | | | U |
| E04-D | | 3 RET A | | | M |
| E03-E | | 4 DR A | | | V |
| E04-E | | 4 RET A | | | N |
| E03-F | | 5 DR A | | | W |
| E04-F | | 5 RET A | | | O |
| E03-G | | 6 DR A | | | X |
| E04-G | | 6 RET A | | | P |
| E03-H | | 7 DR A | | | Y |
| E04-H | | 7 RET A | | | Q |



Figure 10-4. Signal Interface List (Sheet 42)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PIN |
| 02A4 E05-A | 05.26.04.1 | Y UNITS 0 DR A | Twisted Pair | 01.01.01.0 | 02A3MBBDB- R |
| E06-A | | 0 RET A | | | J |
| E05-B | | 1 DR A | | | S |
| E06-B | | 1 RET A | | | K |
| E05-C | | 2 DR A | | | T |
| E06-C | | 2 RET A | | | L |
| E05-D | | 3 DR A | | | U |
| E06-D | | 3 RET A | | | M |
| E05-E | | 4 DR A | | | V |
| E06-E | | 4 RET A | | | N |
| E05-F | | 5 DR A | | | W |
| E06-F | | 5 RET A | | | O |
| E05-G | | 6 DR A | | | X |
| E06-G | | 6 RET A | | | P |
| E05-H | | 7 DR A | | | Y |
| E06-H | | 7 RET A | | | Q |
| E05-J | 05.26.05.1 | Y EIGHTS 0 DR A | | | 02A3MBDDB- A |
| E06-J | | 0 RET A | | | E |
| E05-K | | 1 DR A | | | B |
| E06-K | | 1 RET A | | | F |
| E05-L | | 2 DR A | | | C |
| E06-L | | 2 RET A | | | G |
| E05-M | | 3 DR A | | | D |
| E06-M | | 3 RET A | | | H |
| E05-N | | 4 DR A | | | 02A3MBBDB- A |
| E06-N | | 4 RET A | | | E |
| E05-P | | 5 DR A | | | B |
| E06-P | | 5 RET A | | | F |
| E05-Q | | 6 DR A | | | C |
| E06-Q | | 6 RET A | | | G |
| E05-R | | 7 DR A | | | D |
| E06-R | | 7 RET A | | | H |
| E07-A | 05.26.04.1 | Y UNITS 0 DR A | | | R |
| E08-A | | 0 RET A | | | J |
| E07-B | | 1 DR A | | | S |
| E08-B | | 1 RET A | | | K |
| E07-C | | 2 DR A | | | T |
| E08-C | | 2 RET A | | | L |
| E07-D | | 3 DR A | | | U |
| E08-D | | 3 RET A | | | M |
| E07-E | | 4 DR A | | | V |
| E08-E | | 4 RET A | | | N |
| E07-F | | 5 DR A | | | W |
| E08-F | | 5 RET A | | | O |
| E07-G | | 6 DR A | | | X |
| E08-G | | 6 RET A | | | P |
| E07-H | | 7 DR A | | | Y |
| E08-H | | 7 RET A | | | Q |



Figure 10.4. Signal Interface List (Sheet 43)

| FROM | | | | | | TO | |
|---|---|---|---|---|---|---|---|
| EDGE CONN | | LOGIC SHEET | SIGNAL NAME | | | LOGIC SHEET | PIN |
| 02A4 | E09-A | 05.26.06.1 | X UNITS | 0 DR B | Twisted Pair | 01.01.01.0 | 02A3MBADB- R |
| | E10-A | | | 0 RET B | | | J |
| | E09-B | | | 1 DR B | | | S |
| | E10-B | | | 1 RET B | | | K |
| | E09-C | | | 2 DR B | | | T |
| | E10-C | | | 2 RET B | | | L |
| | E09-D | | | 3 DR B | | | U |
| | E10-D | | | 3 RET B | | | M |
| | E09-E | | | 4 DR B | | | V |
| | E10-E | | | 4 RET B | | | N |
| | E09-F | | | 5 DR B | | | W |
| | E10-F | | | 5 RET B | | | O |
| | E09-G | | | 6 DR B | | | X |
| | E10-G | | | 6 RET B | | | P |
| | E09-H | | | 7 DR B | | | Y |
| | E10-H | | | 7 RET B | | | Q |
| | E11-J | 05.26.07.1 | X EIGHTS | 0 DR B | | | A |
| | E12-J | | | 0 RET B | | | E |
| | E11-K | | | 1 DR B | | | B |
| | E12-K | | | 1 RET B | | | F |
| | E11-L | | | 2 DR B | | | C |
| | E12-L | | | 2 RET B | | | G |
| | E11-M | | | 3 DR B | | | D |
| | E12-M | | | 3 RET B | | | H |
| | E11-N | | | 4 DR B | | | A |
| | E12-N | | | 4 RET B | | | E |
| | E11-P | | | 5 DR B | | | B |
| | E12-P | | | 5 RET B | | | F |
| | E11-Q | | | 6 DR B | | | C |
| | E12-Q | | | 6 RET B | | | G |
| | E11-R | | | 7 DR B | | | D |
| | E12-R | | | 7 RET B | | | H |
| | E11-A | 05.26.06.1 | X UNITS | 0 DR B | | | R |
| | E12-A | | | 0 RET B | | | J |
| | E11-B | | | 1 DR B | | | S |
| | E12-B | | | 1 RET B | | | K |
| | E11-C | | | 2 DR B | | | T |
| | E12-C | | | 2 RET B | | | L |
| | E11-D | | | 3 DR B | | | U |
| | E12-D | | | 3 RET B | | | M |
| | E11-E | | | 4 DR B | | | V |
| | E12-E | | | 4 RET B | | | N |
| | E11-F | | | 5 DR B | | | W |
| | E12-F | | | 5 RET B | | | O |
| | E11-G | | | 6 DR B | | | X |
| | E12-G | | | 6 RET B | | | P |
| | E11-H | | | 7 DR B | | | Y |
| | E12-H | | | 7 RET B | | | Q |



Figure 10-4. Signal Interface List (Sheet 44)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PIN |
| 02A4 E13-A | 05.26.08.1 | Y UNITS 0 DR B | Twisted Pair | 01.01.01.0 | 02A03MADDB-R |
| E14-A | | 0 RET B | | | J |
| E13-B | | 1 DR B | | | S |
| E14-B | | 1 RET B | | | K |
| E13-C | | 2 DR B | | | T |
| E14-C | | 2 RET B | | | L |
| E13-D | | 3 DR B | | | U |
| E14-D | | 3 RET B | | | M |
| E13-E | | 4 DR B | | | V |
| E14-E | | 4 RET B | | | N |
| E13-F | | 5 DR B | | | W |
| E14-F | | 5 RET B | | | O |
| E13-G | | 6 DR B | | | X |
| E14-G | | 6 RET B | | | P |
| E13-H | | 7 DR B | | | Y |
| E14-H | | 7 RET B | | | Q |
| E13-J | 05.26.09.1 | Y EIGHTS 0 DR B | | | A |
| E14-J | | 0 RET B | | | E |
| E13-K | | 1 DR B | | | B |
| E14-K | | 1 RET B | | | F |
| E13-L | | 2 DR B | | | C |
| E14-L | | 2 RET B | | | G |
| E13-M | | 3 DR B | | | D |
| E14-M | | 3 RET B | | | H |
| E13-N | | 4 DR B | | | MADBB- A |
| E14-N | | 4 RET B | | | E |
| E13-P | | 5 DR B | | | B |
| E14-P | | 5 RET B | | | F |
| E13-Q | | 6 DR B | | | C |
| E14-Q | | 6 RET B | | | G |
| E13-R | | 7 DR B | | | D |
| E14-R | | 7 RET B | | | MABDB- H |
| E15-A | 05.26.08.1 | Y UNITS 0 DR B | | | R |
| E16-A | | 0 RET B | | | J |
| E15-B | | 1 DR B | | | S |
| E16-B | | 1 RET B | | | K |
| E15-C | | 2 DR B | | | T |
| E16-C | | 2 RET B | | | L |
| E15-D | | 3 DR B | | | U |
| E16-D | | 3 RET B | | | M |
| E15-E | | 4 DR B | | | V |
| E16-E | | 4 RET B | | | N |
| E15-F | | 5 DR B | | | W |
| E16-F | | 5 RET B | | | O |
| E15-G | | 6 DR B | | | X |
| E16-G | | 6 RET B | | | P |
| E15-H | | 7 DR B | | | Y |
| E16-H | | 7 RET B | | | Q |



Figure 10-4. Signal Interface List (Sheet 45)

| FROM | | | TO | | REFERENCE |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | JACK | MATE | LOGIC SHEET |
| 02A4D07- A | 05.26.04.1 | MAR 8 | J2- H | 02P10- H | 05.05.11.1 |
| | 05.26.08.1 | | | | |
| B | 05.26.04.1 | 9 | J | J | 05.05.08.1 |
| | 05.26.08.1 | | | | |
| C | 05.26.05.1 | 10 NOT | Y | Y | 05.05.08.1 |
| | 05.26.09.1 | | | | |
| D | 05.26.05.1 | 11 NOT | Z | Z | 05.05.06.1 |
| | 05.26.09.1 | | | | |
| E | 05.26.05.1 | 10 | K | K | 05.05.07.1 |
| | 05.26.09.1 | | | | |
| F | 05.26.05.1 | 12 NOT | a | a | 05.05.06.1 |
| | 05.26.09.1 | | | | |
| G | 05.26.05.1 | 11 | L | L | 05.05.07.1 |
| | 05.26.09.1 | | | | |
| H | 05.26.05.1 | 12 | M | M | 05.05.07.1 |
| | 05.26.09.1 | | | | |
| 02A4D08- A | 05.26.02.1 | MAR 1 | J2- A | 02P10- A | 05.05.09.1 |
| | 05.26.06.1 | | | | |
| B | 05.26.02.1 | 1 NOT | N | N | 05.05.09.1 |
| | 05.26.06.1 | | | | |
| C | 05.26.02.1 | 3 NOT | R | R | 05.05.10.1 |
| | 05.26.06.1 | | | | |
| D | 05.26.02.1 | 2 | P | P | |
| | 05.26.06.1 | | | | |
| E | 05.26.02.1 | 2 | B | B | |
| | 05.26.06.1 | | | | |
| F | 05.26 02.1 | 3 | C | C | |
| | 05.26.06.1 | | | | |
| G | 05.26.03.1 | 4 NOT | S | S | |
| | 05.26.07.1 | | | | |
| H | 05.26.03.1 | 5 | T | T | |
| | 05.26.07.1 | | | | |
| J | 05.26.03.1 | 6 | U | U | 05.05.11.1 |
| | 05.26.07.1 | | | | |
| K | 05.26.03.1 | 4 | D | D | 05.05.10.1 |
| | 05.26.07.1 | | | | |
| L | 05.26.03.1 | 5 | E | E | 05.05.10.1 |
| | 05.26.07.1 | | | | |
| M | 05.26.03.1 | 6 | F | F | 05.05.11.1 |
| | 05.26.07.1 | | | | |
| N | 05.26.04.1 | 7 NOT | V | V | 05.05.11.1 |
| | 05.26.08.1 | | | | |
| P | 05.26.04.1 | 8 | W | W | 05.05.11.1 |
| | 05.26.08.1 | | | | |
| Q | 05.26.04.1 | 9 | X | X | 05.05.09.1 |
| | 05.26.08.1 | | | | |
| R | 05.26.04.1 | 7 | G | C | 05.05.11.1 |
| 02A4D18- E | 05.26.01.1 | 22 DEGREES CENT A | 02A-3 | 000A- C | |
| F | | 29 DEGREES CENT A | | D | |
| R | | 35 DEGREES CENT A | | E | |
| 02A4D21- E | 05.26.01.1 | 22 DEGREES CENT B | | 000B- C | |
| F | | 29 DEGREES CENT B | | D | |
| R | | 35 DEGREES CENT B | | E | |



Figure 10-4. Signal Interface List (Sheet 46)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PIN |
| 02A5E03- B | 05.27. 12.1 | INH A 0 MB1 RET | Twisted Pair | 01.01.04.0 | 02A3MABP1-2 |
| A | 16.1 | MB1 | | | 3 |
| D | 12.1 | MB2 RET | | | 68 |
| C | 16.1 | MB2 | | | 69 |
| F | 12.1 | 1 MB2 RET | | | 70 |
| F | 16.1 | MB2 | | | 71 |
| H | 12.1 | MB1 RET | | | 136 |
| G | 16.1 | MB1 | | | 137 |
| J | 12.1 | 0 MB3 RET | | | 02A3MABP2-2 |
| K | 16.1 | MB3 | | | 3 |
| L | 12.1 | MB4 RET | | | 68 |
| M | 16.1 | MB4 | | | 69 |
| N | 12.1 | 1 MB4 RET | | | 70 |
| P | 16.1 | MB4 | | | 71 |
| Q | 12.1 | MB3 RET | | | 136 |
| R | 16.1 | MB3 | | | 137 |
| 02A5E04- B | 12.1 | INH A 0 MB5 RET | | | 02A3MABP3-2 |
| A | 16.1 | MB5 | | | 3 |
| D | 13.1 | MB6 RET | | | 68 |
| C | 16.1 | MB6 | | | 69 |
| F | 13.1 | 1 MB6 RET | | | 70 |
| E | 16.1 | MB6 | | | 71 |
| H | 13.1 | MB5 RET | | | 136 |
| G | 16.1 | MB5 | | | 137 |
| J | 13.1 | 0 MB7 RET | | | 02A3MABP4-2 |
| K | 16.1 | MB7 | | | 3 |
| L | 13.1 | MB8 RET | | | 68 |
| M | 16.1 | MB8 | | | 69 |
| N | 13.1 | MB8 RET | | | 70 |
| P | 16.1 | MB8 | | | 71 |
| Q | 13.1 | MB7 RET | | | 136 |
| R | 16.1 | MB7 | | | 137 |
| 02A5E05- B | 14.1 | INH A 0 MB9 RET | | | 02A3MABP5-2 |
| A | 16.1 | MB9 | | | 3 |
| D | 14.1 | MB10 RET | | | 68 |
| C | 16.1 | MB10 | | | 69 |
| F | 14.1 | 1 MB10 RET | | | 70 |
| E | 16.1 | MB10 | | | 71 |
| H | 14.1 | MB9 RET | | | 136 |
| G | 16.1 | MB9 | | | 137 |
| J | 14.1 | 0 MB11 RET | | | 02A3MABP6-2 |
| K | 16.1 | MB11 | | | 3 |
| L | 14.1 | MB12 RET | | | 68 |
| M | 16.1 | MB12 | | | 69 |
| N | 14.1 | 1 MB12 RET | | | 70 |
| P | 16.1 | MB12 | | | 71 |
| Q | 14.1 | MB11 RET | | | 136 |
| R | 16.1 | MB11 | | | 137 |
| 02A5E06- B | 15.1 | INH A 0 MB13 RET | | | 02A3MABP7-2 |
| A | 16.1 | MB13 | | | 3 |
| D | 15.1 | PAR RET | | | 68 |
| C | 16.1 | PAR | | | 69 |
| F | 15.1 | PAR RET | | | 70 |
| E | 16.1 | PAR | | | 71 |
| H | 15.1 | MB13 RET | | | 136 |
| G | 16.1 | MB13 | | | 137 |



Figure 10-4. Signal Interface List (Sheet 47)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PIN |
| 02A5 E11-B | 05.27.12.1 | INH B 0 MB1 RET | Twisted Pair | 01.01.04.1 | 02A3MBBP1-2 |
| A | 17.1 | 0 MB1 | | | 3 |
| D | 12.1 | 0 MB2 RET | | | 68 |
| C | 17.1 | 0 MB2 | | | 69 |
| F | 12.1 | 1 MB2 RET | | | 70 |
| E | 17.1 | 1 MB2 | | | 71 |
| H | 12.1 | 1 MB1 RET | | | 136 |
| G | 17.1 | 1 MB1 | | | 137 |
| J | 12.1 | 0 MB3 RET | | | 02A3MBBP2-2 |
| K | 17.1 | 0 MB3 | | | 3 |
| L | 12.1 | 0 MB4 RET | | | 68 |
| M | 17.1 | 0 MB4 | | | 69 |
| N | 12.1 | 1 MB4 RET | | | 70 |
| P | 17.1 | 1 MB4 | | | 71 |
| Q | 12.1 | 1 MB3 RET | | | 136 |
| R | 17.1 | 1 MB3 | | | 137 |
| E12-B | 13.1 | 0 MB5 RET | | | 02A3MBBP3-2 |
| A | 17.1 | 0 MB5 | | | 3 |
| D | 13.1 | 0 MB6 RET | | | 68 |
| C | 17.1 | 0 MB6 | | | 69 |
| F | 13.1 | 1 MB6 RET | | | 70 |
| E | 17.1 | 1 MB6 | | | 71 |
| H | 13.1 | 1 MB5 RET | | | 136 |
| G | 17.1 | 1 MB5 | | | 137 |
| J | 13.1 | 0 MB7 RET | | | 02A3MBBP4-2 |
| K | 17.1 | 0 MB7 | | | 3 |
| L | 13.1 | 0 MB8 RET | | | 68 |
| M | 17.1 | 0 MB8 | | | 69 |
| N | 13.1 | 1 MB8 RET | | | 70 |
| P | 17.1 | 1 MB8 | | | 71 |
| Q | 13.1 | 1 MB7 RET | | | 136 |
| R | 17.1 | 1 MB7 | | | 137 |
| E13-B | 14.1 | 0 MB9 RET | | | 02A3MBBP5-2 |
| A | 17.1 | 0 MB9 | | | 3 |
| D | 14.1 | 0 MB10 RET | | | 68 |
| C | 17.1 | 0 MB10 | | | 69 |
| F | 14.1 | 1 MB10 RET | | | 70 |
| E | 17.1 | 1 MB10 | | | 71 |
| H | 14.1 | 1 MB9 RET | | | 136 |
| G | 17.1 | 1 MB9 | | | 137 |
| J | 14.1 | 0 MB11 RET | | | 02A3MBBP6-2 |
| K | 17.1 | 0 MB11 | | | 3 |
| L | 14.1 | 0 MB12 RET | | | 68 |
| M | 17.1 | 0 MB12 | | | 69 |
| N | 14.1 | 1 MB12 RET | | | 70 |
| P | 17.1 | 1 MB12 | | | 71 |
| Q | 14.1 | 1 MB11 RET | | | 136 |
| R | 17.1 | 1 MB11 | | | 137 |
| E14-B | 15.1 | 0 MB13 RET | | | 02A3MBBP7-2 |
| A | 17.1 | 0 MB13 | | | 3 |
| D | 15.1 | 0 PAR RET | | | 68 |
| C | 17.1 | 0 PAR | | | 69 |
| F | 15.1 | 1 PAR RET | | | 70 |
| E | 17.1 | 1 PAR | | | 71 |
| H | 15.1 | 1 MB13 RET | | | 136 |
| G | 17.1 | 1 MB13 | | | 137 |



Figure 10-4. Signal Interface List (Sheet 48)

| FROM | | | TO | | REFERENCE |
| --- | --- | --- | --- | --- | --- |
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | JACK | MATE | LOGIC SHEET |
| 02A5E20-A | 05.27.03.1 | MAR 5 NOT READ | 02A3J2-c | 02P10-c | 05.05.20.1 |
| | 05.27.04.1 | | | | |
| B | 05.27.03.1 | MAR 5 READ | b | b | 05.05.20.1 |
| | 05.27.04.1 | | | | |
| C | 05.27.03.1 | FORCE WR 1 | g | g | FOR TEST ONLY |
| | 05.27.04.1 | | | | |
| D | 05.27.05.1 | MBR SW 1 | j | j | 00.04.05.1 |
| E | 05.27.05.1 | 2 | k | k | |
| F | 05.27.06.1 | 3 | m | m | |
| G | 05.27.06.1 | 4 | n | n | |
| H | 05.27.07.1 | 5 | p | p | |
| J | 05.27.07.1 | 6 | q | q | |
| K | 05.27.08.1 | 7 | r | r | |
| L | 05.27.08.1 | 8 | s | s | |
| M | 05.27.09.1 | 9 | t | t | |
| N | 05.27.09.1 | 10 | u | u | |
| P | 05.27.10.1 | 11 | v | v | |
| Q | 05.27.10.1 | 12 | w | w | |
| 02A5E10-A | 05.27.11.1 | MBR SW 13 | 02A3J2-x | 02P10-x | 00.04.05.1 |
| B | 05.27.11.1 | MBR SW PAR | y | y | 00.04.05.1 |
| C | 05.27.05.1 | SET MBR 1 | z | z | 05.07.24.1 |
| | 05.27.06.1 | | | | |
| | 05.27.07.1 | | | | |
| | 05.27.08.1 | | | | |
| 02A5E10-D | 05.27.09.1 | SET MBR 2 | 02A3J2-AA | 02P10-AA | 05.07.24.1 |
| | 05.27.10.1 | | | | |
| | 05.27.11.1 | | | | |
| 02A5E10-E | 05.27.05.1 | CBR 1 | 02A3J2-h | 02P10-h | 05.07.08.1 |
| | 05.27.06.1 | | | | |
| | 05.27.07.1 | | | | |
| | 05.27.08.1 | | | | |
| 02A5E10-F | 05.27.09.1 | CBR 2 | 02A3J2-i | 02P10-i | 05.07.08.1 |
| | 05.27.10.1 | | | | |
| | 05.27.11.1 | | | | |
| 02A5E10-G | 05.27.01.1 | SYL 1 | 02A3J2-f | 02P10-f | 05.05.01.1 |
| | 05.27.02.1 | SYL 1 | | | |
| 02A5E10-H | 05.27.03.1 | STROBE A INH | 02A3J4-N | 02P13-N | 05.05.01.1 |
| 02A5E10-J | 05.27.04.1 | STROBE B INH | 02A3J5-J | 02P14-J | 05.05.01.1 |
| 02A5E19-A | 05.27.03.1 | RD DLY 2.25 A | 02A3J4-C | 02P13-C | 05.05.15.1 |
| B | | RD DLY 1.75 A | K | K | 05.05.15.1 |
| C | | INHIBIT GATE A | E | E | 05.05.14.1 |
| D | 05.27.01.1 | RD & WR DLY 0.75 A | A | A | 05.05.16.1 |
| E | | RD & WR DLY 2.75 A | D | D | 05.05.16.1 |
| F | | PTC READ GATE A | H | H | 05.05.15.1 |
| G | | PTC WRITE GATE A | J | J | 05.05.15.1 |
| H | | RD & WR DLY 1.25 A | B | B | 05.05.16.1 |
| 02A5E18-A | 05.27.04.1 | RD DLY 2.25 B | 02A3J5-C | 02P14-C | 05.05.19.1 |
| B | | RD DLY 1.75 B | K | K | 05.05.19.1 |
| C | | INHIBIT GATE B | E | E | 05.05.17.1 |
| D | 05.27.02.1 | RD & WR DLY 0.75 B | A | A | 05.05.18.1 |
| E | | RD & WR DLY 2.75 B | D | D | 05.05.18.1 |
| F | | PTC READ GATE B | H | H | 05.05.19.1 |
| G | | PTC WRITE GATE B | J | J | 05.05.19.1 |
| H | | RD & WR DLY 1.75 B | B | B | 05.05.18.1 |



Figure 10-4. Signal Interface List (Sheet 49)

| FROM | | | | TO | | | | REFERENCE |
|---|---|---|---|---|---|---|---|---|
| EDGE CONN. | | LOGIC SHEET | SIGNAL NAME | JACK | | MATE | | LOGIC SHEET |
| 02A5E15- | A | 05.27.09.1 | NT MBR9 | 02A3J3- | Y | 02P12- | Y | 05.07.25.1 |
| | B | | MBR 9 | | J | | J | 05.07.26.1 |
| | C | | MBR 10 | | K | | K | 05.07.26.1 |
| | D | | NT MBR 10 | | Z | | Z | 05.07.25.1 |
| | E | 05.27.10.1 | NT MBR 11 | | a | | a | 05.07.25.1 |
| | F | | MBR 11 | | L | | L | 05.07.26.1 |
| | G | | MBR 12 | | M | | M | 05.07.26.1 |
| | H | | NT MBR 12 | | b | | b | 05.07.25.1 |
| | J | 05.27.11.1 | NT MBR 13 | | c | | c | 05.07.25.1 |
| | K | | MBR 13 | | N | | N | 05.07.26.1 |
| | L | | MBR 14 | | d | | d | 05.07.26.1 |
| | M | | NT MBR 14 | | e | | e | 05.07.25.1 |
| 02A5E16- | A | 05.27.05.1 | NT MBR 1 | 02A3J3- | P | 02P12- | P | 05.07.24.1 |
| | B | | MBR 1 | | A | | A | 05.07.26.1 |
| | C | | MBR 2 | | B | | B | 05.07.26.1 |
| | D | | NT MBR 2 | | R | | R | 05.07.24.1 |
| | E | 05.27.06.1 | NT MBR 3 | | S | | S | 05.07.24.1 |
| | F | | MBR 3 | | C | | C | 05.07.26.1 |
| | G | | MBR 4 | | D | | D | 05.07.26.1 |
| | H | | NT MBR 4 | | T | | T | 05.07.24.1 |
| | J | 05.27.07.1 | NT MBR 5 | | U | | U | 05.07.24.1 |
| | K | | MBR 5 | | E | | E | 05.07.26.1 |
| | L | | MBR 6 | | F | | F | 05.07.26.1 |
| | M | | NT MBR 6 | | V | | V | 05.07.24.1 |
| | N | 05.27.08.1 | NT MBR 7 | | W | | W | 05.07.25.1 |
| | P | | MBR 7 | | G | | G | 05.07.26.1 |
| | Q | | MBR 8 | | H | | H | 05.07.26.1 |
| | R | | NT MBR 8 | | X | | X | 05.07.25.1 |

LN 04.27.04.0 6900505-REL (66118KR)

Figure 10-4. Signal Interface List (Sheet 50)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PIN |
| 02A06A14-D | 05.28.01.1 | SENSE A MB1A SEG1 | Twisted Pair | 01.01.04.1 | 02A3MACP1- 1 |
| E | | TW SENSE A MB1A SEG1 | | | 2 |
| G | | SENSE A MB1B SEG2 | | | 68 |
| F | | TW SENSE A MB1B SEG2 | | | 69 |
| A15-G | | SENSE A MB2B SEG2 | | | 70 |
| F | | TW SENSE A MB2B SEG2 | | | 71 |
| D | | SENSE A MB2A SEG1 | | | 137 |
| E | | TW SENSE A MB2A SEG1 | | | 138 |
| A16-D | | SENSE A MB3A SEG1 | | | 02A3MACP2- 1 |
| E | | TW SENSE A MB3A SEG1 | | | 2 |
| G | | SENSE A MB3B SEG2 | | | 68 |
| F | | TW SENSE A MB3B SEG2 | | | 69 |
| A17-G | | SENSE A MB4B SEG2 | | | 70 |
| F | | TW SENSE A MB4B SEG2 | | | 71 |
| D | | SENSE A MB4A SEG1 | | | 137 |
| E | | TW SENSE A MB4A SEG1 | | | 138 |
| A18-D | | SENSE A MB5A SEG1 | | | 02A3MACP3- 1 |
| E | | TW SENSE A MB5A SEG1 | | | 2 |
| G | | SENSE A MB5B SEG2 | | | 68 |
| F | | TW SENSE A MB5B SEG2 | | | 69 |
| A19-G | | SENSE A MB6B SEG2 | | | 70 |
| F | | TW SENSE A MB6B SEG2 | | | 71 |
| D | | SENSE A MB6A SEG1 | | | 137 |
| E | | TW SENSE A MB6A SEG1 | | | 138 |
| A13-D | 05.28.02.1 | SENSE A MB7A SEG1 | | | 02A3MACP4- 1 |
| E | | TW SENSE A MB7A SEG1 | | | 2 |
| G | | SENSE A MB7B SEG2 | | | 68 |
| F | | TW SENSE A MB7B SEG2 | | | 69 |
| B13-F | | SENSE A MB8B SEG2 | | | 70 |
| E | | TW SENSE A MB8B SEG2 | | | 71 |
| D | | SENSE A MB8A SEG1 | | | 137 |
| C | | TW SENSE A MB8A SEG1 | | | 138 |
| B14-D | | SENSE A MB9A SEG1 | | | 02A3MACP5- 1 |
| C | | TW SENSE A MB9B SEG1 | | | 2 |
| F | | SENSE A MB9B SEG2 | | | 68 |
| E | | TW SENSE A MB9B SEG2 | | | 69 |
| B15-F | | SENSE A MB10B SEG2 | | | 70 |
| E | | TW SENSE A MB10B SEG2 | | | 71 |
| D | | SENSE A MB10A SEG1 | | | 137 |
| C | | TW SENSE A MB10A SEG1 | | | 138 |
| B16-D | | SENSE A MB11A SEG1 | | | 02A3MACP6- 1 |
| C | | TW SENSE A MB11A SEG1 | | | 2 |
| F | | SENSE A MB11B SEG2 | | | 68 |
| E | | TW SENSE A MB11B SEG2 | | | 69 |
| B17-F | | SENSE A MB12B SEG2 | | | 70 |
| E | | TW SENSE A MB12B SEG2 | | | 71 |
| C | | SENSE A MB12A SEG1 | | | 137 |
| D | | TW SENSE A MB12A SEG1 | | | 138 |
| B18-D | | SENSE A MB13A SEG1 | | | 02A3MACP7- 1 |
| C | | TW SENSE A MB13A SEG1 | | | 2 |
| F | | SENSE A MB13B SEG2 | | | 68 |
| E | | TW SENSE A MB13B SEG2 | | | 69 |
| B19-F | | SENSE A PARB SEG2 | | | 70 |
| E | | TW SENSE A PARB SEG2 | | | 71 |
| C | | SENSE A PARA SEG1 | | | 137 |
| D | | TW SENSE A PARA SEG1 | | | 138 |



Figure 10-4. Signal Interface List (Sheet 51)

| FROM | | | | TO | |
|---|---|---|---|---|---|
| EDGE CONN. | LOGIC SHEET | SIGNAL NAME | | LOGIC SHEET | PIN |
| 02A06A07-D | 05.28.03.1 | SENSE B MB1A SEG1 | | 01.01.05.0 | 02A03MBCP1- 1 |
| E | | TW SENSE B MB1A SEG1 | | | 2 |
| G | | SENSE B MB1B SEG2 | | | 68 |
| F | | TW SENSE B MB1B SEG2 | | | 69 |
| A08-G | | SENSE B MB2B SEG2 | | | 70 |
| F | | TW SENSE B MB2B SEG2 | | | 71 |
| D | | SENSE B MB2A SEG1 | | | 137 |
| E | | TW SENSE B MB2A SEG1 | | | 138 |
| A09-D | | SENSE B MB3A SEG1 | | | 02A03MBCP2- 1 |
| E | | TW SENSE B MB3A SEG1 | | | 2 |
| G | | SENSE B MB3B SEG2 | | | 68 |
| F | | TW SENSE B MB3B SEG2 | | | 69 |
| A10-G | | SENSE B MB4B SEG2 | | | 70 |
| F | | TW SENSE B MB4B SEG2 | | | 71 |
| D | | SENSE B MB4A SEG1 | | | 137 |
| E | | TW SENSE B MB4A SEG1 | | | 138 |
| A11-D | | SENSE B MB5A SEG1 | | | 02A03MBCP3- 1 |
| E | | TW SENSE B MB5A SEG1 | | | 2 |
| G | | SENSE B MB5B SEG2 | | | 68 |
| F | | TW SENSE B MB5B SEG2 | | | 69 |
| A12-G | | SENSE B MB6B SEG2 | | | 70 |
| F | | TW SENSE B MB6B SEG2 | | | 71 |
| D | | SENSE B MB6A SEG1 | | | 137 |
| E | | TW SENSE B MB6A SEG1 | | | 138 |
| A06-D | 05.28.04.1 | SENSE B MB7A SEG1 | | | 02A3MBCP4- 1 |
| E | | TW SENSE B MB7A SEG1 | | | 2 |
| G | | SENSE B MB7B SEG2 | | | 68 |
| F | | TW SENSE B MB7B SEG2 | | | 69 |
| B06-F | | SENSE B MB8B SEG2 | | | 70 |
| E | | TW SENSE B MB8B SEG2 | | | 71 |
| D | | SENSE B MB8A SEG1 | | | 137 |
| C | | TW SENSE B MB8A SEG1 | | | 138 |
| B07-D | | SENSE B MB9A SEG1 | | | 02A03MBCP5- 1 |
| C | | TW SENSE B MB9A SEG1 | | | 2 |
| F | | SENSE B MB9B SEG2 | | | 68 |
| E | | TW SENSE B MB9B SEG2 | | | 69 |
| B08-F | | SENSE B MB10B SEG2 | | | 70 |
| E | | TW SENSE B MB10B SEG2 | | | 71 |
| D | | SENSE B MB10A SEG2 | | | 137 |
| C | | TW SENSE B MB10A SEG2 | | | 138 |
| B09-D | | SENSE B MB11A SEG2 | | | 02A03MBCP6- 1 |
| C | | TW SENSE B MB11A SEG2 | | | 2 |
| F | | SENSE B MB11B SEG2 | | | 68 |
| E | | TW SENSE B MB11B SEG2 | | | 69 |
| B10-F | | SENSE B MB12B SEG2 | | | 70 |
| E | | TW SENSE B MB12B SEG2 | | | 71 |
| D | | SENSE B MB12A SEG1 | | | 137 |
| C | | TW SENSE B MB12A SEG1 | | | 138 |
| B11-D | | SENSE B MB13A SEG1 | | | 02A03MBCP7- 1 |
| C | | TW SENSE B MB13A SEG1 | | | 2 |
| F | | SENSE B MB13B SEG2 | | | 68 |
| E | | TW SENSE B MB13B SEG2 | | | 69 |
| B12-F | | SENSE B PAR B SEG2 | | | 70 |
| E | | TW SENSE B PAR B SEG2 | | | 71 |
| D | | SENSE B PAR A SEG1 | | | 137 |
| C | | TW SENSE B PAR A SEG1 | | | 138 |

LN 04.28.02.0 6900505-REL (66118KR)

Figure 10-4. Signal Interface List (Sheet 52)

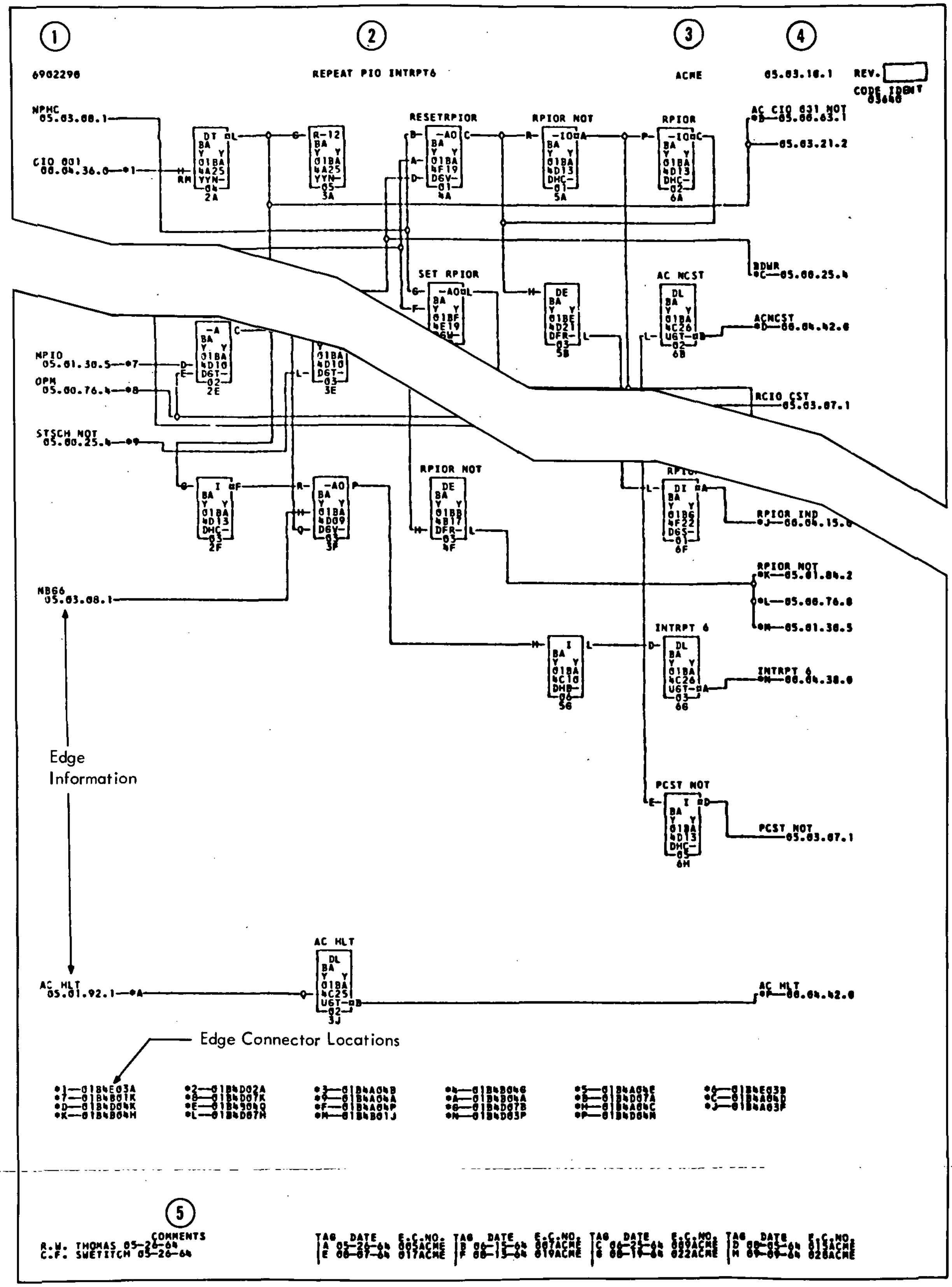



Figure 10-5. Typical Logic Page

10-21. LOGIC BLOCKS. The logic blocks represent the SMS card circuits. A basic logic function is usually represented by a single block, but some functions may require more than one block. In the case of multiple circuits on one SMS card, each circuit is represented by a separate logic block. The standard format of the logic block is shown on figure 10-6; salient features are as follows:

a. Timing. The timings of special circuits, such as single shots, oscillators, and delays, are printed above the logic blocks.

b. Functional Symbol. This symbol consists of a sign (when used) and letter(s) that indicate the type of circuit.

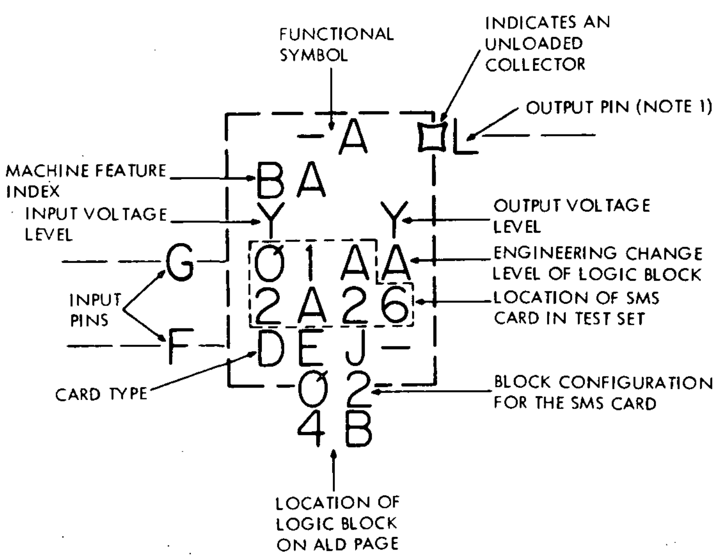
c. Machine Feature Index. This code indicates the configuration of the equipment. BA indicates the basic configuration.

d. Voltage Levels. These two code letters indicate the nominal levels of input and output voltage. The Y symbol indicates "0" = 0 vdc and "1" = -6 vdc.

e. Card Location. The location of an SMS card in the gate assemblies is indicated by a seven-character code; for example, 02B3F22 indicates that a card is located in frame 02, gate assembly B3, column F, position 22.

f. Card Type. The type of SMS card is indicated by a four character alphanumeric code.

g. Block Configuration Code. Most SMS cards contain more than one circuit. The circuit used for a particular logic function is indicated by the two-digit block configuration code.




NOTES:

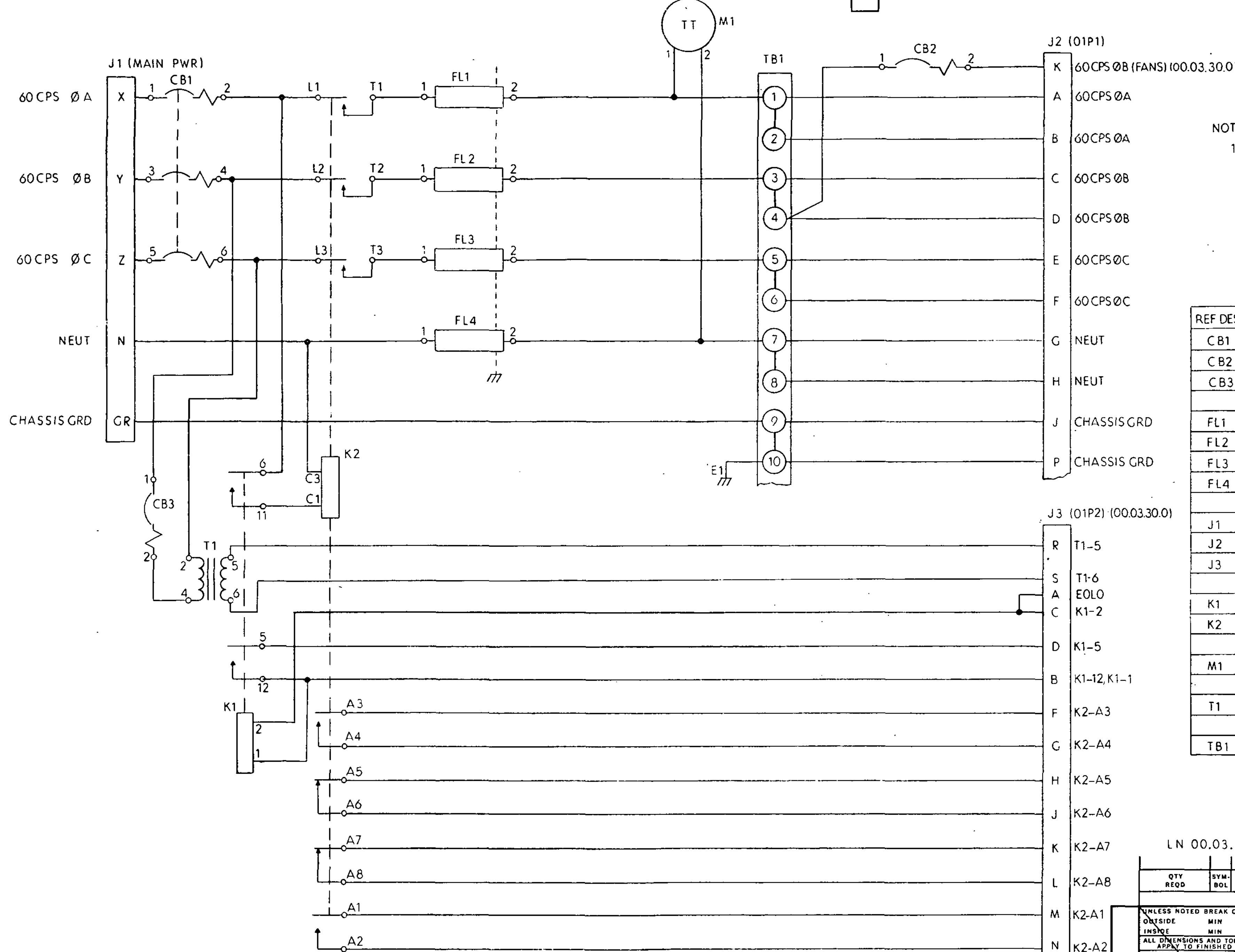
1. IF THE OUTPUT PIN IS SHOWN IN THE TOP HALF OF THE LOGIC BLOCK, THE OUTPUT IS OUT OF PHASE WITH THE INPUT(S). IF THE OUTPUT PIN IS SHOWN IN THE BOTTOM HALF OF THE LOGIC BLOCK, THE OUTPUT IS IN PHASE WITH THE INPUT(S).

2. ADJACENT PIN LETTERS (ON EITHER SIDE OF THE BLOCK) INDICATE THAT THESE PINS ARE JUMPERED TOGETHER.

Figure 10-6. Typical Logic Block

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
| | 66118-CK | RELEASE R | 4-9-4 | | |
| A | 66118-DK | SEE ENGR NOTICE | 4/29/61 | | H.P. |
| B | 66118-GH | SEE ENGRG NOTICE R | 7 30 64 | | |
| C | 66118-KZ | SEE ENGRG NOTICE R | 10/21/64 | | |

6900544 C




NOTES

1 REFERENCE DESIGNATIONS ARE ABBREVIATED, PREFIX THE DESIGNATION WITH 01B5

| REF DES | PART NUMBER | DESCRIPTION | VALUE | TOL ± % | RATING |
|---|---|---|---|---|---|
| CB1 | 6080248 | CIRCUIT BREAKER, 3PH | 115VAC | | 20 A |
| CB2 | 6078936 | , 1PH | | | 2.5A |
| CB3 | 6080356 | , 1PH | | | 0.5A |
| | | | | | |
| FL1 | 6076162 | FILTER | | | |
| FL2 | | | | | |
| FL3 | | | | | |
| FL4 | | | | | |
| | | | | | |
| J1 | 6072145 | CONNECTOR (HUBBELL) | | | |
| J2 | MS3100A28-20S | | | | |
| J3 | MS3100A28-16S | | | | |
| | | | | | |
| K1 | 608C429 | RELAY | | | |
| K2 | 6080355 | CONTACTOR | | | |
| | | | | | |
| M1 | 6018105 | INDICATOR, ELAPSE TIME | | | |
| | | | | | |
| T1 | 6077905 | TRANSFORMER | | | |
| | | | | | |
| TB1 | 6078992 | TERMINAL STRIP | | | |

REFERENCE DRAWING

LN 00.03.10.0

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|

LIST OF MATERIAL OR PARTS LIST

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

TITLE: EL. SCHEMATIC
FILTER & INTERLOCK BOX (01B5), PTC

DRAWN G. LOTZ

CODE IDENT NO. 03640 SIZE D 6900544

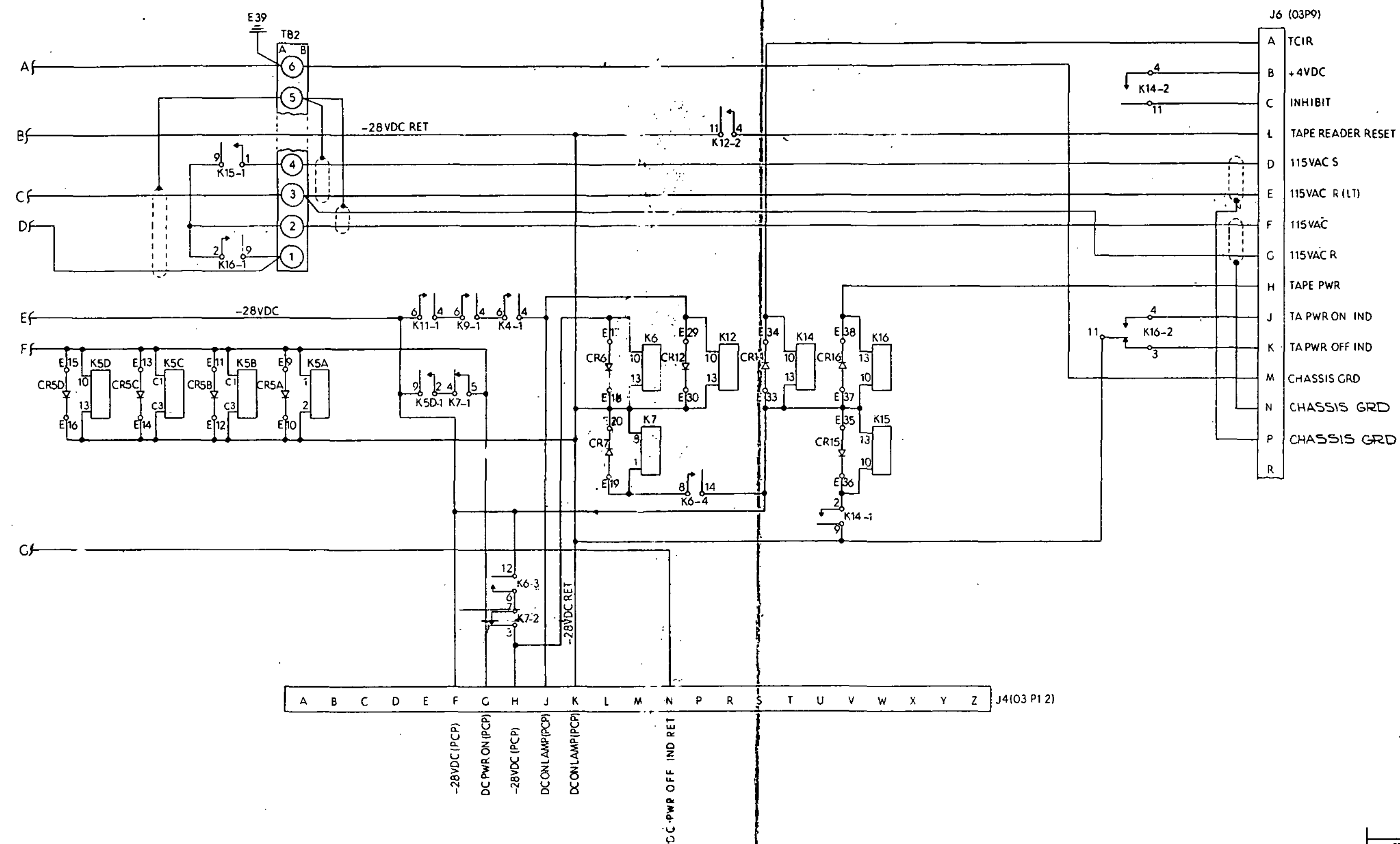
SCALE NONE

Figure 10-7. Filter and Interlock Box Assembly (01B5) Electrical Schematic Diagram (LN 00. 03. 10. 0)

| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
|---|---|---|---|---|---|
| REVISIONS | | | | | |
| | 66118-EN | RELEASE | 5-28-64 | | |
| A | 66118GH | SEE ENGRG NOTICE | | | |
| B | 66118-KZ | SEE ENGRG NOTICE | | | |

6900661 B

NOTES
1. REFERENCE DESIGNATIONS ARE ABBREVIATED PREFIX THE DESIGNATION WITH 03A5
2. FOR RELAYS K4, K7, K9 AND K11, PINS ARE NUMBERED CLOCKWISE FROM CODED TERMINAL




| REF DES | PART NUMBER | DESCRIPTION | VALUE | TOL ± % | RATING |
|---|---|---|---|---|---|
| CR1 | | DIODE | | | |
| THRU | | | | | |
| CR4 | | | | | |
| CR5A | | | | | |
| B | | | | | |
| C | | | | | |
| D | | | | | |
| CR6 | | | | | |
| THRU | | | | | |
| CR16 | | | | | |
| | | | | | |
| J1 | | CONNECTOR | | | |
| J2 | | | | | |
| J3 | | | | | |
| J4 | | | | | |
| J5 | | | | | |
| J6 | | | | | |
| | | | | | |
| K1 | | RELAY 4PDT | | | |
| K2 | | | | | |
| K3 | | | | | |
| K4 | | DPDT | | | |
| K5A | | 4PDT | | | |
| K5B | | DPDT | | | |
| K5C | | DPDT | | | |
| K5D | | 4PDT | | | |
| K6 | | 4PDT | | | |
| K7 | | DPDT | | | |
| K8 | | 4PDT | | | |
| K9 | | DPDT | | | |
| K10 | | 4PDT | | | |
| K11 | | DPDT | | | |
| K12 | | 4PDT | | | |
| K13 | | | | | |
| K14 | | | | | |
| K15 | | | | | |
| K16 | | | | | |

REFERENCE DRAWING
(LN 00.03.20.0)

LIST OF MATERIAL OR PARTS LIST

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

ELECTRICAL SCHEMATIC,
RELAY GATE, 03A5, PTC

03640 F 6900661

SCALE NONE SHEET 1 OF 2

Figure 10-8. Relay Gate Assembly (03A5) Electrical Schematic Diagram (LN 00.03.20.0 and LN 00. 03. 20. 1) (Sheet 1 of 2)

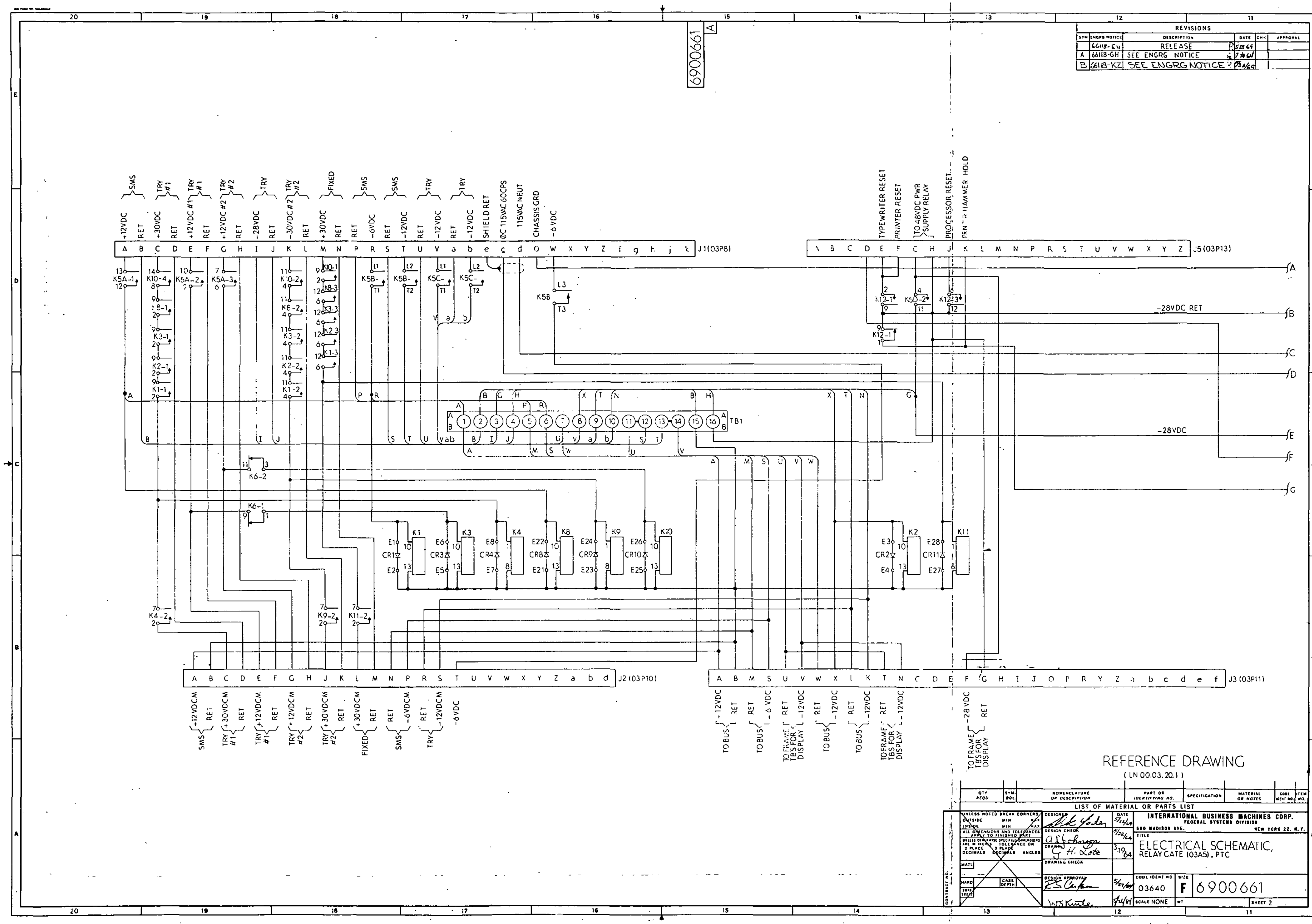


Figure 10-8. Relay Gate Assembly (03A5) Electrical Schematic Diagram(LN 00.03.20.0 and LN 00. 03. 20. 1) (Sheet 2)

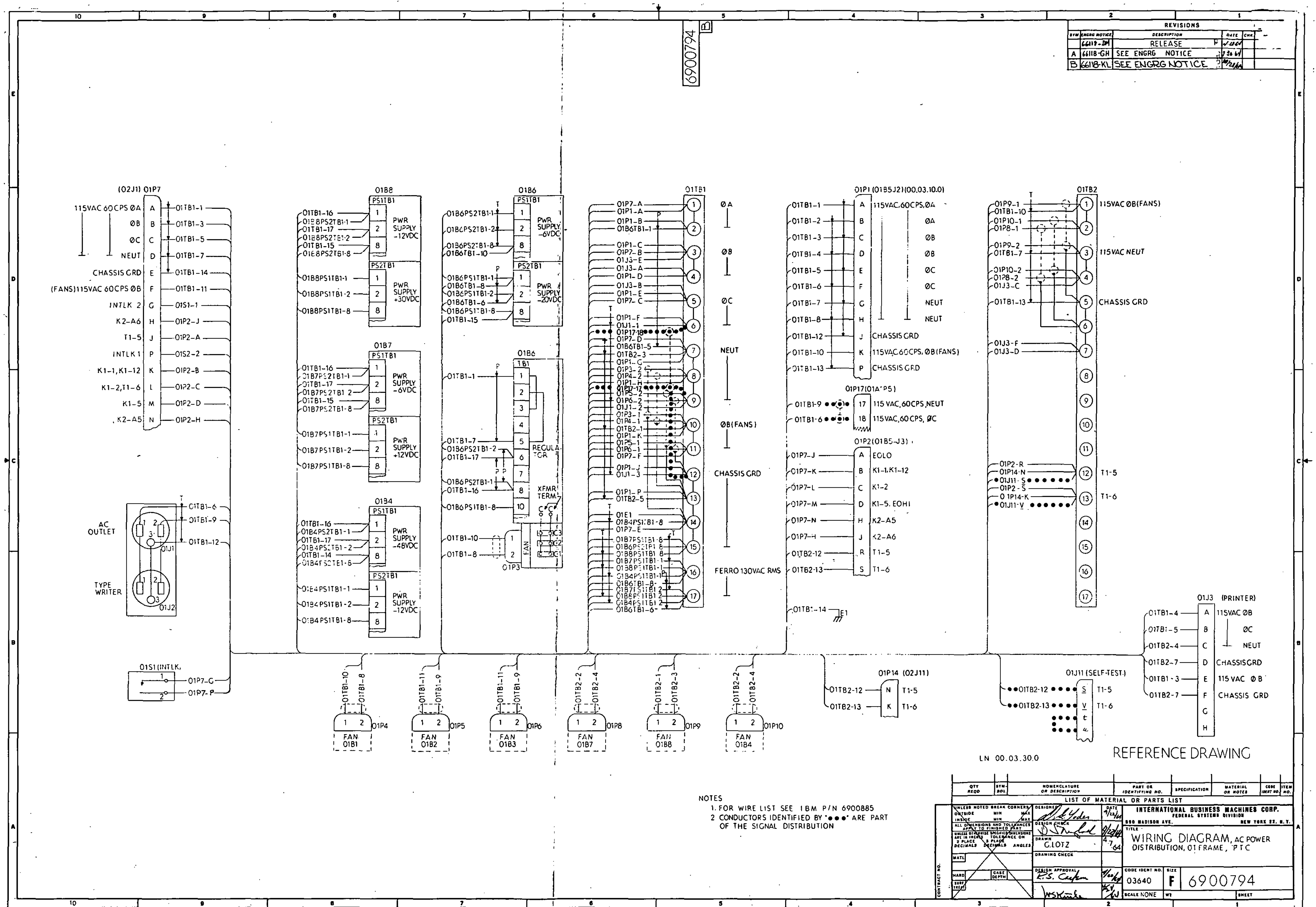


Figure 10-9. AC Power Distribution (01 Frame) Diagram (LN 00. 03. 30. 0)

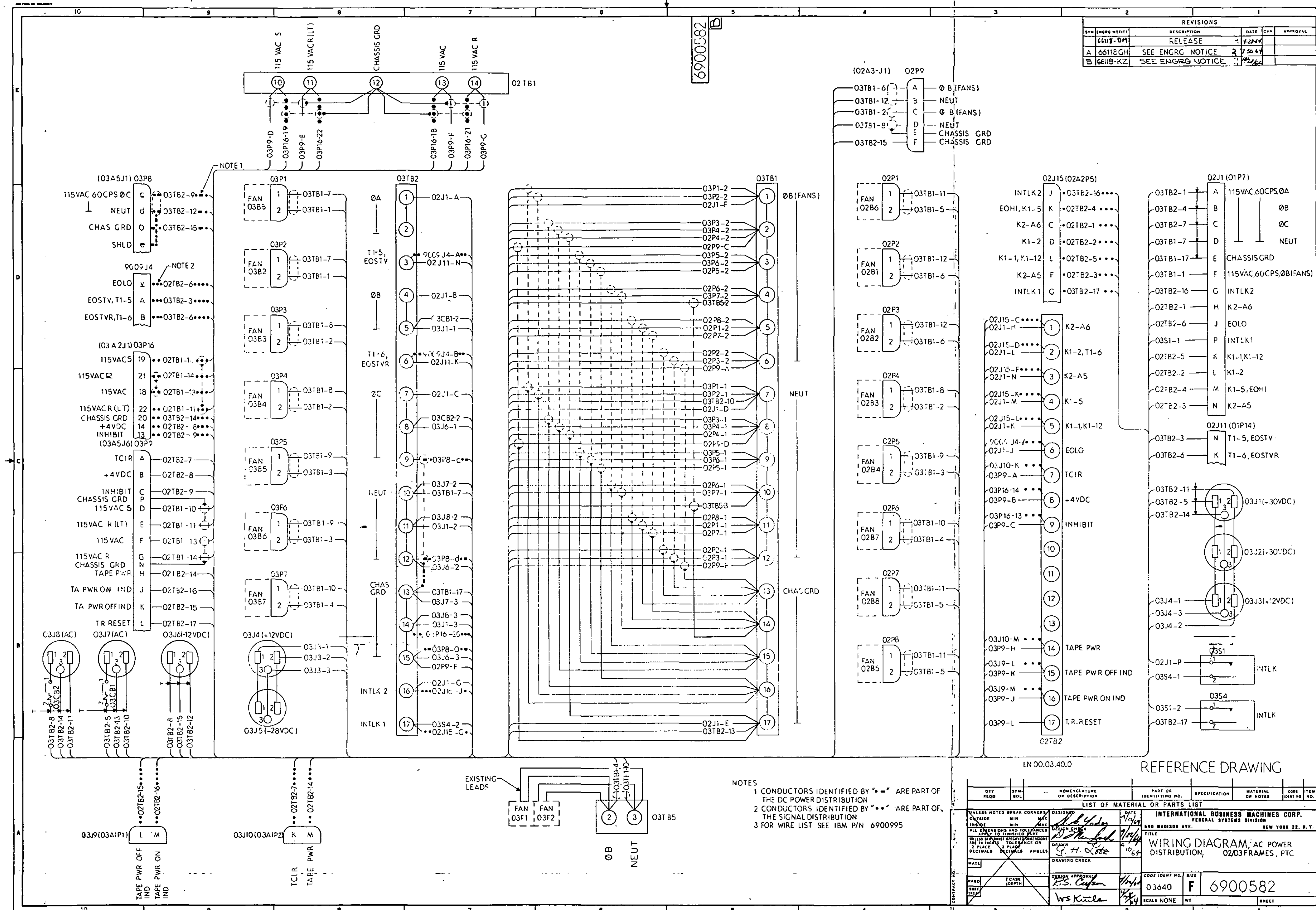



Figure 10-10. AC Power Distribution (02 and 03 Frames) Diagram (LN 00.03.40.0)

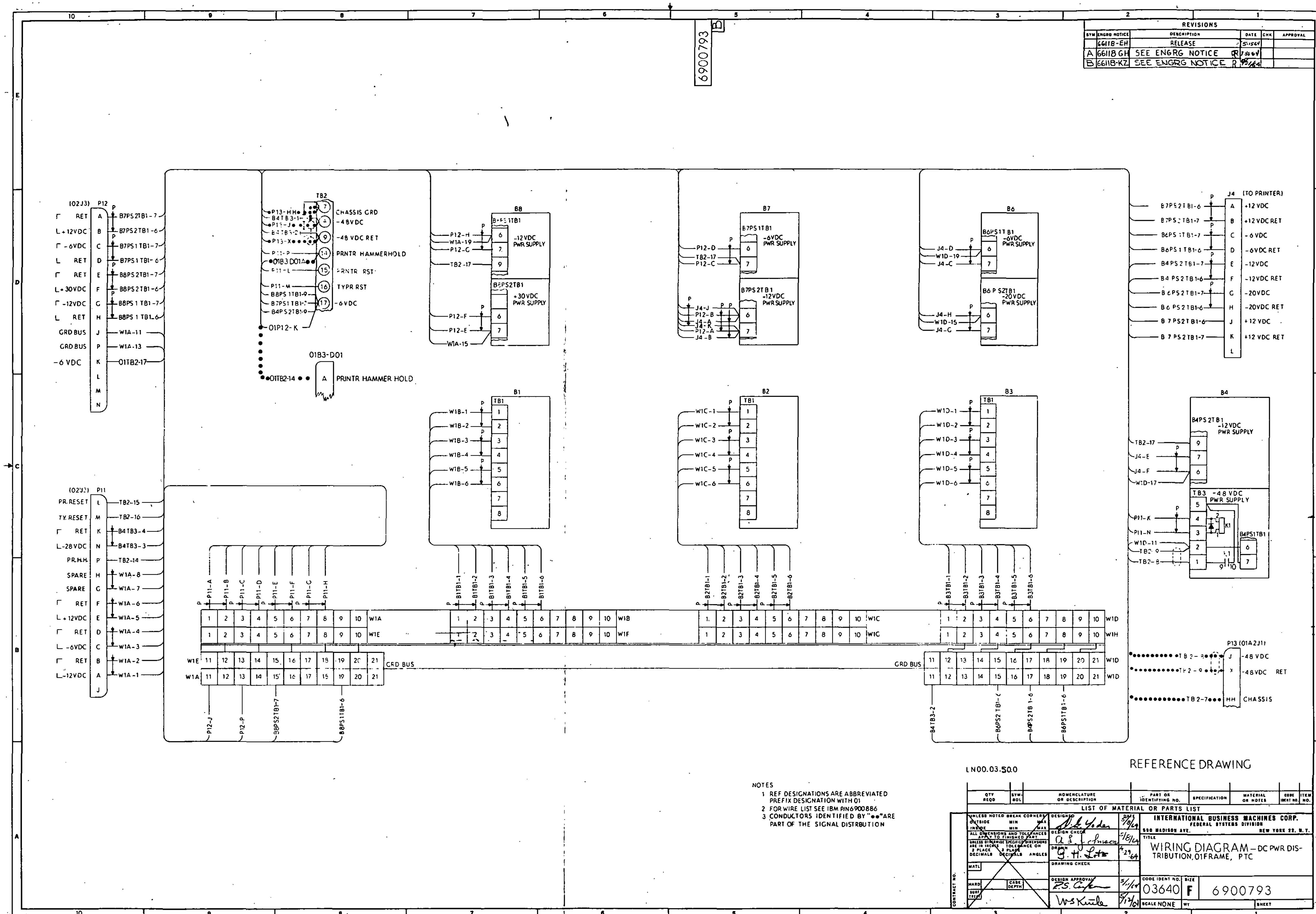



Figure 10-11. DC Power Distribution (01 Frame) Diagram (LN 00. 03. 50. 0)

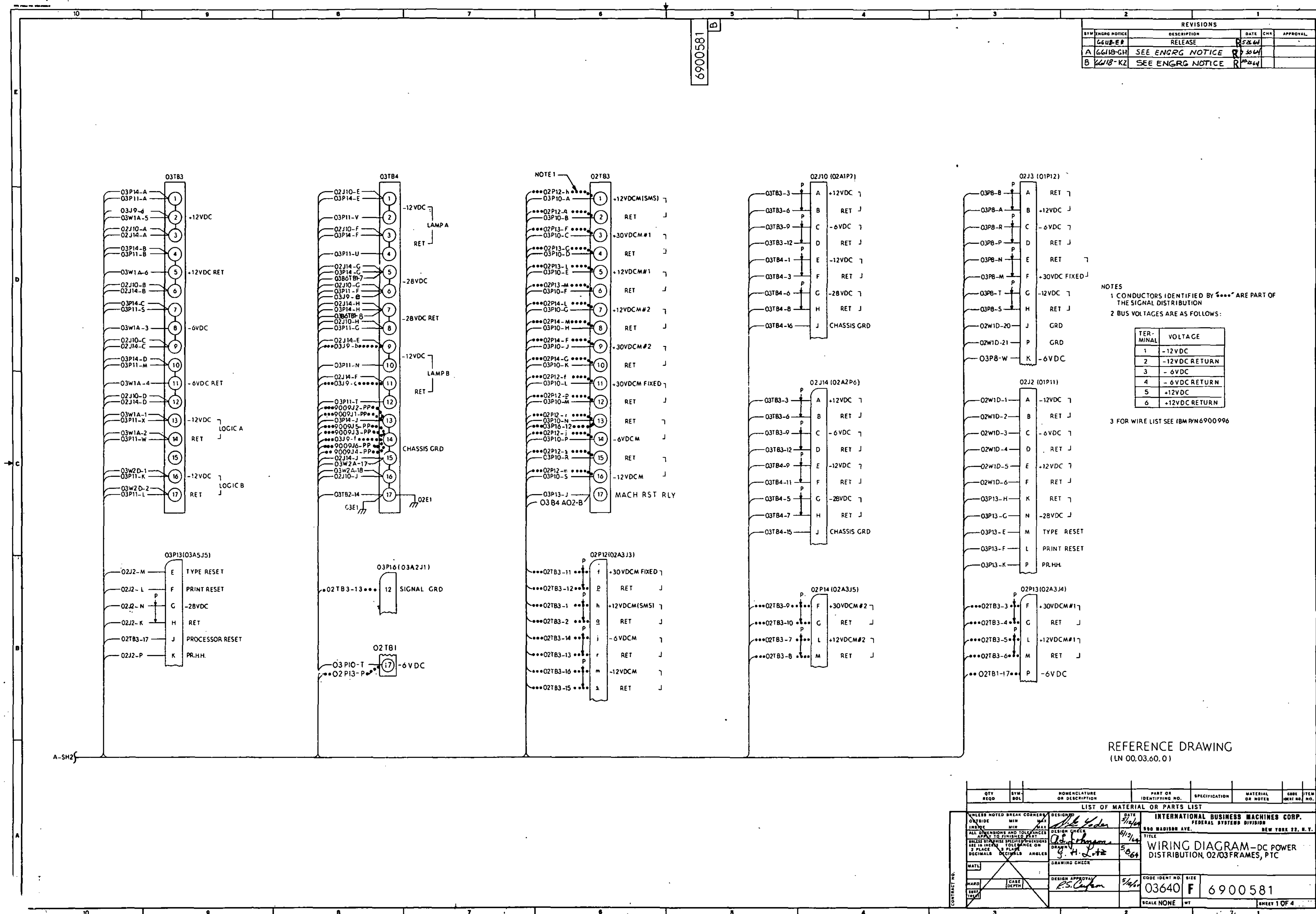



Figure 10-12. DC Power Distribution (02 and 03 Frames) Diagram (LN 00. 03. 60. 0, LN 00. 03. 60. 1, LN 00. 03. 60. 2 and LN 00. 03. 60. 3) (Sheet 1 of 4)

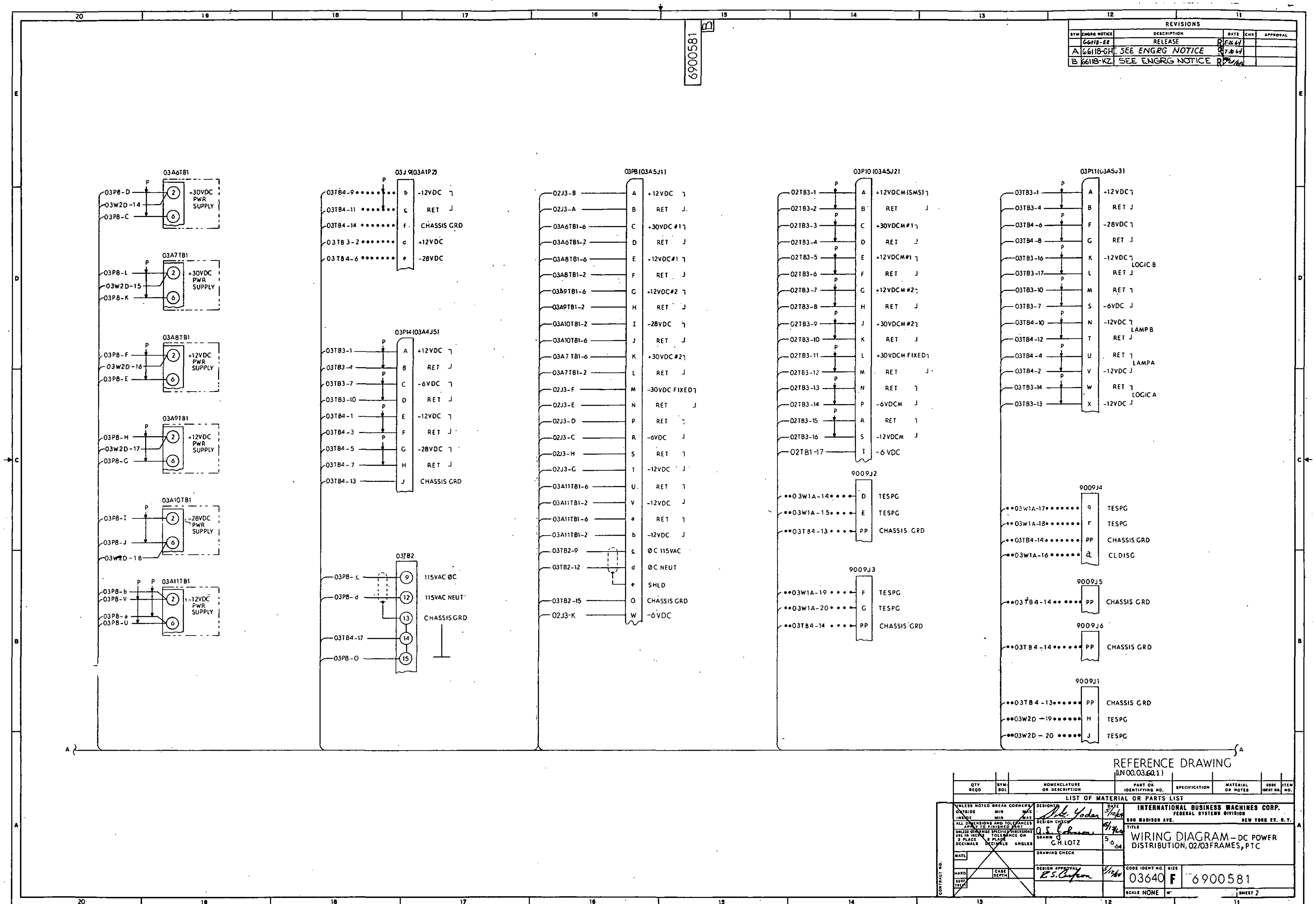


Figure 10-12. DC Power Distribution (02 and 03 Frames) Diagram (LN 00. 03. 60. 0, LN 00. 03. 60. 1, LN 00. 03. 60. 2 and LN 00. 03. 60. 3) (Sheet 2)

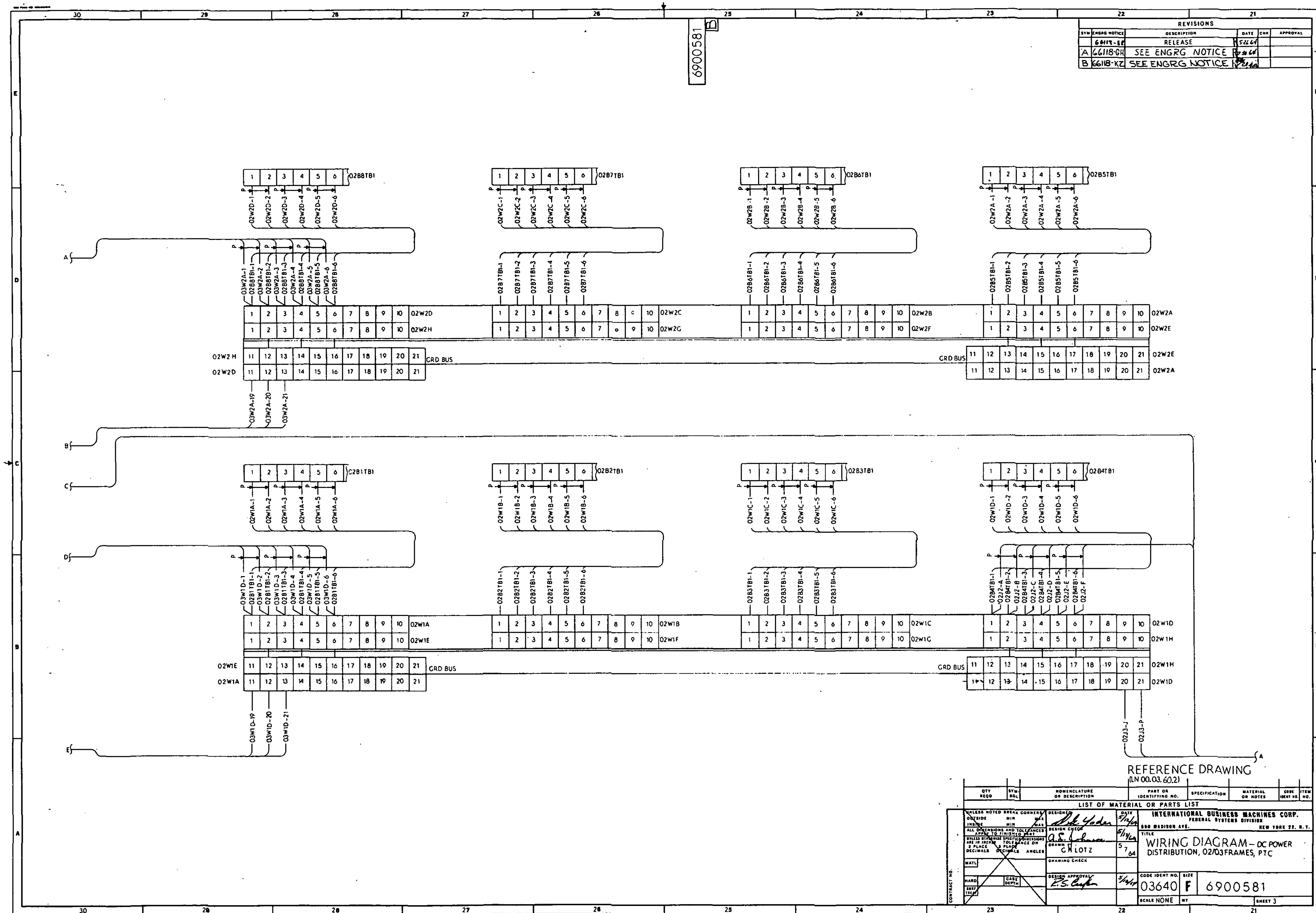


Figure 10-12. DC Power Distribution (02 and 03 Frames) Diagram (LN 00. 03. 60. 0, LN 00. 03. 60. 1, LN 00. 03. 60. 2 and LN 00. 03. 60. 3) (Sheet 3)

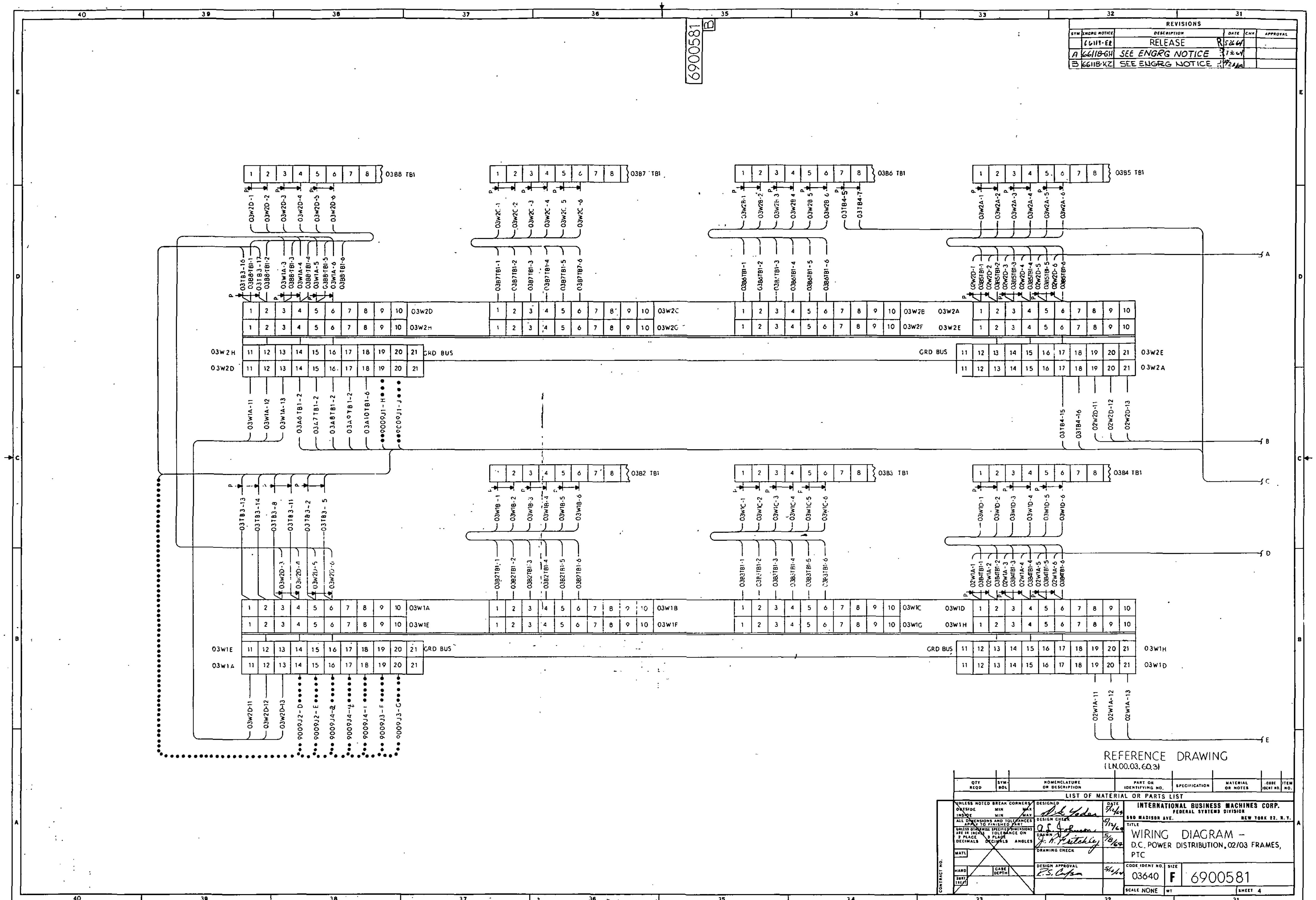



Figure 10-12. DC Power Distribution (02 and 03 Frames) Diagram (LN 00. 03. 60. 0, LN 00. 03. 60. 1, LN 00. 03. 60. 2 and LN 00. 03. 60. 3) (Sheet 4)

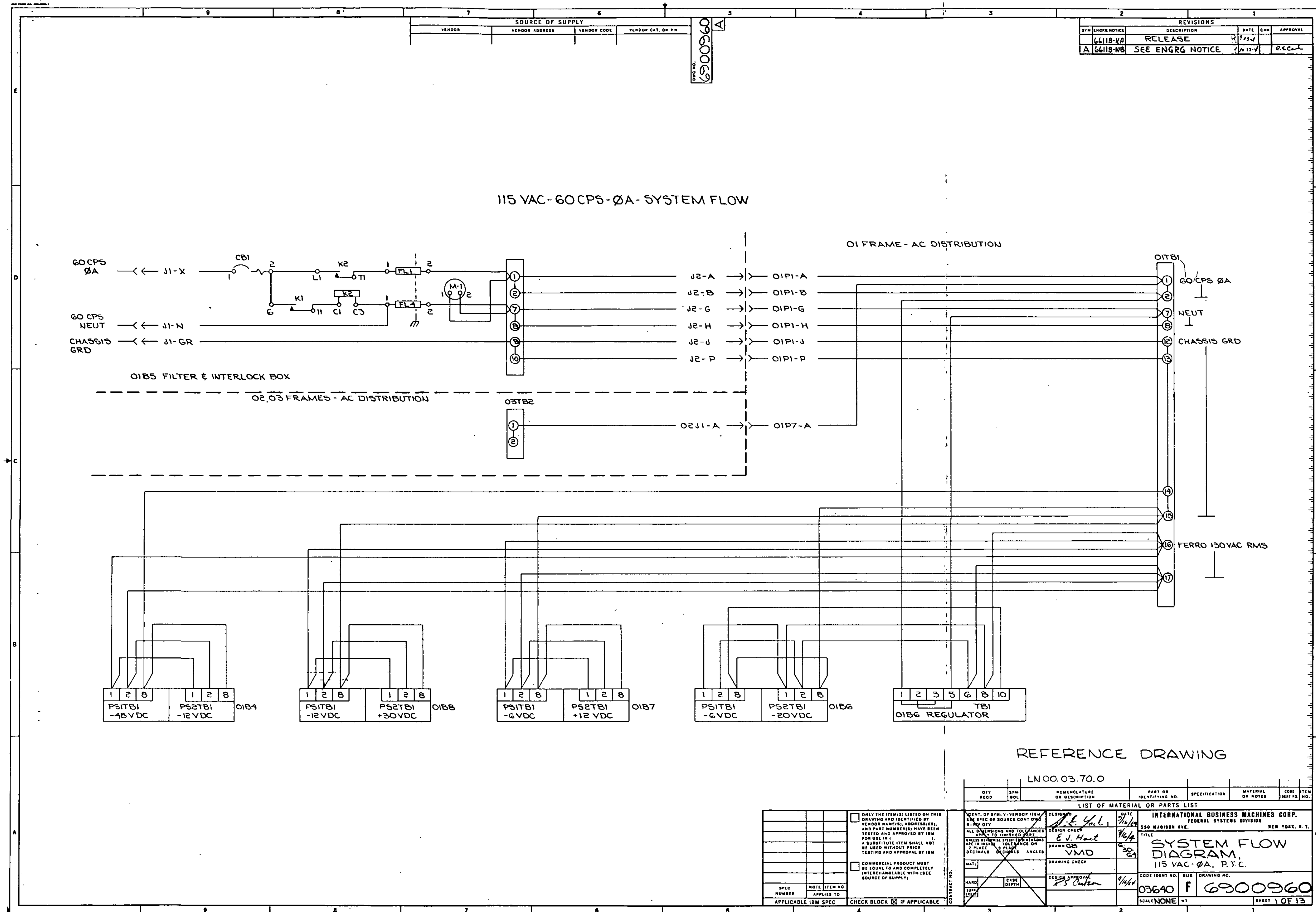



Figure 10-13. 115 VAC System Flow Diagram (LN 00. 03. 70. 0, LN 00. 03. 70. 1, LN 00. 03. 70. 2 and LN 00. 03. 70. 3) (Sheet 1 of 4)

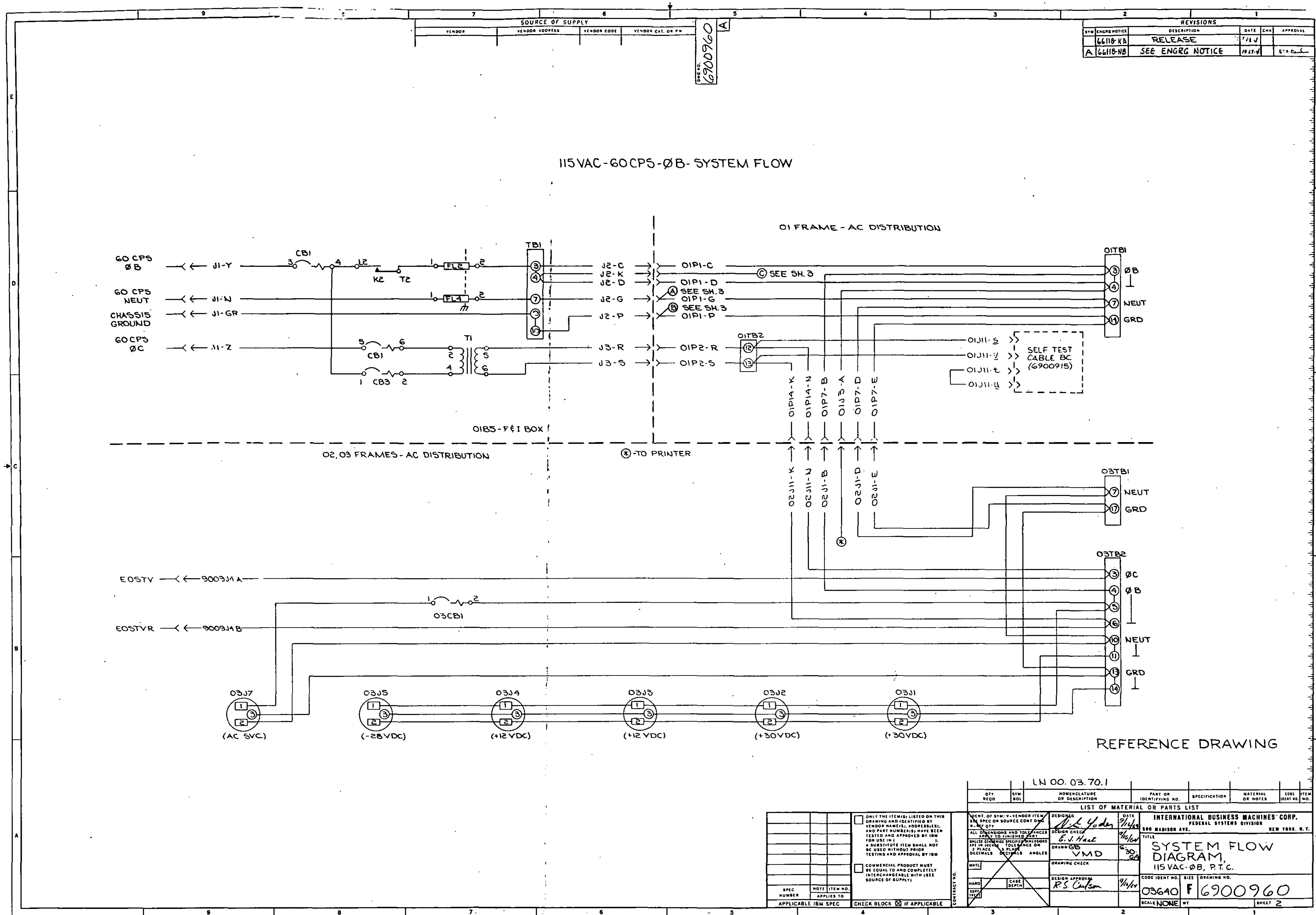



Figure 10-13. 115 VAC System Flow Diagram (LN 00. 03. 70. 0, LN 00. 03. 70. 1, LN 00. 03. 70. 2 and LN 00. 03. 70. 3) (Sheet 2)

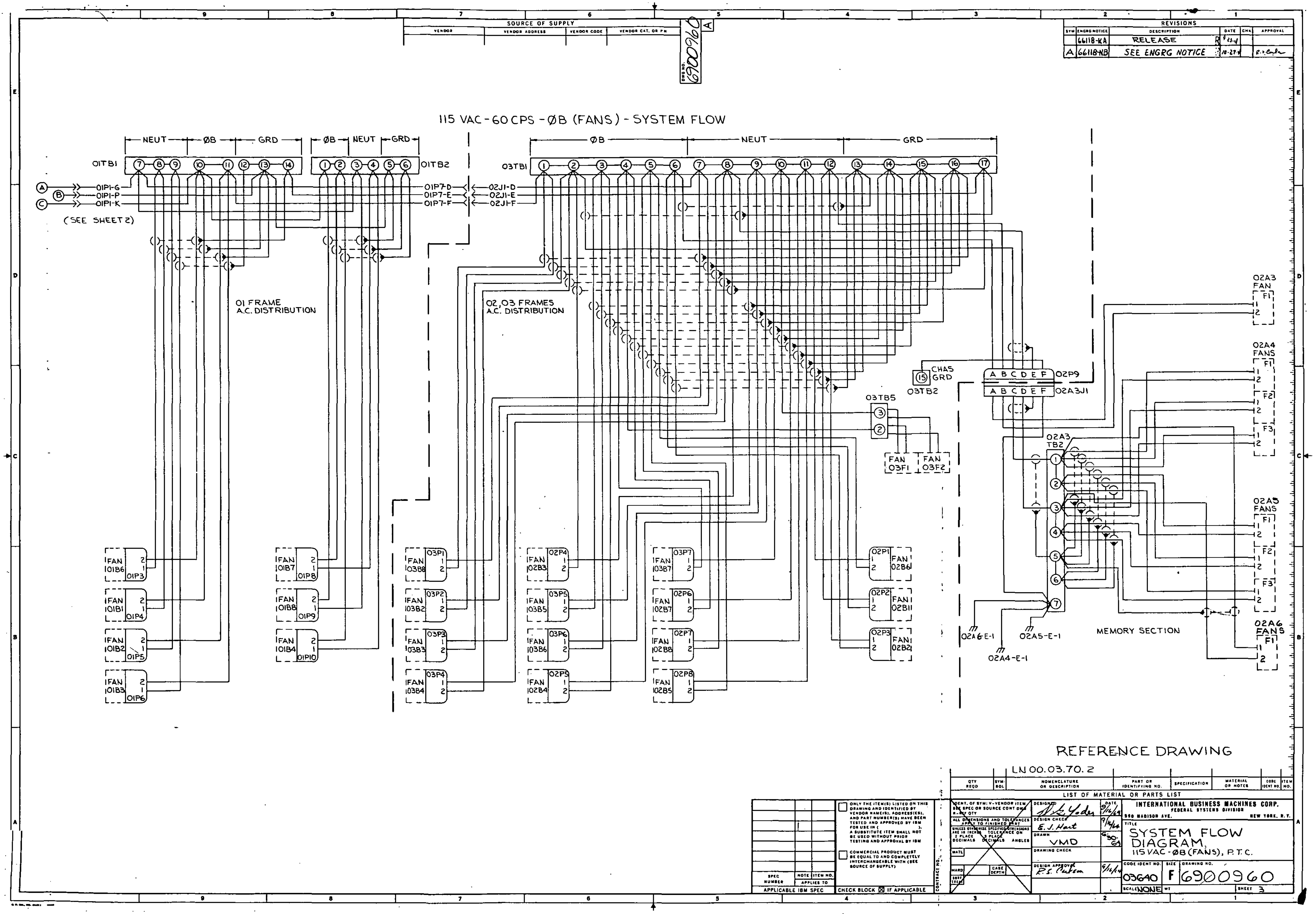



Figure 10-13. 115 VAC System Flow Diagram (LN 00. 03. 70. 0, LN 00. 03. 70. 1, LN 00. 03. 70. 2 and LN 00. 03. 70. 3) (Sheet 3)

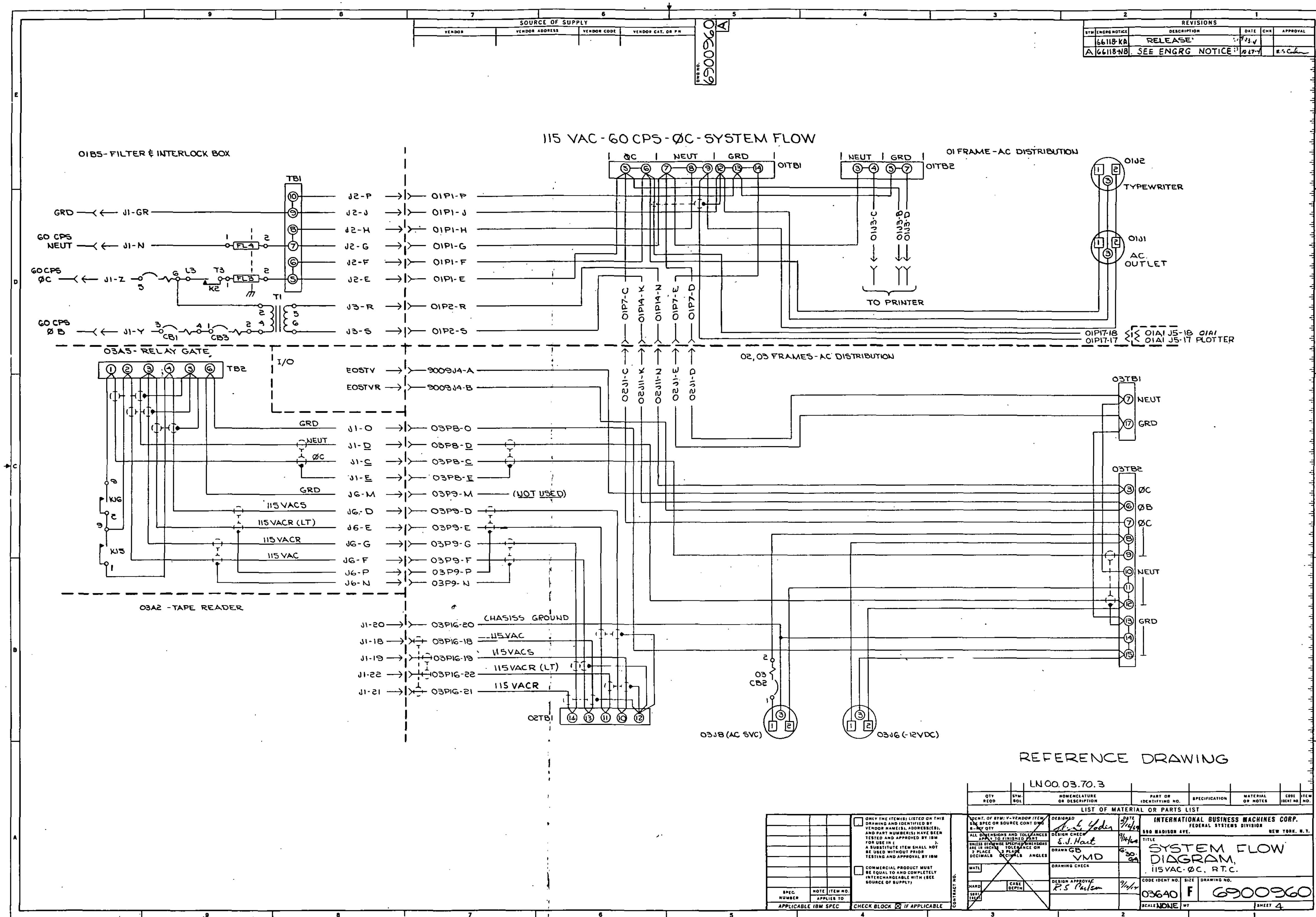



Figure 10-13. 115 VAC System Flow Diagram (LN 00. 03. 70. 0, LN 00. 03. 70. 1, LN 00. 03. 70. 2 and LN 00. 03. 70. 3) (Sheet 4)

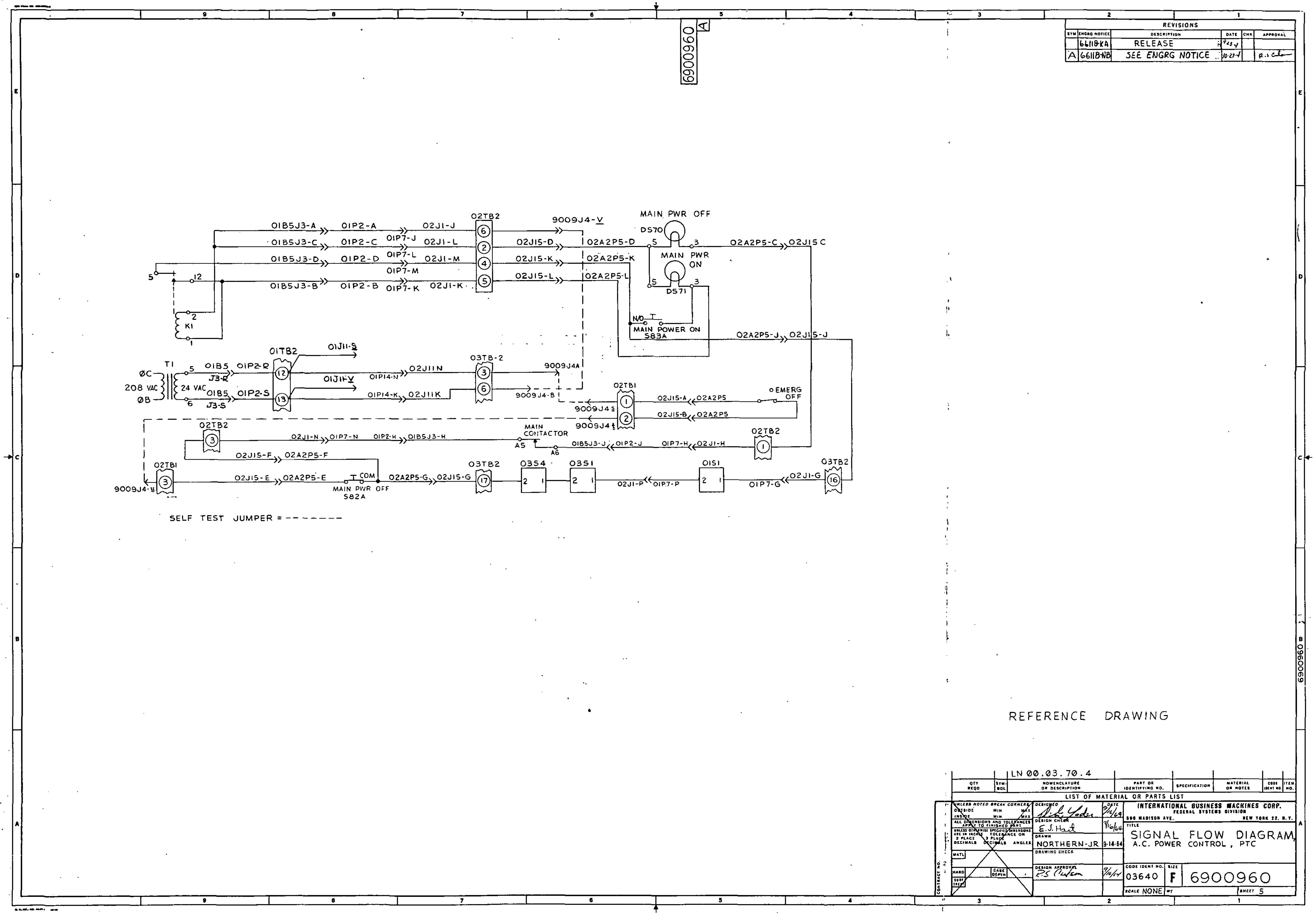



Figure 10-14. AC Power Control Signal Flow Diagram (LN 00. 03. 70. 4)

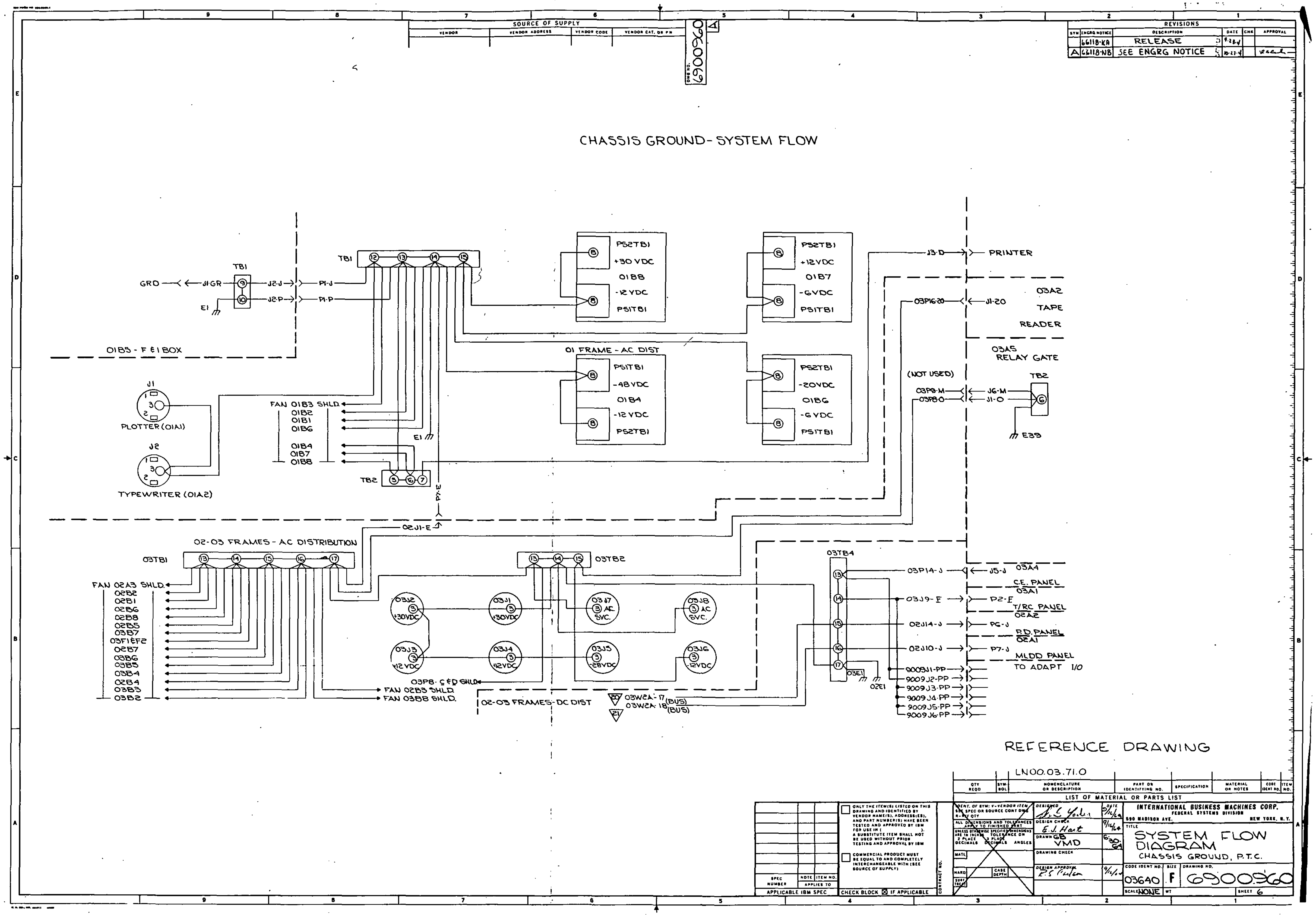



Figure 10-15. Chassis Ground System Flow Diagram (LN 00. 03. 71. 0)

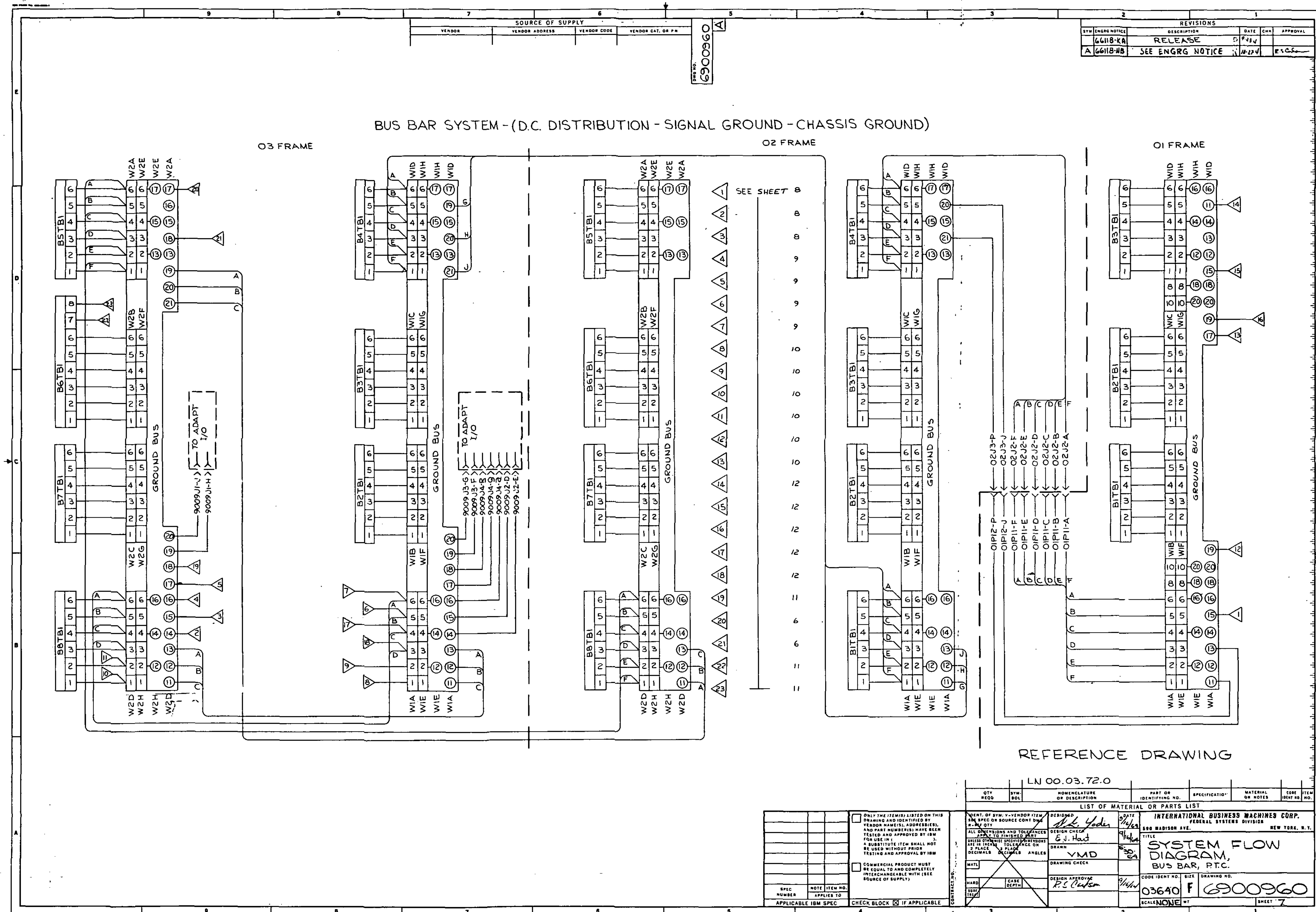



Figure 10-16. Bus Bar System Flow Diagram (LN 00. 03. 72. 0)

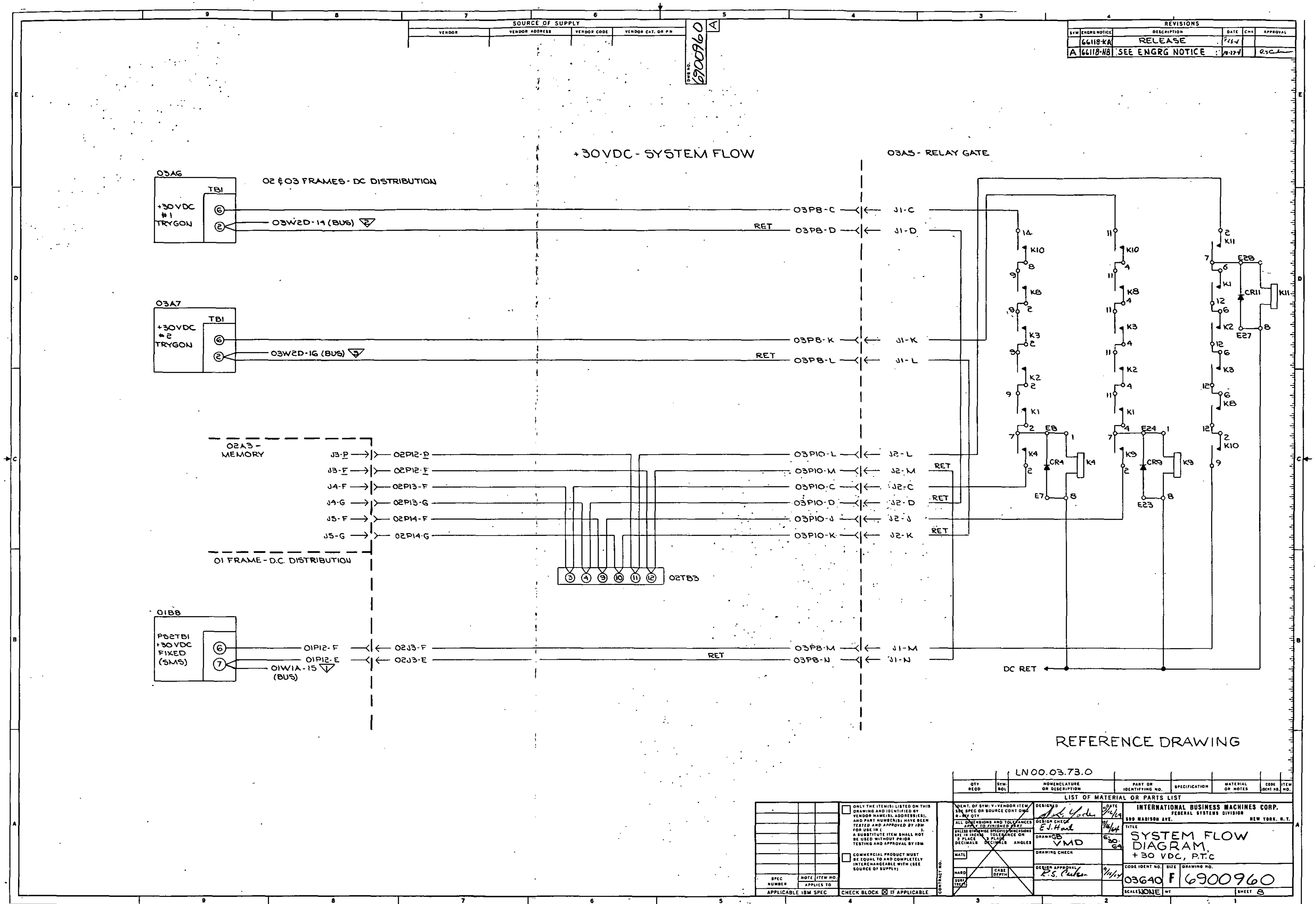



Figure 10-17. +30 VDC System Flow Diagram (LN 00. 03. 73. 0)

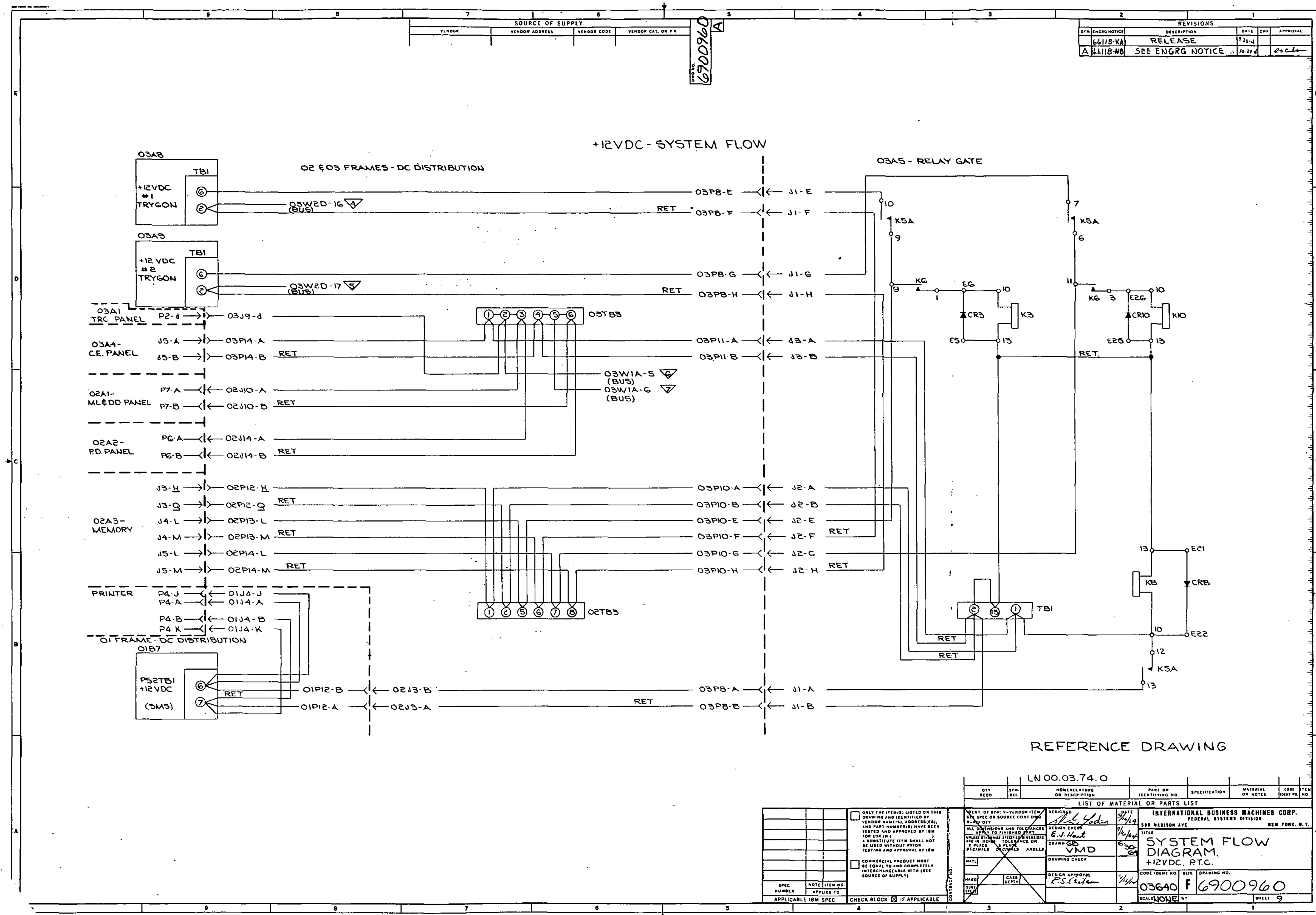



Figure 10-18. +12 VDC System Flow Diagram (LN 00. 03. 74. 0)

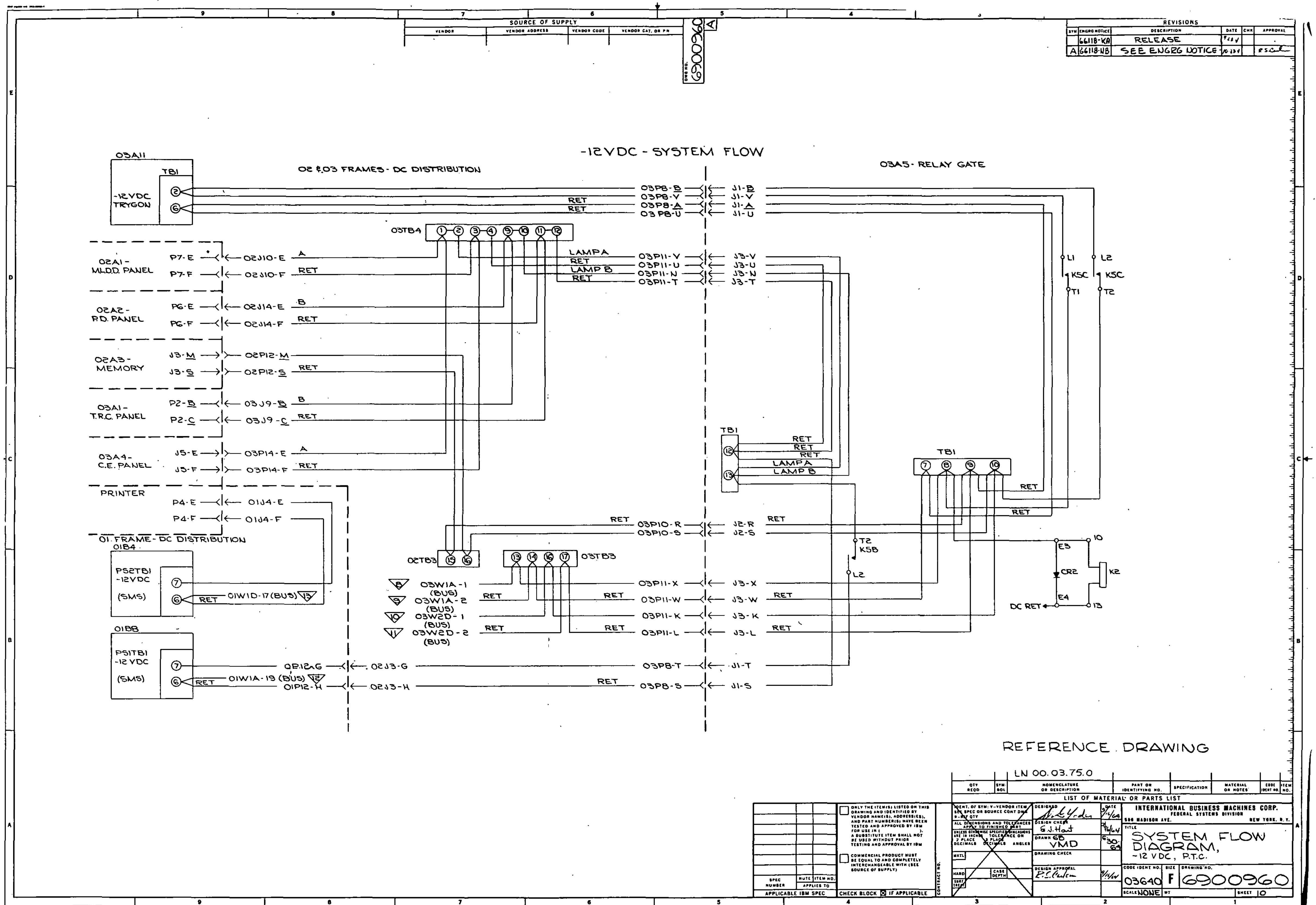



Figure 10-19. -12 VDC System Flow Diagram (LN 00. 03. 75. 0)

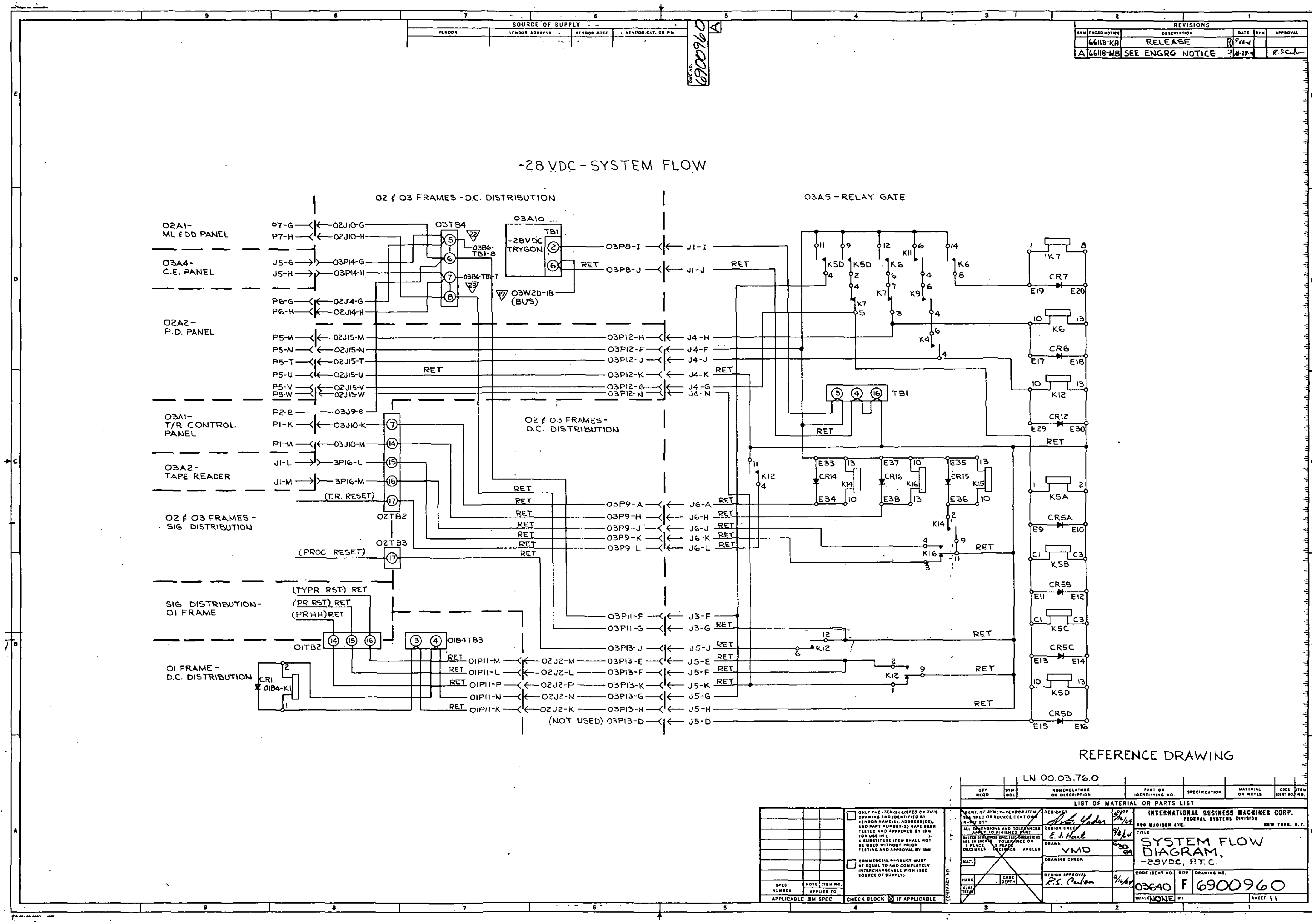



Figure 10-20. -28 VDC System Flow Diagram (LN 00. 03. 76. 0)

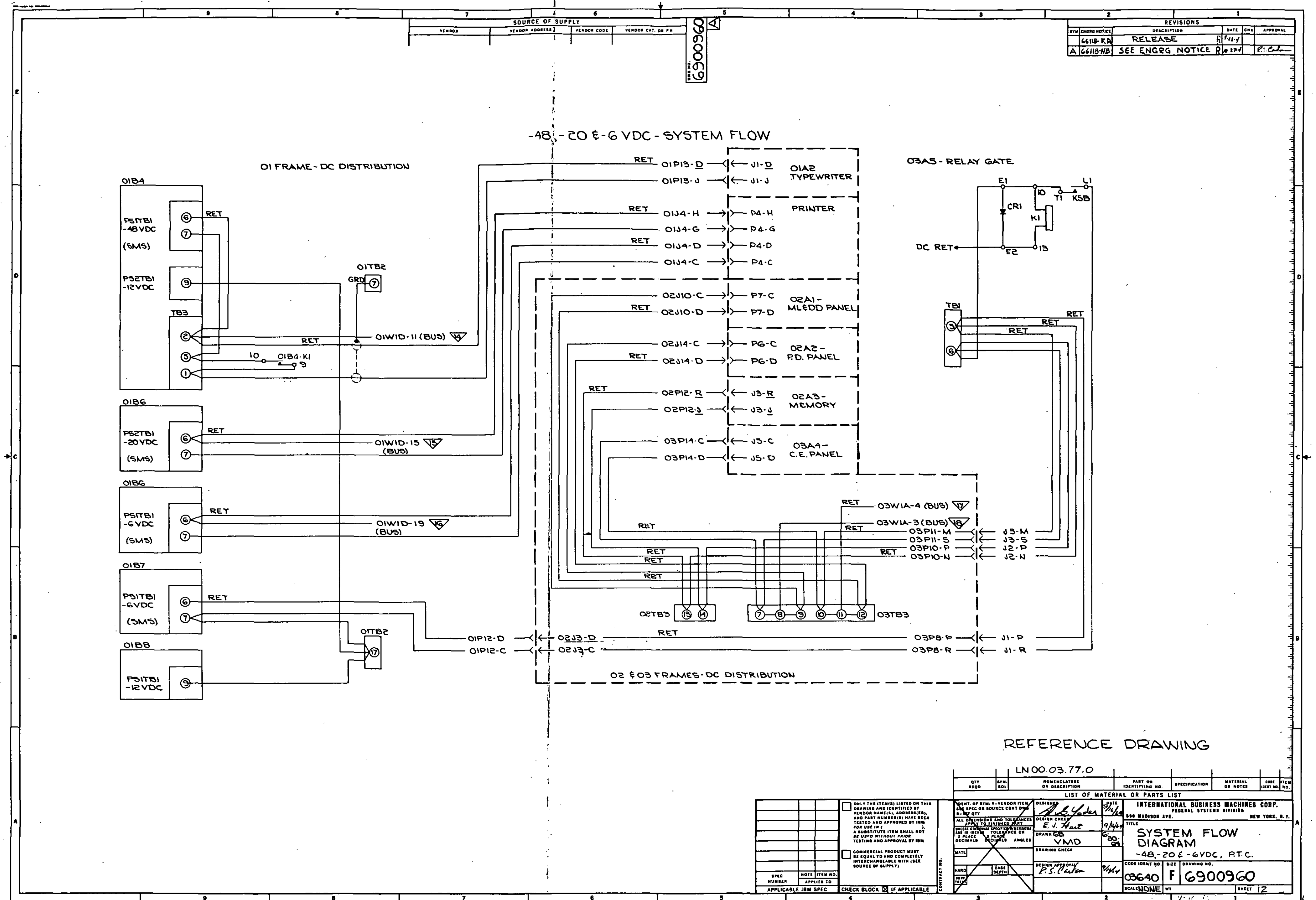



Figure 10-21. -48, -20, and -6 VDC System Flow Diagram (LN 00. 03. 77. 0)

6900960 A

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
| | 66118-KA | RELEASE | | | |
| A | 66118-WB | SEE ENGRG NOTICE | | | |

| RELAY | IBM NO. | MANUFACT. NO. | CONTACTS | LOCATION LOGIC NUMBER | ZONE | DRAWING |
|---|---|---|---|---|---|---|
| Ø3A5K1 | 6080407 | MHUO-12D 6VDC | COIL 10-13 | ØØ.Ø3.77.Ø | 3D | 6900960-12 |
| | 4PDT | ALLIED CONTROL | 2-9 | ØØ.Ø3.73.Ø | 3D | -8 |
| | | | 4-11 | ØØ.Ø3.73.Ø | 2D | -8 |
| | | | 6-12 | ØØ.Ø3.73.Ø | 1C | -8 |
| Ø3A5K2 | 6080408 | MHUO-12D 12 VDC | COIL 10-13 | ØØ.Ø3.75.Ø | 2B | -10 |
| | 4PDT | ALLIED CONTROL | 2-9 | ØØ.Ø3.73.Ø | 3D | -8 |
| | | | 4-11 | ØØ.Ø3.73.Ø | 2D | -8 |
| | | | 6-12 | ØØ.Ø3.73.Ø | 1C | -8 |
| Ø3A5K3 | 6080408 | MHUO-12D 12 VDC | COIL 10-13 | ØØ.Ø3.74.Ø | 3D | 6900960 -9 |
| | 4PDT | ALLIED CONTROL | 2-9 | ØØ.Ø3.73.Ø | 3D | -8 |
| | | | 4-11 | ØØ.Ø3.73.Ø | 2D | -8 |
| | | | 6-12 | ØØ.Ø3.73.Ø | 1D | -8 |
| Ø3A5K4 | 6080405 | MTRH-4-26.5 C3 | COIL 1-8 | ØØ.Ø3.73.Ø | 2C | 6900960 -8 |
| | DPDT | ALLIED CONTROL | 2-7 | ØØ.Ø3.73.Ø | 3C | -8 |
| | | | 4-6 | ØØ.Ø3.76.Ø | 3D | -11 |
| Ø3A5K5A | 6080409 | MHYO-12D 26.5 VDC | COIL 1-2 | ØØ.Ø3.76.Ø | 2C | 6900960 -1 |
| | 4PDT | ALLIED CONTROL | 9-10 | ØØ.Ø3.74.Ø | 4D | -9 |
| | | | 6-7 | ØØ.Ø3.74.Ø | 2D | -9 |
| | | | 12-13 | ØØ.Ø3.74.Ø | 2B | -9 |
| Ø3A5K5B | 6080410 | CAT B23ØC | C1-C3 | ØØ.Ø3.76.Ø | 2C | 6900960-11 |
| | DPDT | ROWAN CONTROL | T2-L2 | ØØ.Ø3.75.Ø | 4B | -10 |
| | | | T1-L1 | ØØ.Ø3.77.Ø | 2D | -12 |
| Ø3A5K5C | 6080420 | CAT B22ØC | COIL C1-C3 | ØØ.Ø3.76.Ø | 2B | -11 |
| | DPDT | ROWAN CONTROL | T1-L1 | ØØ.Ø3.75.Ø | 2D | -10 |
| | | | T2-L2 | ØØ.Ø3.75.Ø | 2D | -10 |
| Ø3A5K5D | 6080406 | MHUO-12D 26.5 VDC | COIL 10-13 | ØØ.Ø3.76.Ø | 2B | -11 |
| | 4PDT | ALLIED CONTROL | 2-9 | ØØ.Ø3.76.Ø | 4D | -11 |
| | | | 4-11 | ØØ.Ø3.76.Ø | 4D | -11 |
| Ø3A5K6 | 6080406 | MHUO-12D 26.5 VDC | COIL 10-13 | ØØ.Ø3.76.Ø | 2D | 6900960-11 |
| | 4PDT | ALLIED CONTROL | 1-9 | ØØ.Ø3.74.Ø | 4D | -9 |
| | | | 3-11 | ØØ.Ø3.74.Ø | 2D | -9 |
| | | | 8-14 | ØØ.Ø3.76.Ø | 3D | -11 |
| | | | 6-12 | ØØ.Ø3.76.Ø | 4D | -11 |
| Ø3A5K7 | 6080405 | MTRH-4-26.5 C3 | 1-8 | ØØ.Ø3.76.Ø | 2D | -11 |
| | DPDT | BRANSON | 4-5 | ØØ.Ø3.76.Ø | 4D | -11 |
| | | | 3-7 | ØØ.Ø3.76.Ø | 4D | -11 |
| Ø3A5K8 | 6080408 | MHUO-12D 12 VDC | 10-13 | ØØ.Ø3.74.Ø | 2B | -9 |
| | 4PDT | ALLIED CONTROL | 2-9 | ØØ.Ø3.73.Ø | 3D | -8 |
| | | | 4-11 | ØØ.Ø3.73.Ø | 2D | -8 |
| | | | 6-12 | ØØ.Ø3.73.Ø | 1D | -8 |

| RELAY | IBM NO. | MANUFACT. NO. | CONTACTS | LOCATION LOGIC NUMBER | ZONE | DRAWING |
|---|---|---|---|---|---|---|
| Ø3A5K9 | 6080405 | MTRH-4-26.5 C3 | 1-8 | ØØ.Ø3.73.Ø | 2C | 6900960-8 |
| | DPDT | BRANSON | 2-7 | ØØ.Ø3.73.Ø | 2C | -8 |
| | | | 4-6 | ØØ.Ø3.76.Ø | 3D | -11 |
| Ø3A5K1Ø | 6080408 | MHUO-12D 12 VDC | COIL 10-13 | ØØ.Ø3.74.Ø | 2D | -9 |
| | 4PDT | ALLIED CONTROL | 8-14 | ØØ.Ø3.73.Ø | 3C | -8 |
| | | | 4-11 | ØØ.Ø3.73.Ø | 2C | -8 |
| | | | 2-9 | ØØ.Ø3.73.Ø | 1D | -8 |
| Ø3A5K11 | 6080405 | MTRH-4-26.5 C3 | COIL 1-8 | ØØ.Ø3.73.Ø | 1D | 6900960 -8 |
| | DPDT | BRANSON | 2-7 | ØØ.Ø3.73.Ø | 1D | -8 |
| | | | 6-4 | ØØ.Ø3.76.Ø | 4D | -11 |
| Ø3A5K12 | 6080406 | MHUO-12D 26.5 VDC | 10-13 | ØØ.Ø3.76.Ø | 2D | -11 |
| | 4PDT | ALLIED CONTROL | 6-12 | ØØ.Ø3.76.Ø | 4B | -11 |
| | | | 1-9-2 | ØØ.Ø3.76.Ø | 4B | -11 |
| | | | 4-11 | ØØ.Ø3.76.Ø | 5C | -11 |
| Ø3A5K14 | 6080406 | MHUO-12D 26.5 VDC | COIL 10-13 | ØØ.Ø3.76.Ø | 4C | 6900960 -11 |
| | 4PDT | ALLIED CONTROL | 2-9 | ØØ.Ø3.76.Ø | 3C | 6900960 -11 |
| Ø3A5K15 | 6080406 | MHUO-12D 26.5 VDC | COIL 10-13 | ØØ.Ø3.76.Ø | 3C | 6900960 -11 |
| | 4PDT | ALLIED CONTROL | 2-9 | ØØ.Ø3.7Ø.Ø | 9C | 6900960 -4 |
| Ø3A5K16 | 6080406 | MHUO-12D 26.5 VDC | COIL 10-13 | ØØ.Ø3.76.Ø | 4C | 6900960 -11 |
| | 4PDT | ALLIED CONTROL | 2-9 | ØØ.Ø3.7Ø.Ø | 9C | -4 |
| | | | 3-4-11 | ØØ.Ø3.76.Ø | 3B | -11 |
| Ø1B5K1 | 6080429 | PBHG-12A 24 VAC | COIL 1-2 | ØØ.Ø3.7Ø.4 | 9D | 6900960 -5 |
| | | ALLIED CONTROL | 6-11 | ØØ.Ø3.7Ø.Ø | 8D | -1 |
| | | | 5-12 | ØØ.Ø3.7Ø.4 | 9D | -5 |
| Ø1B5K2 | 6080355 | CAT B330 22C | C1-C3 | ØØ.Ø3.7Ø.Ø | 8D | 6900960 -1 |
| | | ROWAN CONTROL | T1-L1 | ØØ.Ø3.7Ø.Ø | 8D | -1 |
| | | | T2-L2 | ØØ.Ø3.7Ø.1 | 8D | -2 |
| | | | T3-L3 | ØØ.Ø3.7Ø.3 | 9D | -4 |
| Ø1B4K1 | 6080409 | MHYO-12D 26.5VDC | 9-10 | ØØ.Ø3.77.Ø | 8D | 6900960 -12 |
| | | ALLIED CONTROL | COIL 1-2 | ØØ.Ø3.76.Ø | 8B | 6900960 -11 |

LN 00.03.78.0

LIST OF MATERIAL OR PARTS LIST

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

DESIGNED: [signature] DESIGN CHECK: E. J. Hart DRAWN: NORTHERN JR. 9-11-64 DESIGN APPROVAL: P.S. [signature]

TITLE: RELAY, CROSS REFERENCE LIST

CODE IDENT NO. 03640 SIZE F 6900960

SCALE NONE SHEET 13

Figure 10-22. Relay Cross Reference List

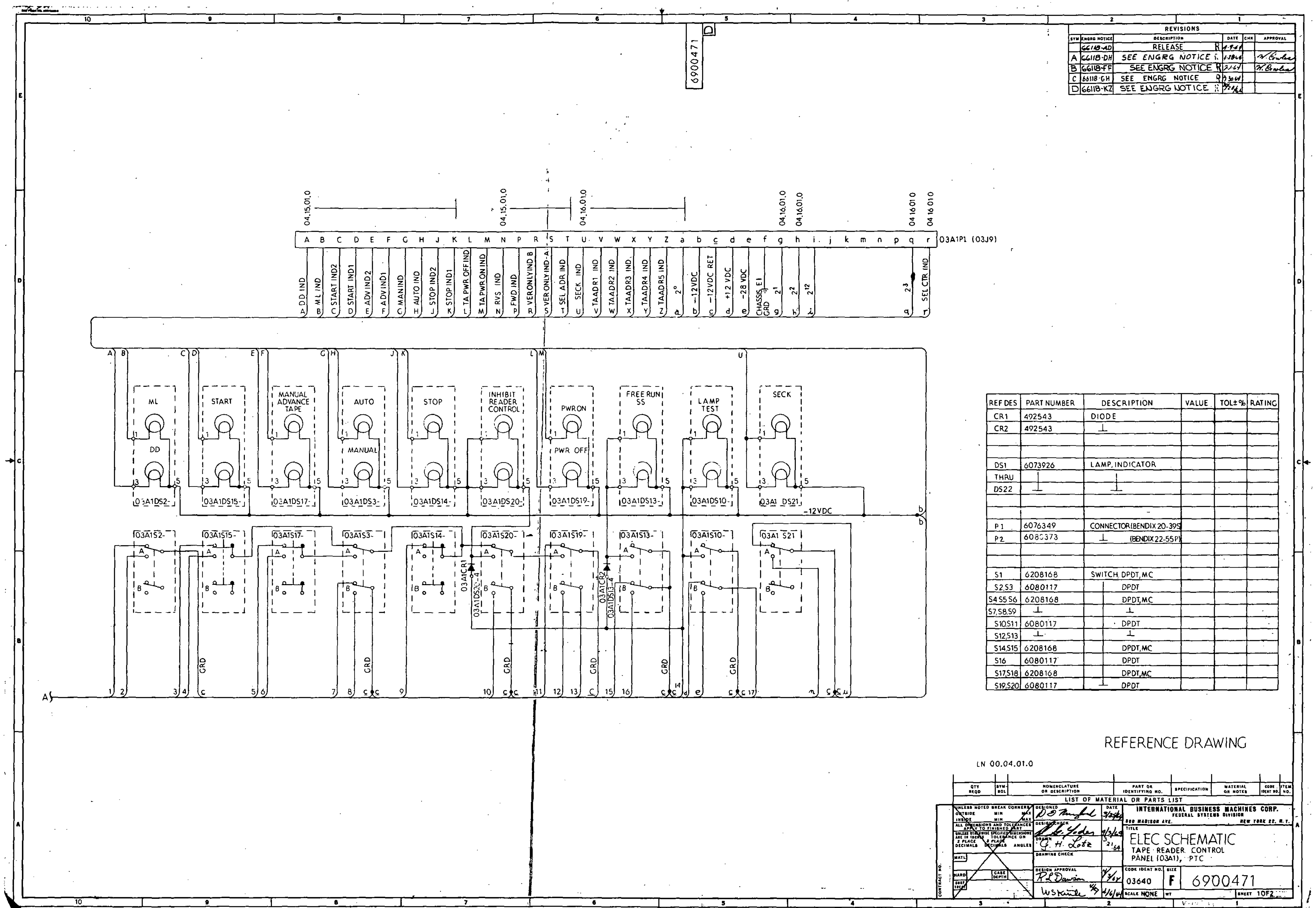



Figure 10-23. Tape Reader Control Panel Assembly (03A1) Electrical Schematic Diagram (LN 00. 04. 01. 0 and LN 00. 04. 01. 1) (Sheet 1 of 2)

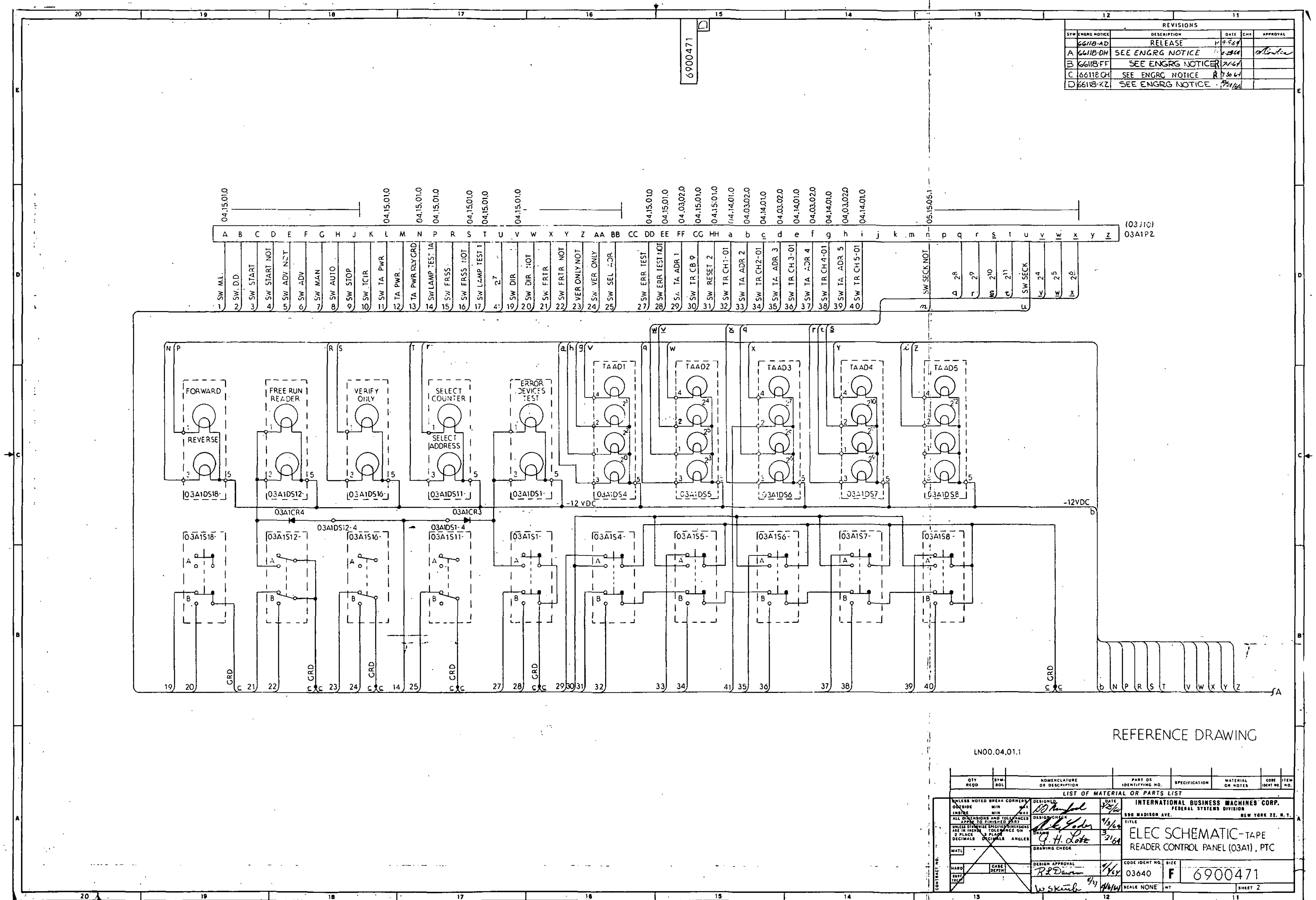



Figure 10-23. Tape Reader Control Panel Assembly (03A1) Electrical Schematic Diagram (LN 00. 04. 01. 0 and LN 00. 04. 01. 1) (Sheet 2)

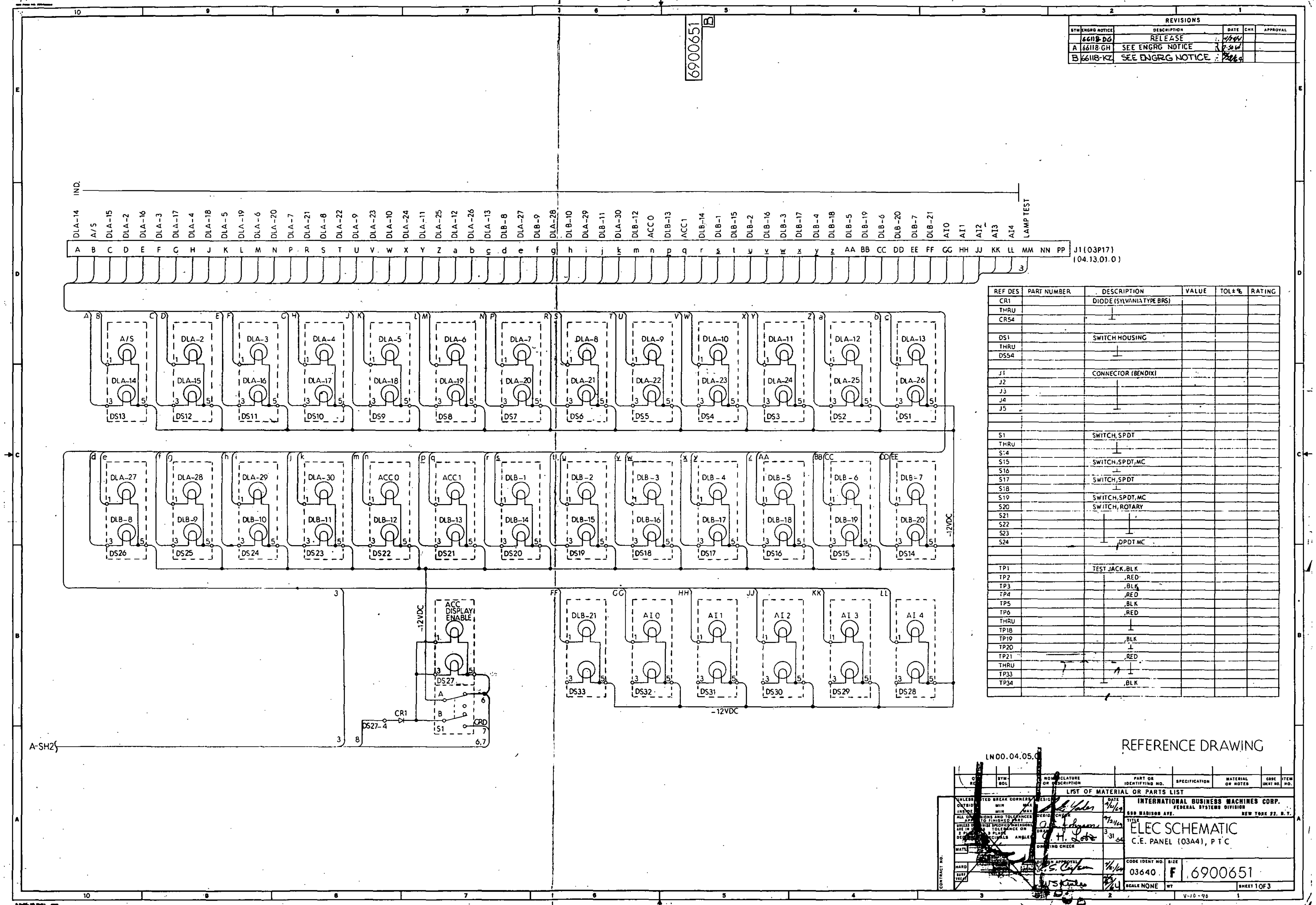



Figure 10-24. C. E. Panel Assembly (03A4) Electrical Schematic Diagram (LN 00. 04. 05. 0, LN 00. 04. 05. 1 and LN 00. 04. 05. 2) (Sheet 1 of 3)

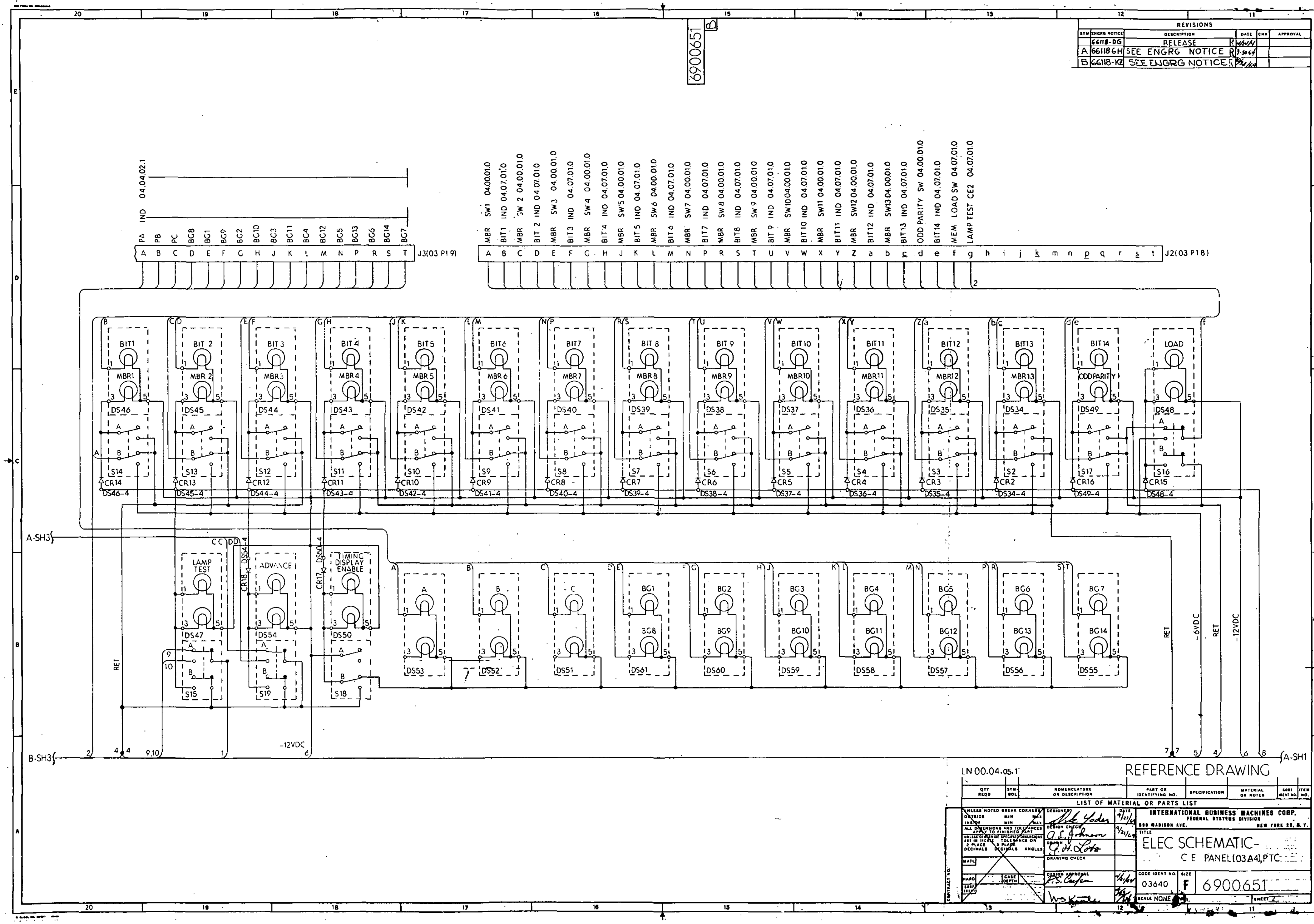



Figure 10-24. C. E. Panel Assembly (03A4) Electrical Schematic Diagram (LN 00. 04. 05. 0, LN 00. 04. 05. 1 and LN 00. 04. 05. 2) (Sheet 2)

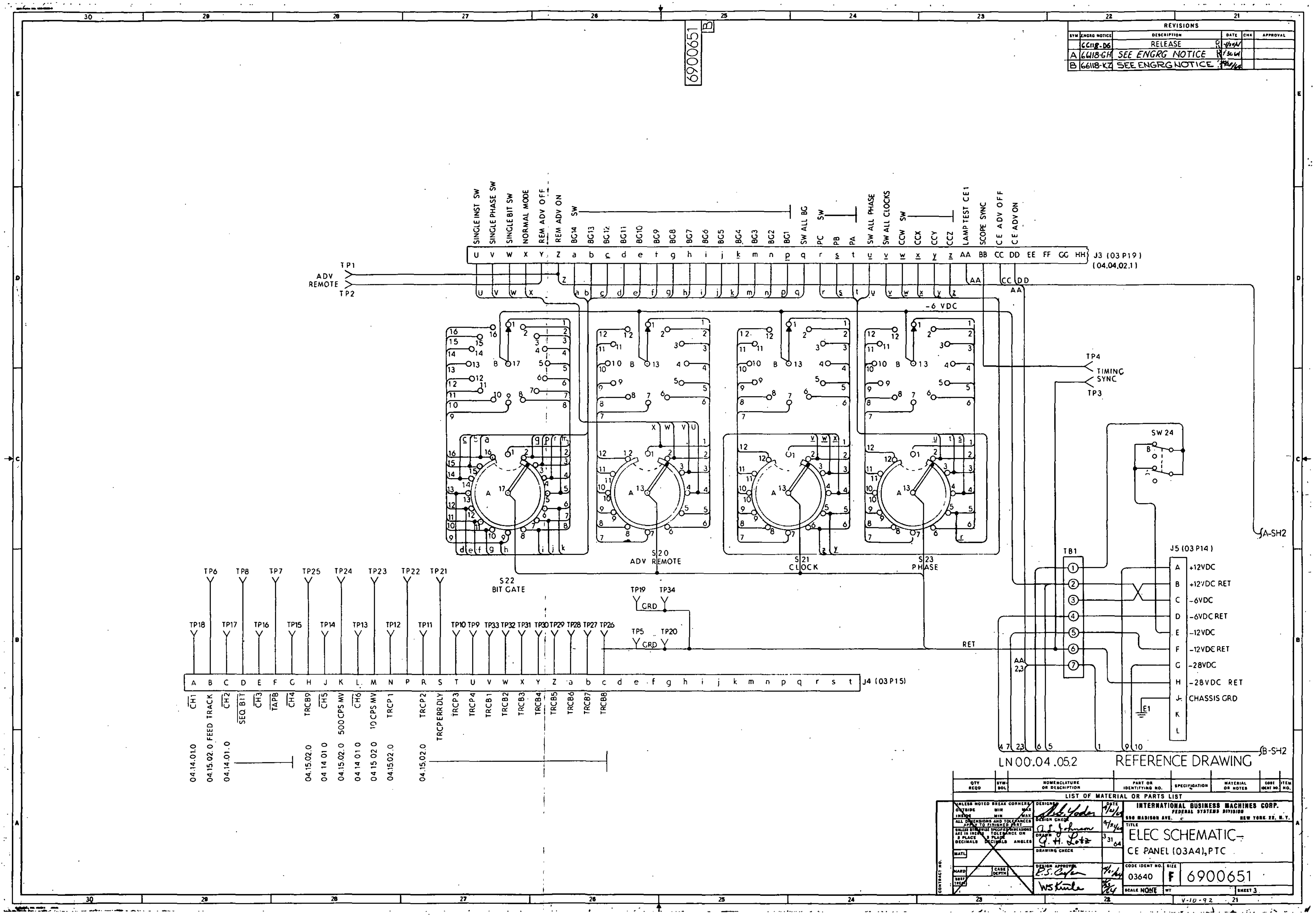



Figure 10-24. C. E. Panel Assembly (03A4) Electrical Schematic Diagram (LN 00. 04. 05. 0, LN 00. 04. 05. 1 and LN 00. 04. 05. 2) (Sheet 3)

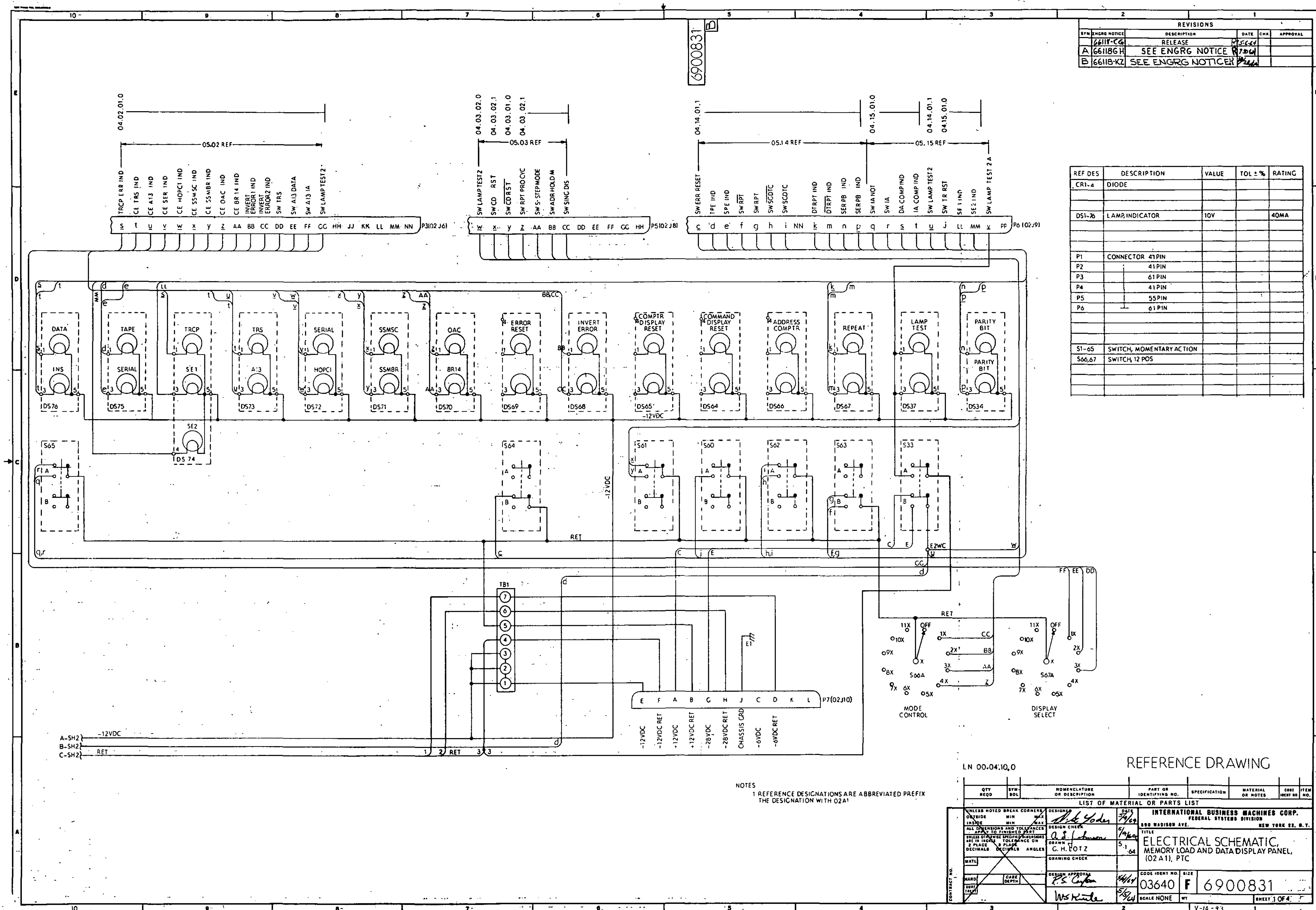



Figure 10-25. Memory Load and Data Display Panel Assembly (02A1) Electrical Schematic Diagram (LN 00. 04. 10. 0, LN 00. 04. 10. 1, LN 00. 04. 10. 2 and LN 00. 04. 10. 3) (Sheet 1 of 4)

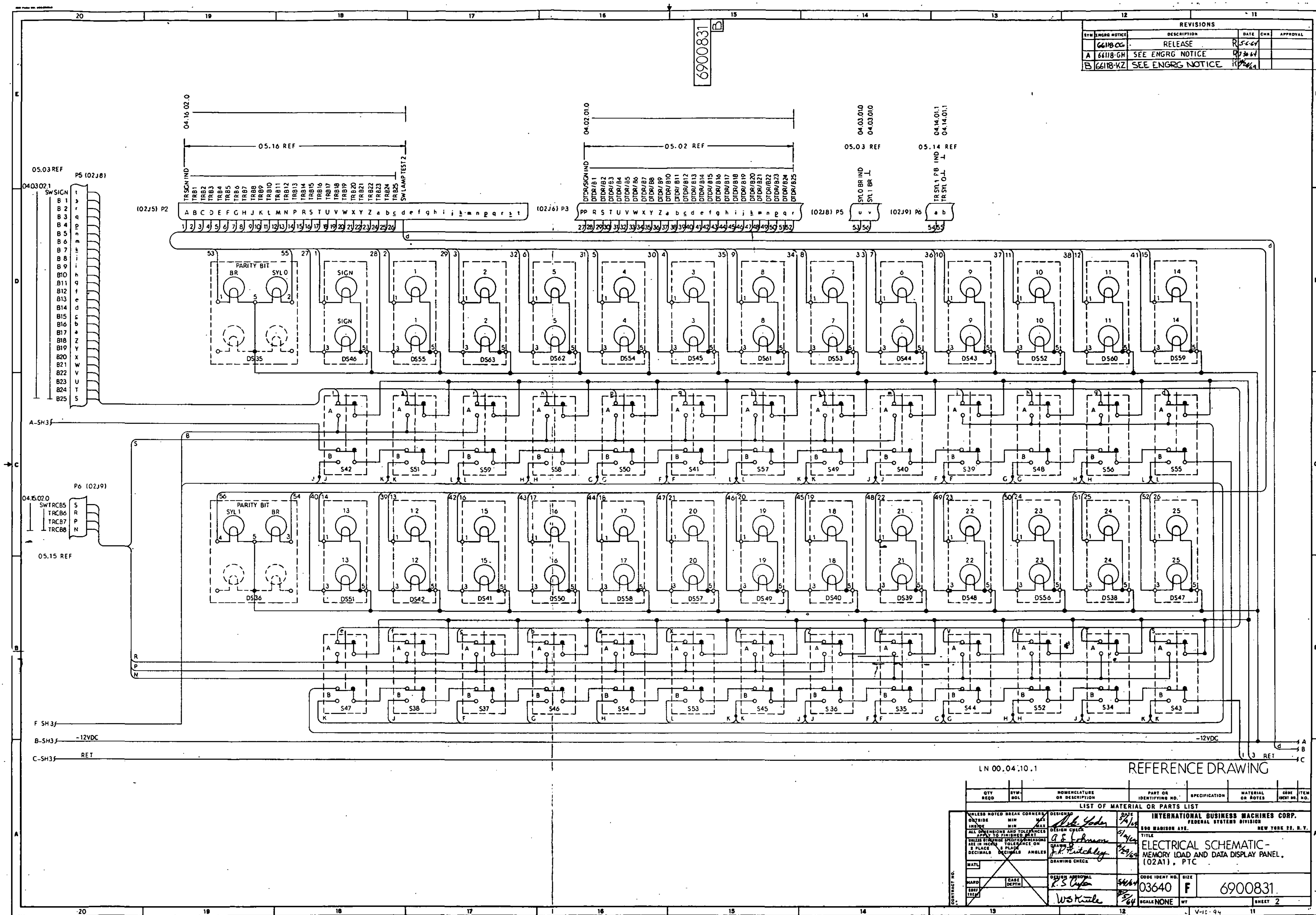



Figure 10-25. Memory Load Data Display Panel Assembly (02A1) Electrical Schematic Diagram (LN 00. 04. 10. 0, LN 00. 04. 10. 1, LN 00. 04. 10. 2 and LN 00. 04. 10. 3) (Sheet 2)

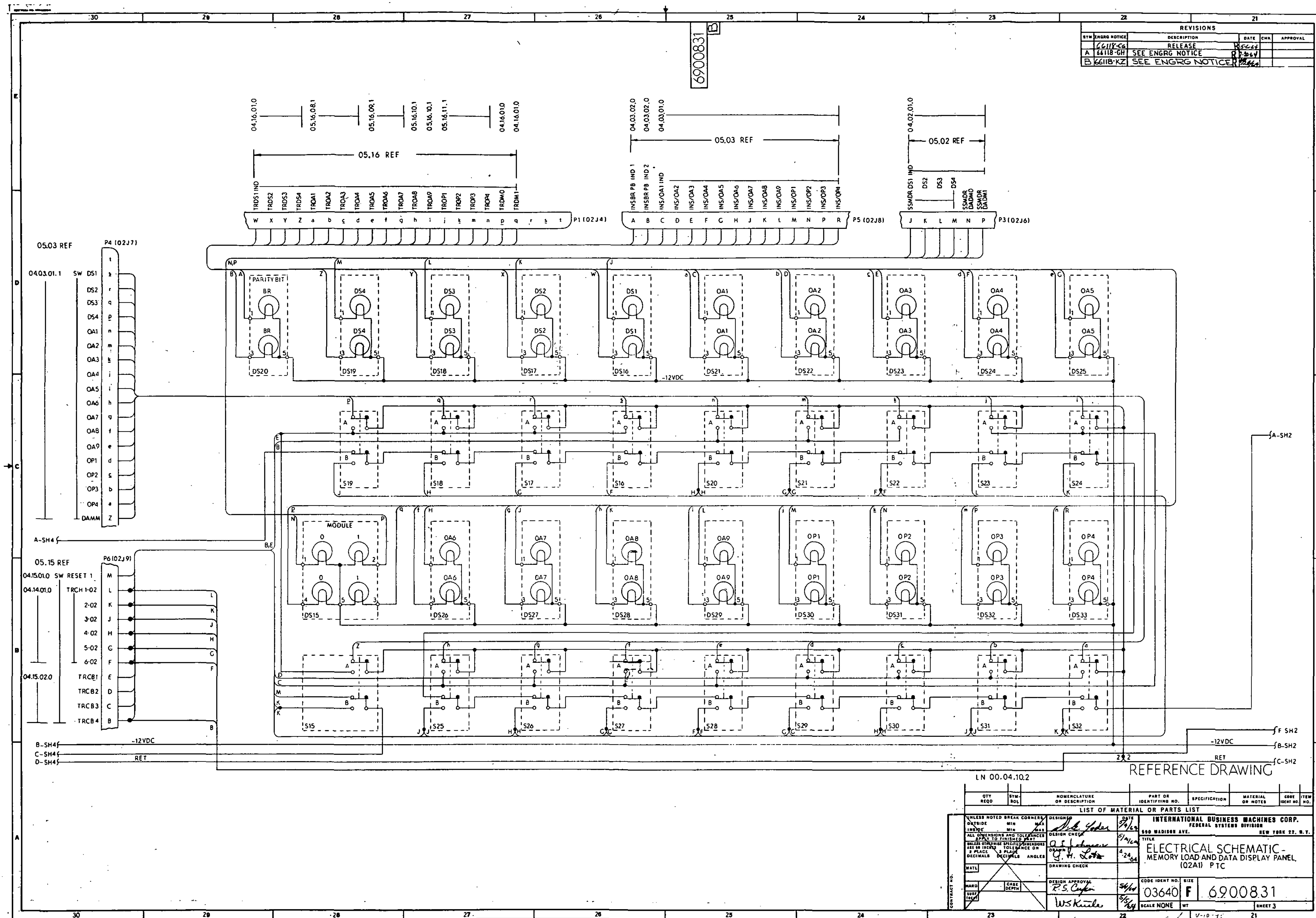



Figure 10-25. Memory Load Data Display Panel Assembly (02A1) Electrical Schematic Diagram (LN 00. 04. 10. 0, LN 00. 04. 10. 1, LN 00. 04. 10. 2 and LN 00. 04. 10. 3) (Sheet 3)

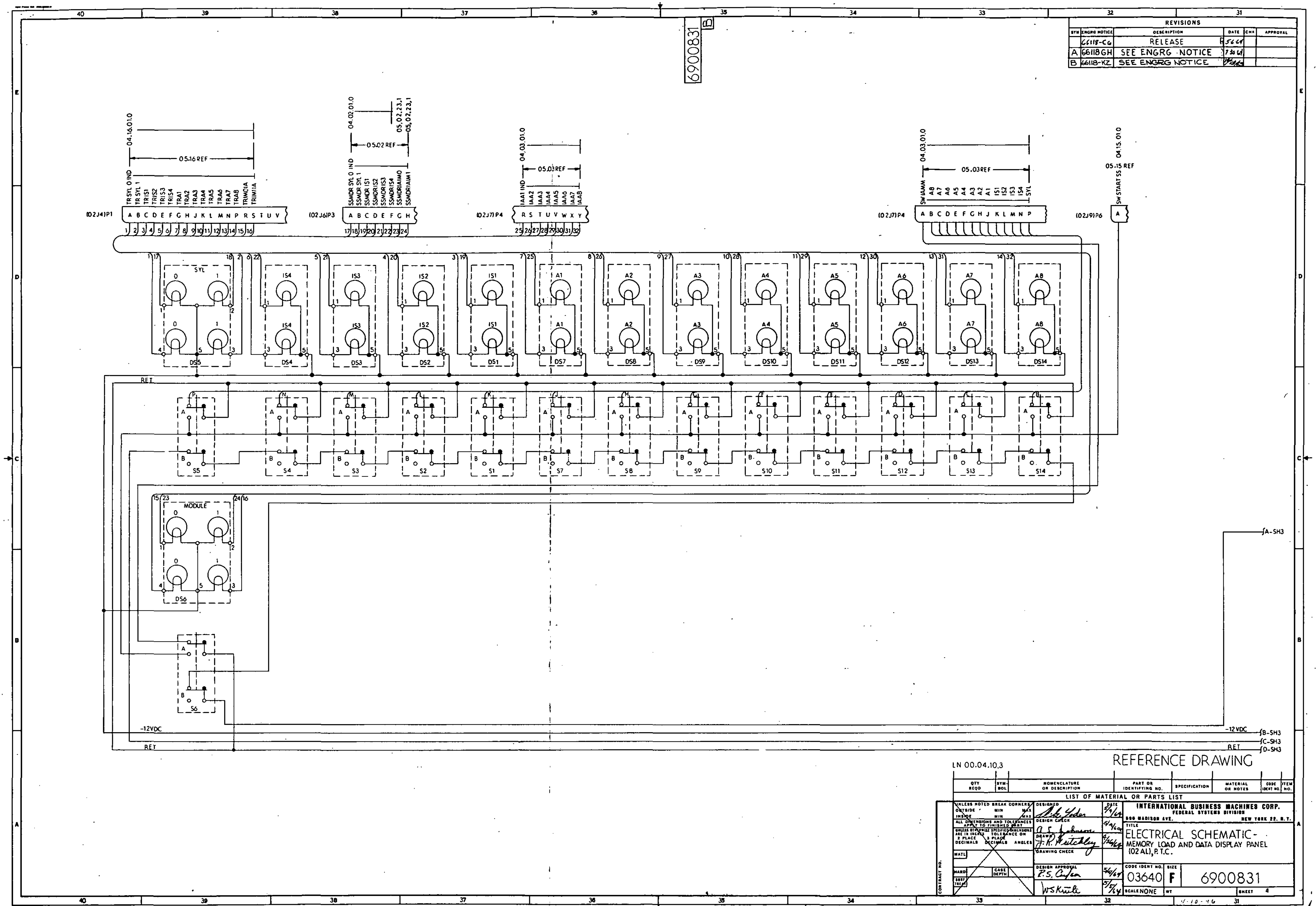



Figure 10-25. Memory Load Data Display Panel Assembly (02A1) Electrical Schematic Diagram (LN 00. 04. 10. 0, LN 00. 04. 10. 1, LN 00. 04. 10. 2 and LN 00. 04. 10. 3) (Sheet 4)

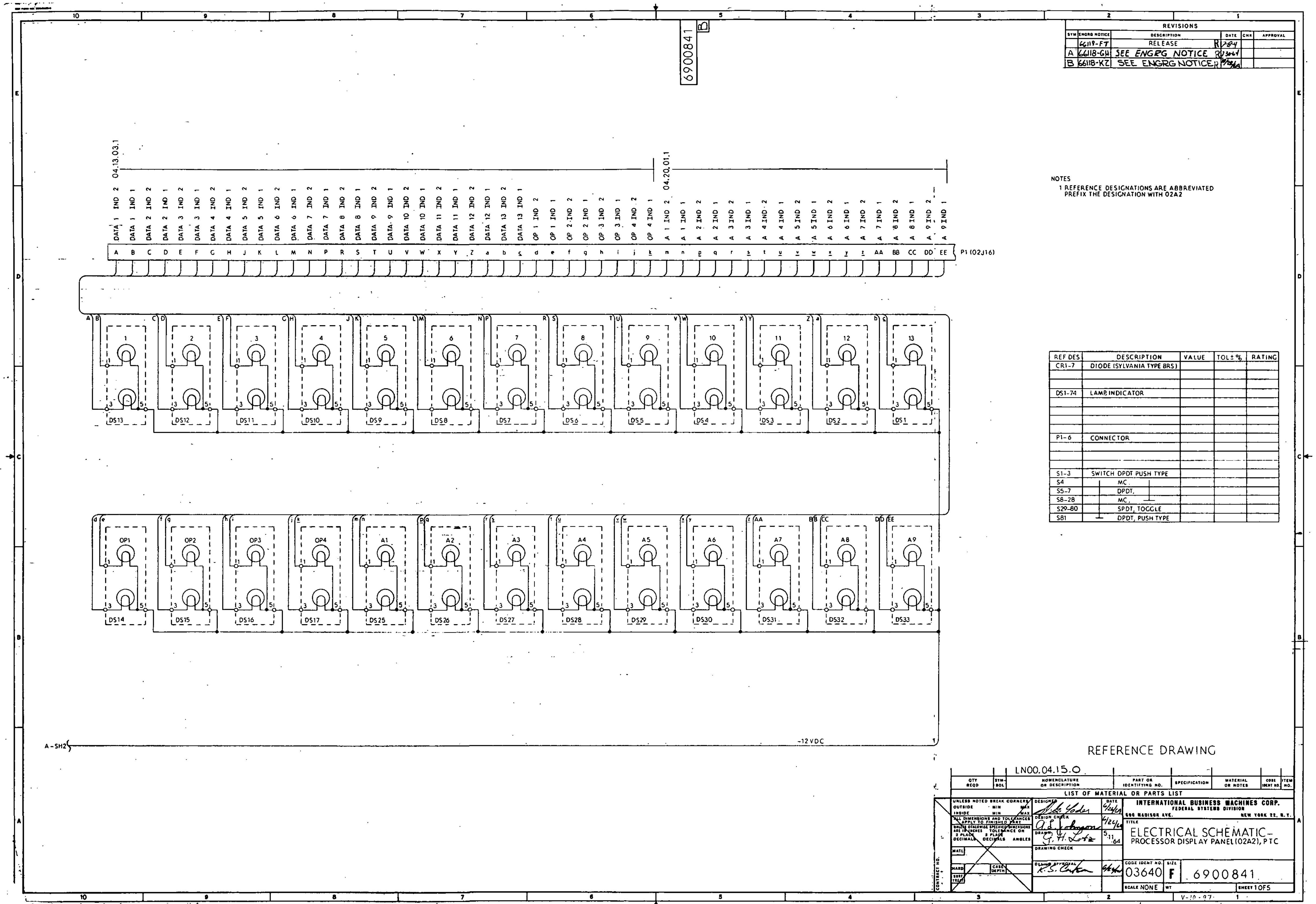



Figure 10-26. Processor Display Panel Assembly (02A2) Electrical Schematic Diagram (LN 00. 04. 15. 0 through LN 00. 04. 15. 4) (Sheet 1 of 5)

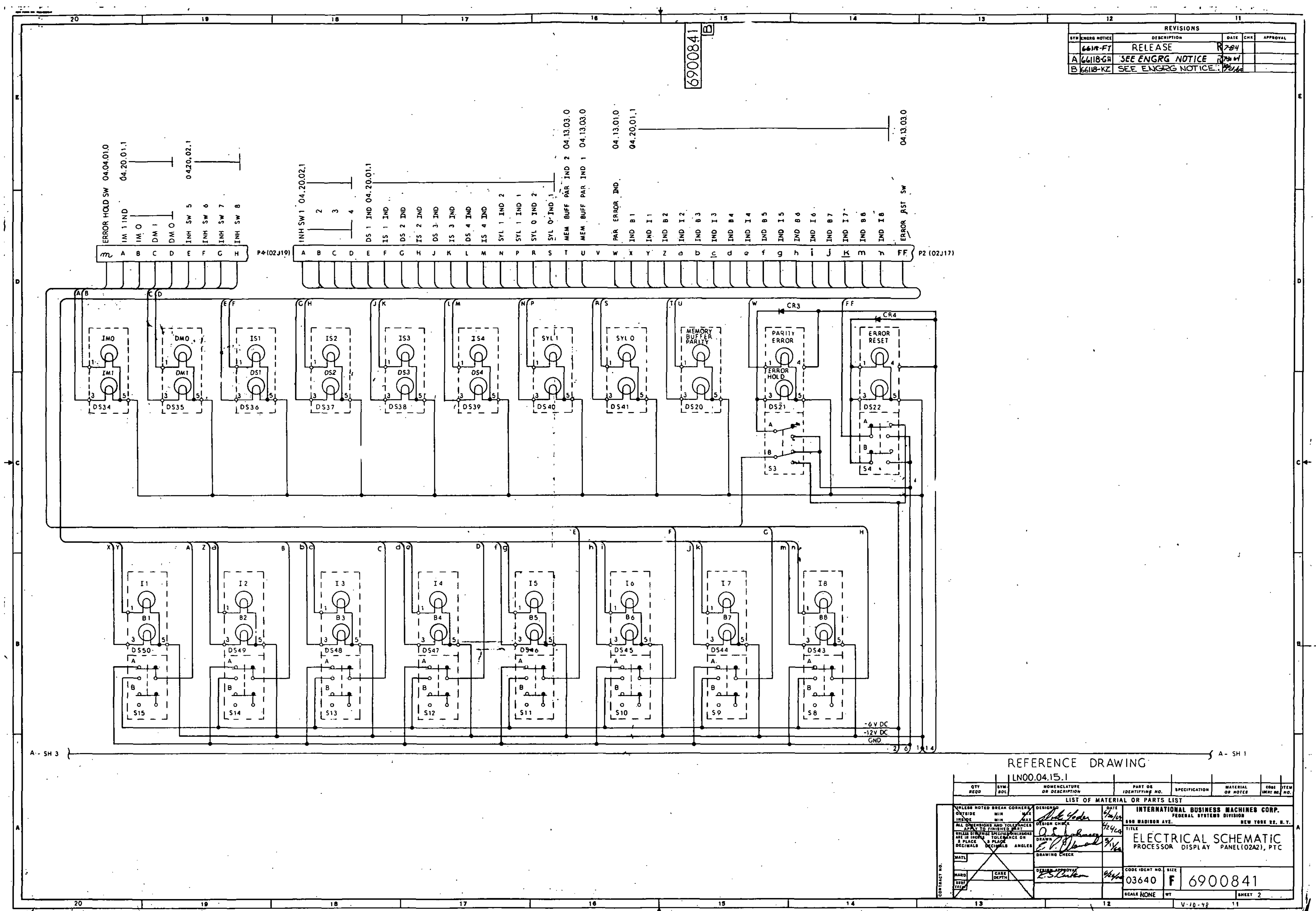



Figure 10-26. Processor Display Panel Assembly (02A2) Electrical Schematic Diagram (LN 00. 04. 15. 0 through LN 00. 04. 15. 4) (Sheet 2)

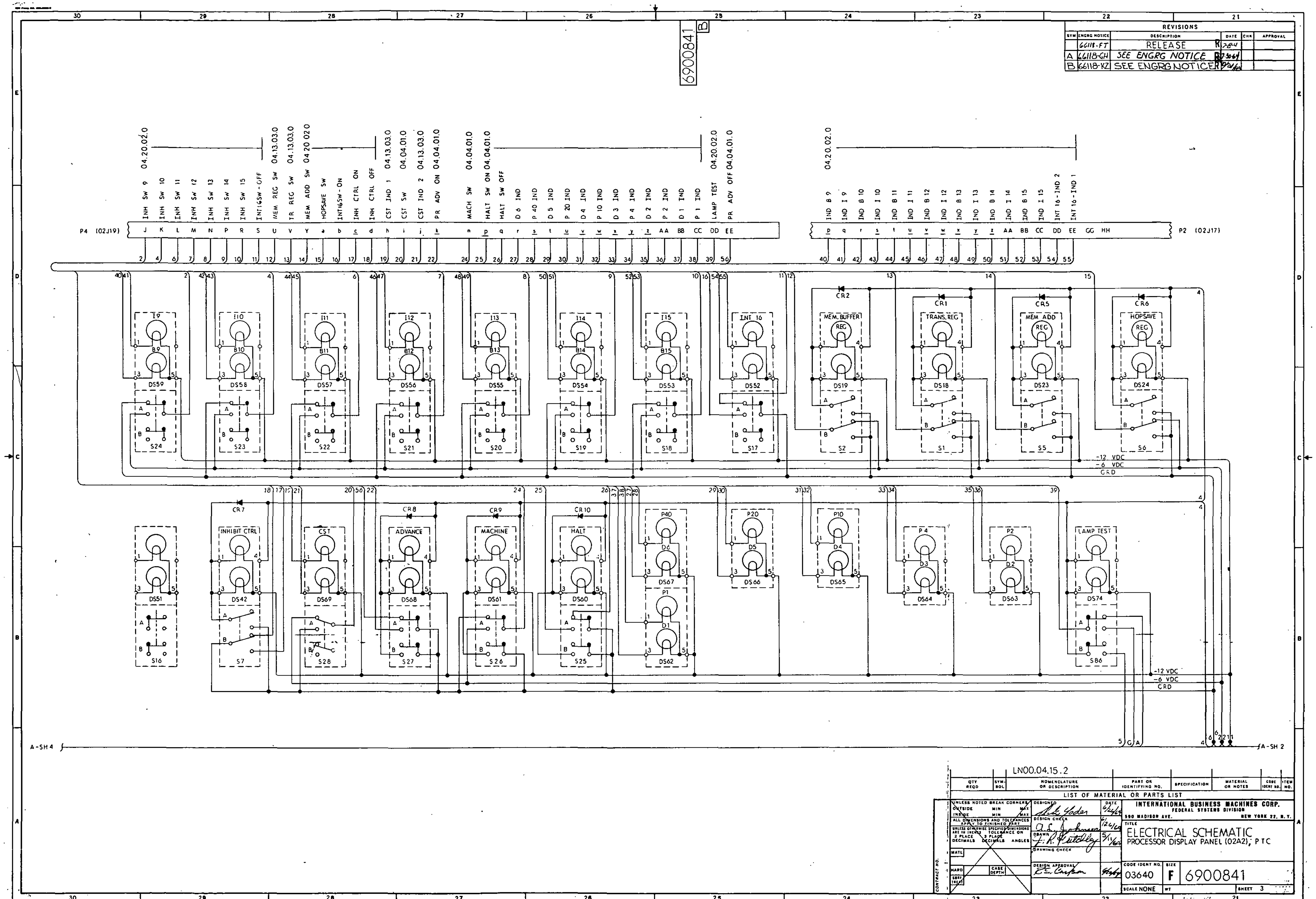



Figure 10-26. Processor Display Panel Assembly (02A2) Electrical Schematic Diagram (LN 00. 04. 15. 0 through LN 00. 04. 15. 4) (Sheet 3)

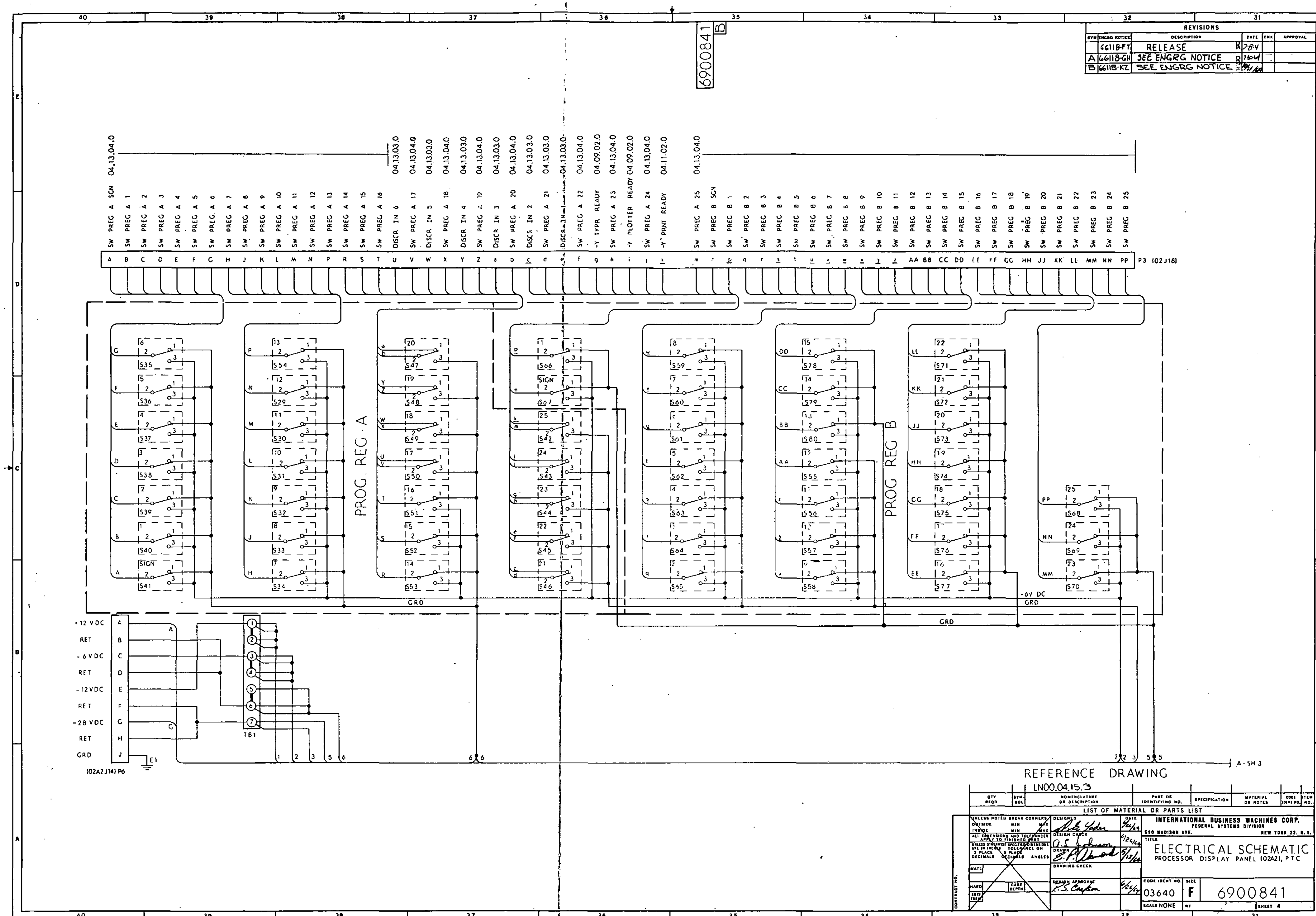



Figure 10-26. Processor Display Panel Assembly (02A2) Electrical Schematic Diagram (LN 00. 04. 15. 0 through LN 00. 04. 15. 4) (Sheet 4)

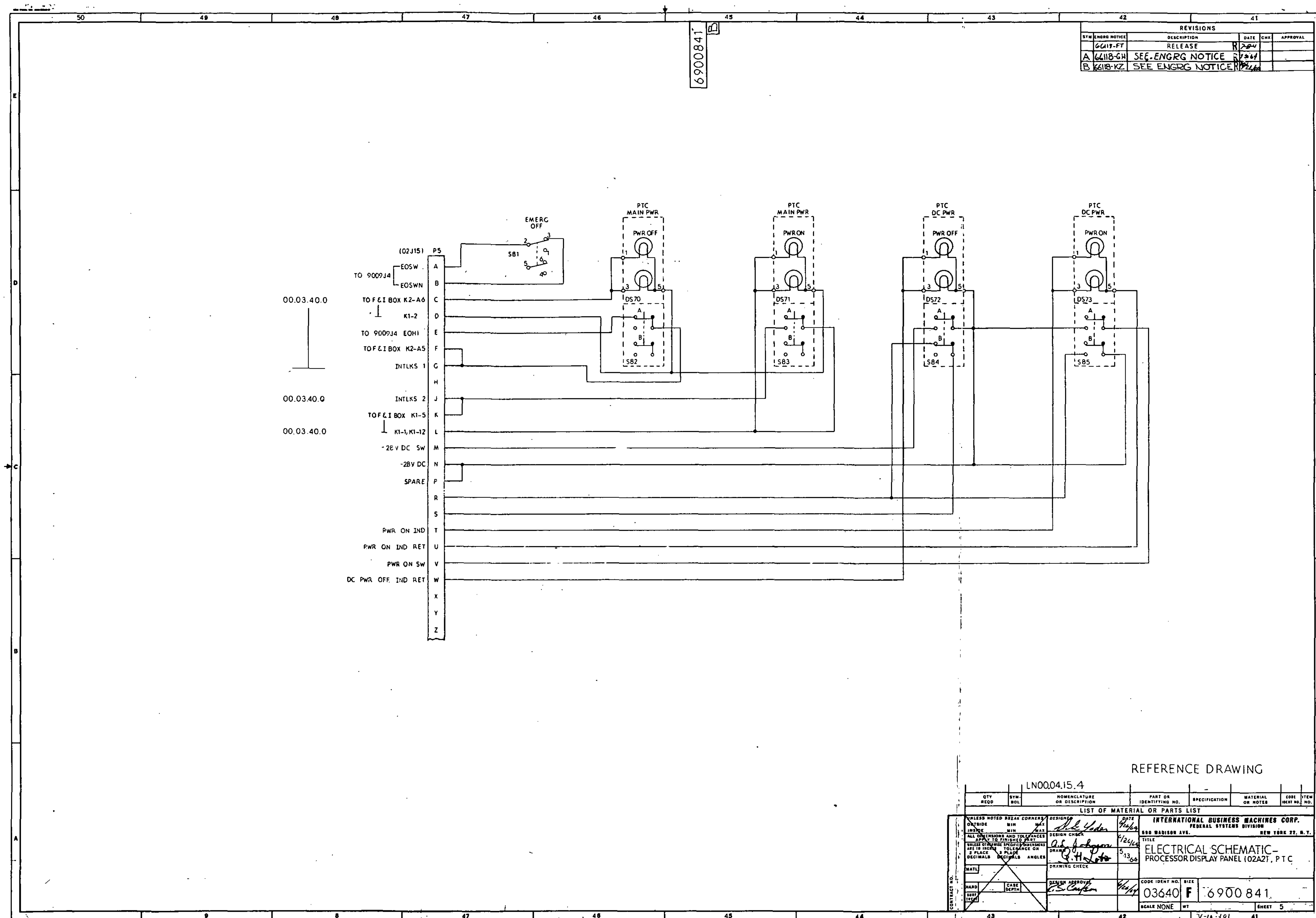



Figure 10-26. Processor Display Panel Assembly (02A2) Electrical Schematic Diagram (LN 00. 04. 15. 0 through LN 00. 04. 15. 4) (Sheet 5)

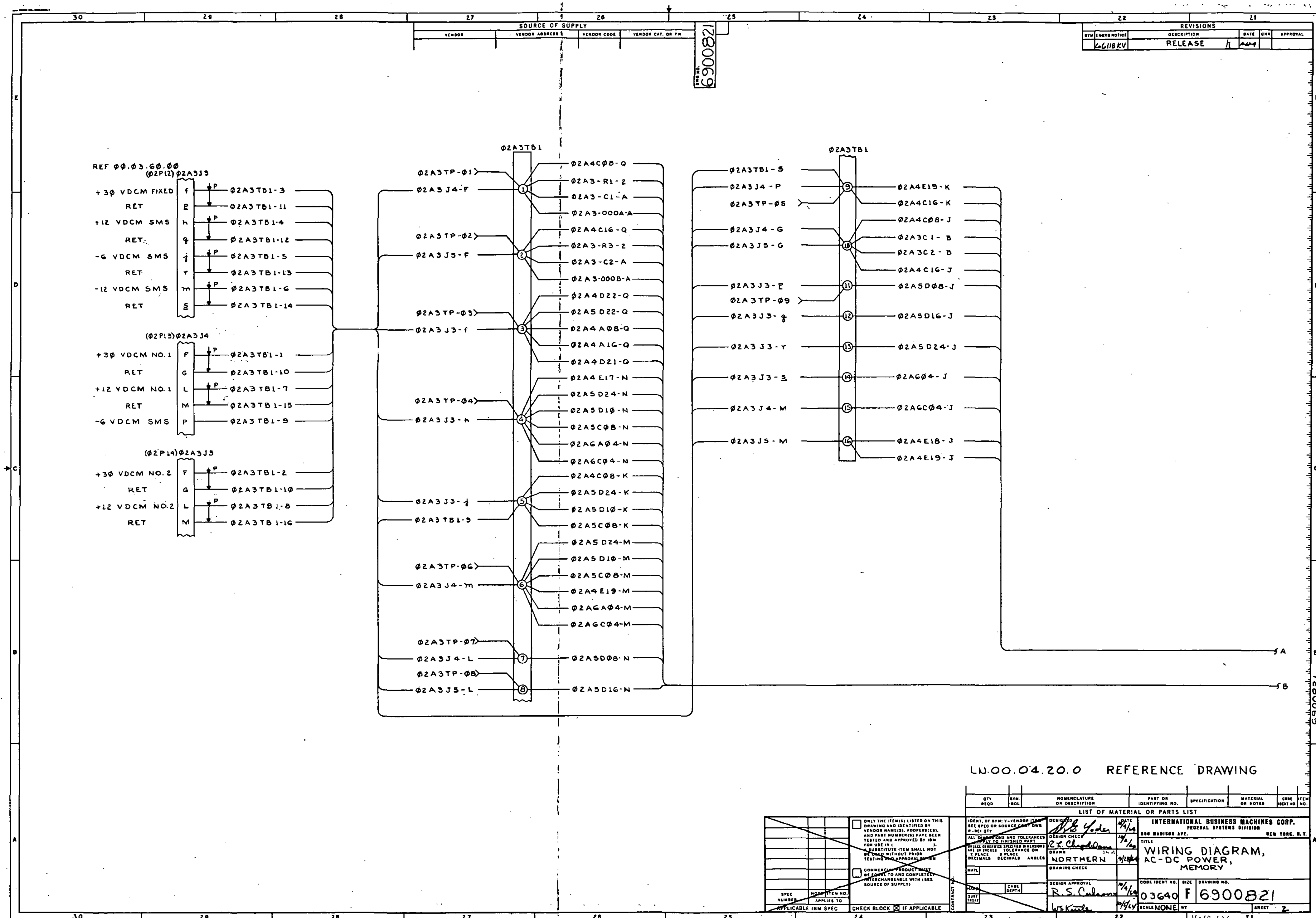


Figure 10-27. Memory AC-DC Power Diagram (LN 00. 04. 20. 1 and 00. 04. 20. 0) (Sheet 1 of 3)

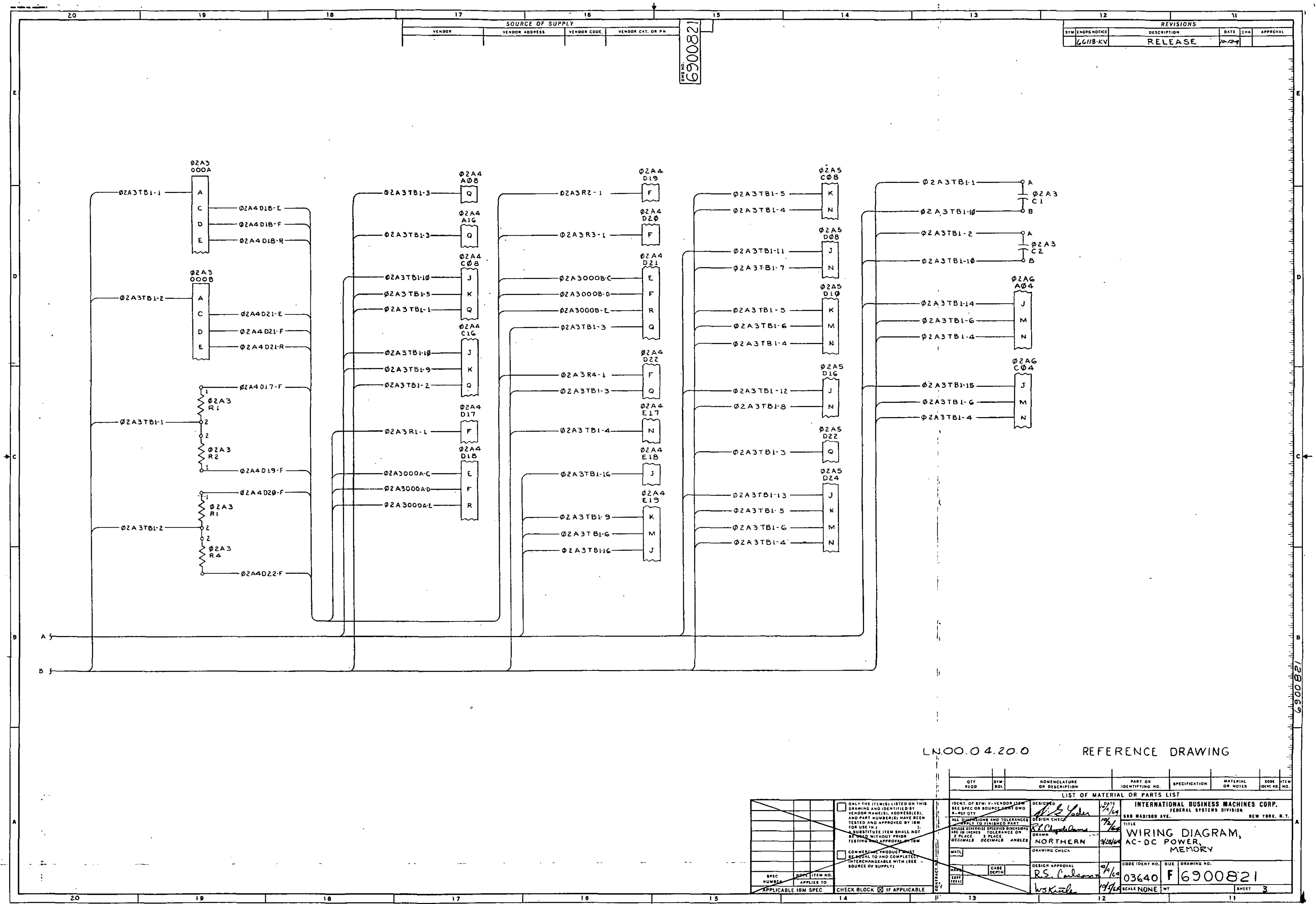


Figure 10-27. Memory AC-DC Power Diagram (LN 00. 04. 20. 1 and 00. 04. 20. 0) (Sheet 2)

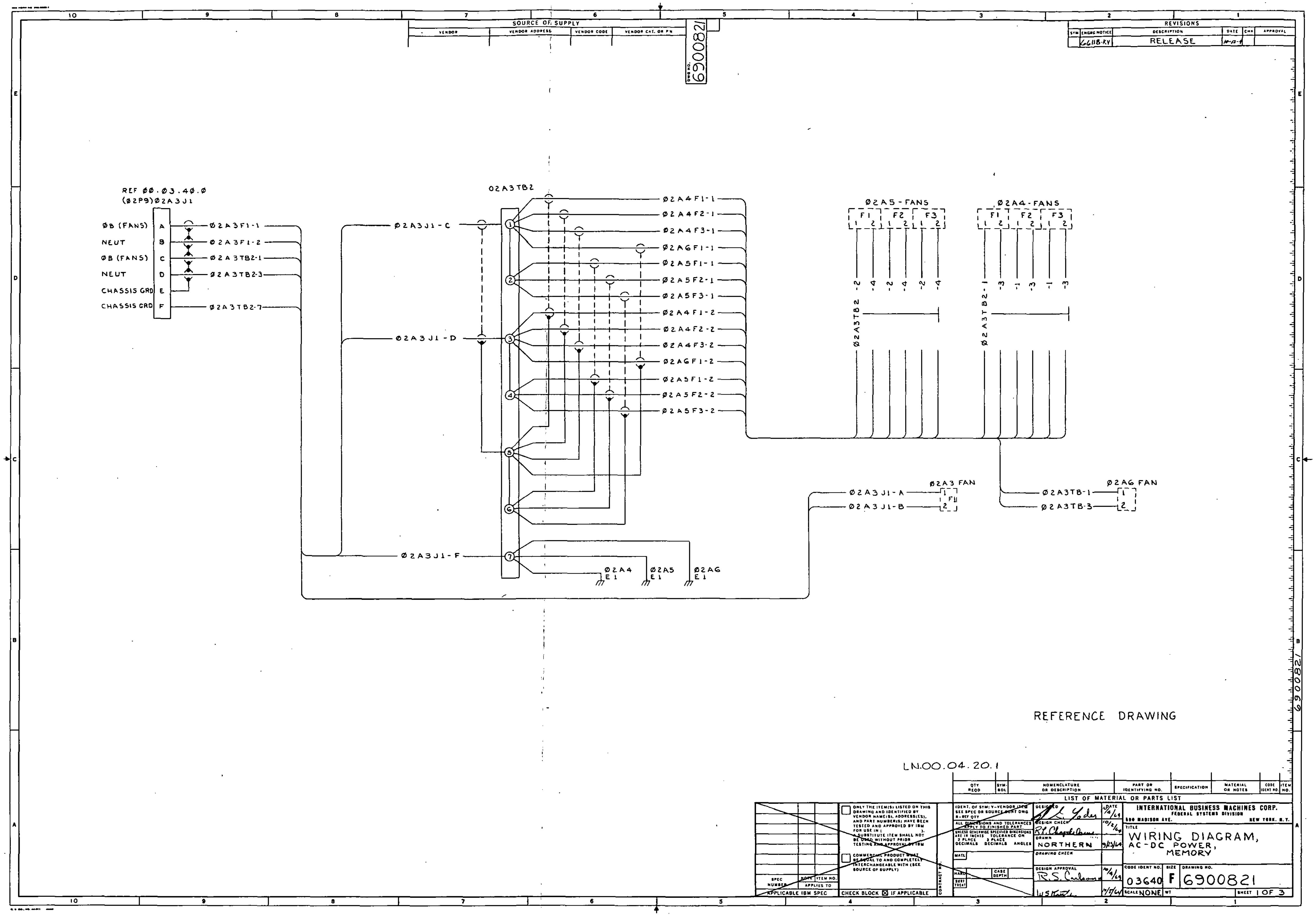



Figure 10-27. Memory AC-DC Power Diagram (LN 00. 04. 20. 1 and 00. 04. 20. 0) (Sheet 3)

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| REVISIONS | | | | | |
|---|---|---|---|---|---|
| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
| | 318547 | RELEASE | | | |
| A | 661182T | | | | VODER |

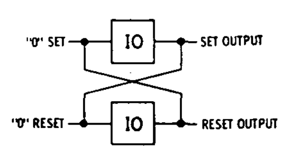
SYMBOL INDEX

1. AND
2. AND-INVERT
3. AND-OR-INVERT
4. DELAY
5. INVERTER
6. INVERTER-OR
7. LAMP DRIVER
8. LATCH 1
9. LATCH 2
10. LATCH 3
11. LATCH 4
12. LATCH 5
13. LATCH 6
14. LATCH 7
15. LINE DRIVER
16. LINE TERMINATOR
17. OR
18. OR-INVERT
19. OSCILLATOR
20. POWER DRIVER
21. RELAY
22. RELAY DRIVER
23. RESISTOR NETWORK
24. SENSE AMPLIFIER
25. SENSE AMPLIFIER DETECTOR
26. SINGLE SHOT
27. STROBE DRIVER
28. TRATCH
29. TRIGGER 1
30. TRIGGER 2

SYMBOL DEFINITIONS

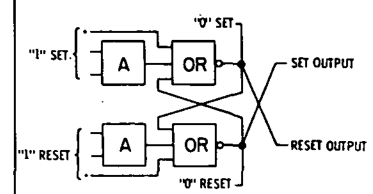
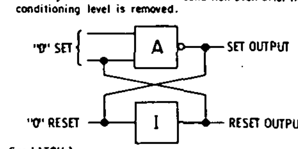
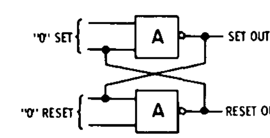
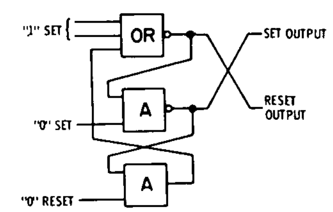
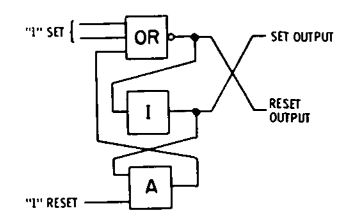
NOTE

A logic "one" is a -6VDC (or -12VDC) level and a logic "zero" is a 0VDC level unless otherwise noted.

| INDEX NO. | SYMBOL | NAME | DESCRIPTION |
|---|---|---|---|
| 1. | A (MULTIPLE INPUT) | AND | When all inputs are "1", the output is a "1". If any input is a "0", the output is a "0". |
| 2. | A (MULTIPLE INPUT) | AND-INVERT | When all inputs are "1", the output is a "0". If any input is a "0", the output is a "1". |
| 3. | AO (MULTIPLE INPUT) | AND-OR-IN-VERT | Inputs - outputs are the same as an And-Invert. The output transistor allows the outputs of several And-Or-Inverts to be connected (OR'd) together. A "0" output of any AO of an "OR'd" group of AO's will form a "0" output from the group. |
| 4. | X USEC DLY | DELAY | The Delay circuit delays the input signal for the nominal duration shown above the symbol. |
| 5. | I | INVERTER | A "1" input causes a "0" output and vice-versa. |
| 6. | IO | INVERTER-OR | Input - output same as Inverter. The output transistor allows the outputs of several Inverter-Ors to be connected (OR'd) together; a "0" output of any IO of an "OR'd" group of IO's will force a "0" output from the group. |
| 7. | LD | LAMP DRIVER | A "1" input causes the Lamp Driver to turn on its associated indicator lamp; a "0" input causes the Lamp Driver to turn off its associated indicator lamp. |
| 8. | "0" SET; L1; SET OUTPUT; RESET OUTPUT; "0" RESET | LATCH 1 |  The set and reset outputs are complementary. A "0" at the "0" set input causes the set output to become a "1" and the reset output to become a "0"; the outputs will remain in this condition even after the input conditioning level is removed. Similarly, a "0" at the "0" reset input causes the reset output to become a "1" and the set output to become a "0"; the outputs will remain in this condition even after the input conditioning level is removed. *An asterisk (*) immediately following a* signal at a "0" set or "0" reset input indicates that this signal enters the latch through an isolation diode. |

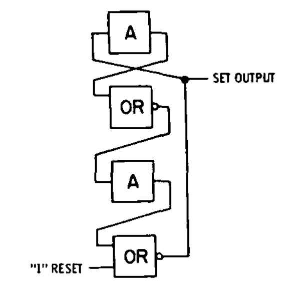
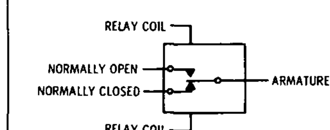


SYMBOL DEFINITIONS (Cont)

| INDEX NO. | SYMBOL | NAME | DESCRIPTION |
|---|---|---|---|
| 9. | "0" SET; "1" SET; L2; SET OUTPUT; "1" RESET; RESET OUTPUT; "0" RESET | LATCH 2 |  Same as Latch 1. "1's " at the "1" set input causes the set output to become a "1" and the reset output to become a "0"; the outputs will remain in this condition even after the input conditioning level is removed. Similarly, a "1's "at the "1" reset input or a "1" at the "1" reset * input causes the reset output to become a "1." and the set output to become a "0", the output will remain in this condition even after the input conditioning level is removed. |
| 10. | "0" SET; L3; SET OUTPUT; RESET OUTPUT; "0" RESET | LATCH 3 |  See LATCH 1. |
| 11. | "0" SET; L4; SET OUTPUT; RESET OUTPUT; "0" RESET | LATCH 4 |  See LATCH 1. |
| 12. | "0" SET; "1" SET; L5; SET OUTPUT; RESET OUTPUT; "0" RESET | LATCH 5 |  See LATCH 1 and LATCH 2. |
| 13. | "1" SET; L6; SET OUTPUT; RESET OUTPUT; "0" RESET | LATCH 6 |  See LATCH 1 and LATCH 2. |



SYMBOL DEFINITIONS (Cont)

| INDEX NO. | SYMBOL | NAME | DESCRIPTION |
|---|---|---|---|
| 14. | "1" SET; L7; SET OUTPUT; "1" RESET | LATCH 7 |  See LATCH 2. |
| 15. | LINE DR | LINE DRIVER | Signal driver and low impedance matching device. |
| 16. | LT | LINE TERMINATOR | The Line Terminator is a gated inverter used to terminate a transmission line in its proper impedance match and reference voltage. The omission of the gate input indicates that the gate input is a "1" at all times. |
| 17. | OR (MULTIPLE INPUT) | OR | When all inputs are "1's", the output is a "1"; if any input is a "0", the output is a "0". |
| 18. | OR (MULTIPLE INPUT) | OR-INVERT | When all inputs are "0", the output is a "1". If any input is a "1", the output is a "0". The outputs of several Or-Inverts can be OR'd together. |
| 19. | OSC | OSCILLATOR | Generates a square wave signal (0VDC to -6VDC) at a 2.048 MC frequency. |
| 20. | PD | POWER DRIVER | Signal shaper and driver — a "1" input causes a "1" output; a "0" input causes a "0" output. |
| 21. | RLY | RELAY |  |



REFERENCE DRAWING

| QTY REQD | SYM BOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|

LIST OF MATERIAL OR PARTS LIST

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

TITLE: LOGIC DIAGRAM, PROGRAMMABLE TEST CONTROLLER (PTC)- SYMBOL DEFINITIONS

SIZE F 6900906

SHEET 1 of 72

Figure 10-28. PTC Second Level Logic Diagrams (Sheet 1 of 72)

6900906 A

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| SYM | CHANGE NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
| | 4118 AT | RELEASE | | | |
| A | 4118 PT | REDRAWN WITH CHANGE | | | YODER |

SYMBOL DEFINITIONS (Cont)

| INDEX NO. | SYMBOL | NAME | DESCRIPTION |
|---|---|---|---|
| 22. | RELAY DR | RELAY DRIVER | Input / Output: "1" 0VDC; "0" -26.5VDC |
| 23. | R | RESISTOR NETWORK | Resistors in this network are shunted across the memory current supply to control the drive current applied to the memory core array. An increase in memory ambient temperature requires a decrease in memory drive current. |
| 24. | A, B, C — SA | SENSE AMPLIFIER | The Sense Amplifier is a gated differential amplifier that senses "1's" from the memory array at inputs A and B; the Sense Amplifier is enabled when input C (the gate input) is a "1". When a "1" is sensed at inputs A and B, the signal is amplified, rectified and sent to a Sense Amplifier Detector. |
| 25. | SA DET | SENSE AMPLIFIER DETECTOR | The Sense Amplifier Detector is a strobed Schmitt trigger that produces a "1" output only when one of its associated Sense Amplifiers senses a "1" and the strobe input is a "0". |
| 26. | X USEC SS | SINGLE SHOT | Any or all three inputs may be connected. An unconnected input (indicated by the absence of an input) is effectively a "1" input. All inputs must equal "1" to trigger the single shot. The negative going transition of the last input to become a "1" triggers the single shot. The duration of the negative square wave output is shown above the symbol. |
| 27. | SD | STROBE DRIVER | The Strobe Driver provides the signal to strobe the 14 Sense Amplifier Detectors in each memory. The Strobe Driver inverts and amplifies its input signal. |
| 28. | "0", "1", "1" — TCH — "0", "1", "1" | TRATCH | A "0" input causes the corresponding output to become a "0" and the other two outputs to become "1's". |
| 29. | A, B, "1" SET, "1" RESET, C, D — $T_1$ — SET OUTPUT, RESET OUTPUT | TRIGGER 1 | The set output becomes a "1" when input A is a "0" and input B goes from a "1" to a "0". The reset output becomes a "1" when input D is a "0" and input C goes from a "1" to "0". (The omission of input "1" set and "1" reset inputs indicates that these lines are grounded.) |
| 30. | A, B, "1" SET, "1" RESET, C — $T_2$ — SET OUTPUT, RESET OUTPUT | TRIGGER 2 | The set output becomes a "1" when input A is a "0" and input B goes from a "1" to a "0". The reset output becomes a "1" when input C is a "0" and input B goes from a "1" to a "0". (The omission of input "1" set and "1" reset indicates that these lines are grounded.) |

NOTES:

1. Abbreviations of signal names are defined in 6900510, Symbol Definitions and Signal Abbreviations for the PTC. Listing of additional abbreviations are:

   MSEC millisecond
   USEC microsecond
   NSEC nanosecond
   MC megacycles

2. The numbers listed in tabular INPUTS and OUTPUTS columns are sheet number locations of signal origin and destinations.

3. All logic blocks are defined on sheets 1 and 2.

REFERENCE DRAWING

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|

LIST OF MATERIAL OR PARTS LIST

UNLESS NOTED BREAK CORNERS OUTSIDE MIN MAX INSIDE MIN MAX
ALL DIMENSIONS AND TOLERANCES APPLY TO FINISHED PART
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ON 2 PLACE DECIMALS 3 PLACE DECIMALS ANGLES
MATL
HARD CASE DEPTH
SURF TREAT
CONTRACT NO.

DESIGNED S. E. Yoder DATE 9/22/64
DESIGN CHECK A. O. Cleia 9/12/64
DRAWN
DRAWING CHECK
DESIGN APPROVAL 9/25/64
W.S.Kittle 9/22/64

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

TITLE SYMBOL DEFINITIONS

CODE IDENT NO. SIZE F 6900906
SCALE WT SHEET 2

Figure 10-28. PTC Second Level Logic Diagrams (Sheet 2)

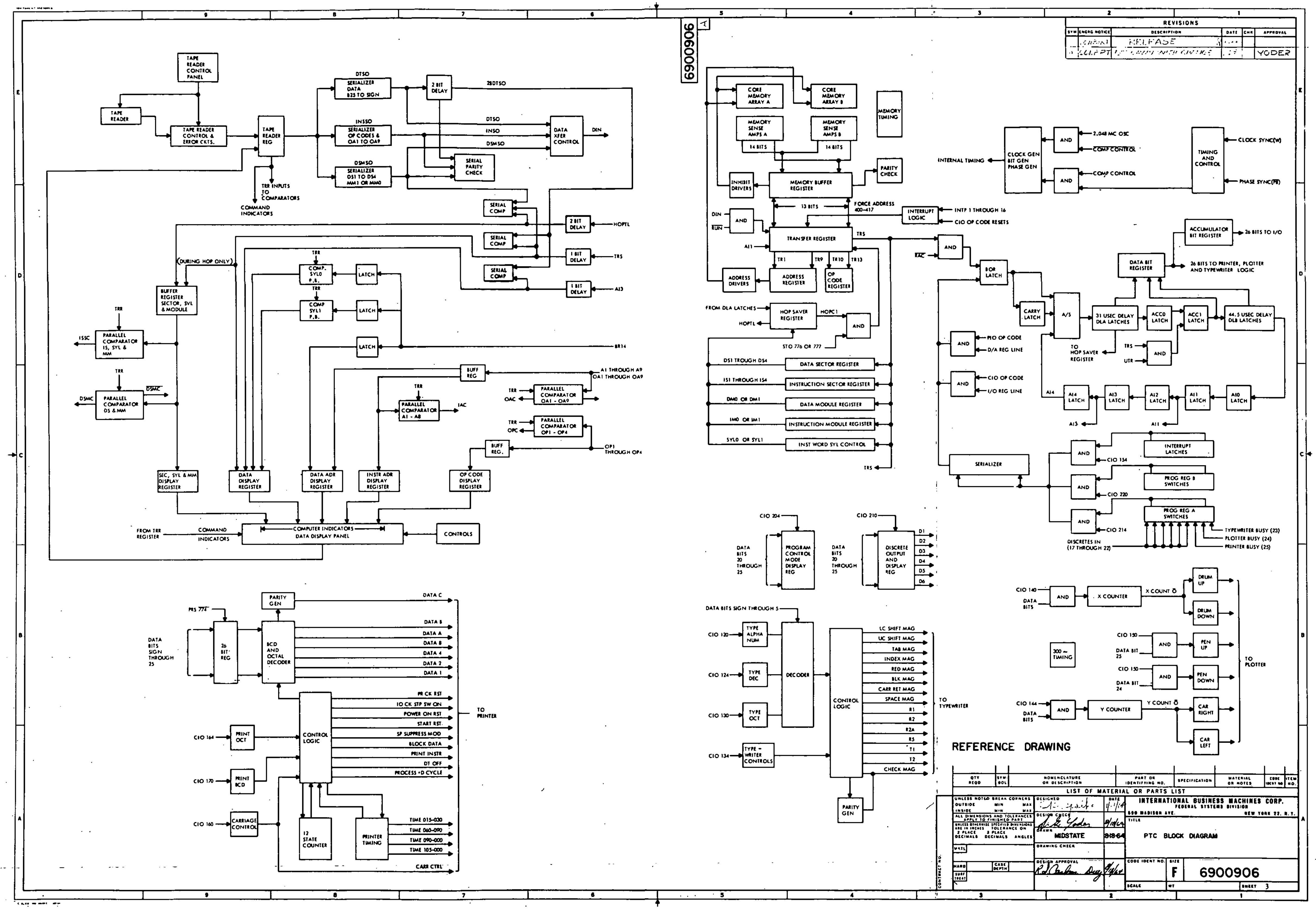



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 3)

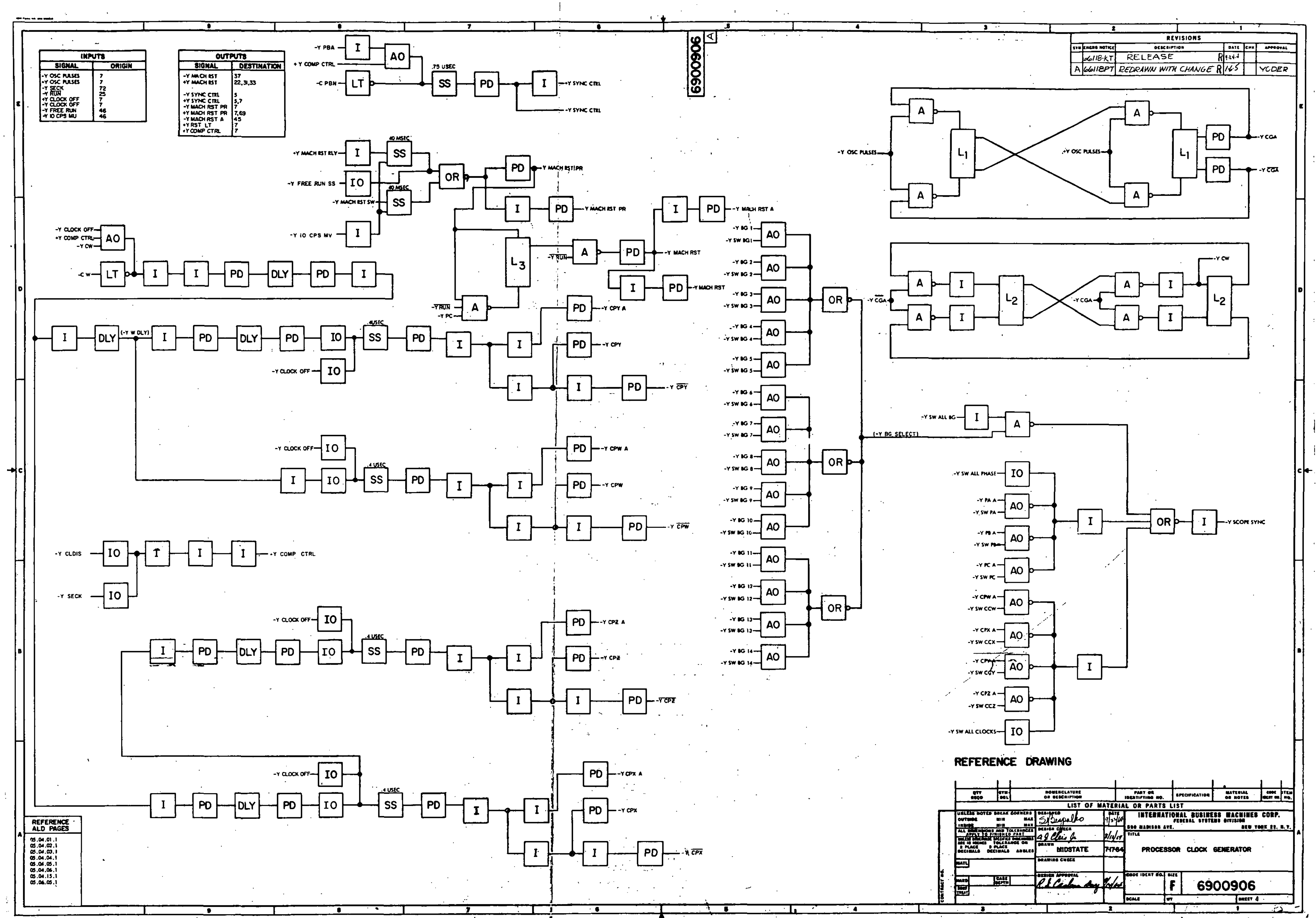


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 4)

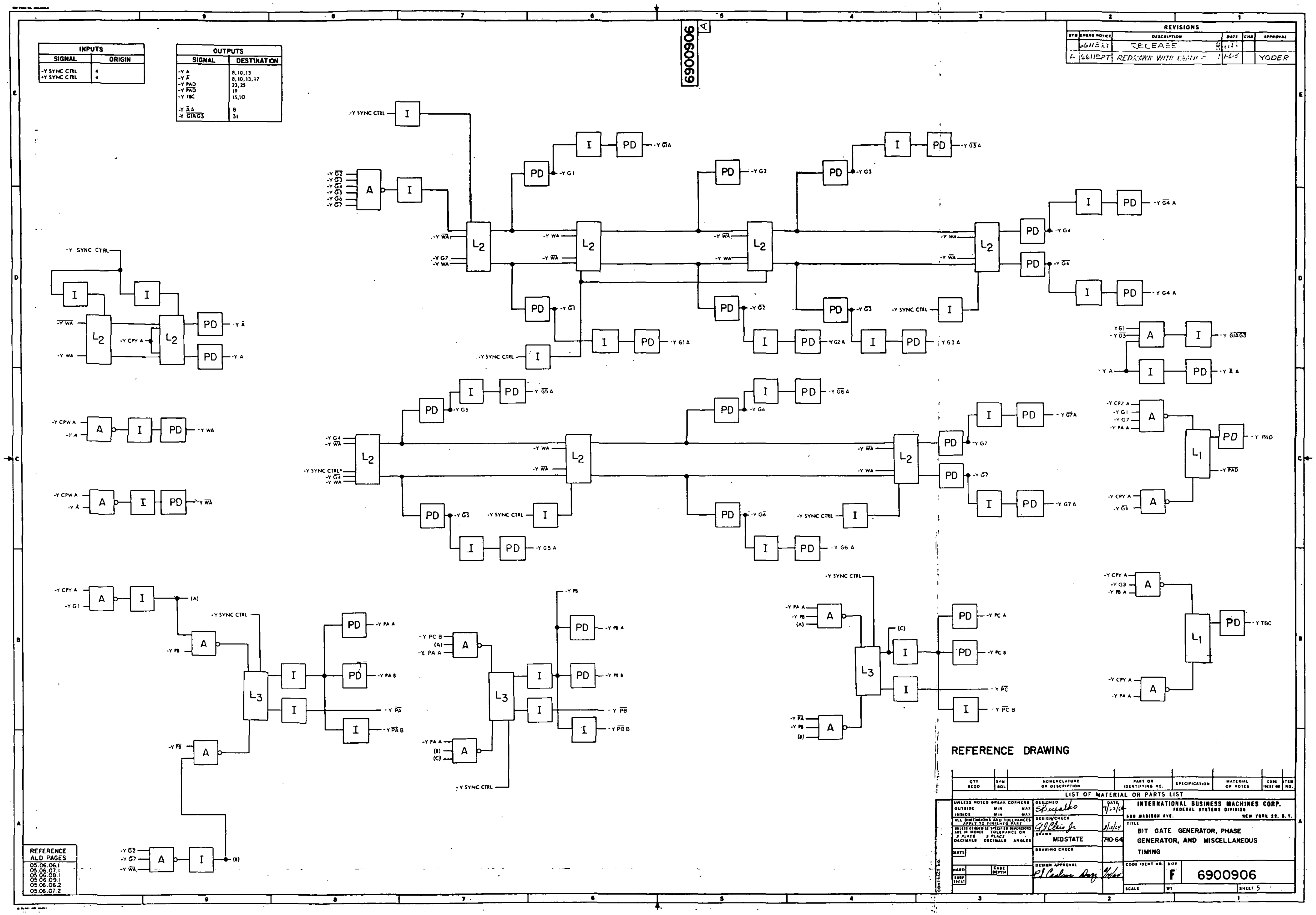


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 5)

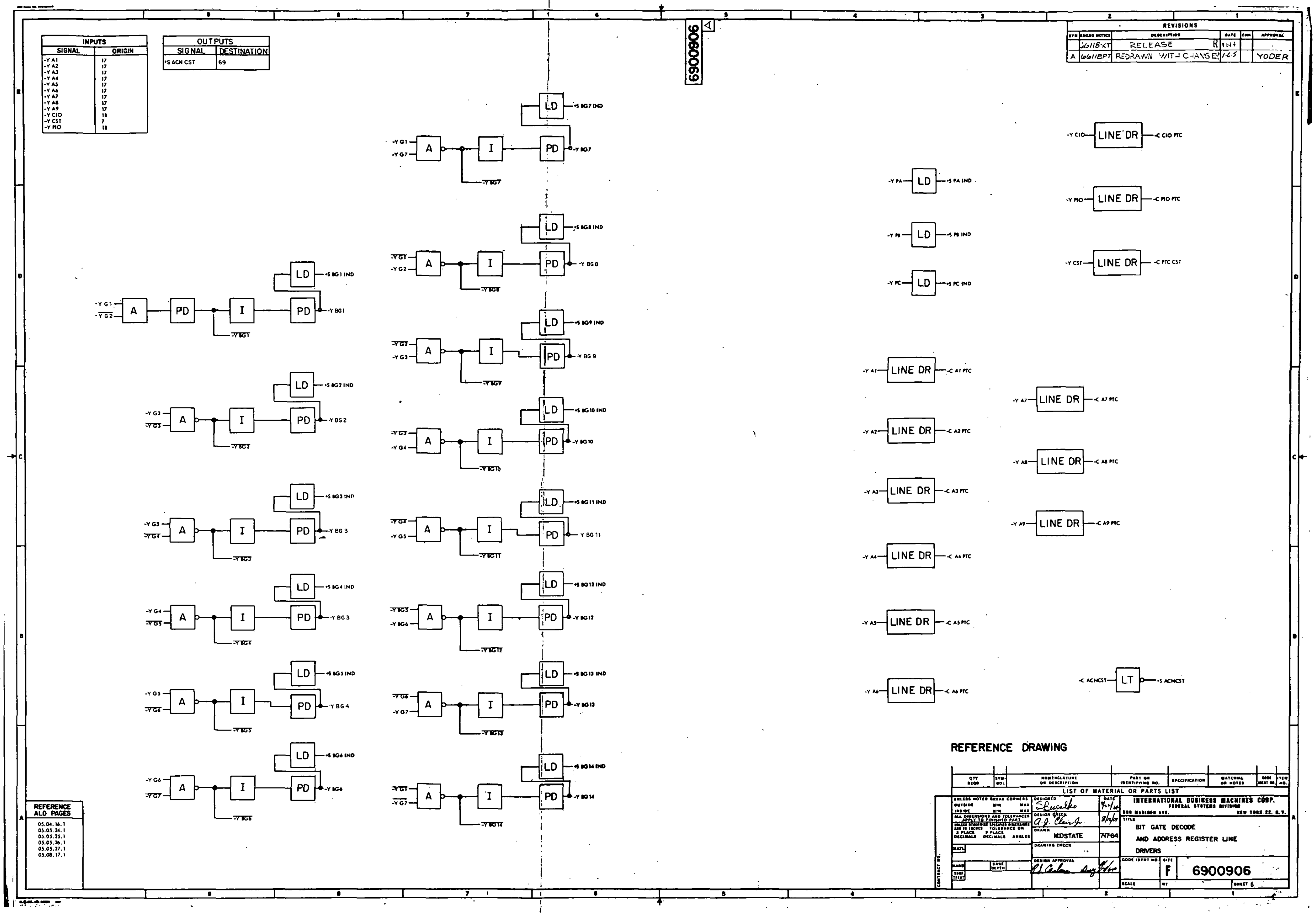


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 6)

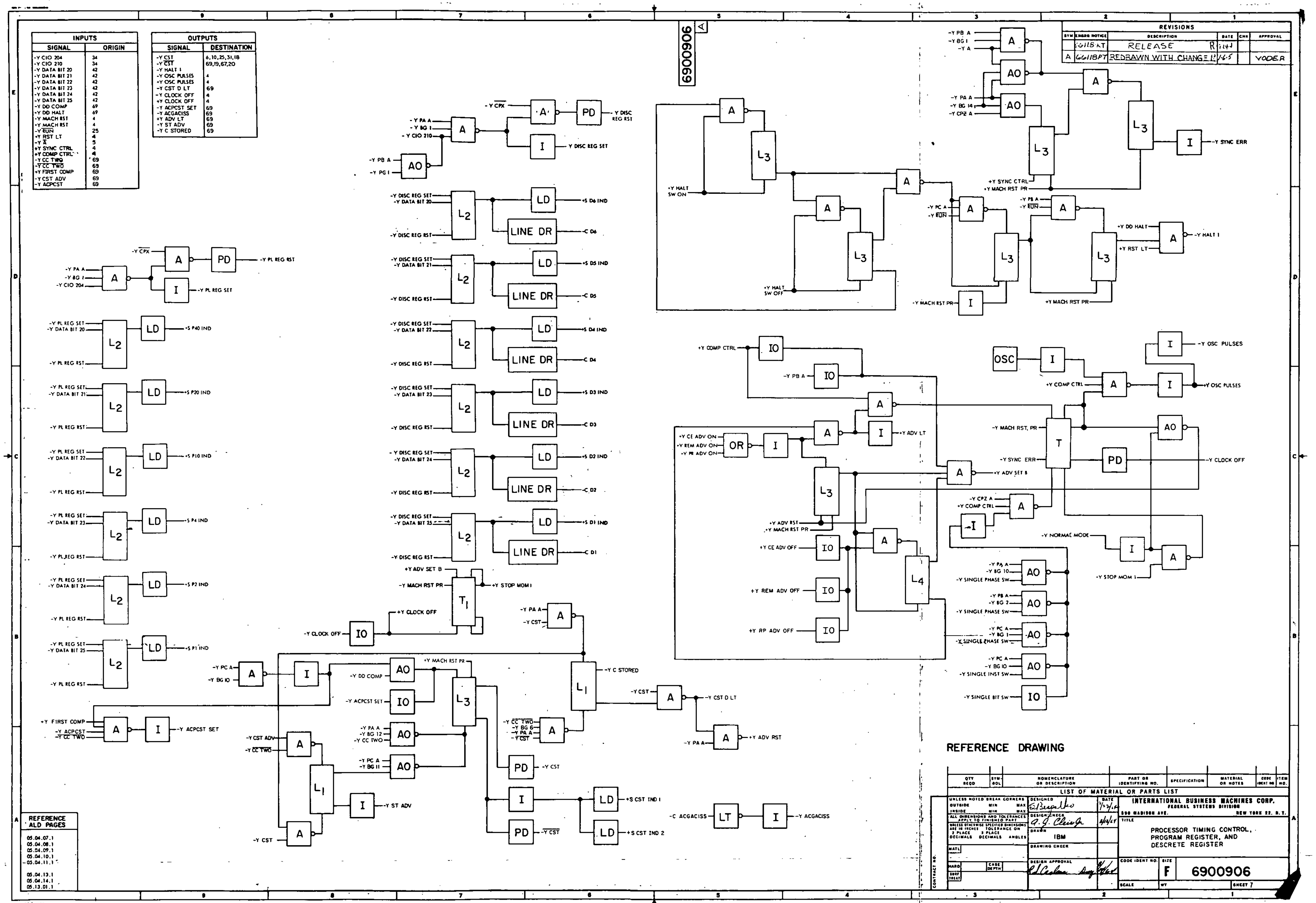



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 7)

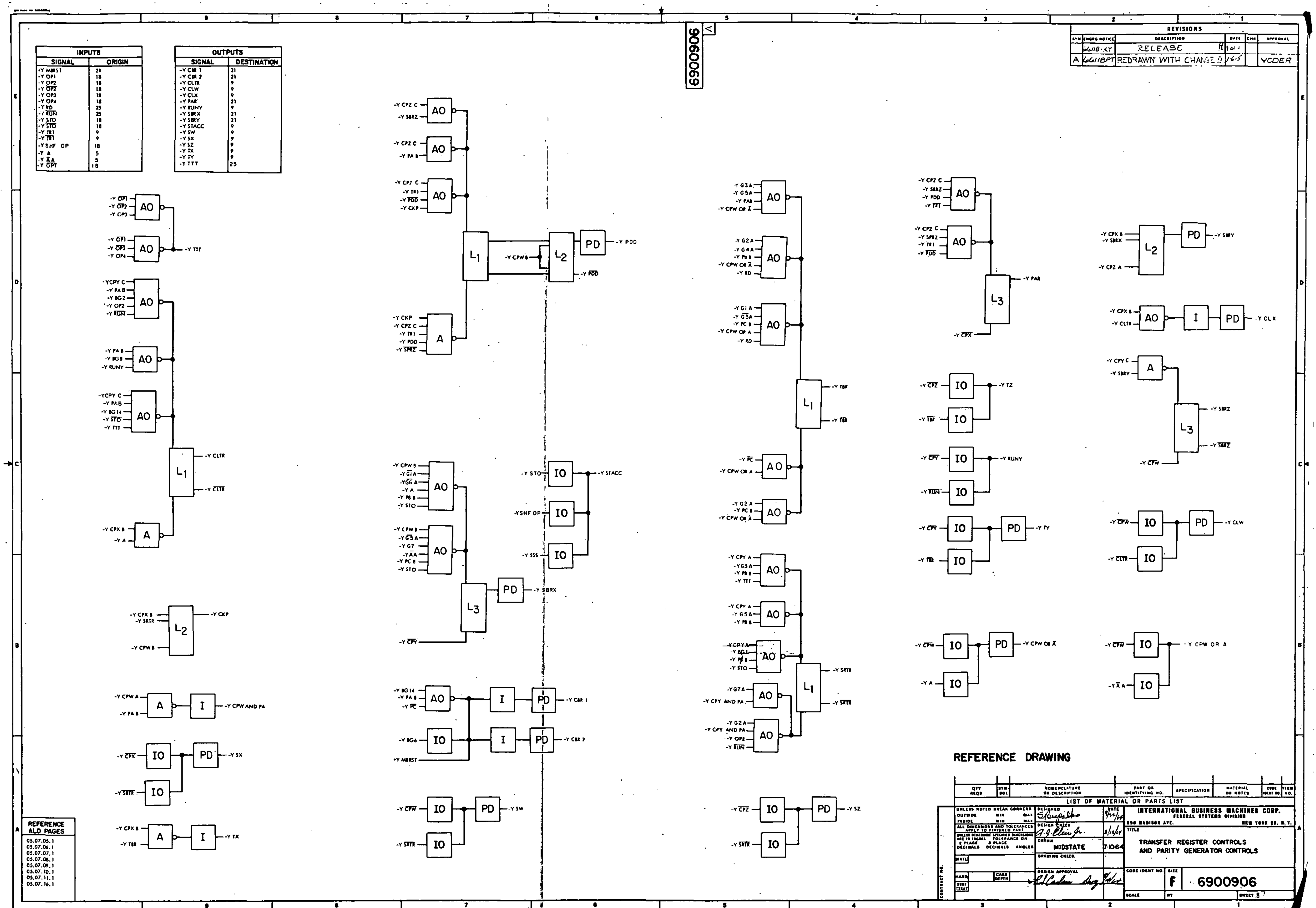


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 8)

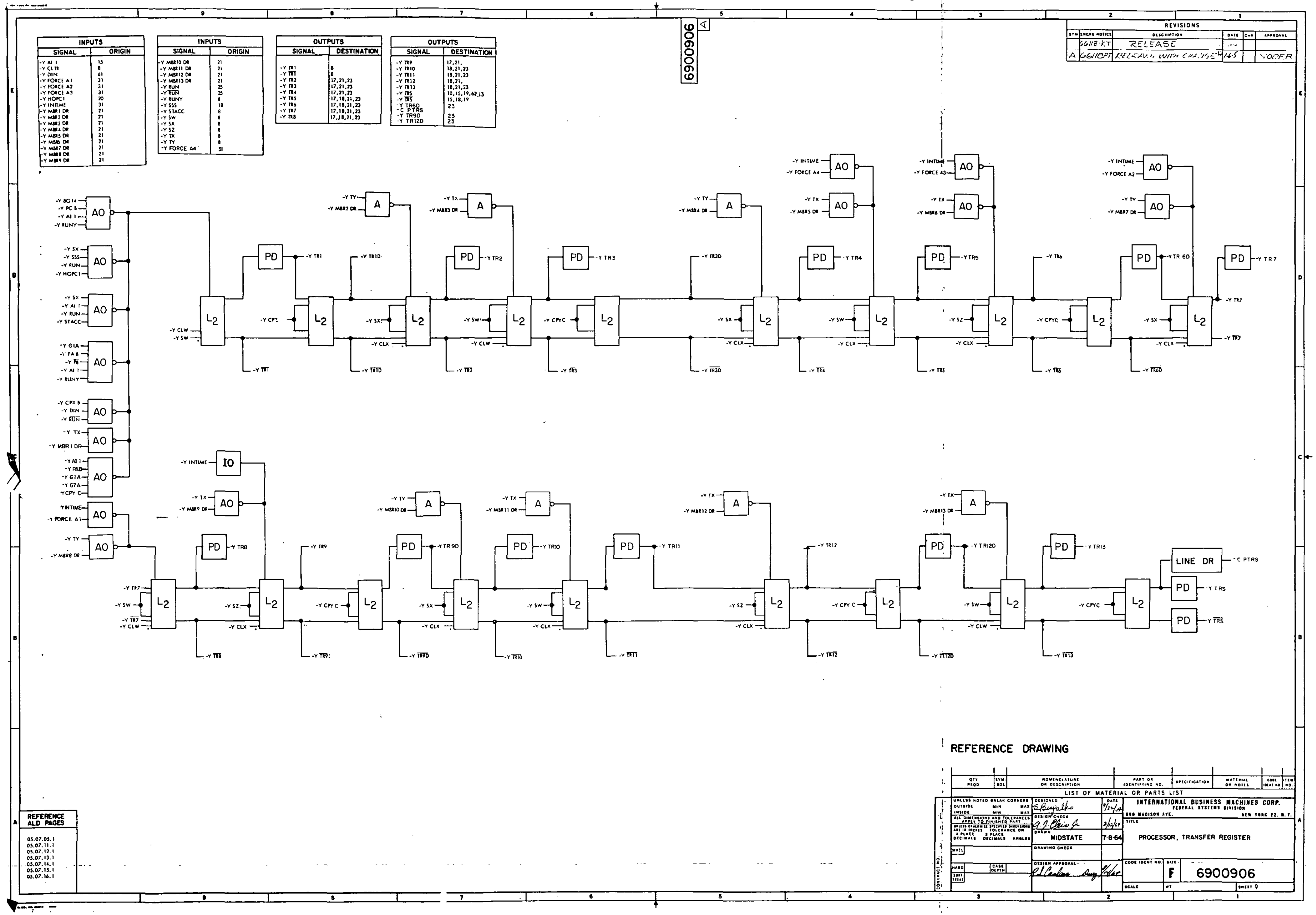



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 9)

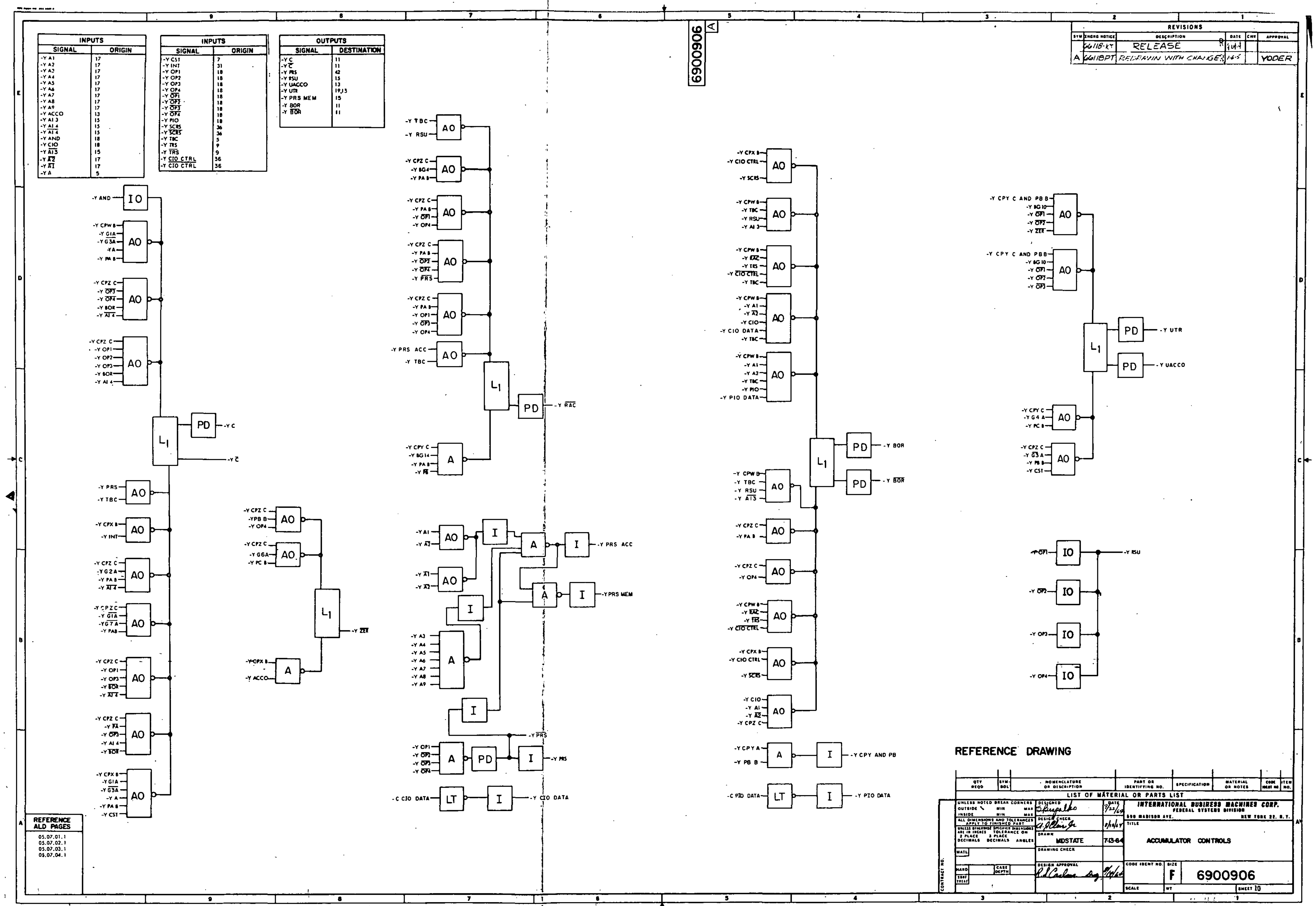



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 10)

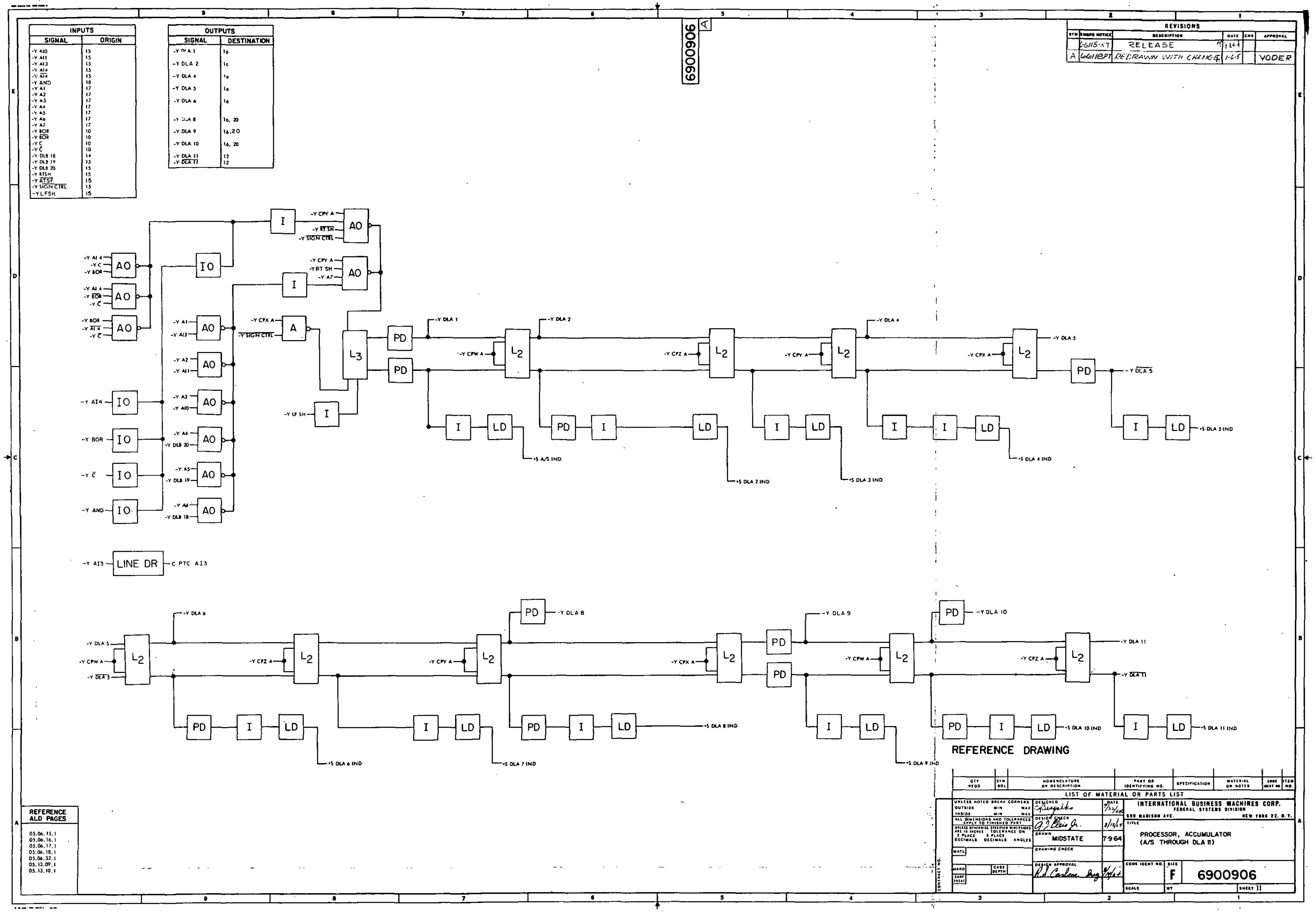



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 11)

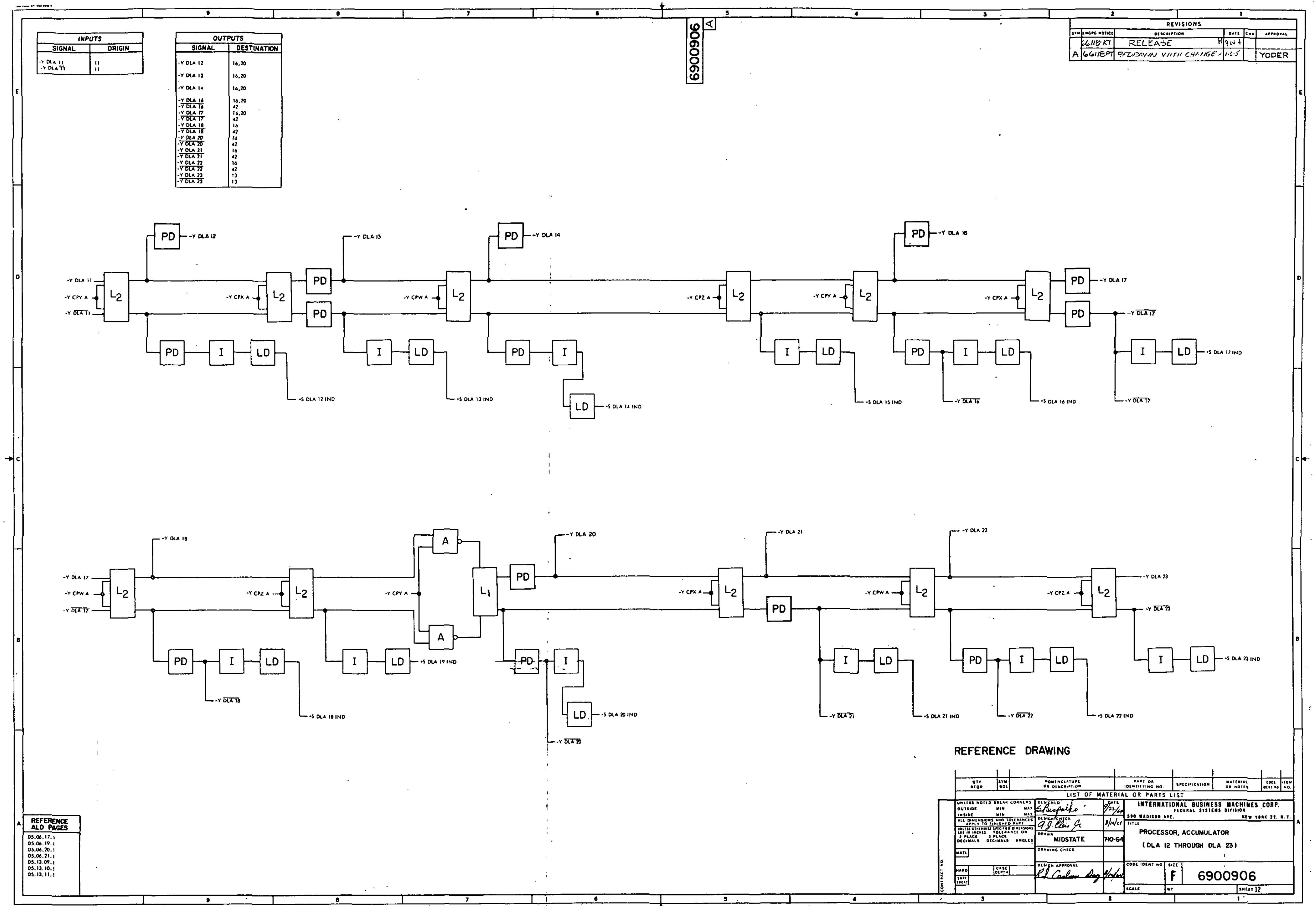


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 12)

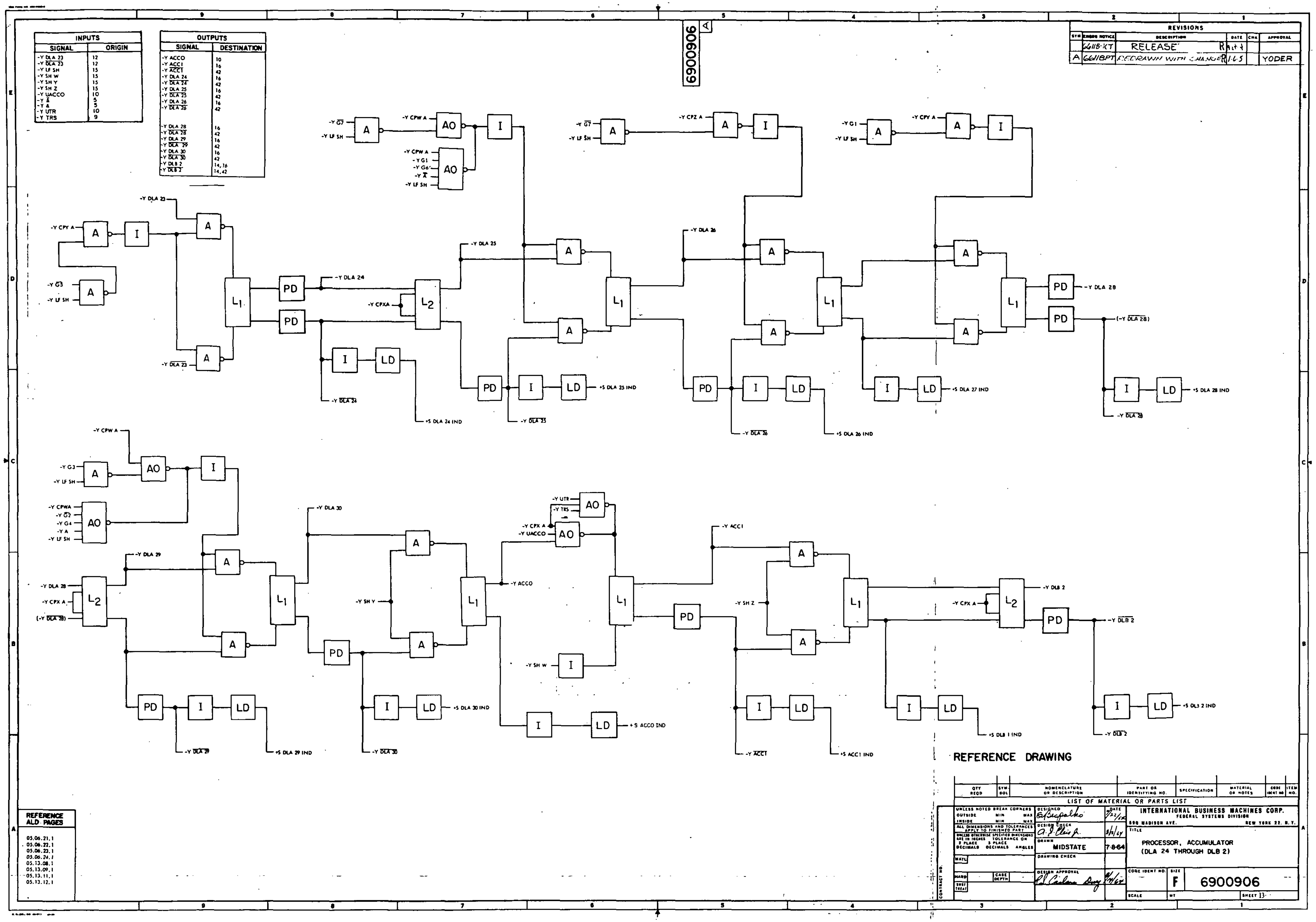



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 13)

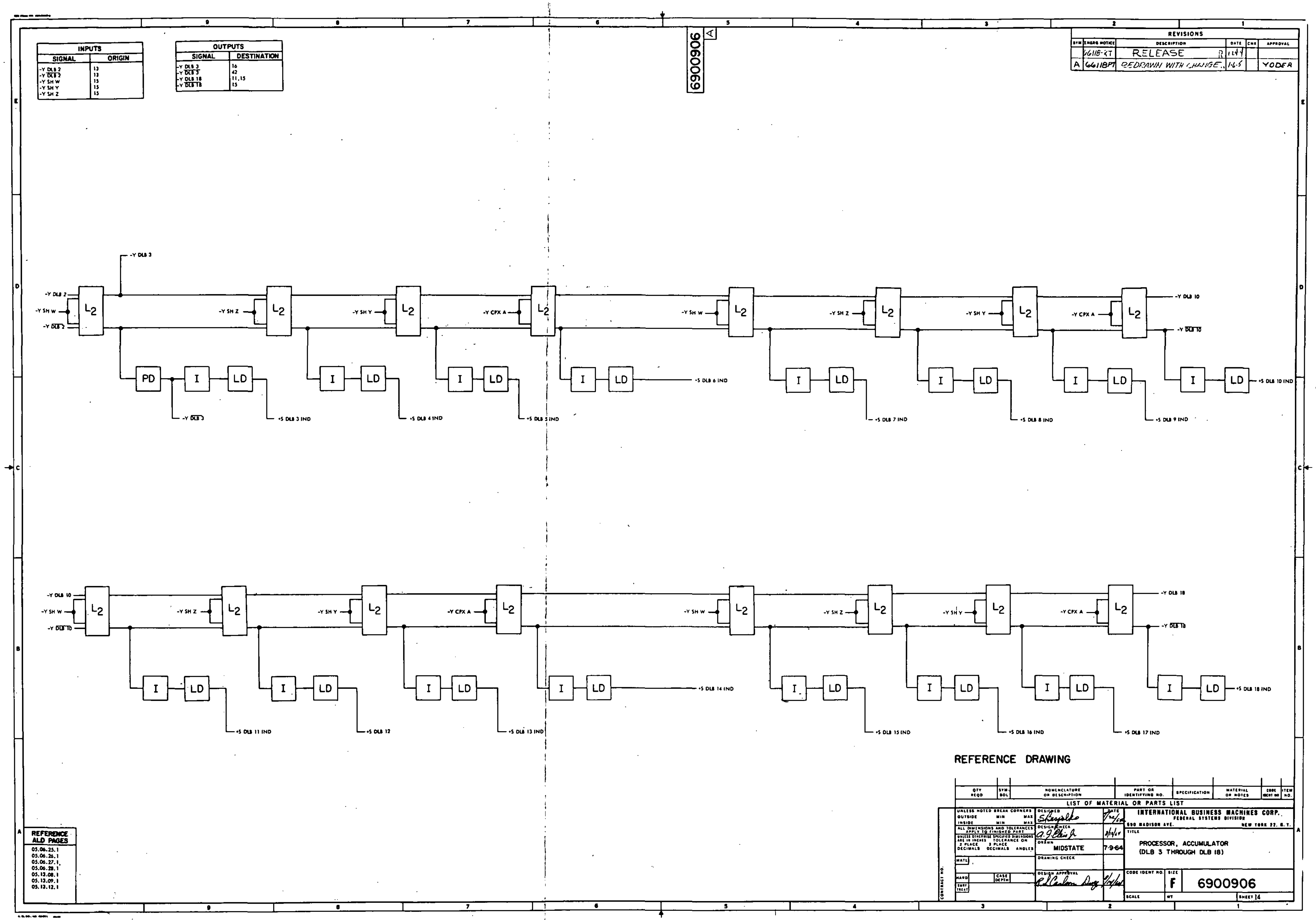



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 14)

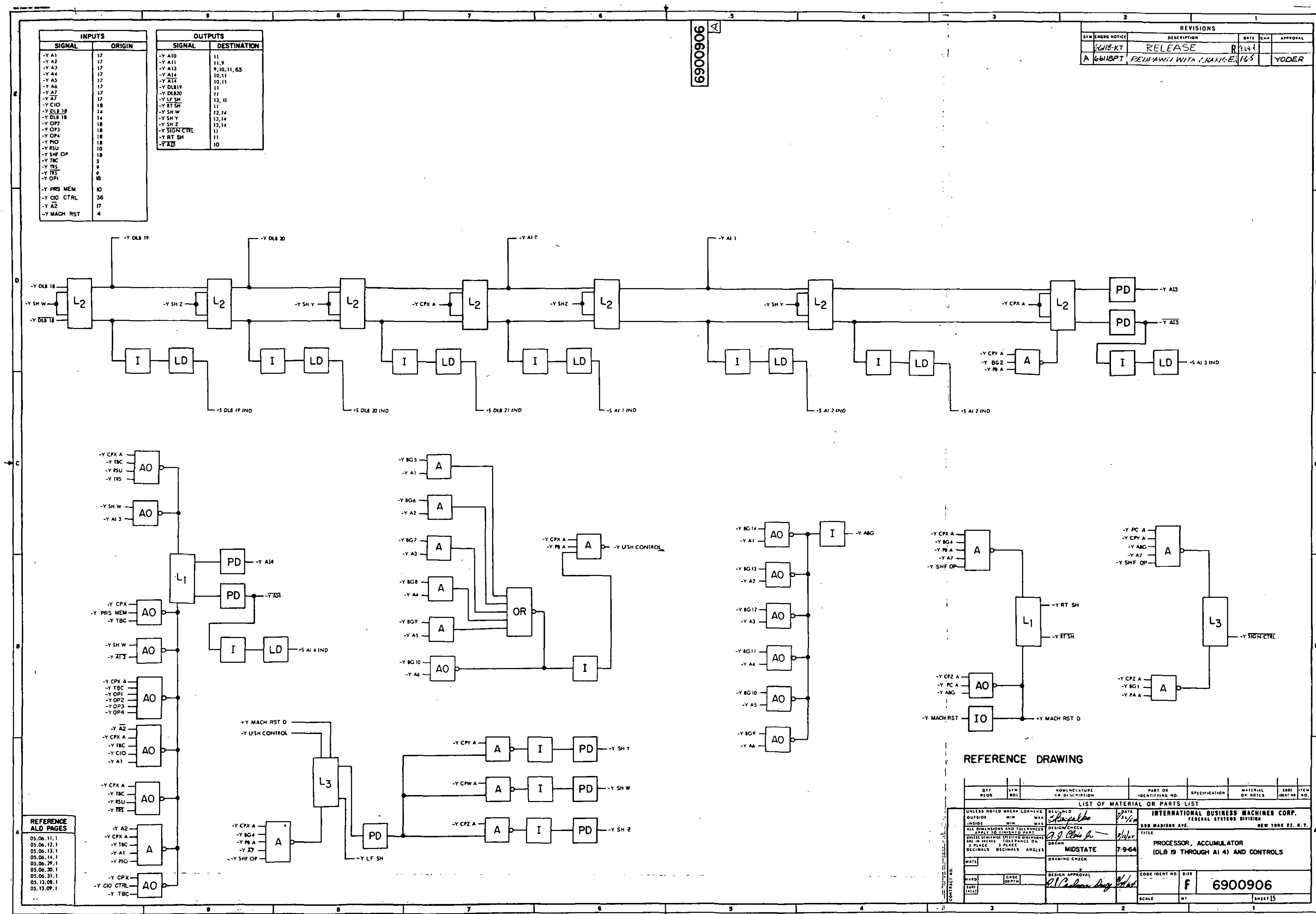



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 15)

| INPUTS | | OUTPUTS | |
|---|---|---|---|
| SIGNAL | ORIGIN | SIGNAL | DESTINATION |
| -Y ACC 1 | 13 | +Y DATA BIT SIGN | 42 |
| -Y DLA 1 | 11 | +Y DATA BIT 1 | 42 |
| -Y DLA 2 | 11 | +Y DATA BIT 2 | 42 |
| -Y DLA 4 | 11 | +Y DATA BIT 3 | 42 |
| -Y DLA 5 | 11 | +Y DATA BIT 4 | 42 |
| -Y DLA 6 | 11 | +Y DATA BIT 5 | 42 |
| -Y DLA 8 | 11 | +Y DATA BIT 6 | 42 |
| -Y DLA 9 | 11 | +Y DATA BIT 7 | 42 |
| -Y DLA 10 | 11 | +Y DATA BIT 8 | 42 |
| -Y DLA 12 | 12 | +Y DATA BIT 9 | 42 |
| -Y DLA 13 | 12 | +Y DATA BIT 10 | 42 |
| -Y DLA 14 | 12 | +Y DATA BIT 11 | 42 |
| -Y DLA 16 | 12 | +Y DATA BIT 12 | 42 |
| -Y DLA 17 | 12 | +Y DATA BIT 13 | 42 |
| -Y DLA 18 | 12 | +Y DATA BIT 14 | 42 |
| -Y DLA 20 | 12 | +Y DATA BIT 15 | 42 |
| -Y DLA 21 | 12 | +Y DATA BIT 16 | 42 |
| -Y DLA 22 | 12 | +Y DATA BIT 17 | 42 |
| -Y DLA 24 | 13 | +Y DATA BIT 18 | 42 |
| -Y DLA 25 | 13 | +Y DATA BIT 19 | 42 |
| -Y DLA 26 | 13 | +Y DATA BIT 20 | 42 |
| -Y DLA 28 | 13 | +Y DATA BIT 21 | 42 |
| -Y DLA 29 | 13 | +Y DATA BIT 22 | 42 |
| -Y DLA 30 | 13 | +Y DATA BIT 23 | 42 |
| -Y DLB 2 | 13 | +Y DATA BIT 24 | 42 |
| -Y DLB 3 | 14 | +Y DATA BIT 25 | 42 |

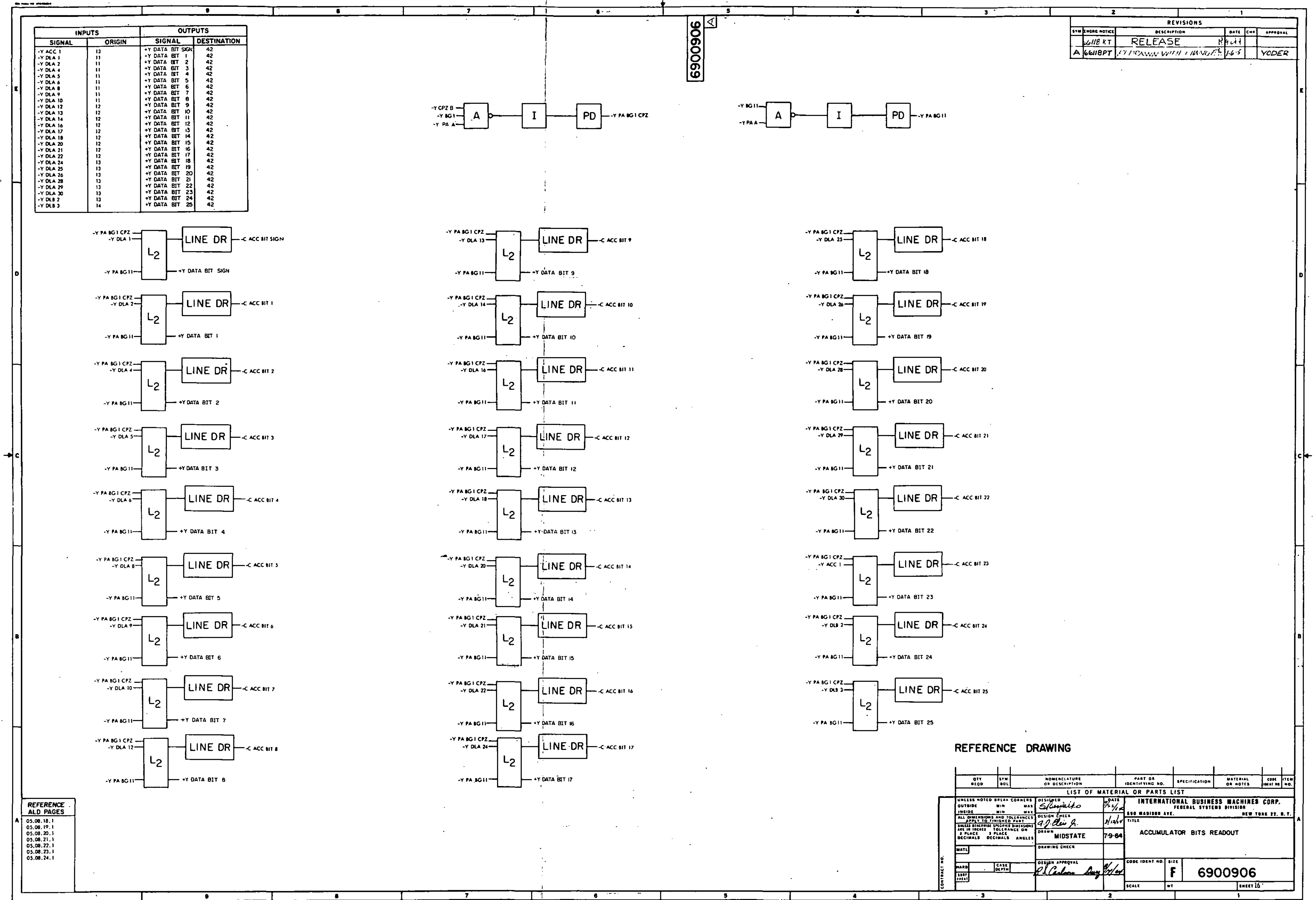



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 16)

| INPUTS | |
|---|---|
| SIGNAL | ORIGIN |
| -Y $\overline{\text{ADR IND INH}}$ | 19 |
| -Y HPS IND INH | 19 |
| -Y TR1 | 9 |
| -Y TR2 | 9 |
| -Y TR3 | 9 |
| -Y TR4 | 9 |
| -Y TR5 | 9 |
| -Y TR6 | 9 |
| -Y TR7 | 9 |
| -Y TR8 | 9 |
| -Y TR9 | 9 |
| -Y $\overline{\text{A}}$ | 5 |
| -Y HIC1 | 20 |
| -Y HIC2 | 20 |
| -Y HIC3 | 20 |
| -Y HIC4 | 20 |
| -Y HIC5 | 20 |
| -Y HIC6 | 20 |
| -Y HIC7 | 20 |
| -Y HIC8 | 20 |

| OUTPUTS | |
|---|---|
| SIGNAL | DESTINATION |
| -S MAR 1 | 29,30 |
| -S $\overline{\text{MAR 1}}$ | 29,30 |
| -S MAR 2 | 29,30 |
| -S $\overline{\text{MAR 2}}$ | 29,30 |
| -S MAR 3 | 29,30 |
| -S $\overline{\text{MAR 3}}$ | 29,30 |
| -S MAR 4 | 29,30 |
| -S $\overline{\text{MAR 4}}$ | 29,30 |
| -S MAR 5 | 29,30 |
| -S $\overline{\text{MAR 5}}$ | 29,30 |
| -S MAR 6 | 29,30 |
| -S $\overline{\text{MAR 6}}$ | 29,30 |
| -S MAR 7 | 29,30 |
| -S $\overline{\text{MAR 7}}$ | 29,30 |
| -S MAR 8 | 29,30 |
| -S $\overline{\text{MAR 8}}$ | 29,30 |
| -Y A1 | 6,10,11,15,34,65 |
| -Y A2 | 6,10,11,15,18,34, 65 |
| -Y A3 | 6,10,11,15,18,34, 65 |
| -Y A4 | 6,10,11,15,18,34, 65 |
| -Y A5 | 6,10,11,15,18,24, 34,65 |
| -Y A6 | 6,10,11,15,18,34, 65 |
| -Y A7 | 6,10,11,15,18,34, 65 |
| -Y A8 | 6,10,18,34,65 |
| -Y A9 | 6,10,18,19,23,25, 34,65 |

| OUTPUTS | |
|---|---|
| SIGNAL | DESTINATION |
| -Y A1 | 10 |
| -Y $\overline{\text{A2}}$ | 10 |
| -Y RDNT $\overline{\text{A8}}$ | 18 |
| -Y $\overline{\text{A5}}$ | 24 |
| -Y $\overline{\text{A7}}$ | 15 |

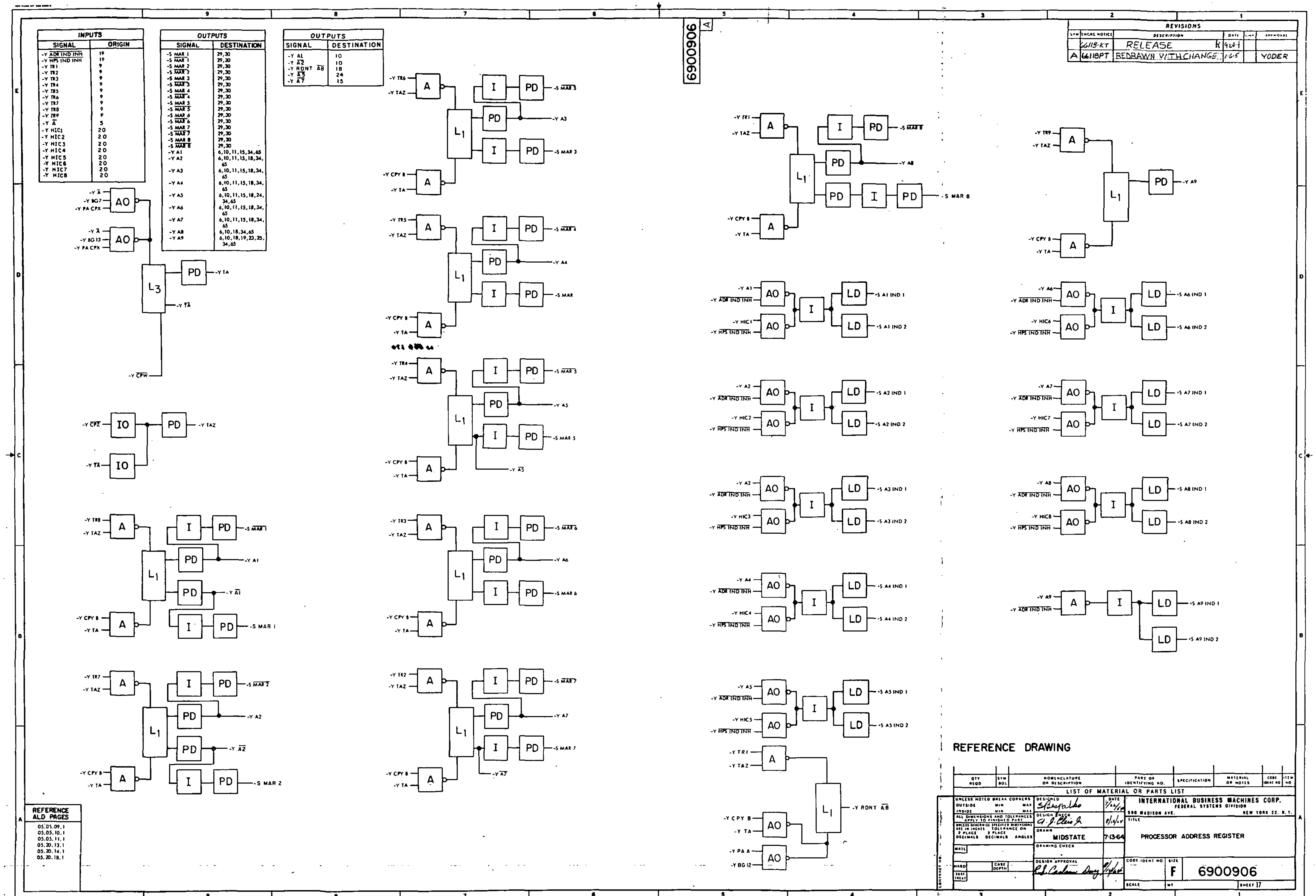



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 17)

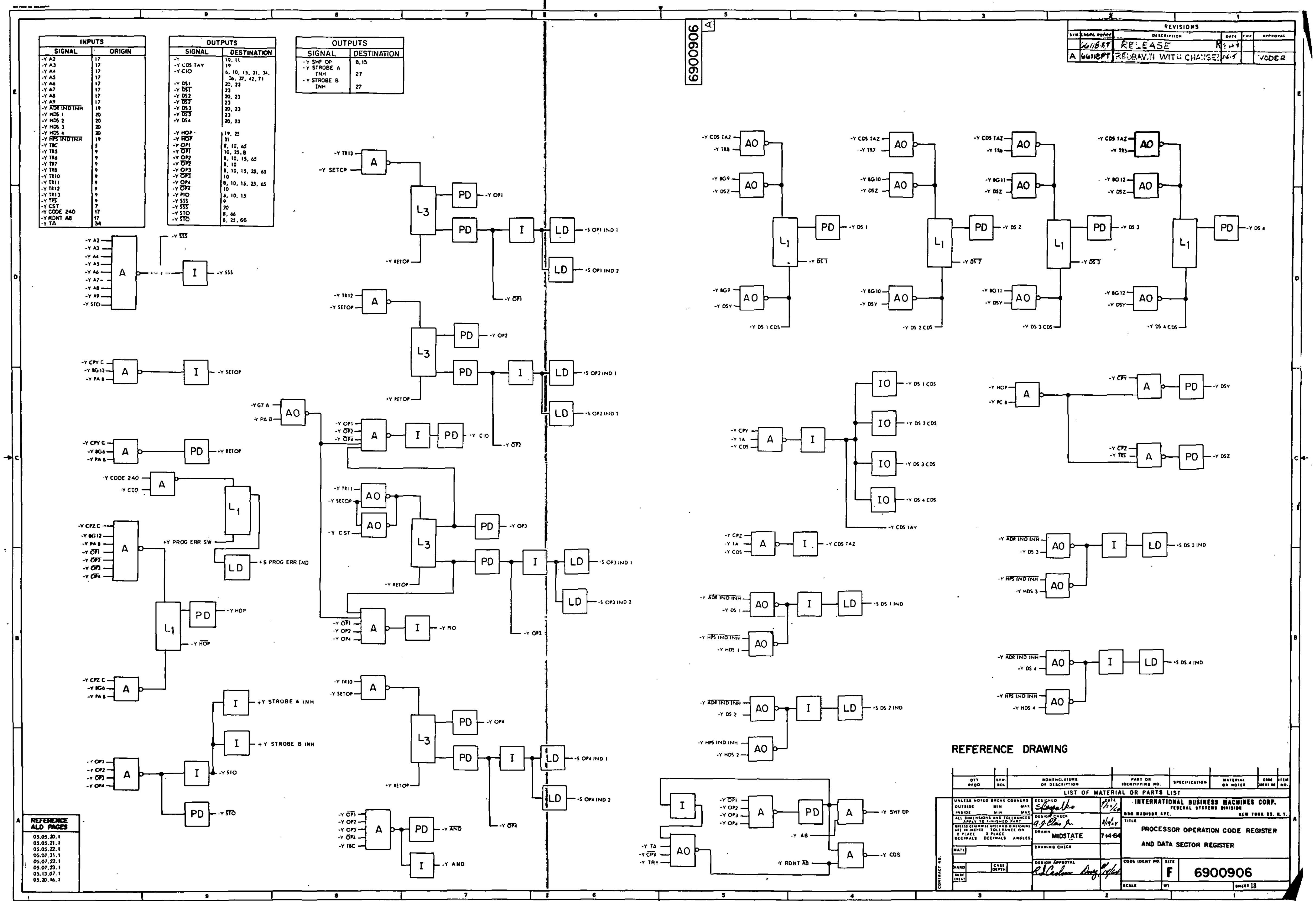



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 18)

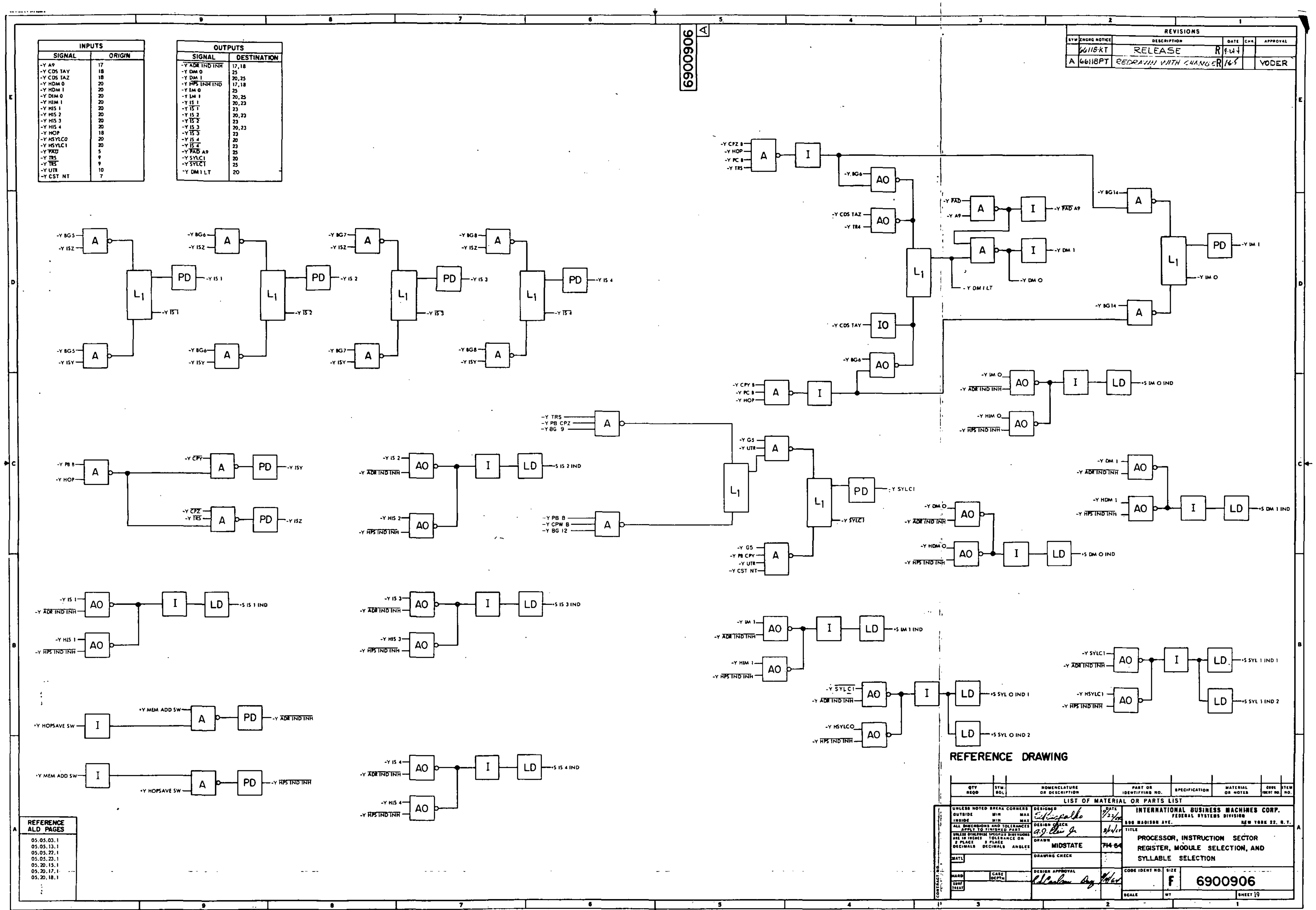



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 19)

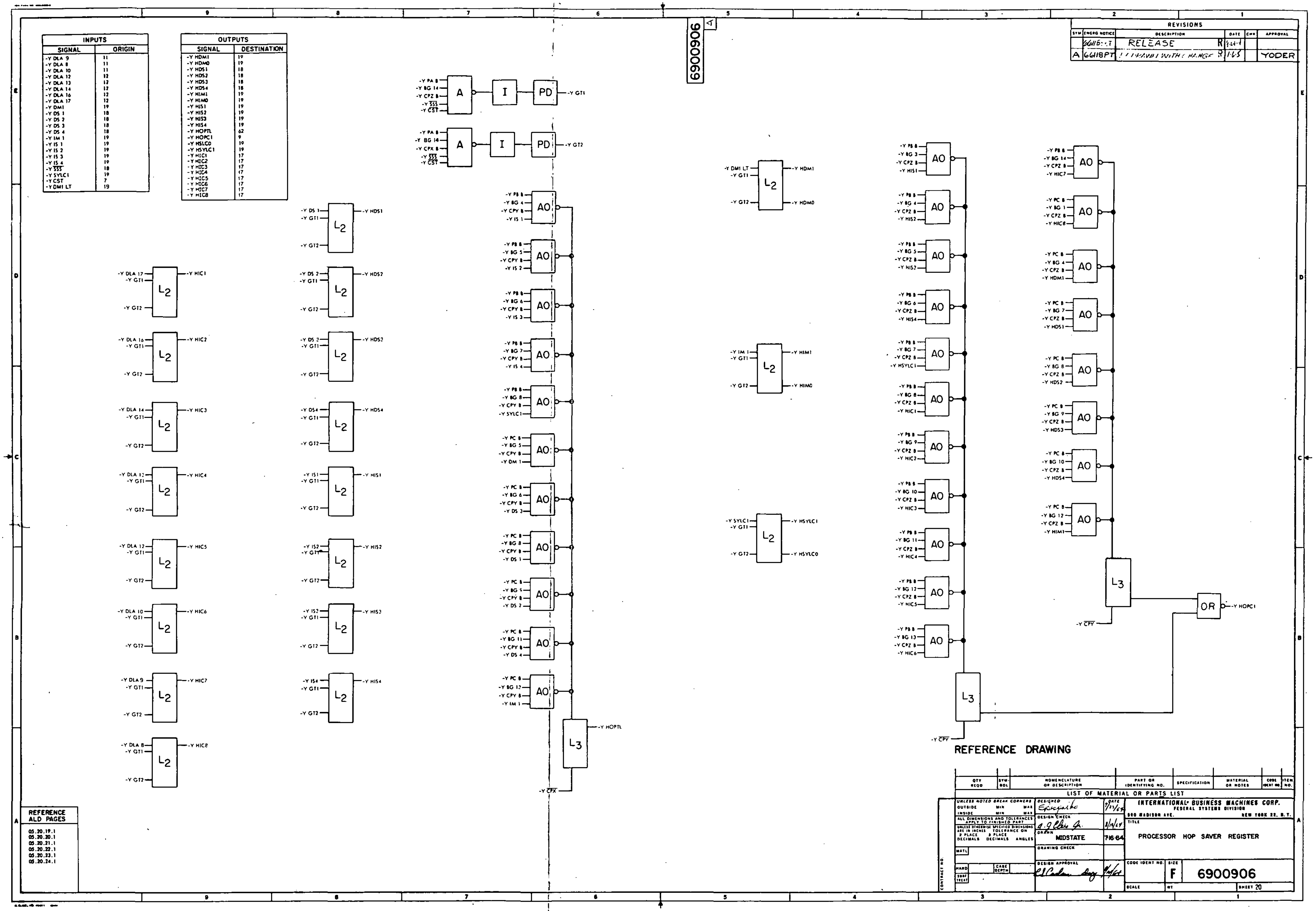



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 20)

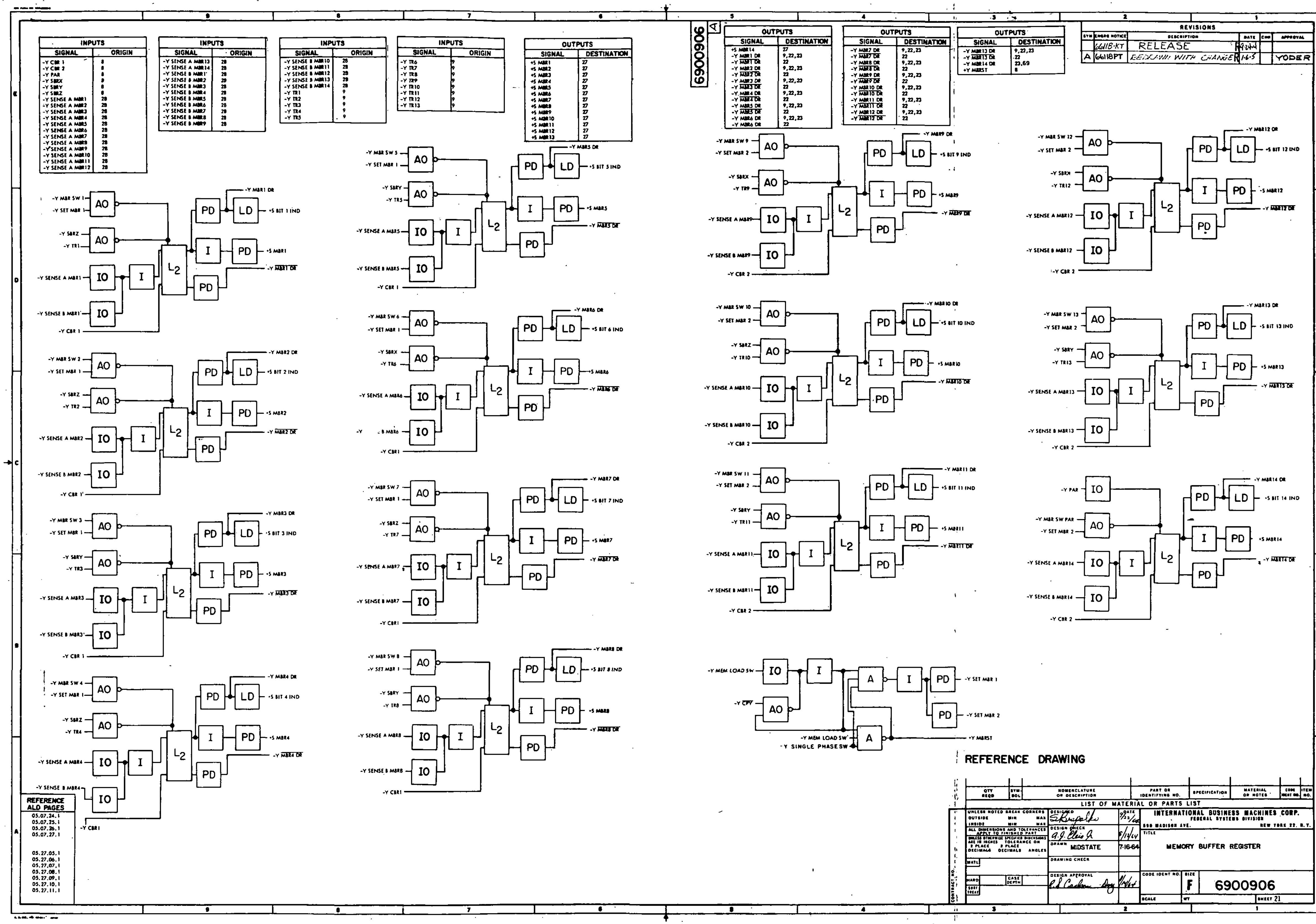



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 21)

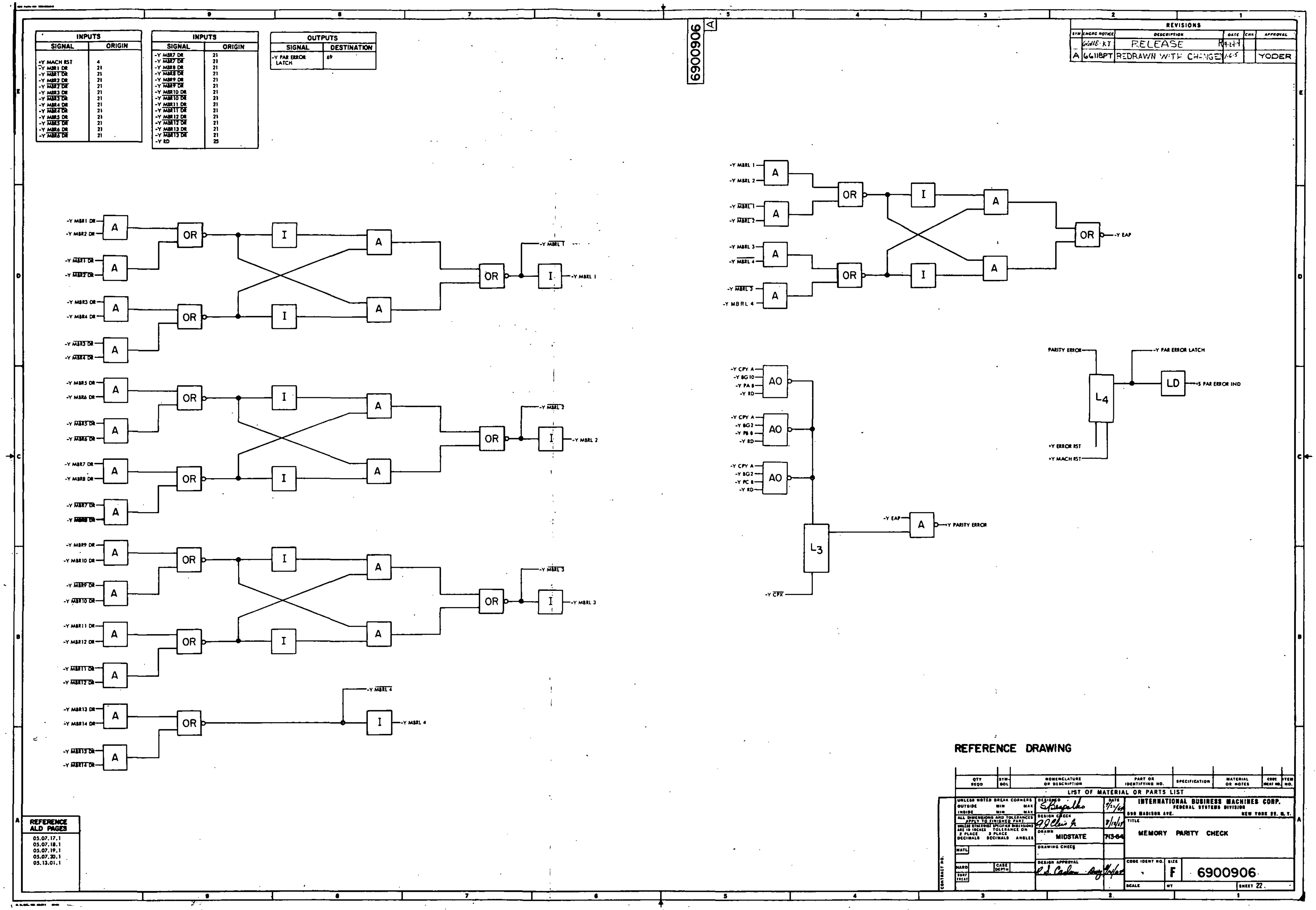



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 22)

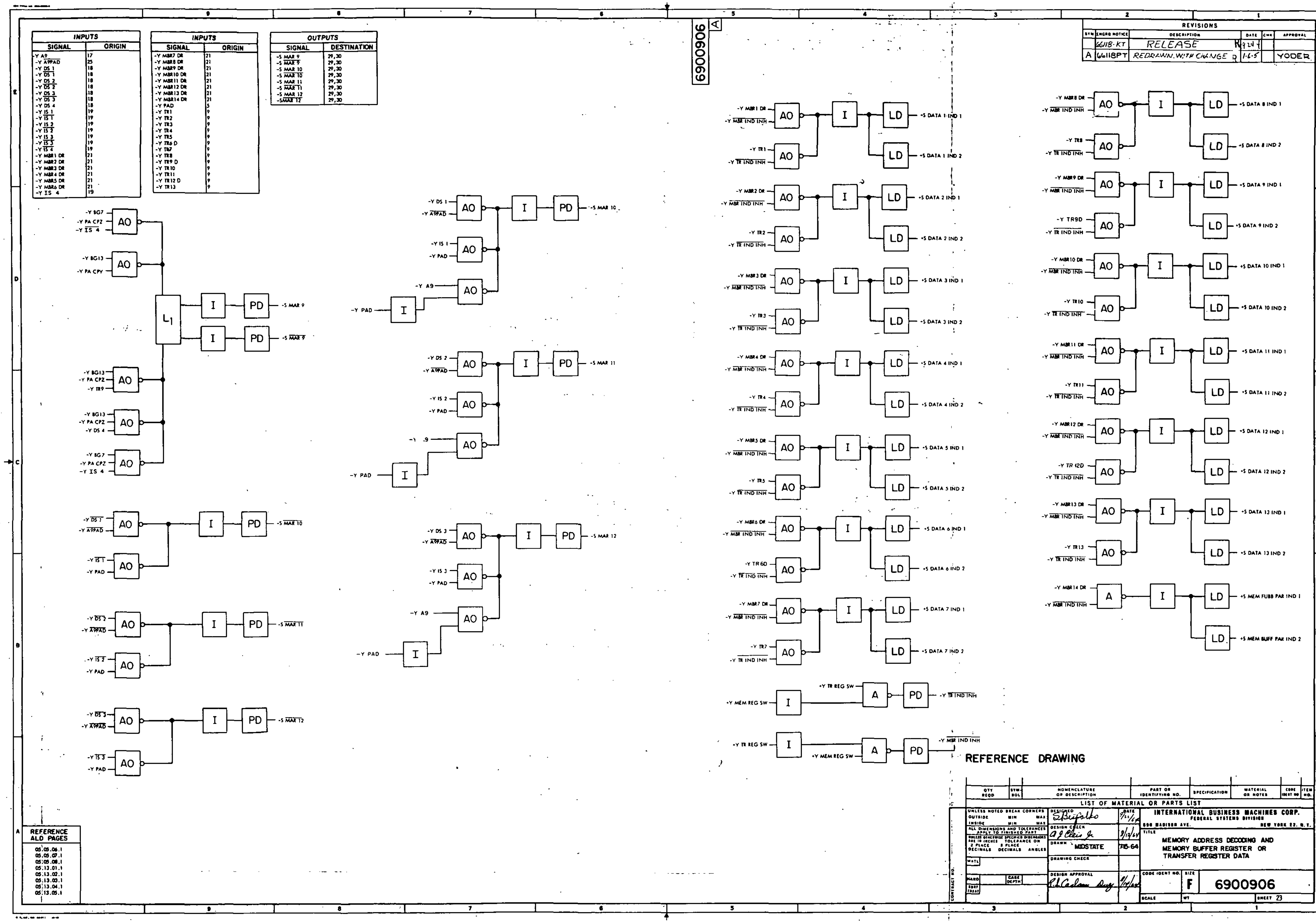



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 23)

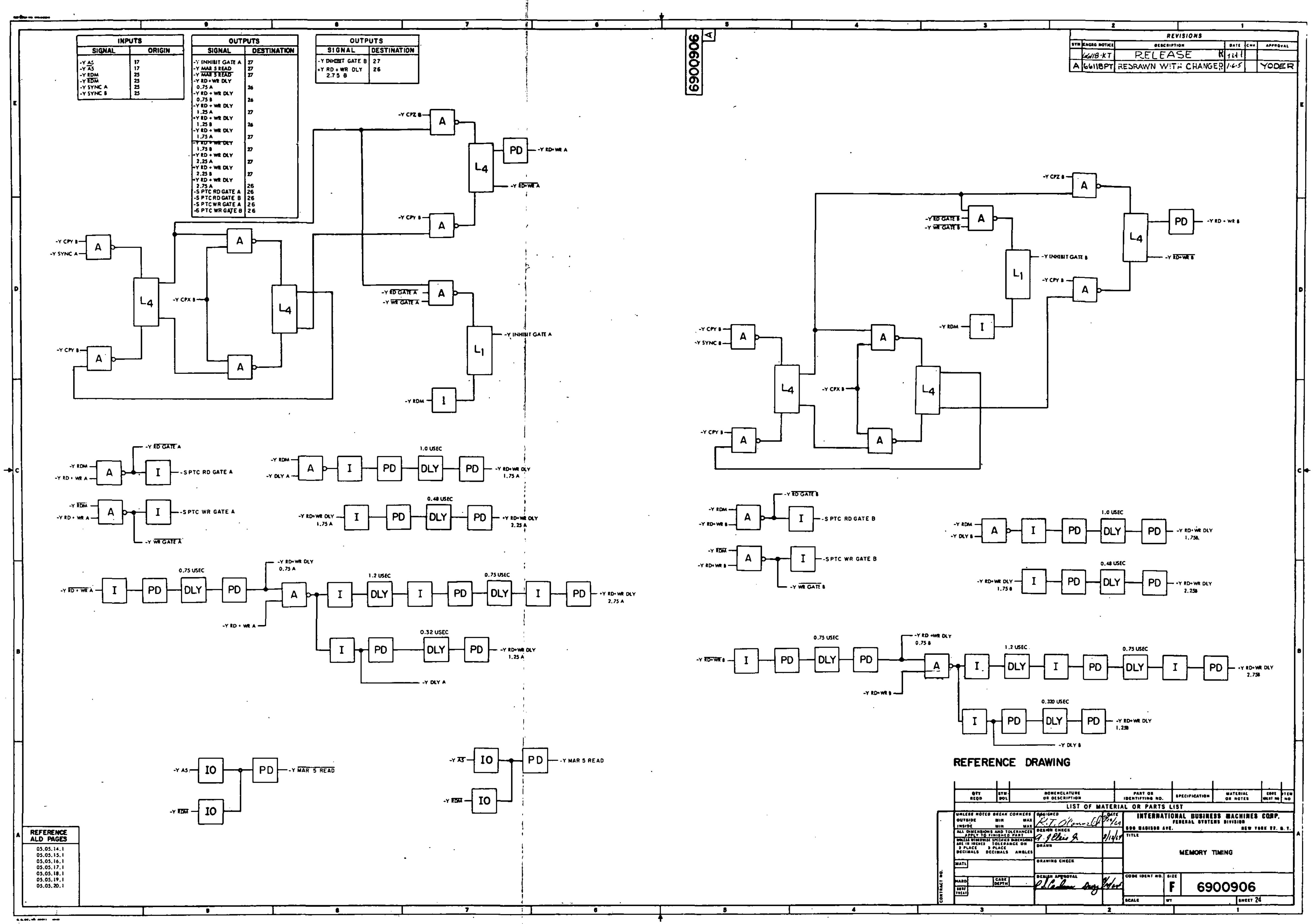



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 24)

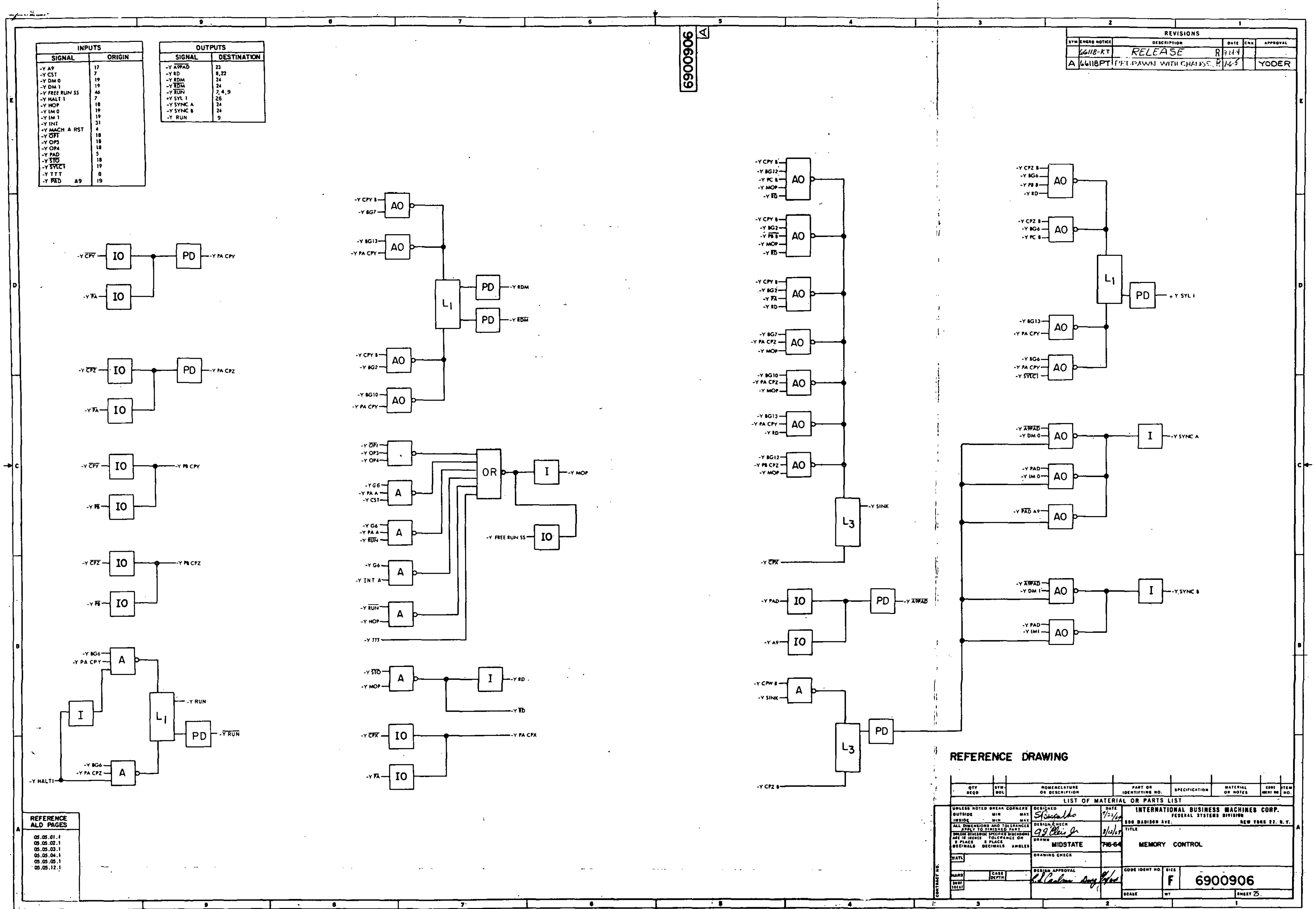



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 25)

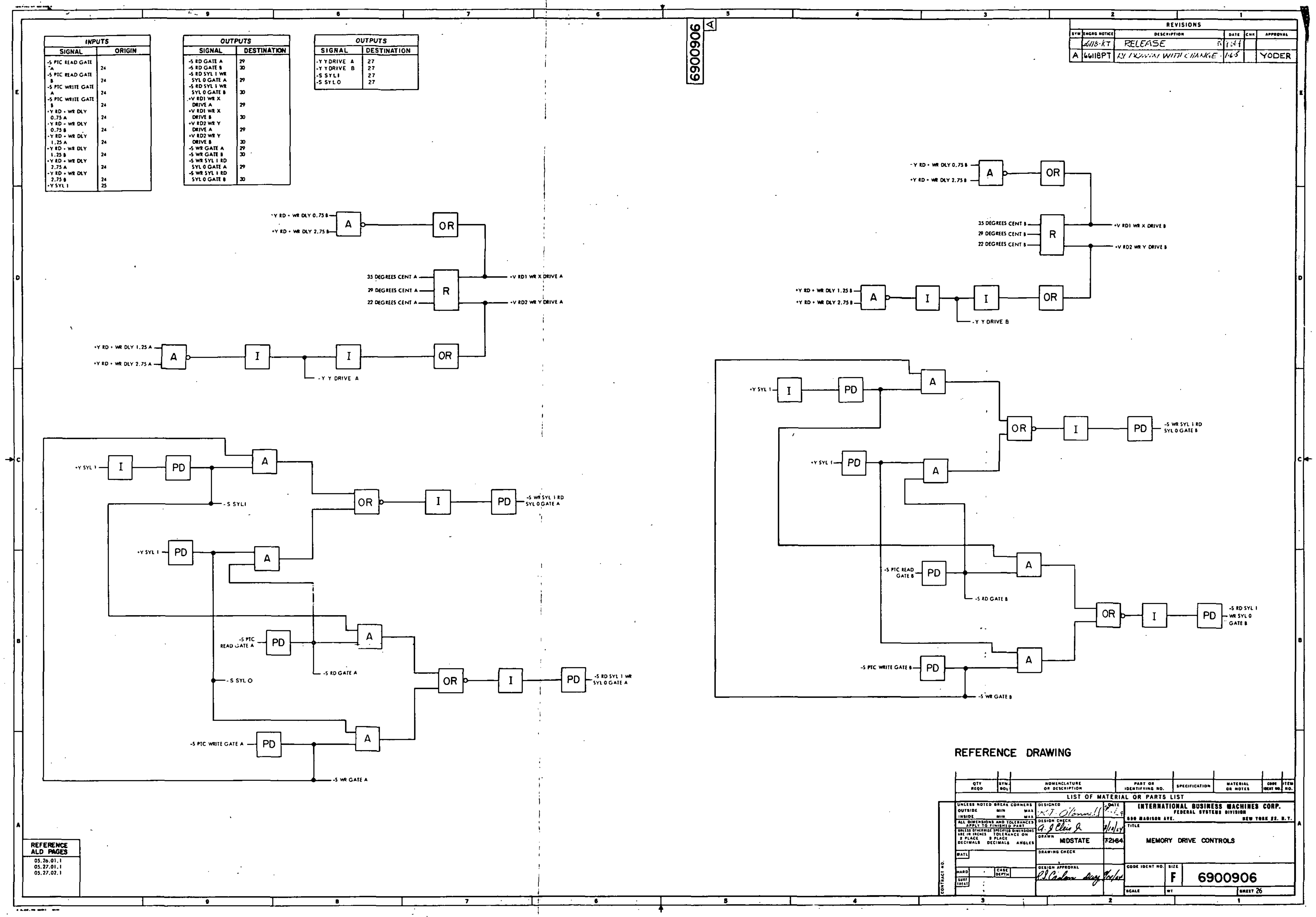



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 26)

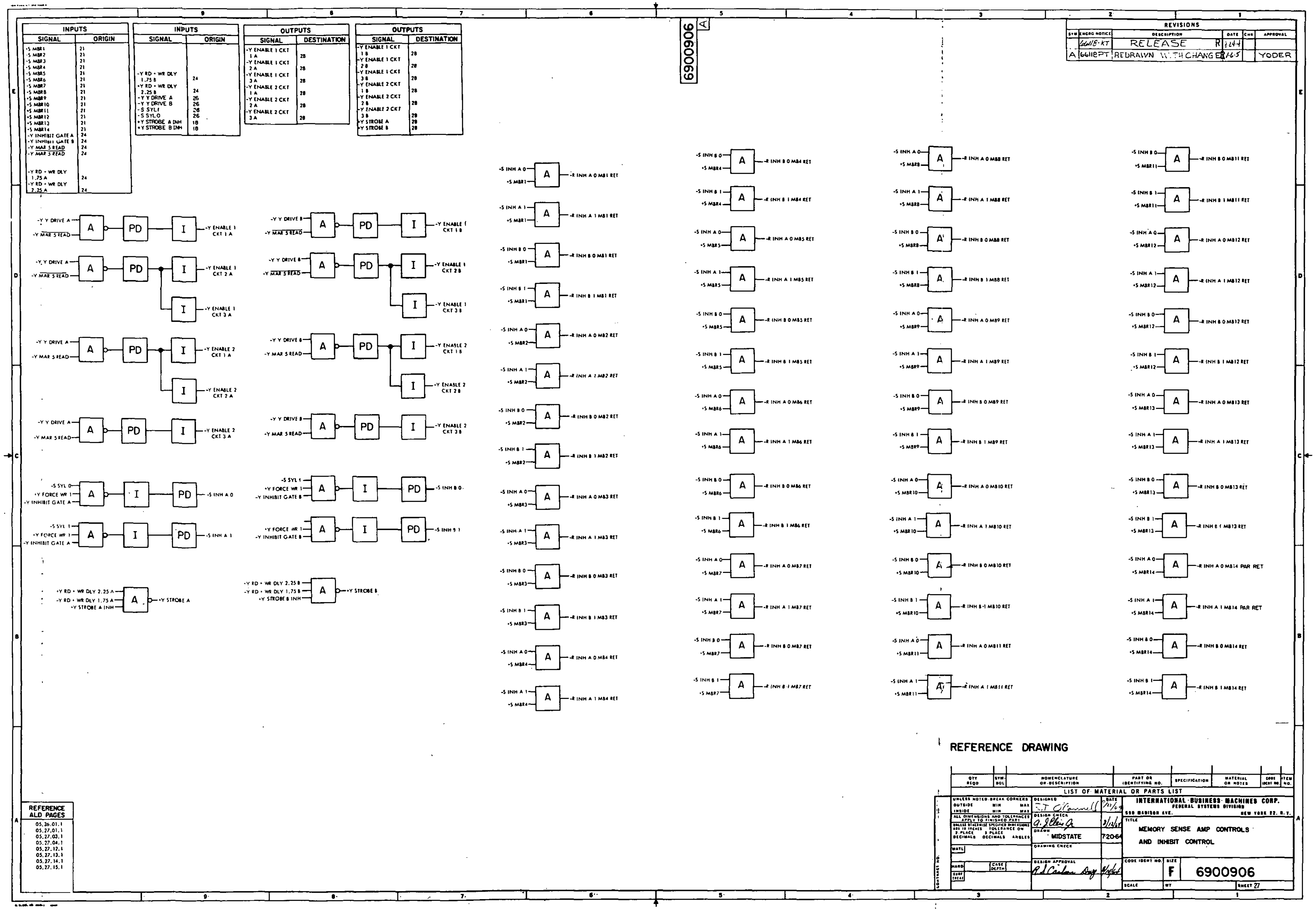



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 27)

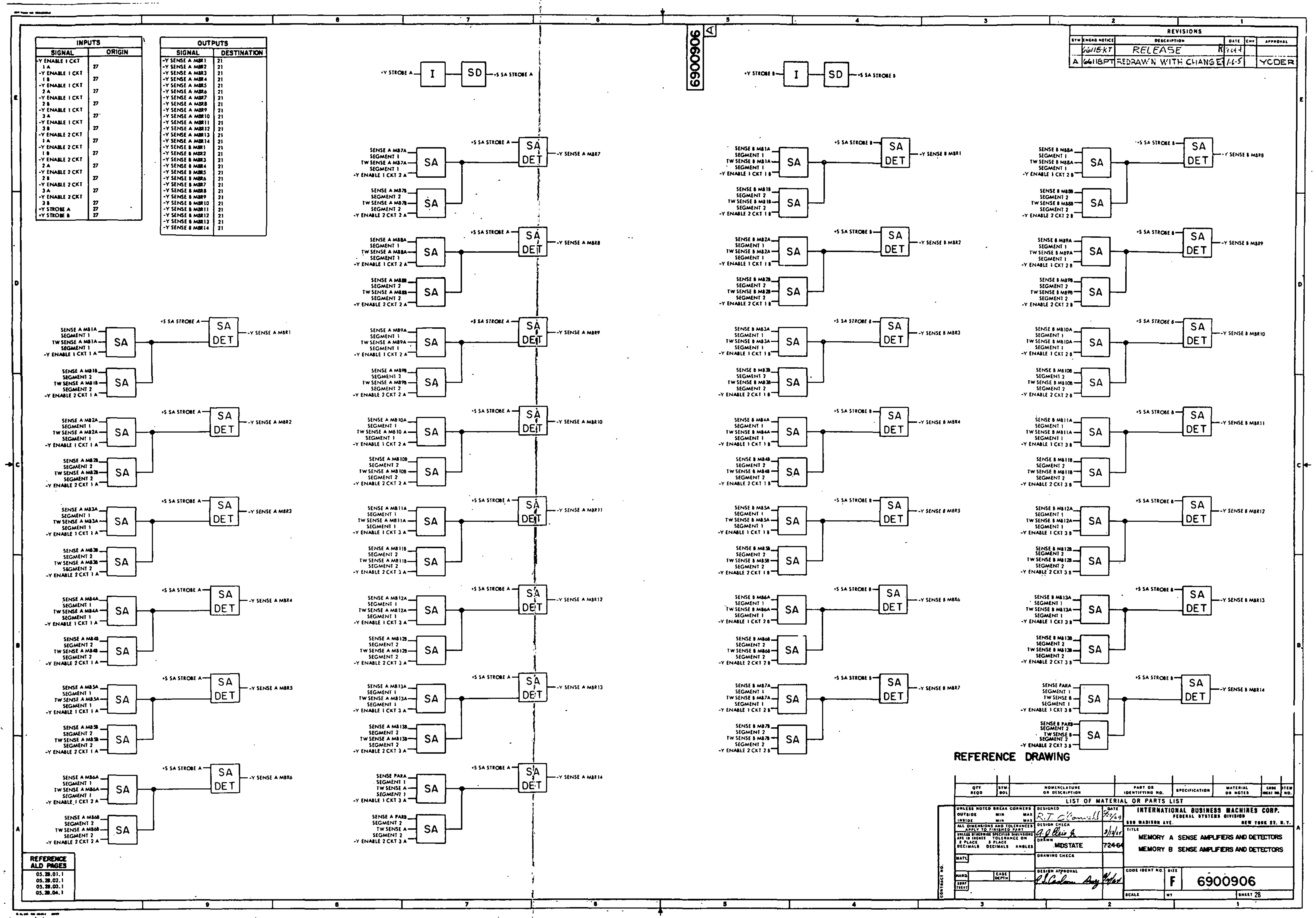



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 28)

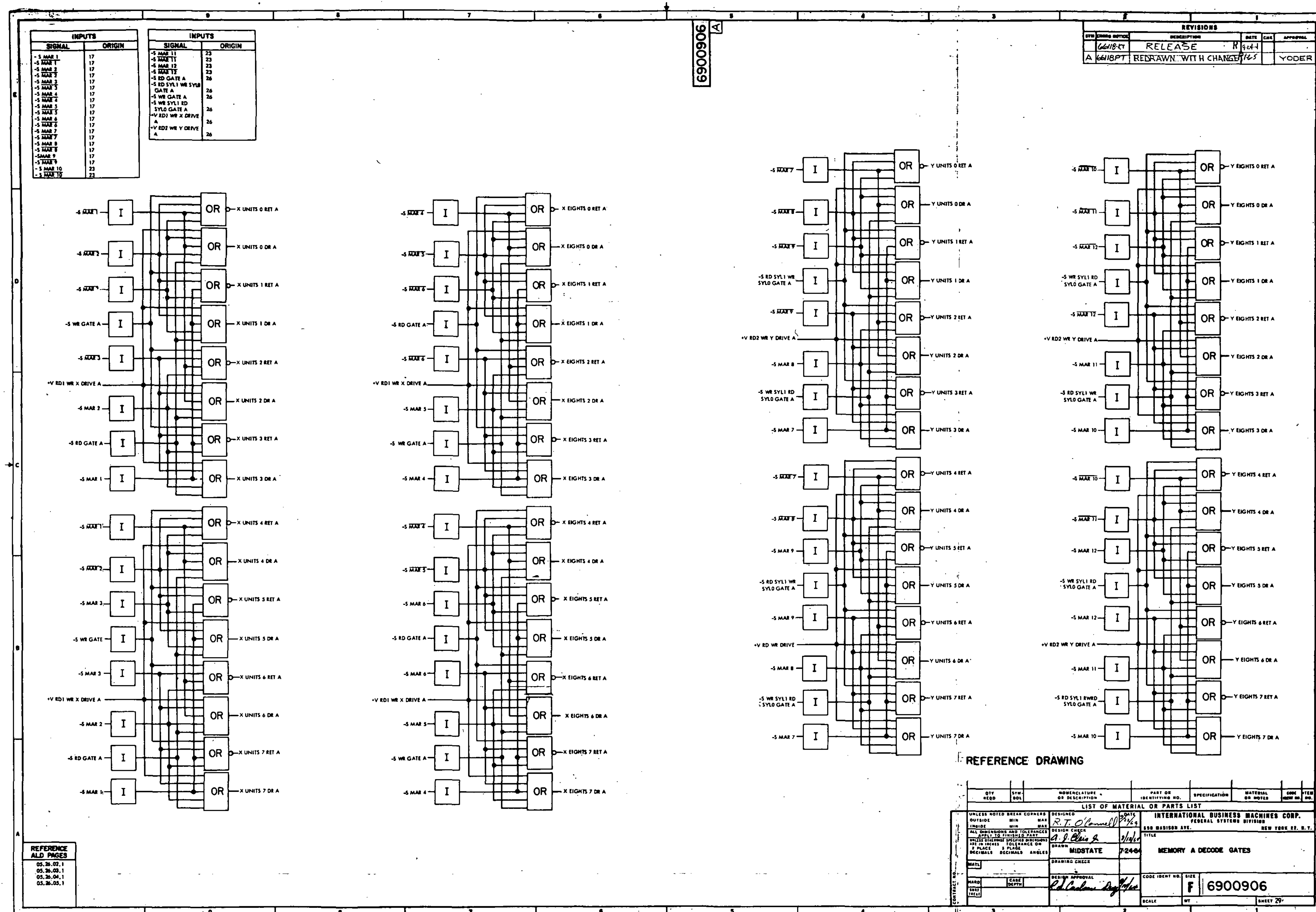



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 29)

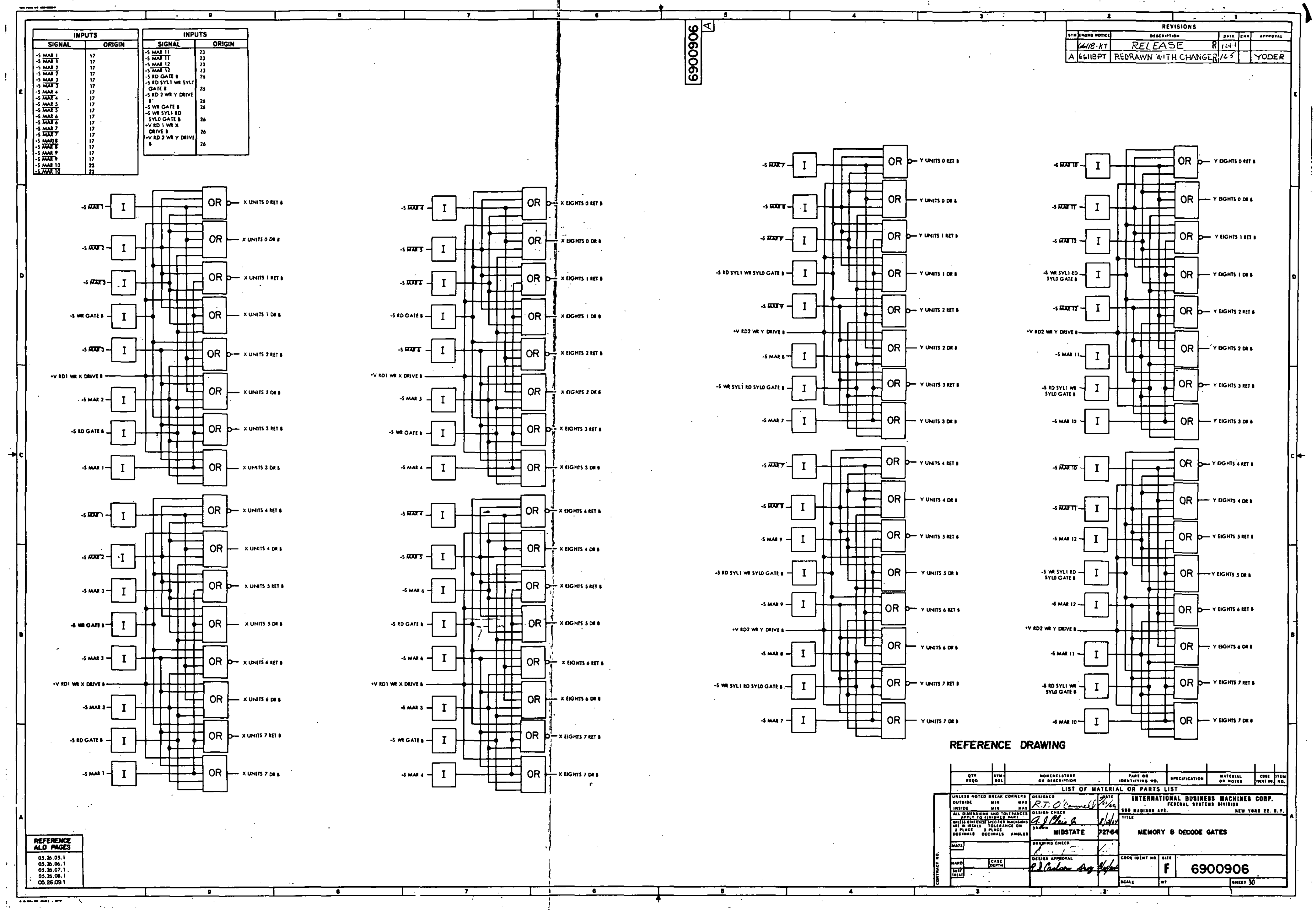
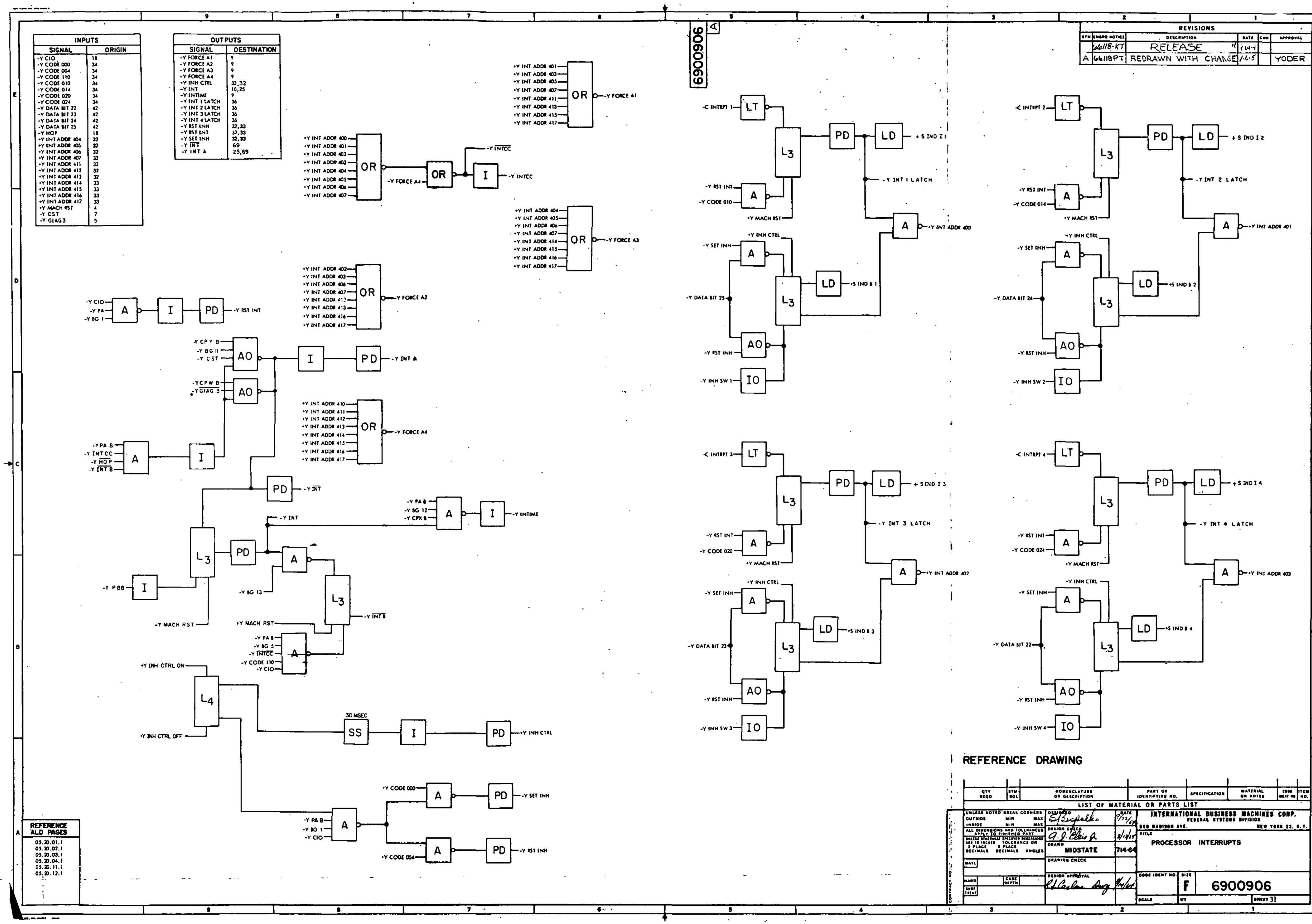



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 30)




| INPUTS | |
|---|---|
| SIGNAL | ORIGIN |
| -Y CIO | 18 |
| -Y CODE 000 | 34 |
| -Y CODE 004 | 34 |
| -Y CODE 110 | 34 |
| -Y CODE 010 | 34 |
| -Y CODE 014 | 34 |
| -Y CODE 020 | 34 |
| -Y CODE 024 | 34 |
| -Y DATA BIT 22 | 42 |
| -Y DATA BIT 23 | 42 |
| -Y DATA BIT 24 | 42 |
| -Y DATA BIT 25 | 42 |
| -Y HOP | 18 |
| +Y INT ADDR 404 | 32 |
| +Y INT ADDR 405 | 32 |
| +Y INT ADDR 406 | 32 |
| +Y INT ADDR 407 | 32 |
| +Y INT ADDR 411 | 32 |
| +Y INT ADDR 412 | 32 |
| +Y INT ADDR 413 | 32 |
| +Y INT ADDR 414 | 33 |
| +Y INT ADDR 415 | 33 |
| +Y INT ADDR 416 | 33 |
| +Y INT ADDR 417 | 33 |
| +Y MACH RST | 4 |
| -Y CST | 7 |
| -Y GIAG3 | 5 |

| OUTPUTS | |
|---|---|
| SIGNAL | DESTINATION |
| -Y FORCE A1 | 9 |
| -Y FORCE A2 | 9 |
| -Y FORCE A3 | 9 |
| -Y FORCE A4 | 9 |
| +Y INH CTRL | 33,32 |
| -Y INT | 10,25 |
| -Y INTIME | 9 |
| -Y INT 1 LATCH | 36 |
| -Y INT 2 LATCH | 36 |
| -Y INT 3 LATCH | 36 |
| -Y INT 4 LATCH | 36 |
| -Y RST INH | 32,33 |
| -Y RST INT | 32,33 |
| -Y SET INH | 32,33 |
| -Y $\overline{\text{INT}}$ | 69 |
| -Y INT A | 25,69 |

Figure 10-28. PTC Second Level Logic Diagrams (Sheet 31)

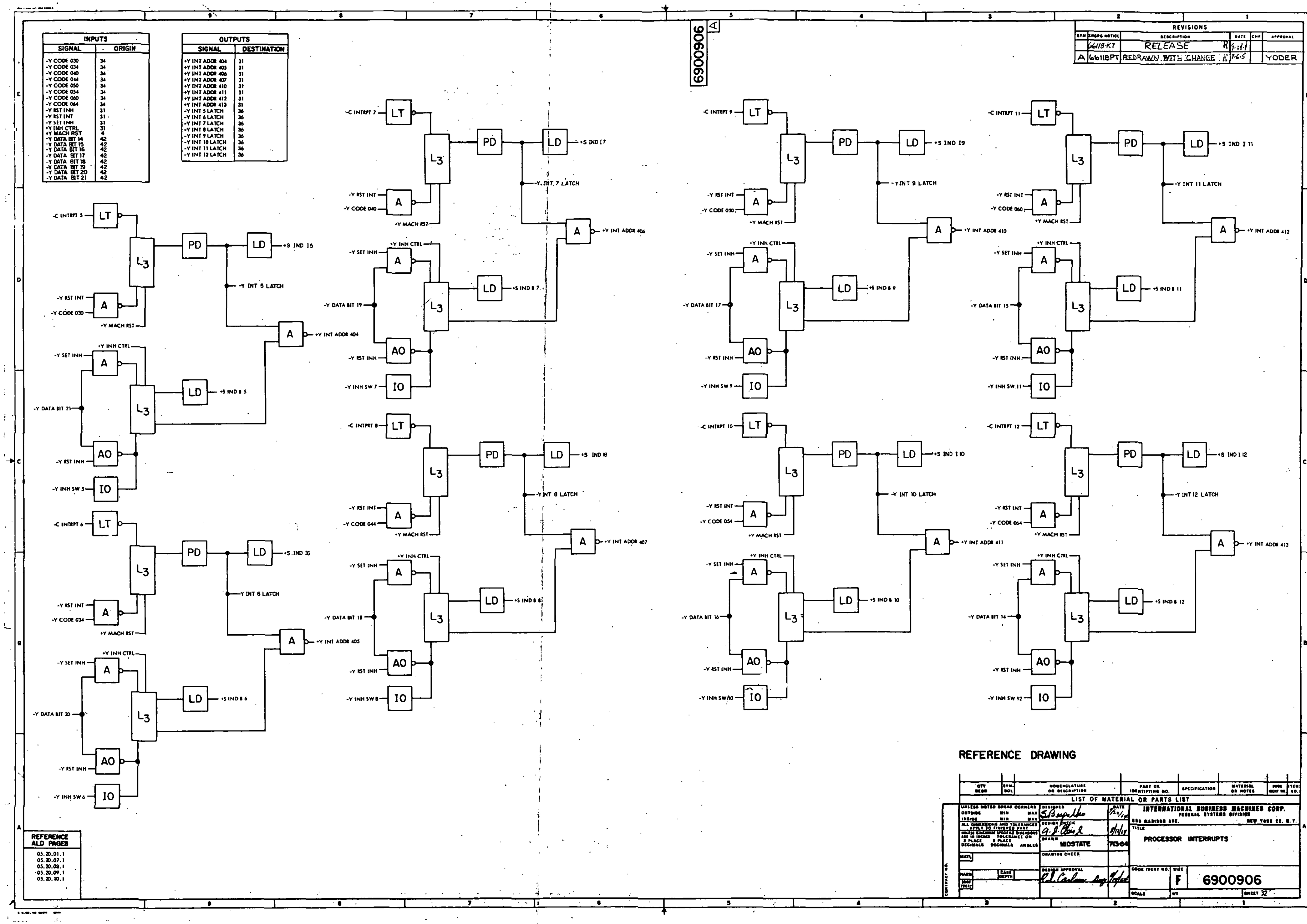



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 32)

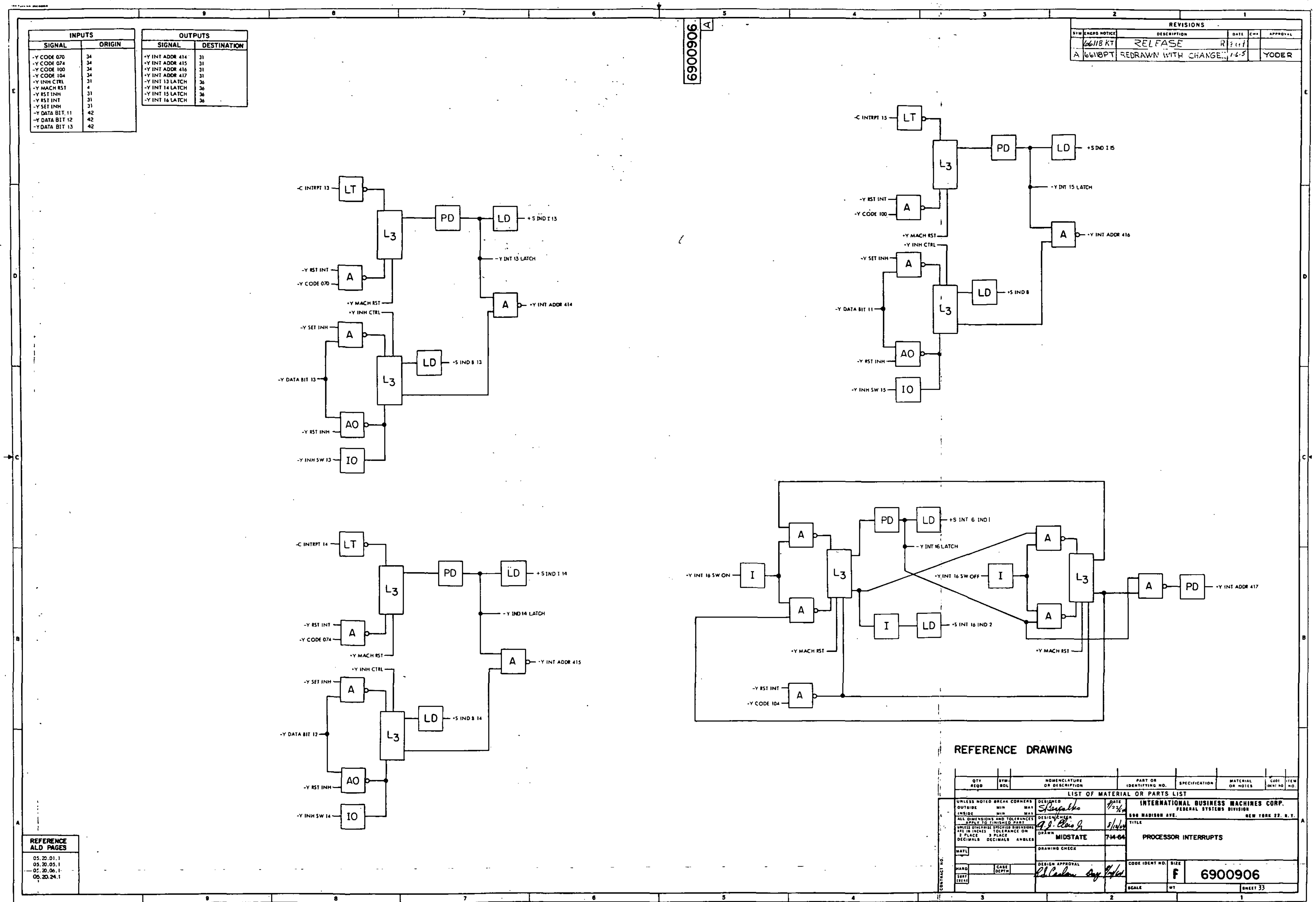



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 33)

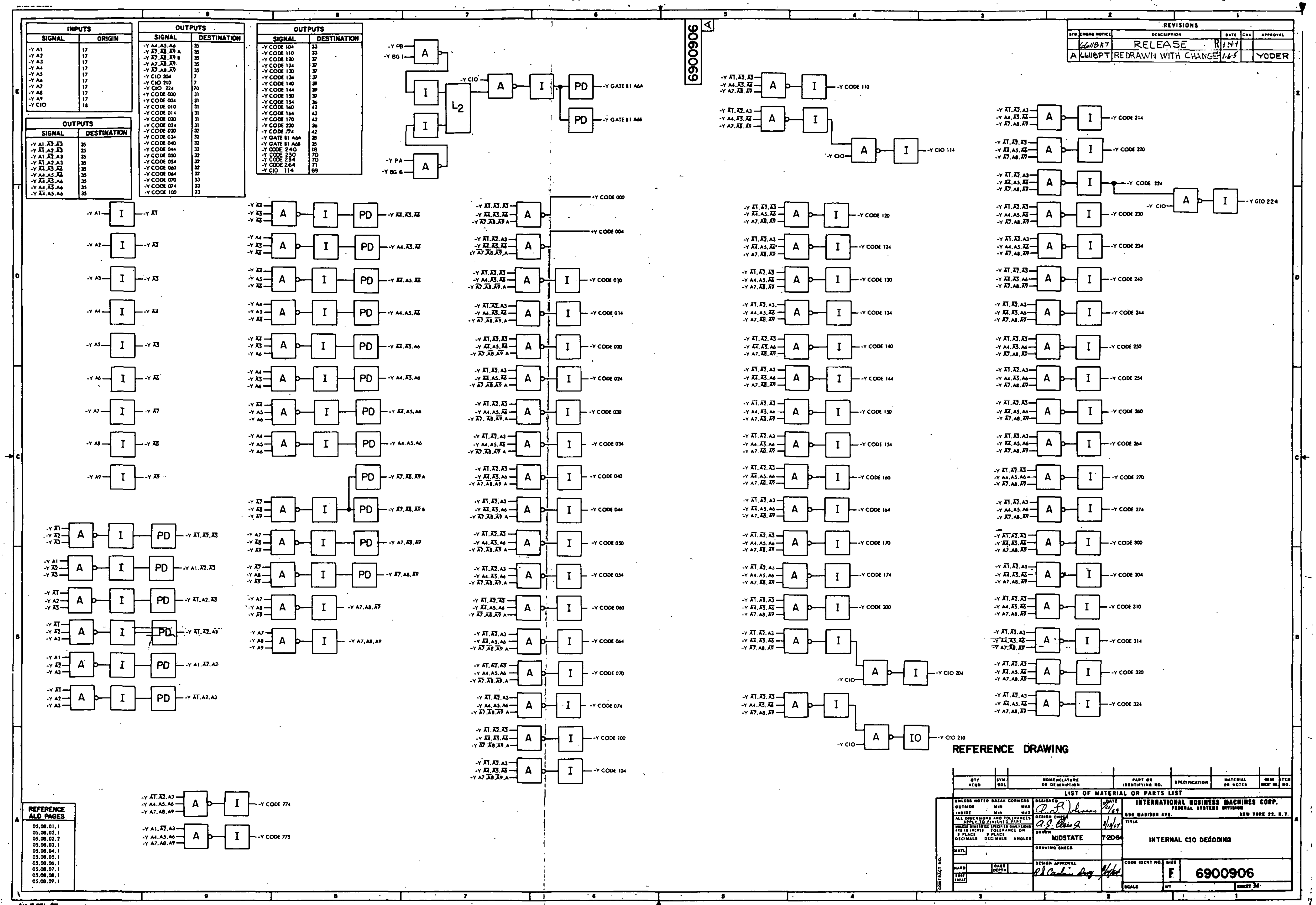



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 34)

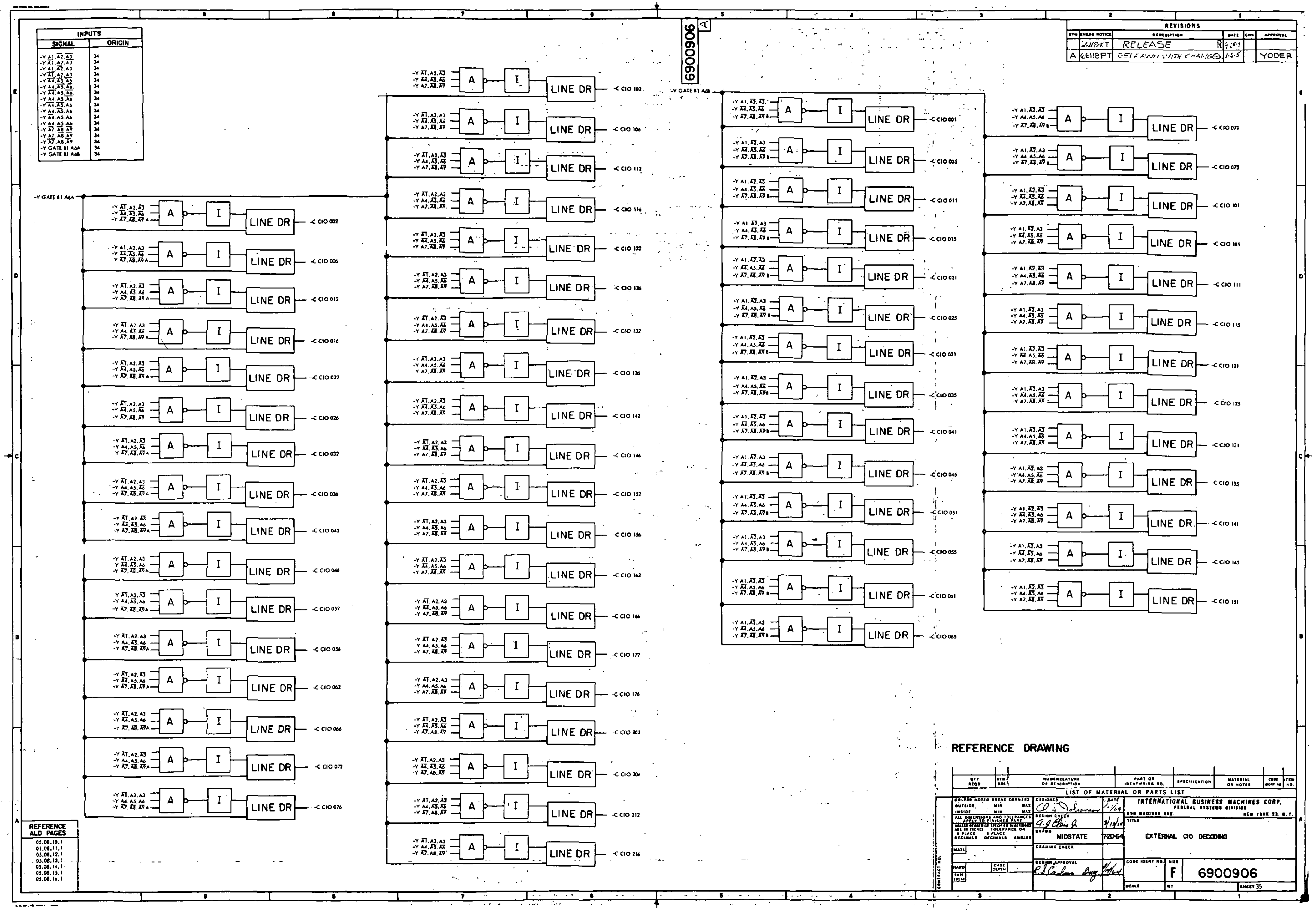


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 35)

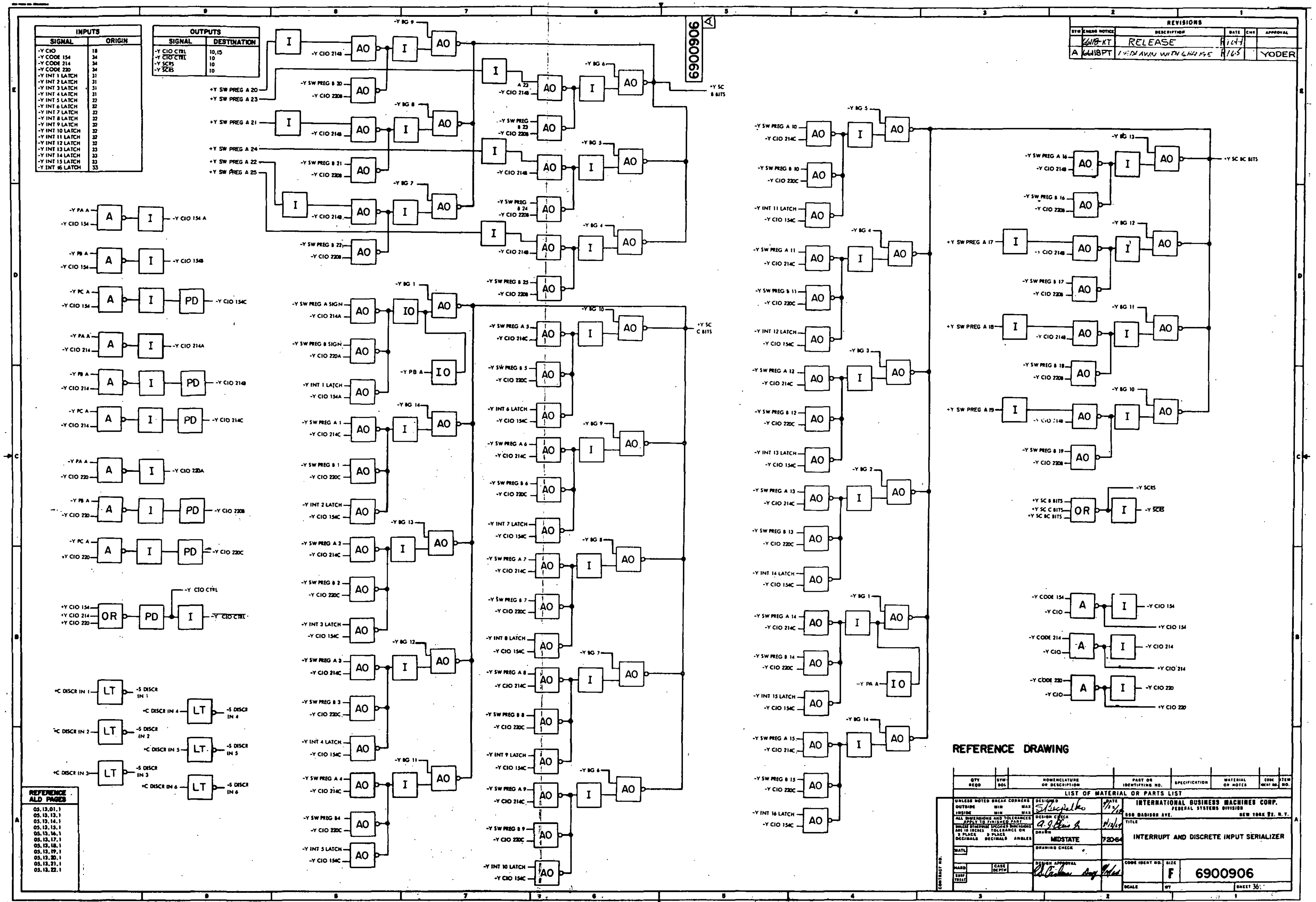


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 36)

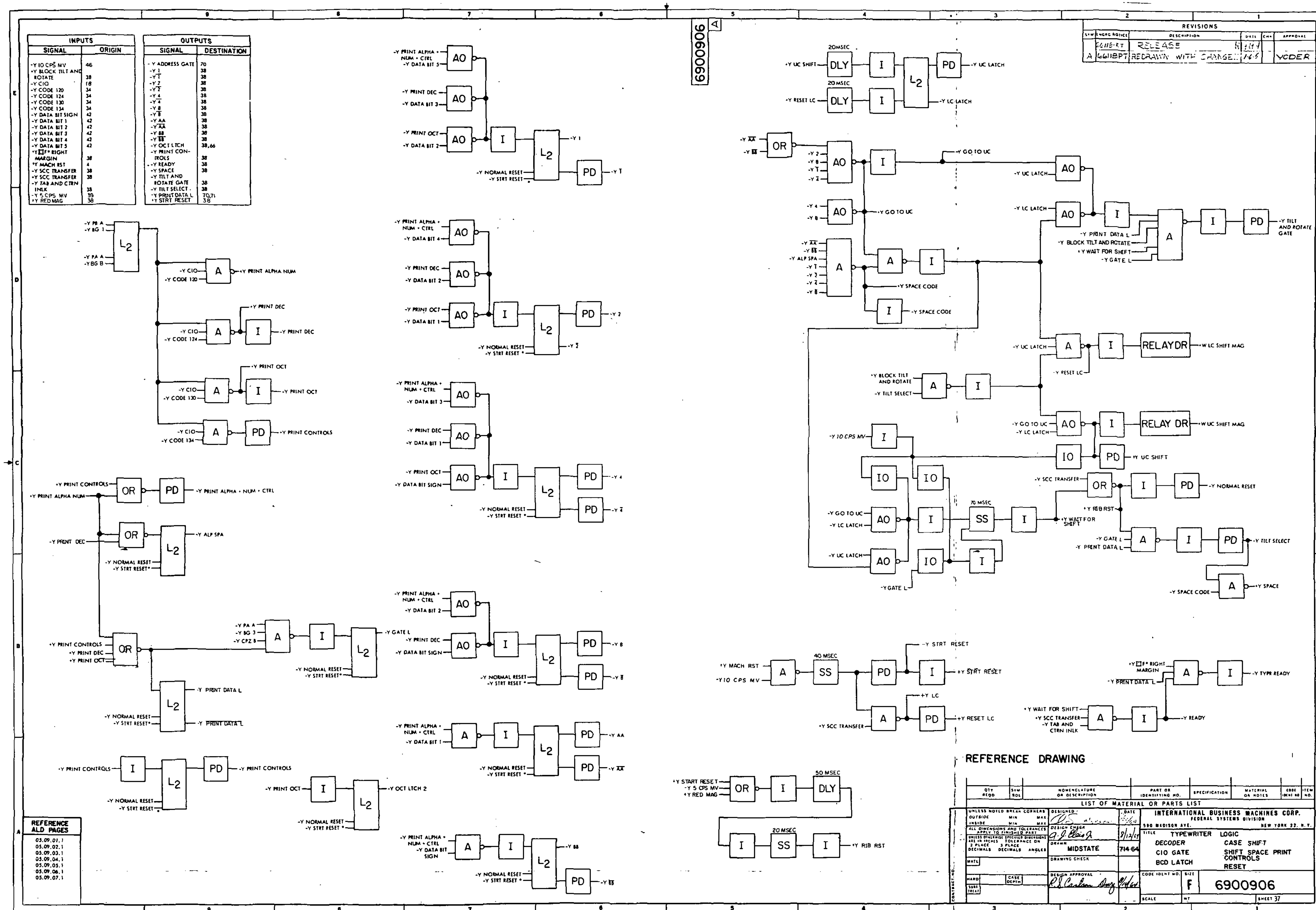



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 37)

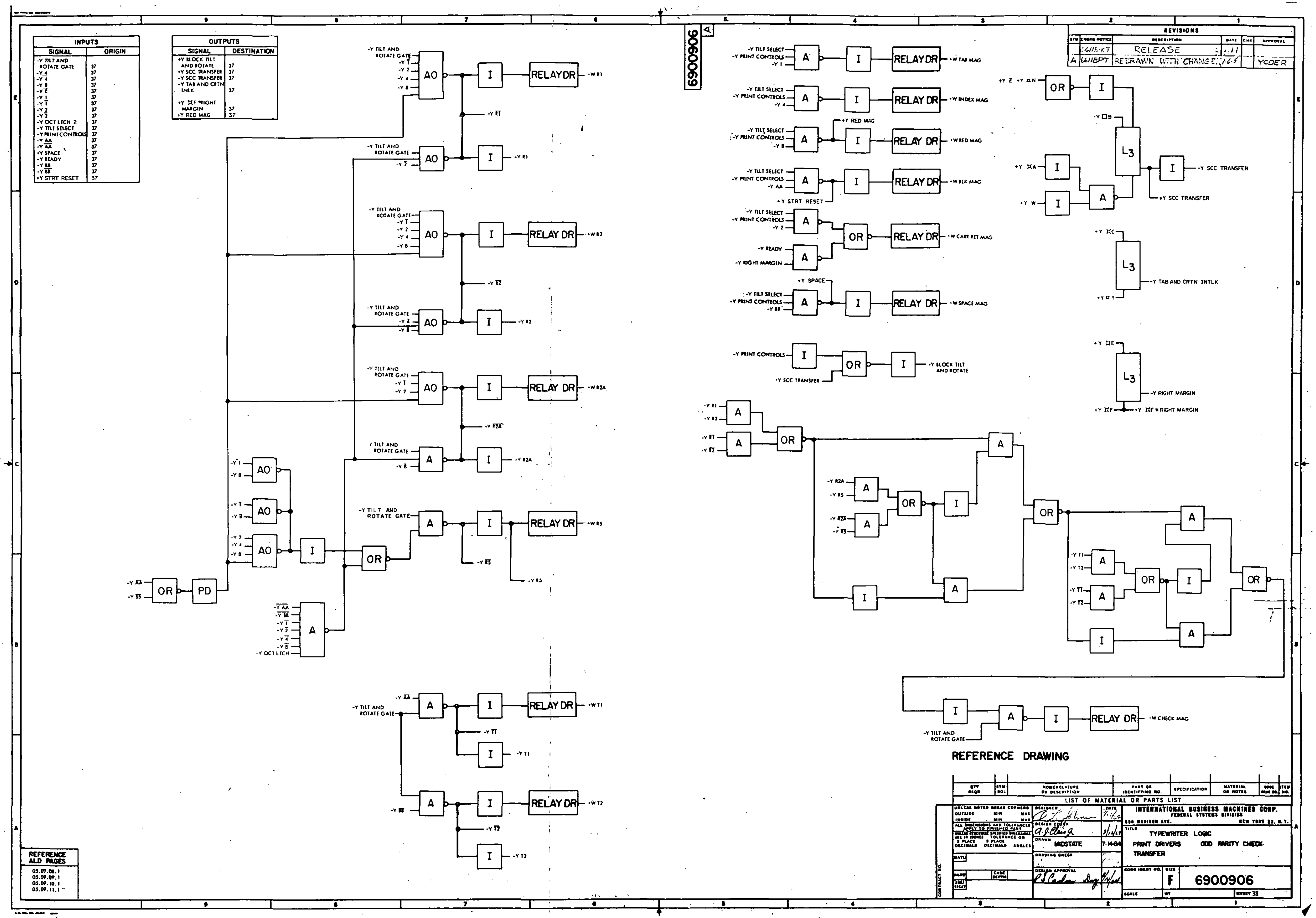



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 38)

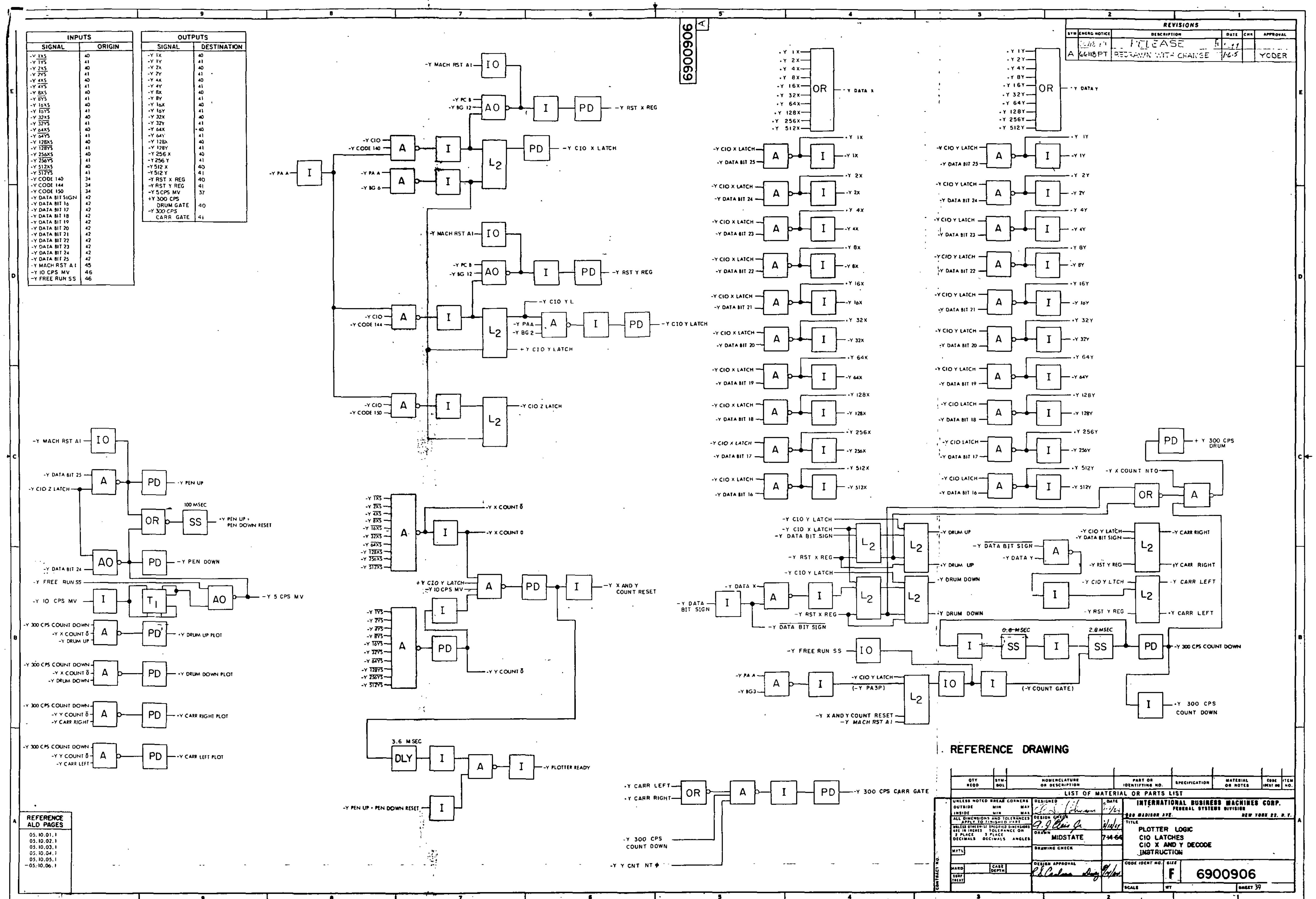



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 39)

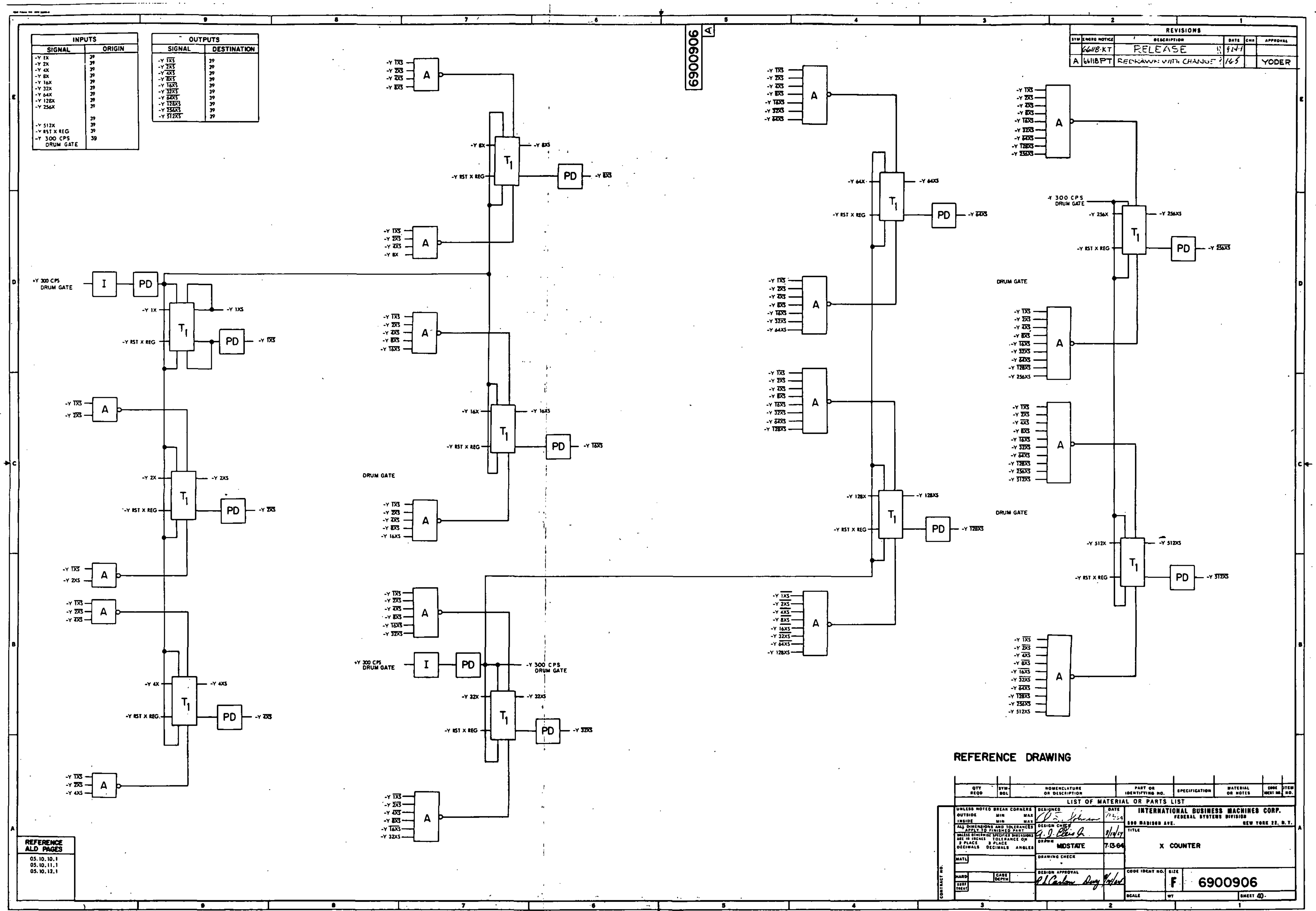



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 40)

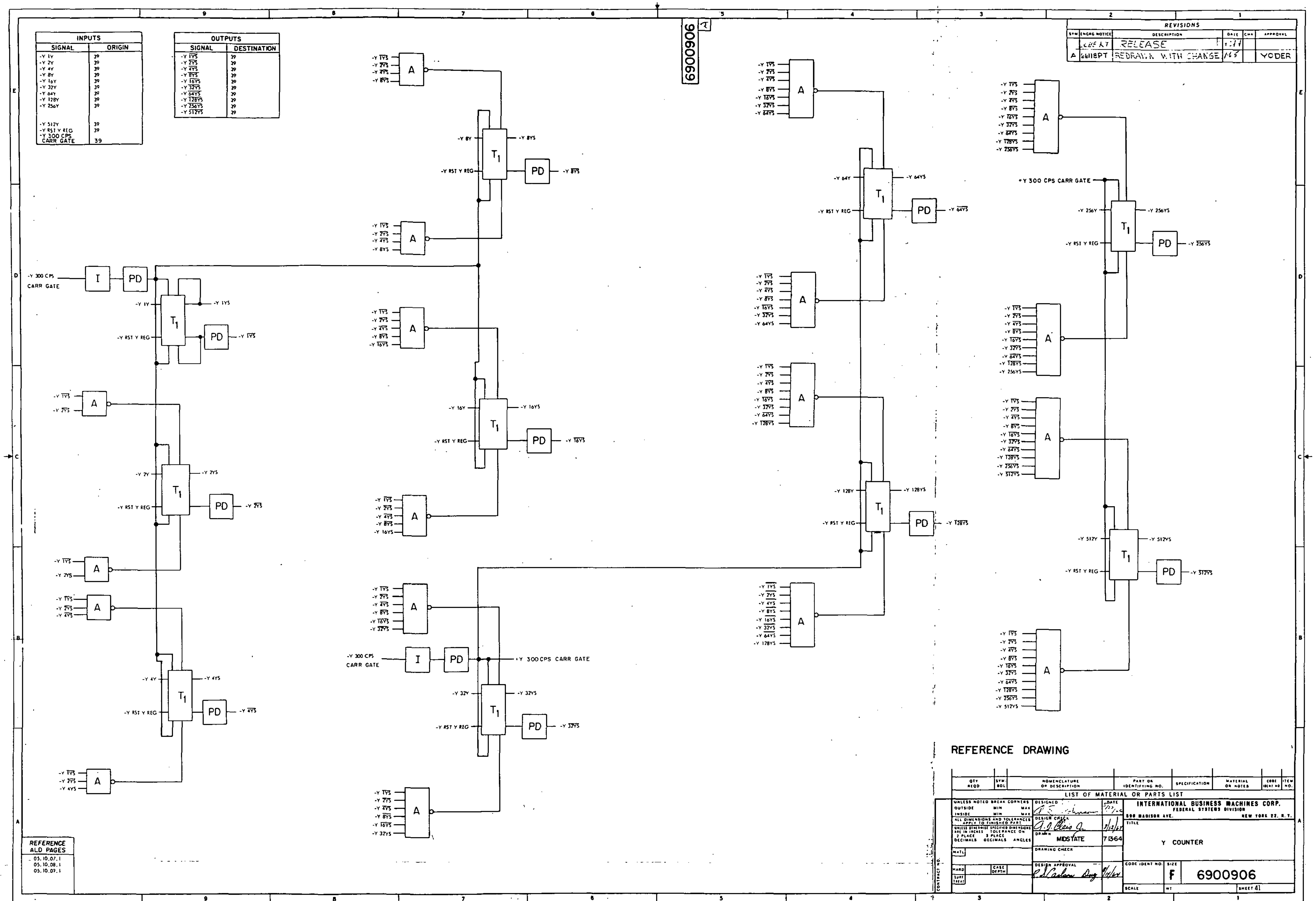



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 41)

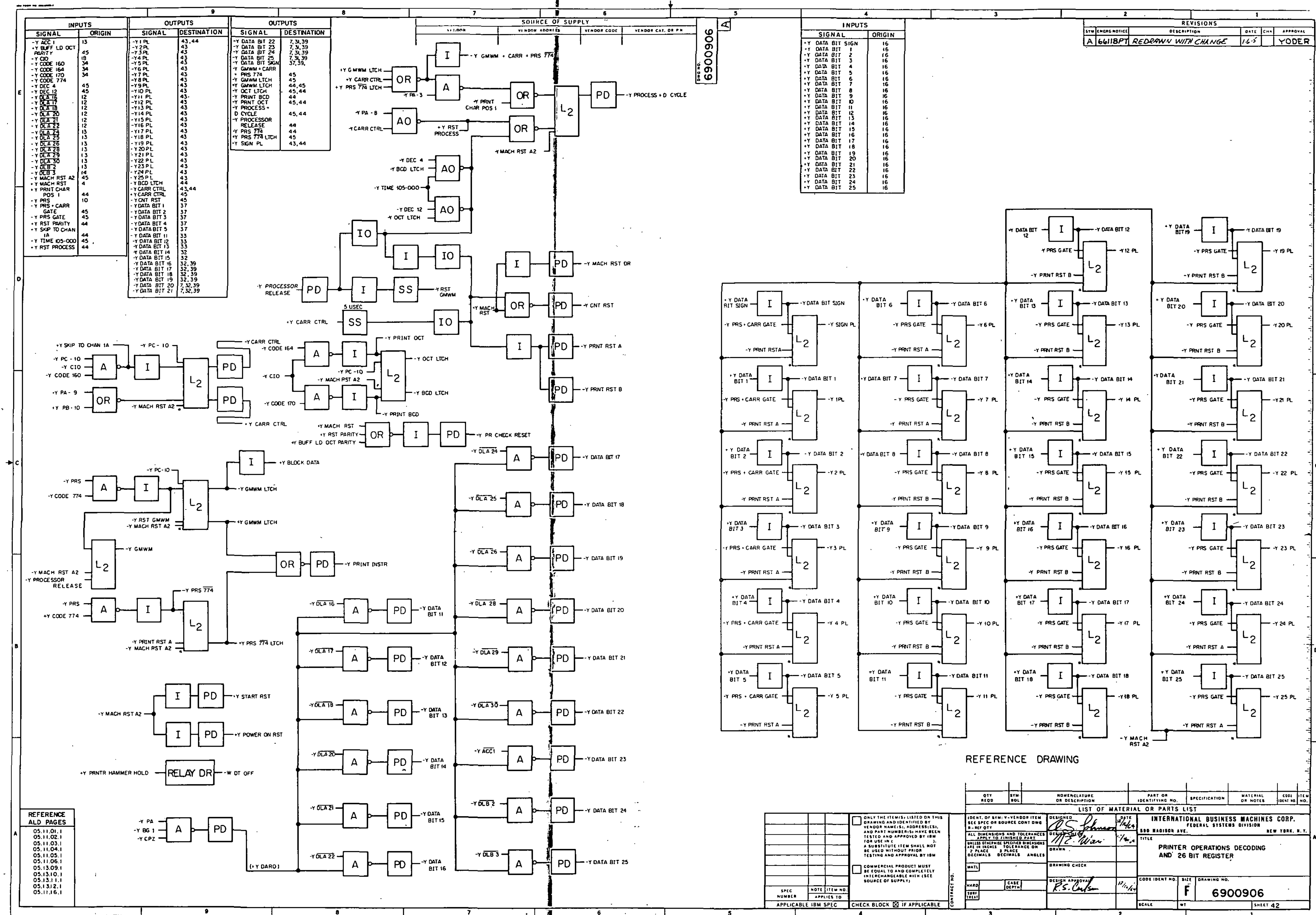



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 42)

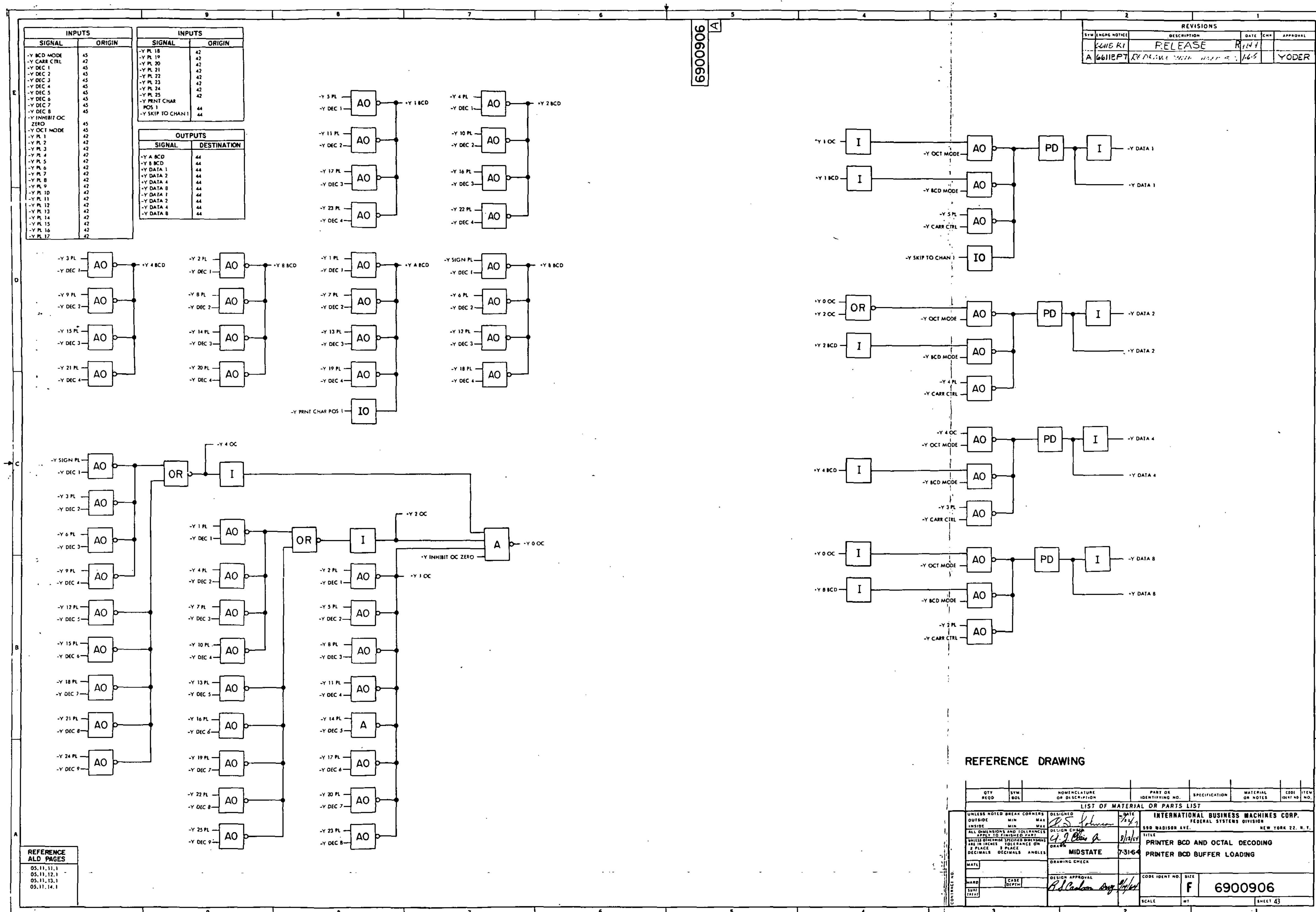


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 43)

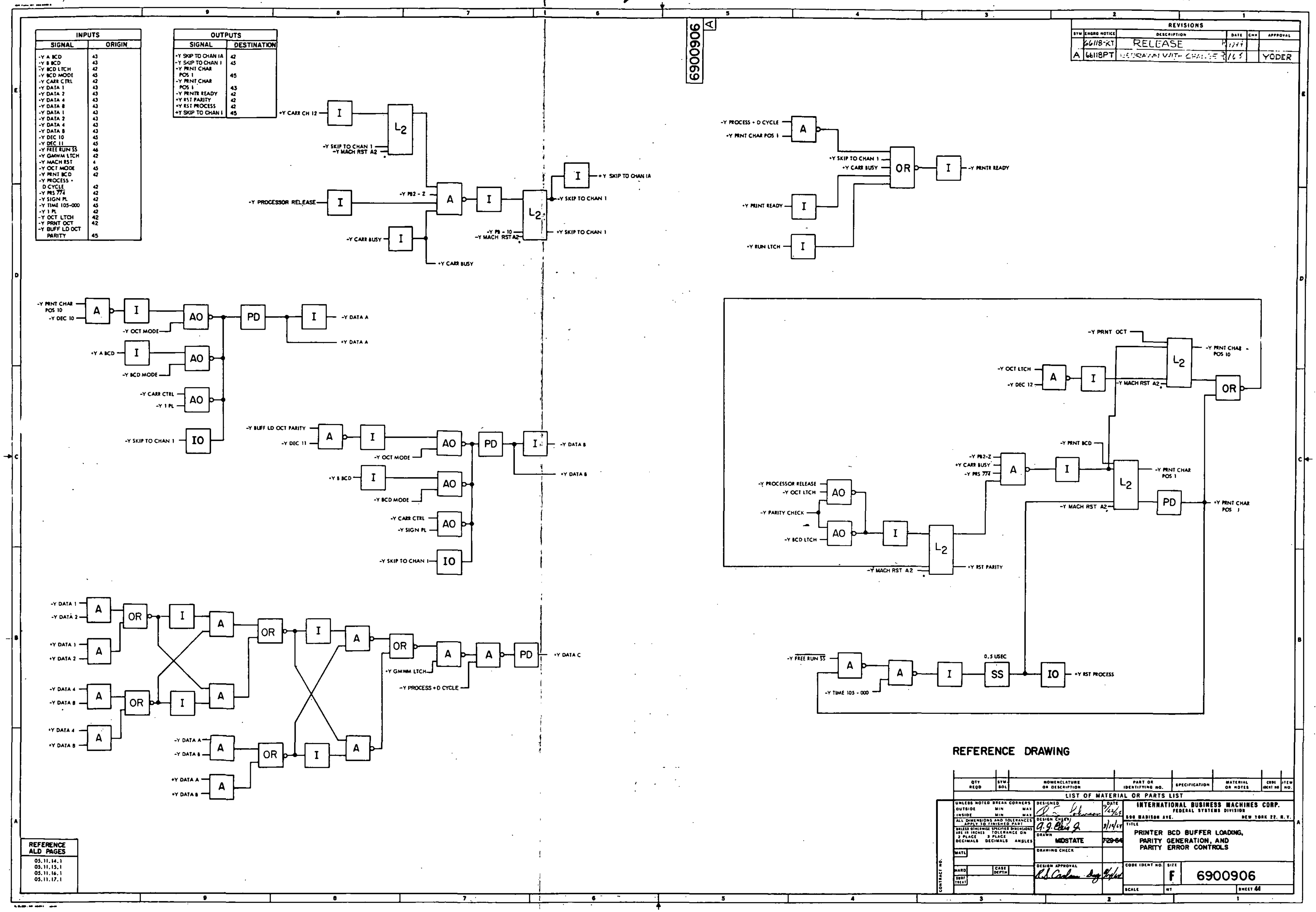



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 44)

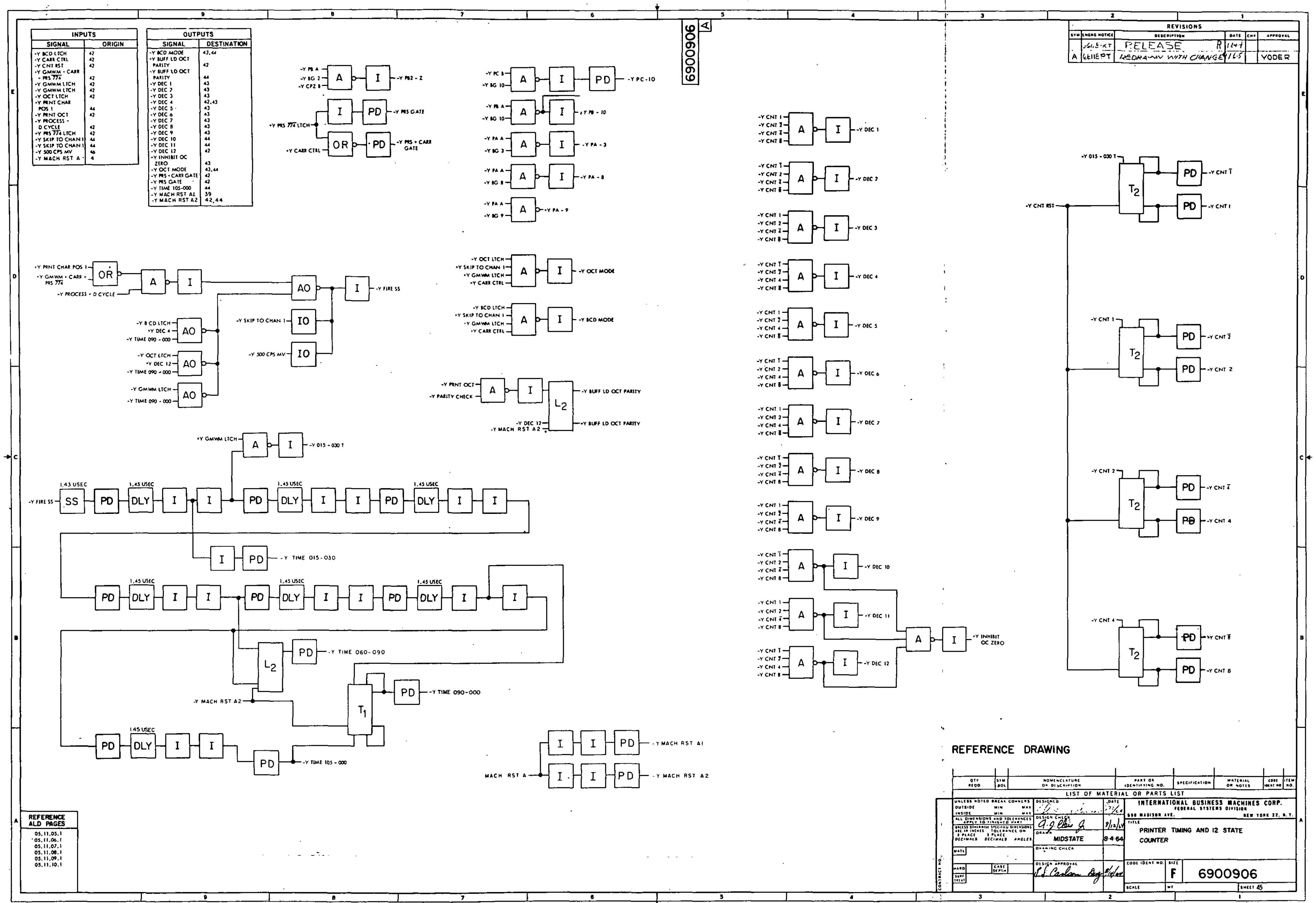



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 45)

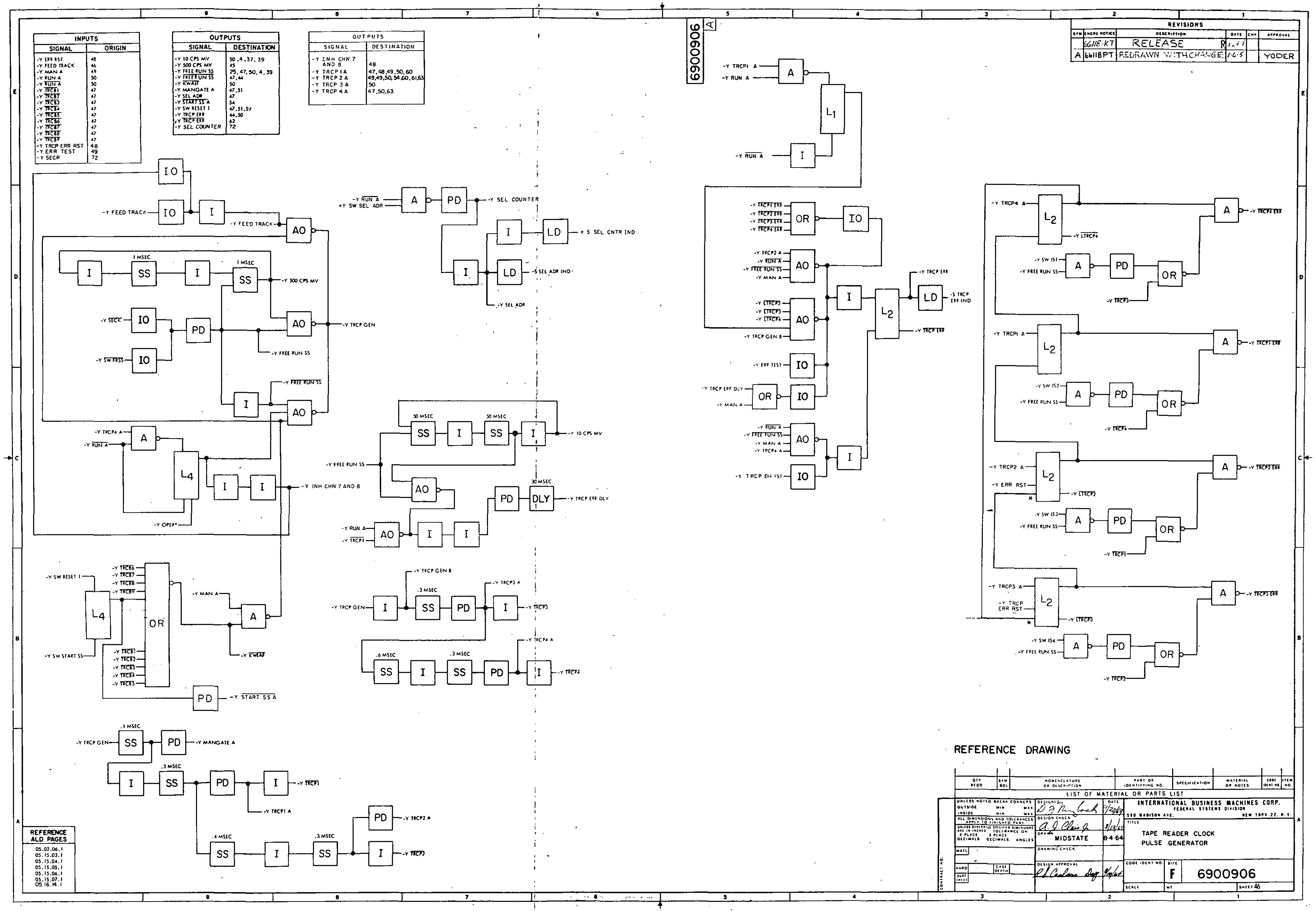



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 46)

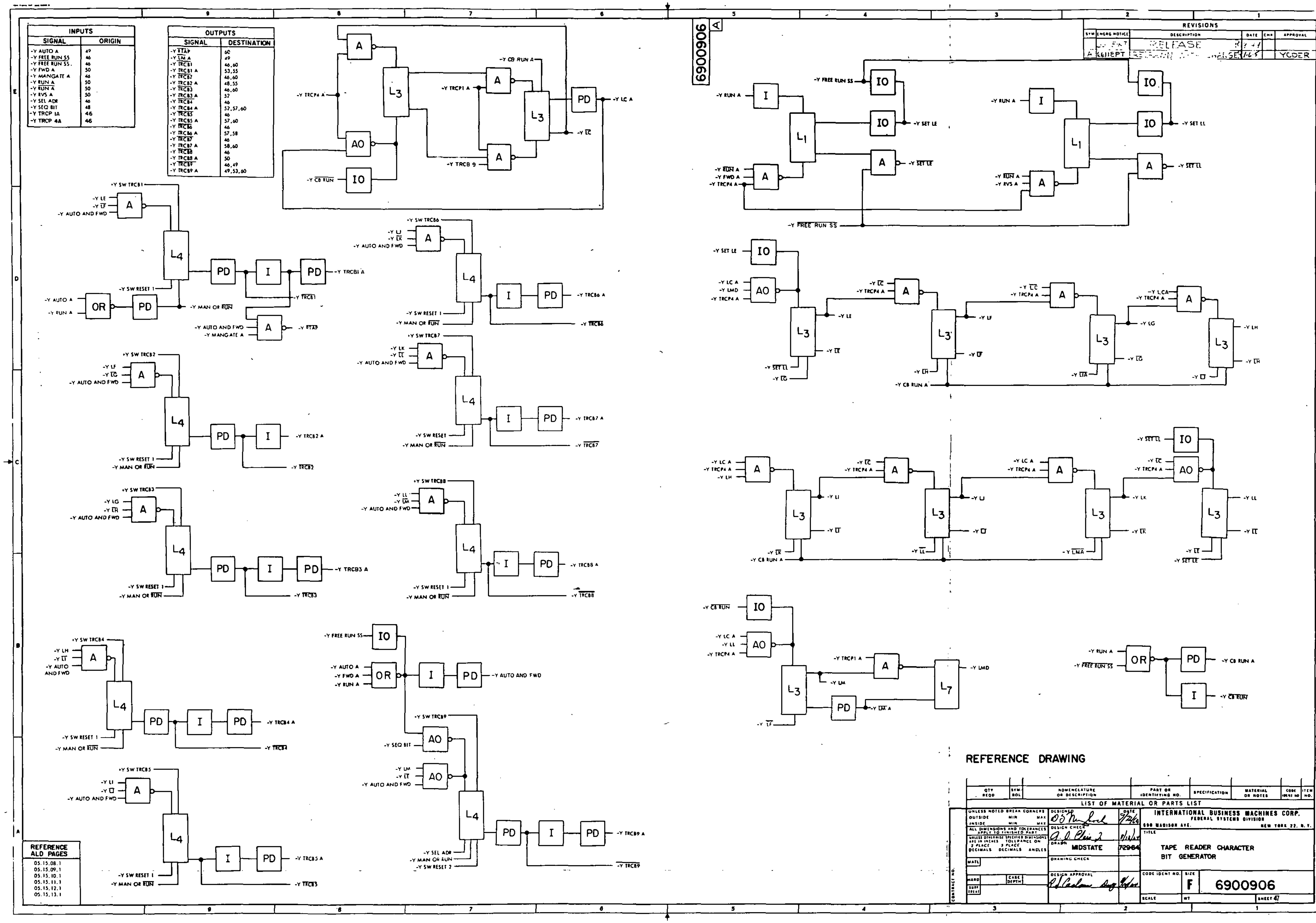


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 47)

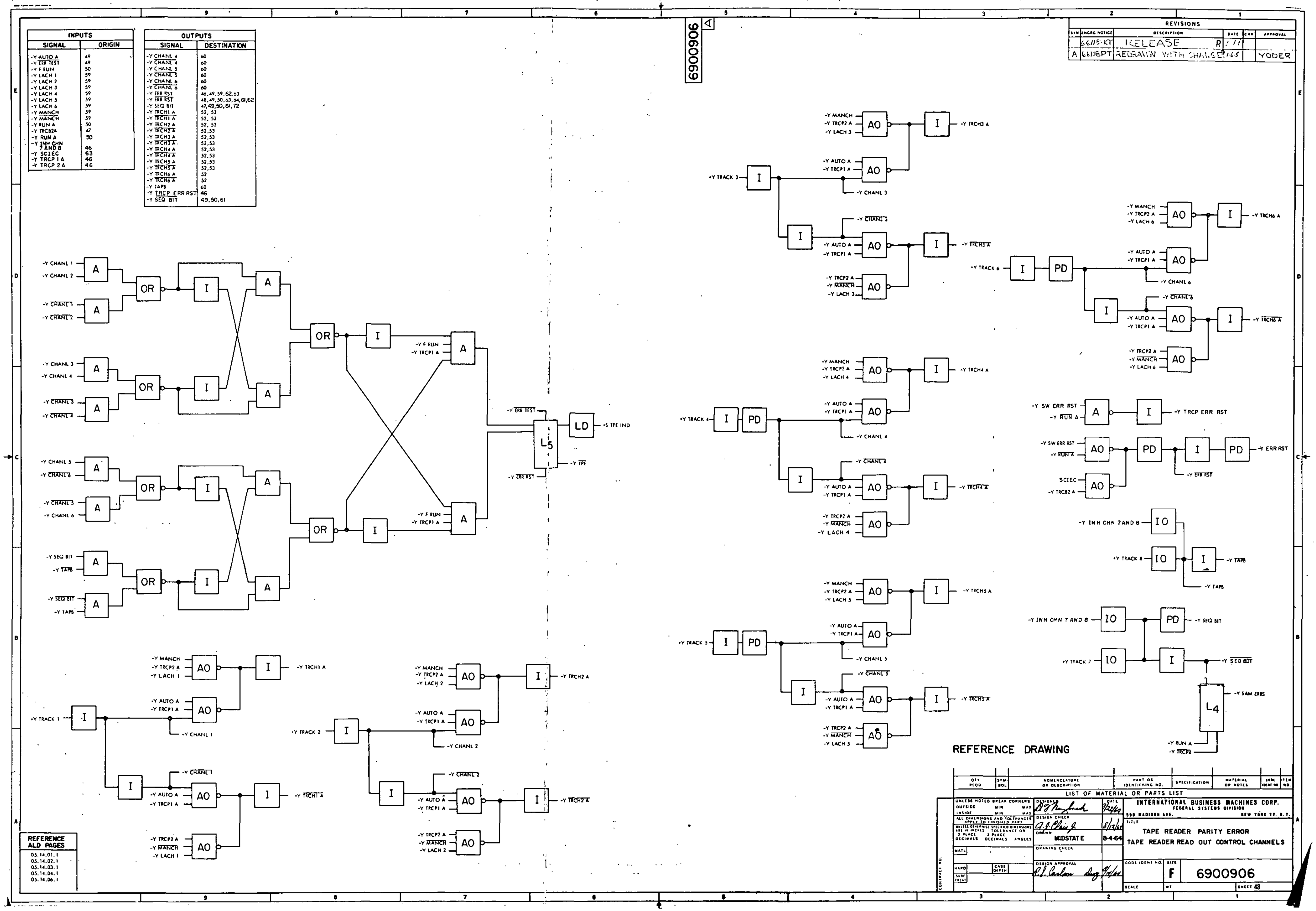



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 48)

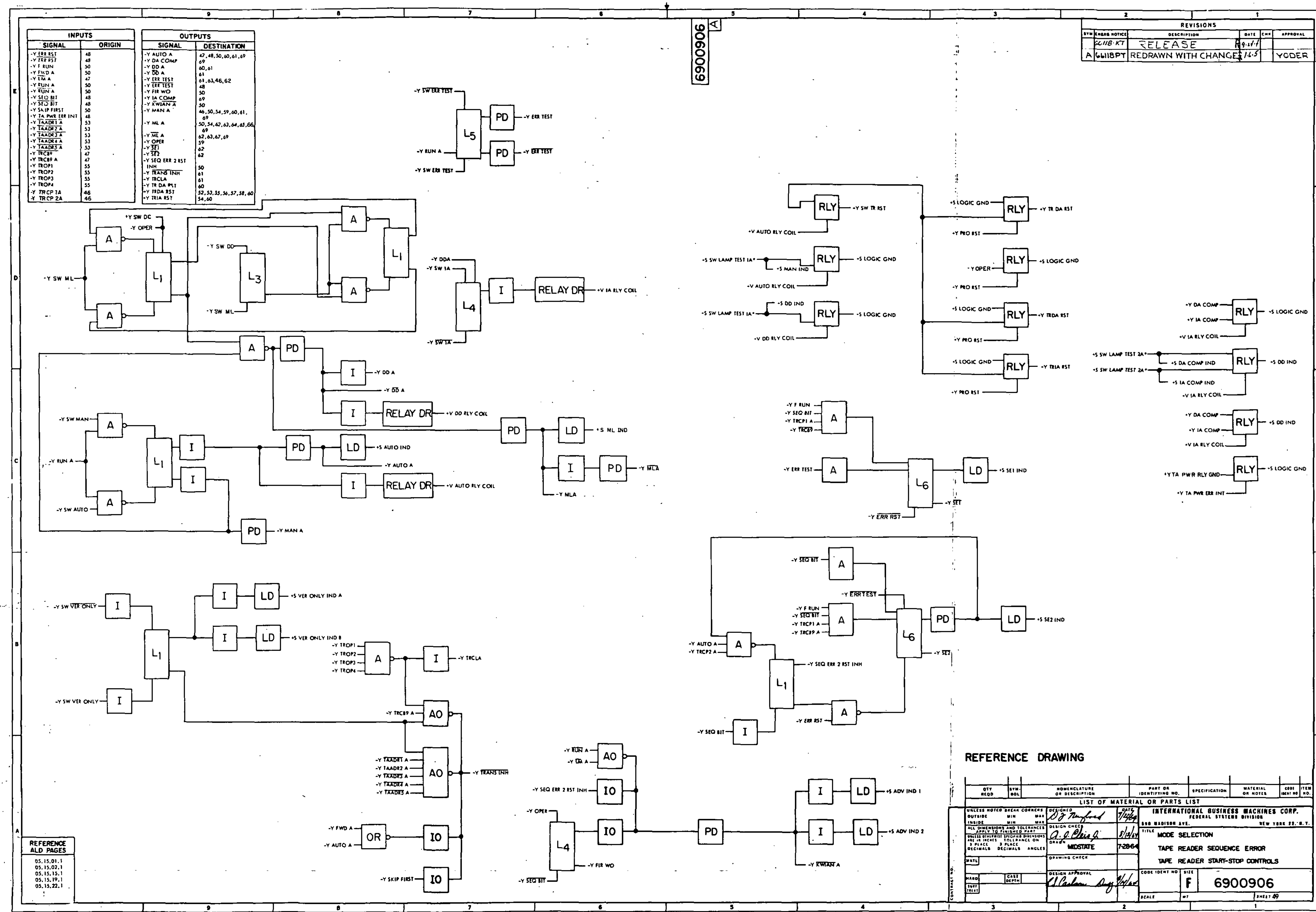



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 49)

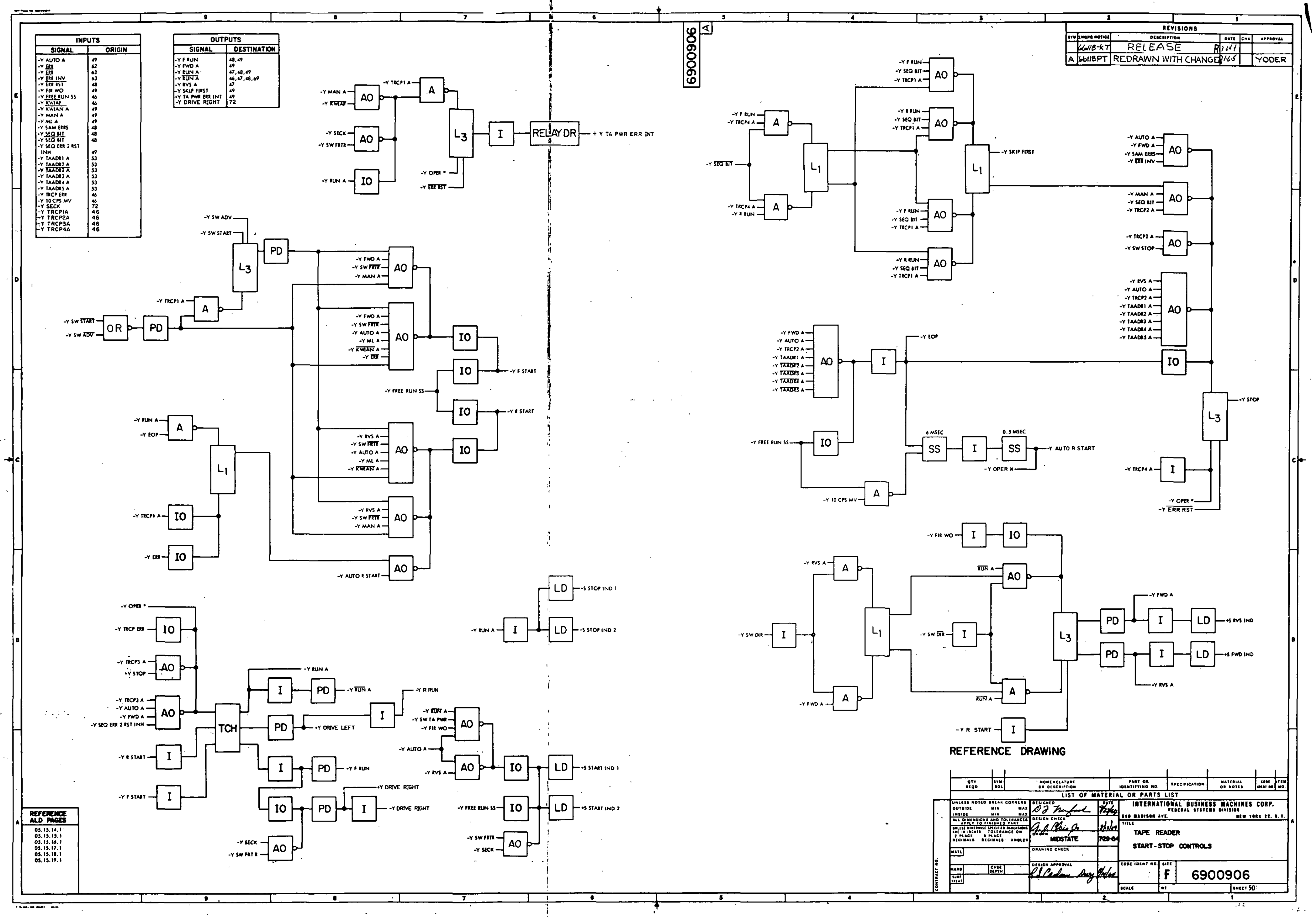



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 50)

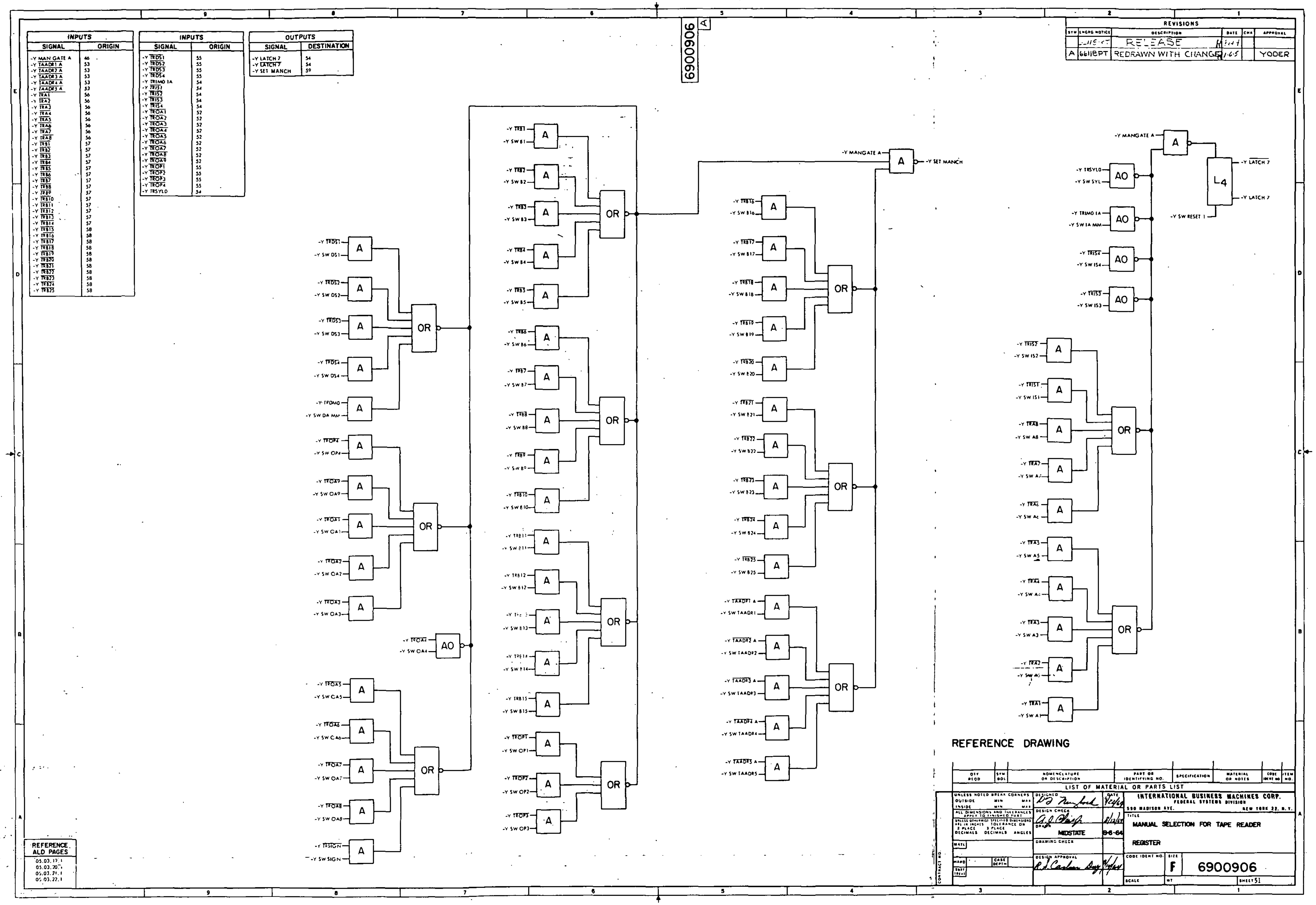



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 51)

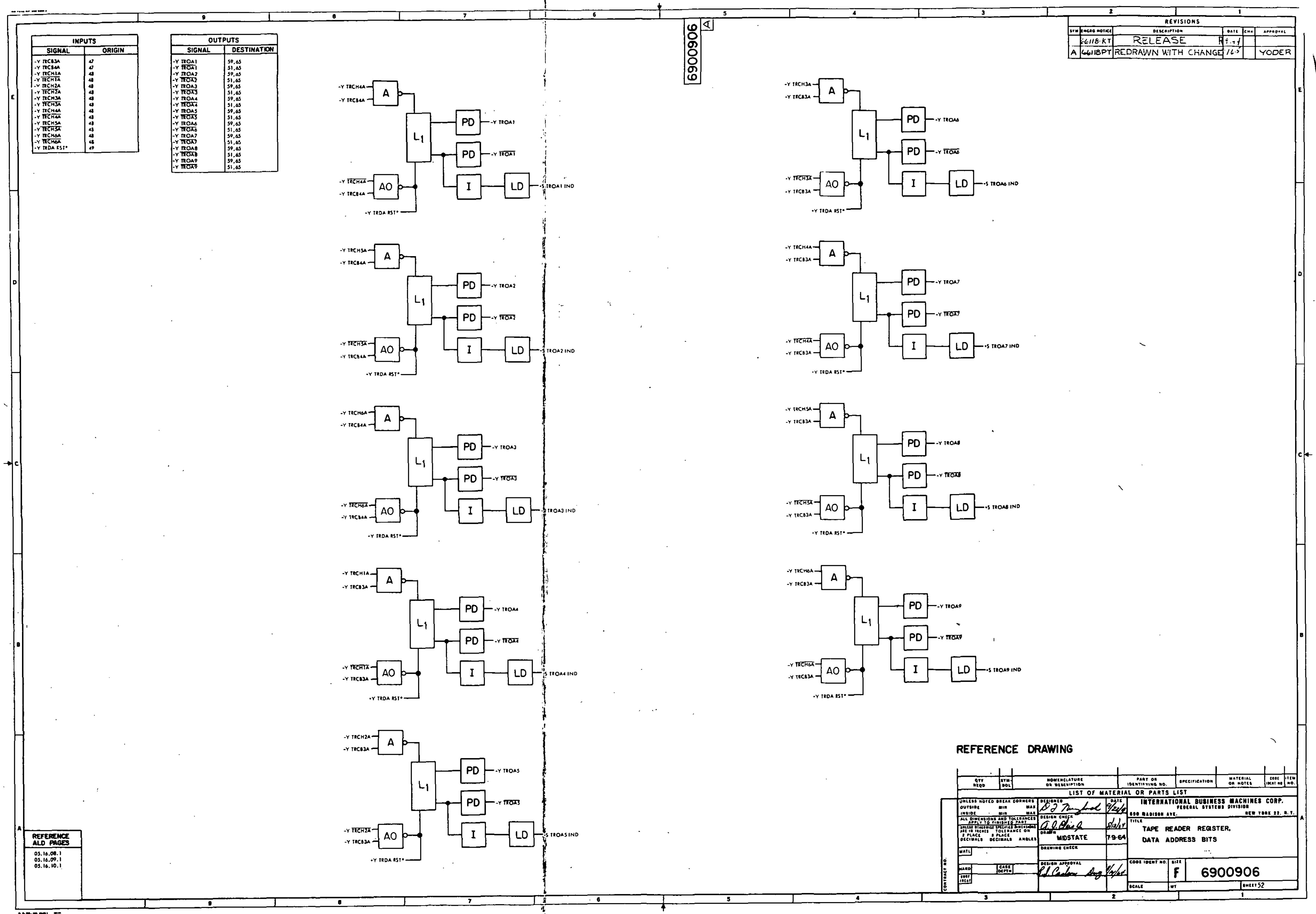



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 52)

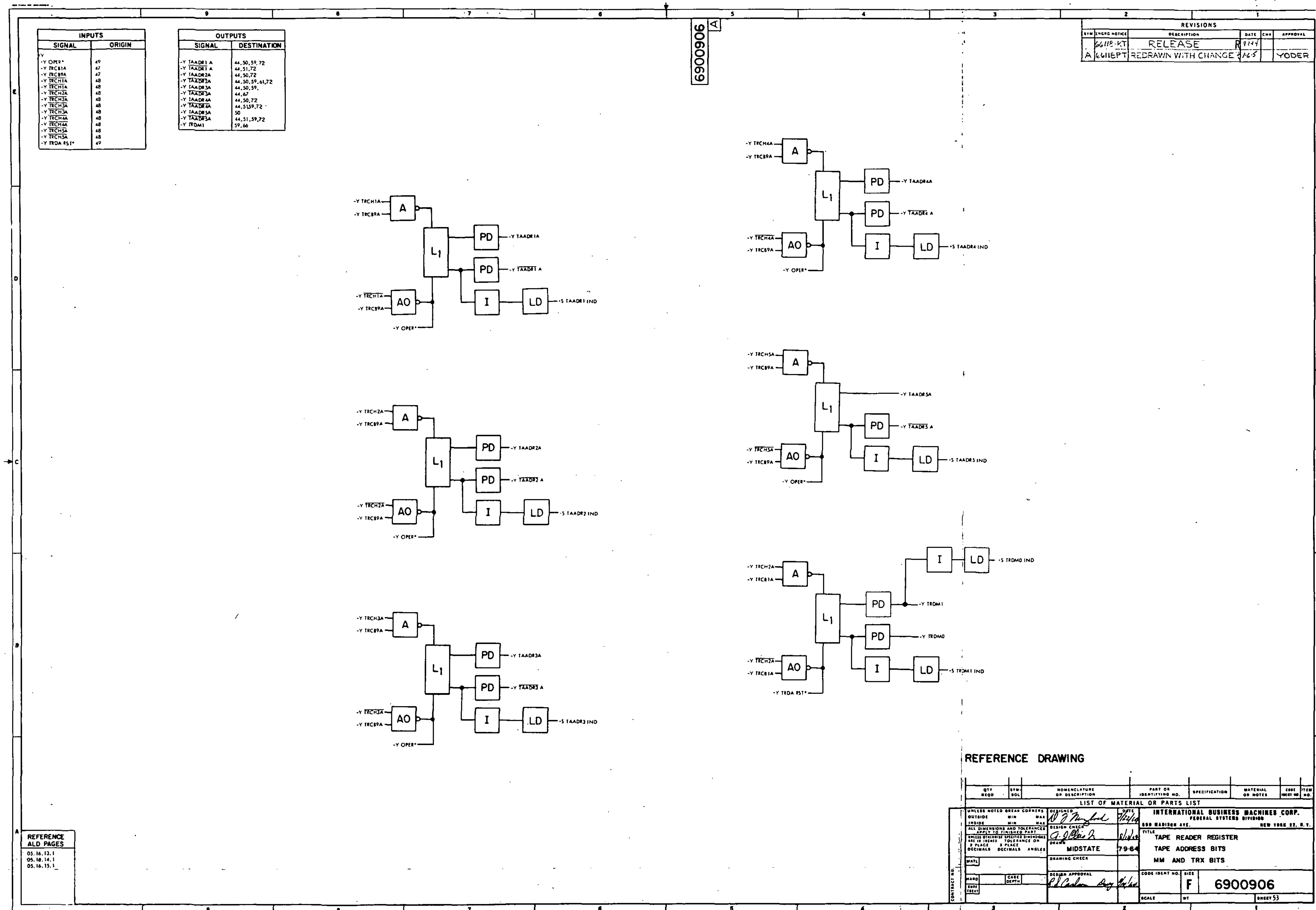
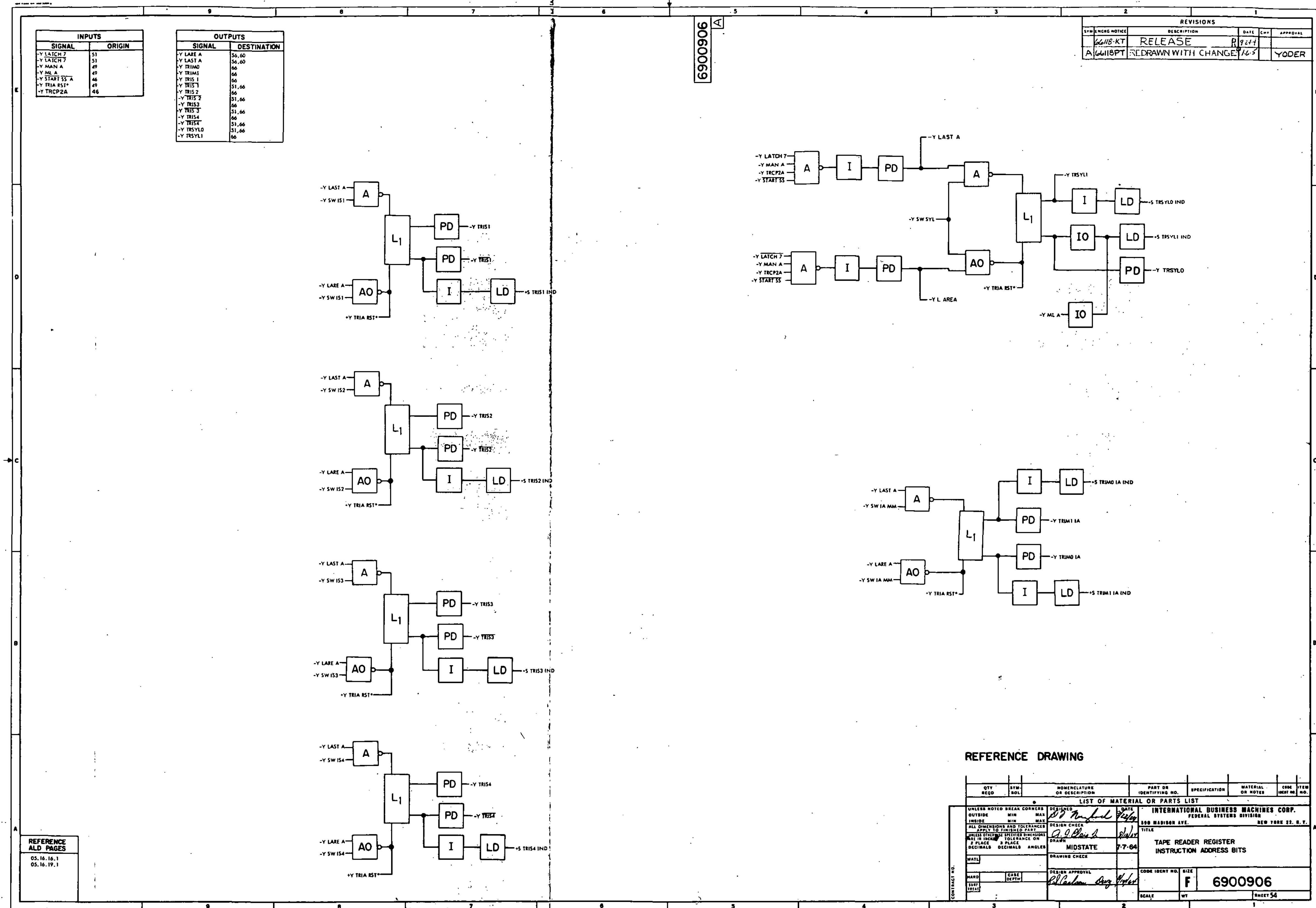



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 53)



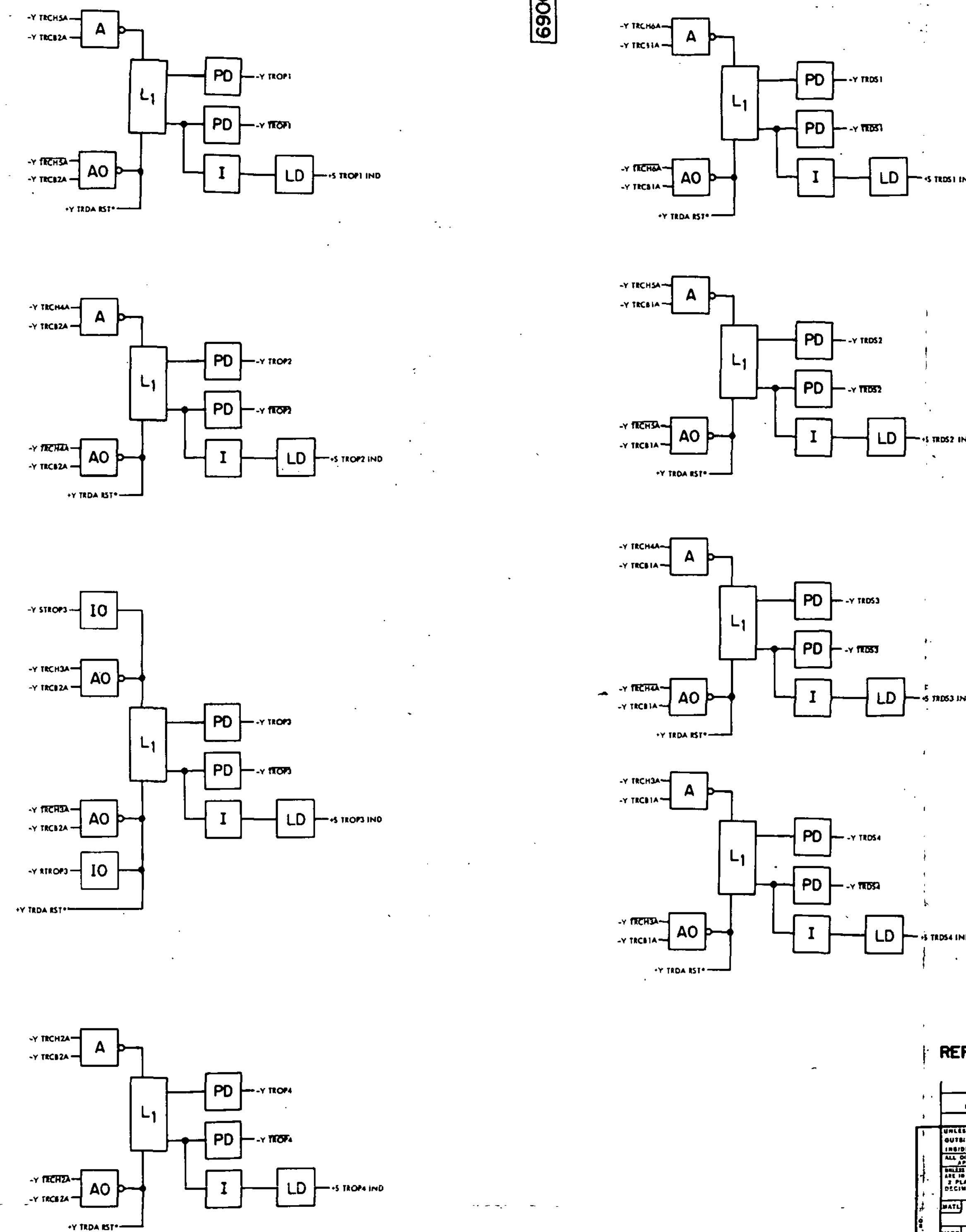

| INPUTS | |
|---|---|
| SIGNAL | ORIGIN |
| -Y LATCH 7 | 51 |
| -Y LATCH 7 | 51 |
| -Y MAN A | 49 |
| -Y ML A | 49 |
| -Y START SS A | 46 |
| -Y TRIA RST* | 49 |
| -Y TRCP2A | 46 |

| OUTPUTS | |
|---|---|
| SIGNAL | DESTINATION |
| -Y LARE A | 56,60 |
| -Y LAST A | 56,60 |
| -Y TRIM0 | 66 |
| -Y TRIM1 | 66 |
| -Y TRIS 1 | 66 |
| -Y TRIS 1 | 51,66 |
| -Y TRIS 2 | 66 |
| -Y TRIS 2 | 51,66 |
| -Y TRIS3 | 66 |
| -Y TRIS 3 | 51,66 |
| -Y TRIS4 | 66 |
| -Y TRIS4 | 51,66 |
| -Y TRSYL0 | 51,66 |
| -Y TRSYL1 | 66 |

Figure 10-28. PTC Second Level Logic Diagrams (Sheet 54)

| INPUTS | |
|---|---|
| SIGNAL | ORIGIN |
| -Y RTROP3 | 61 |
| -Y STROP3 | 61 |
| -Y TRCB1A | 47 |
| -Y TRCB2A | 47 |
| -Y TRCH1A | 48 |
| -Y $\overline{\text{TRCH1A}}$ | 48 |
| -Y TRCH2A | 48 |
| -Y $\overline{\text{TRCH2A}}$ | 48 |
| -Y TRCH3A | 48 |
| -Y $\overline{\text{TRCH3A}}$ | 48 |
| -Y TRCH4A | 48 |
| -Y $\overline{\text{TRCH4A}}$ | 48 |
| -Y TRCH5A | 48 |
| -Y $\overline{\text{TRCH5A}}$ | 48 |
| -Y TRCH6A | 48 |
| -Y $\overline{\text{TRCH6A}}$ | 48 |
| +Y TRDA RST* | 49 |

| OUTPUTS | |
|---|---|
| SIGNAL | DESTINATION |
| -Y TRDS1 | 59, 66 |
| -Y $\overline{\text{TRDS1}}$ | 51, 66 |
| -Y TRDS2 | 59, 66 |
| -Y $\overline{\text{TRDS2}}$ | 51, 66 |
| -Y TRDS3 | 59, 66 |
| -Y $\overline{\text{TRDS3}}$ | 51, 66 |
| -Y TRDS4 | 59, 66 |
| -Y $\overline{\text{TRDS4}}$ | 51, 66 |
| -Y TROP1 | 44, 49, 59, 61, 62, 65 |
| -Y $\overline{\text{TROP1}}$ | 51, 65 |
| -Y TROP2 | 49, 61, 62, 64 |
| -Y $\overline{\text{TROP2}}$ | 51, 65 |
| -Y TROP3 | 44, 49, 59, 62, 65 |
| -Y $\overline{\text{TROP3}}$ | 51, 61, 65 |
| -Y TROP4 | 44, 49, 59, 61, 62, 65 |
| -Y $\overline{\text{TROP4}}$ | 51, 65 |



REFERENCE ALD PAGES
05.16.11.1
05.16.12.1

REFERENCE DRAWING

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION

TAPE READER REGISTER
OP CODE BITS and DATA SECTOR BITS

MIDSTATE 7-9-64

F 6900906

6900906

Figure 10-28. PTC Second Level Logic Diagrams (Sheet 55)

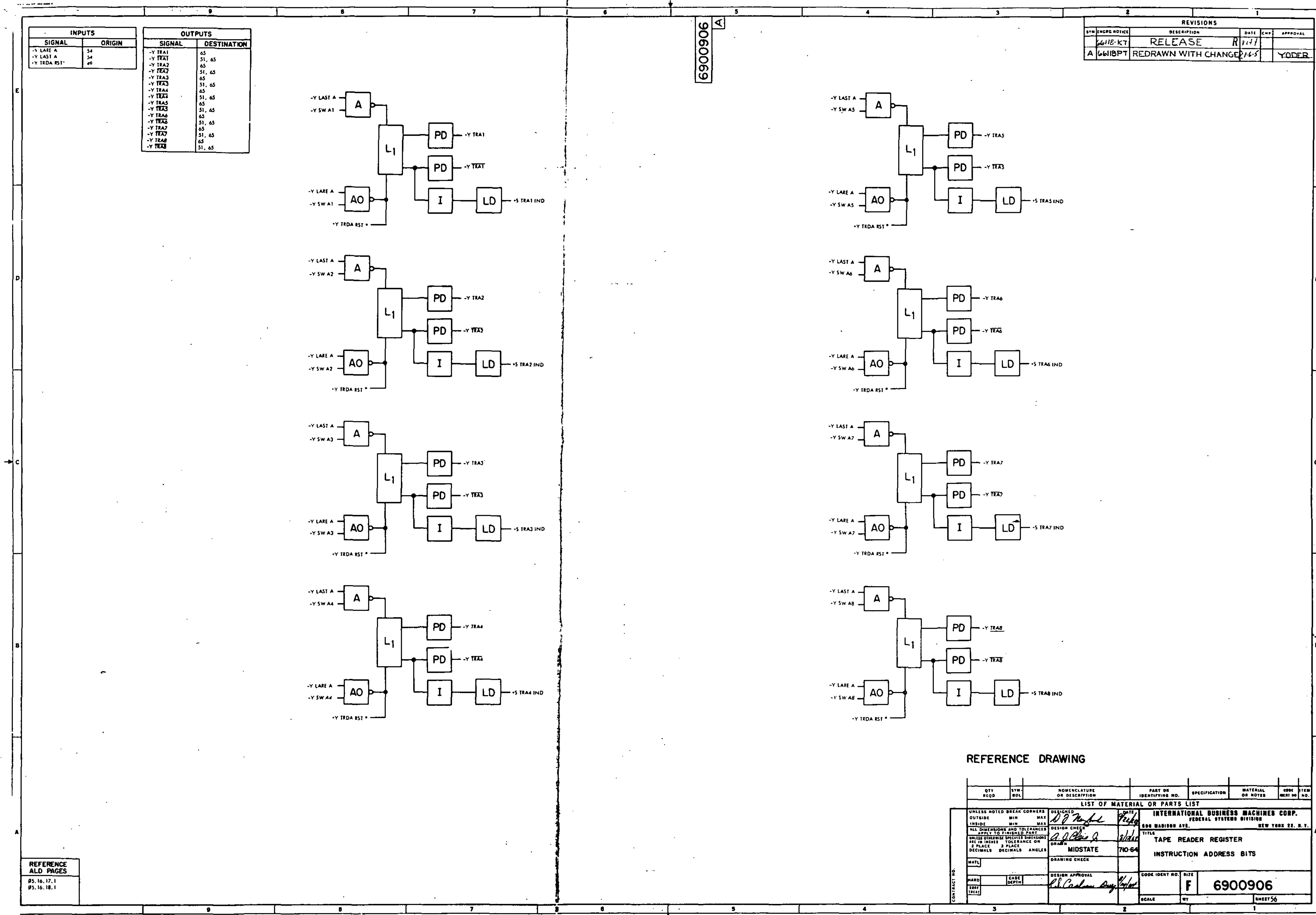



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 56)

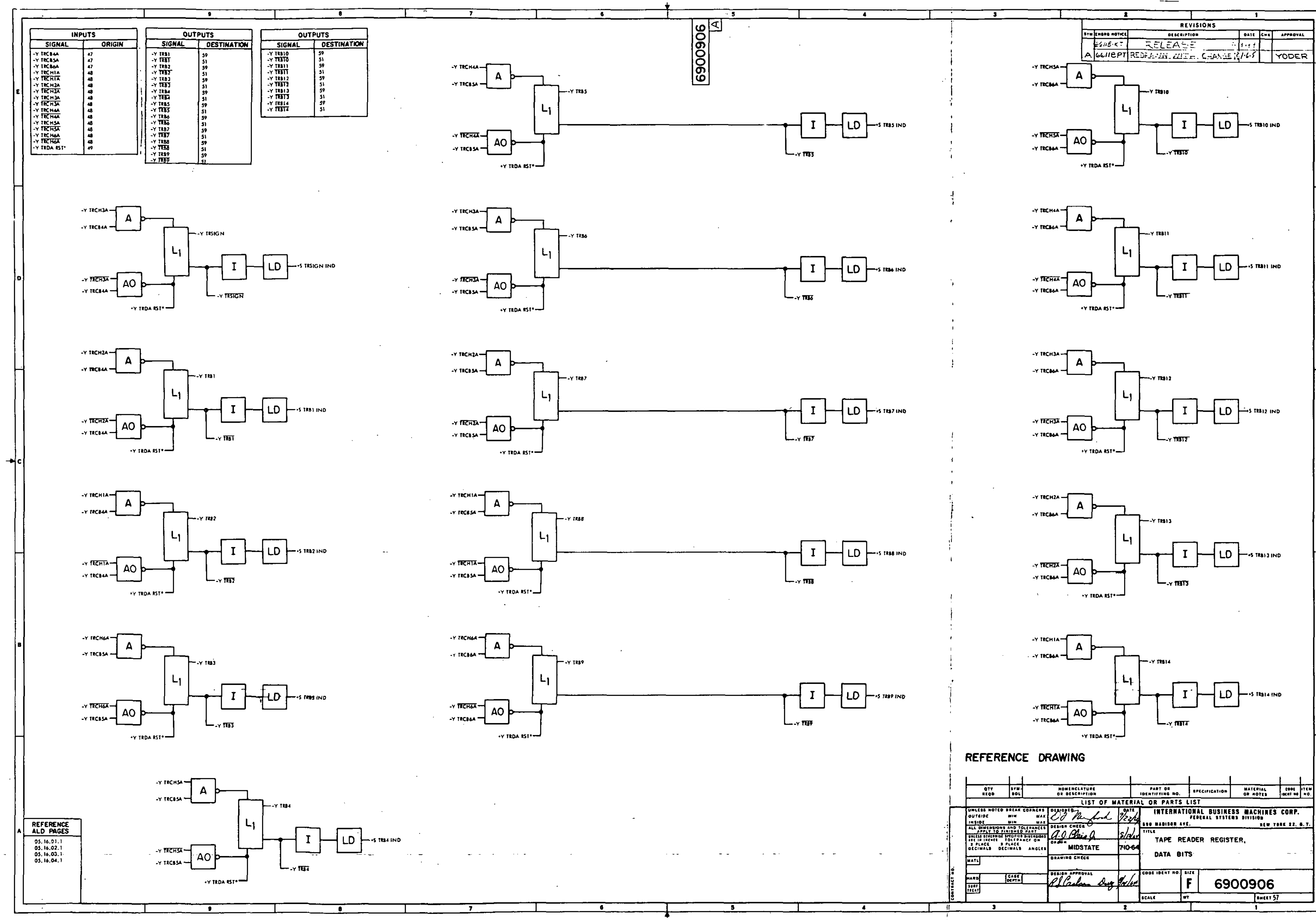



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 57)

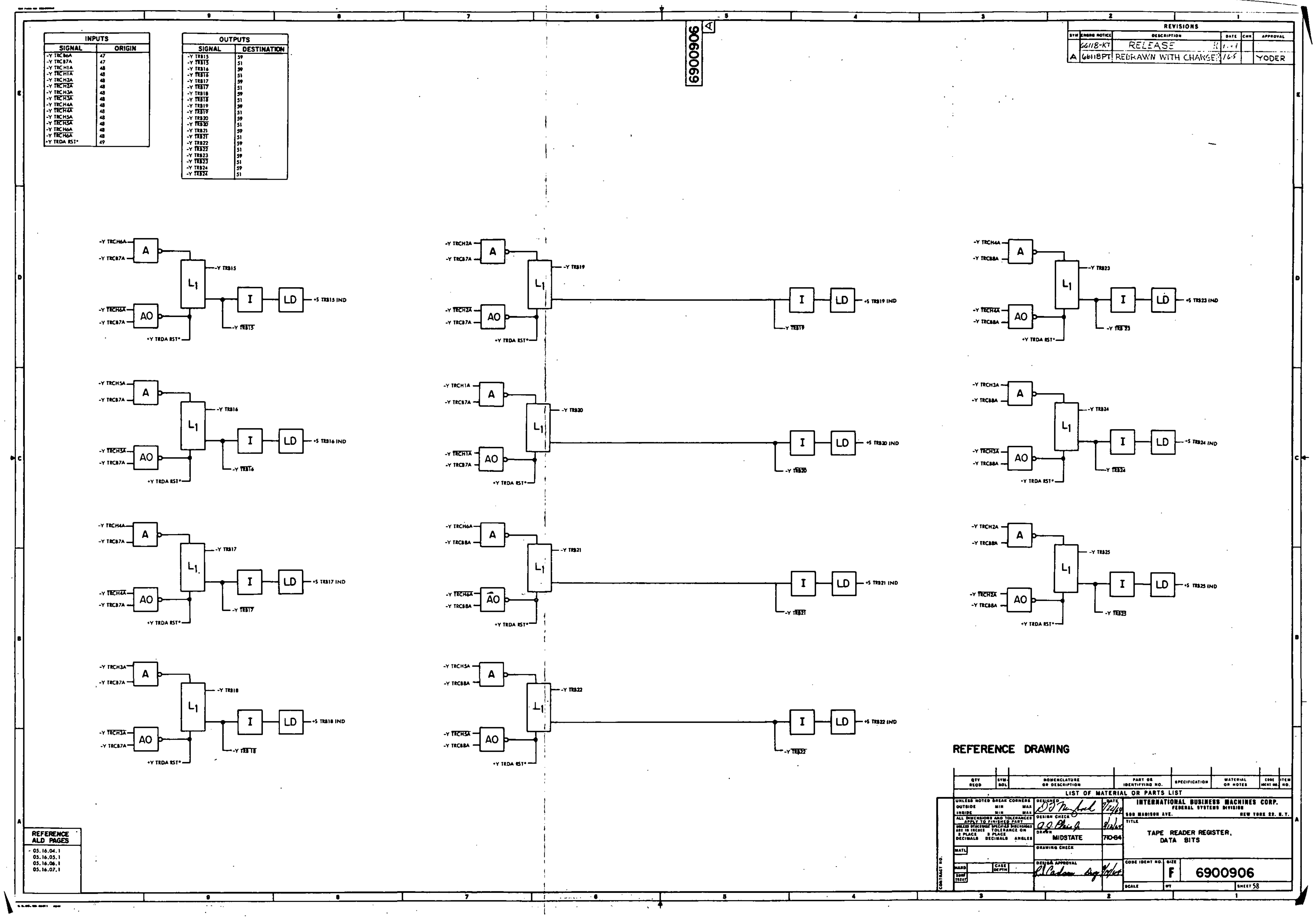
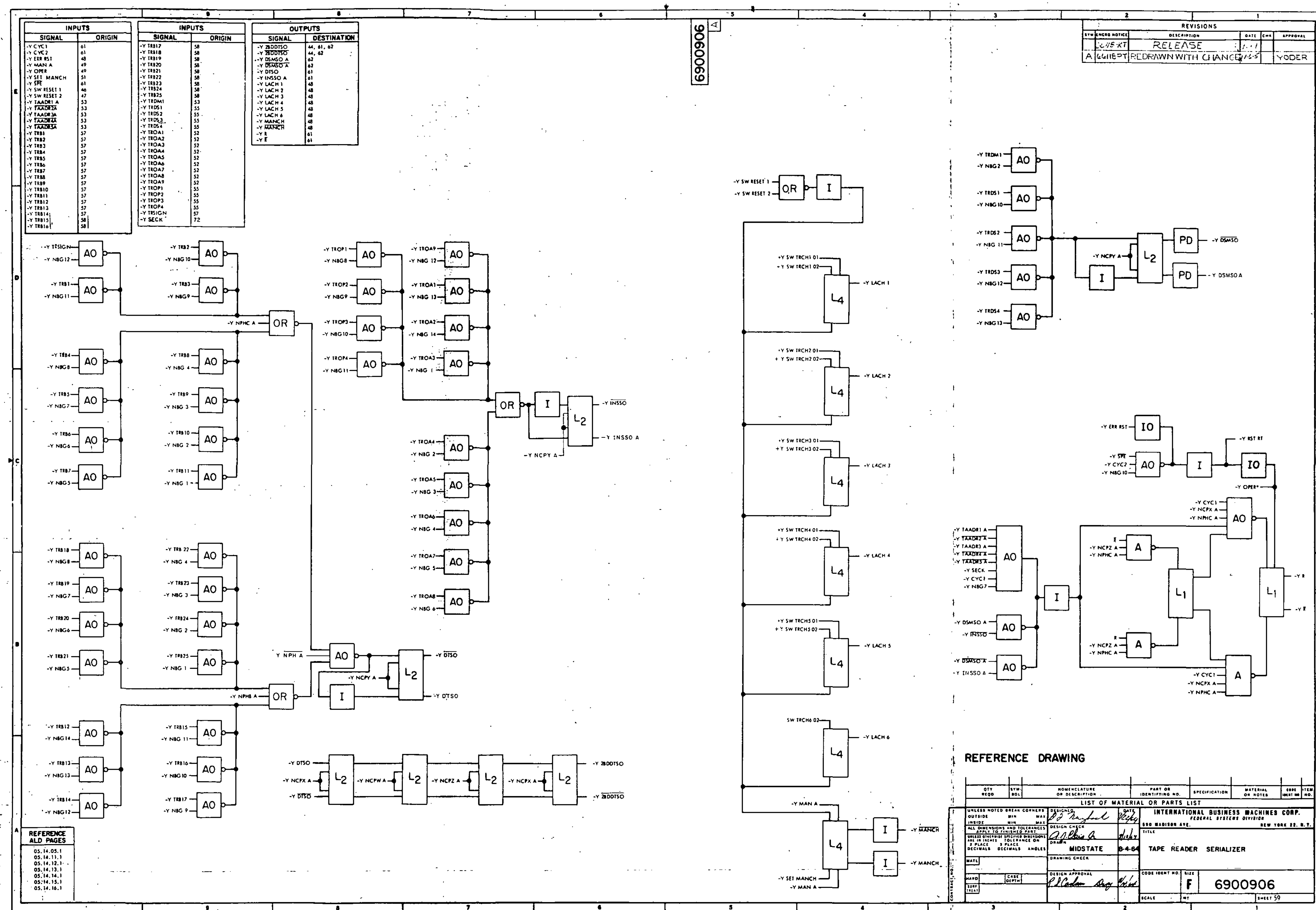



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 58)




| INPUTS | |
|---|---|
| SIGNAL | ORIGIN |
| -Y CYC1 | 61 |
| -Y CYC2 | 61 |
| -Y ERR RST | 48 |
| -Y MAN A | 49 |
| -Y OPER | 49 |
| -Y SET MANCH | 51 |
| -Y SPE | 61 |
| -Y SW RESET 1 | 46 |
| -Y SW RESET 2 | 47 |
| -Y TAADR1 A | 53 |
| -Y TAADR2A | 53 |
| -Y TAADR3A | 53 |
| -Y TAADR4A | 53 |
| -Y TAADR5A | 53 |
| -Y TRB1 | 57 |
| -Y TRB2 | 57 |
| -Y TRB3 | 57 |
| -Y TRB4 | 57 |
| -Y TRB5 | 57 |
| -Y TRB6 | 57 |
| -Y TRB7 | 57 |
| -Y TRB8 | 57 |
| -Y TRB9 | 57 |
| -Y TRB10 | 57 |
| -Y TRB11 | 57 |
| -Y TRB12 | 57 |
| -Y TRB13 | 57 |
| -Y TRB14 | 57 |
| -Y TRB15 | 58 |
| -Y TRB16 | 58 |

| INPUTS | |
|---|---|
| SIGNAL | ORIGIN |
| -Y TRB17 | 58 |
| -Y TRB18 | 58 |
| -Y TRB19 | 58 |
| -Y TRB20 | 58 |
| -Y TRB21 | 58 |
| -Y TRB22 | 58 |
| -Y TRB23 | 58 |
| -Y TRB24 | 58 |
| -Y TRB25 | 58 |
| -Y TRDM1 | 53 |
| -Y TRDS1 | 55 |
| -Y TRDS2 | 55 |
| -Y TRDS3 | 55 |
| -Y TRDS4 | 55 |
| -Y TROA1 | 52 |
| -Y TROA2 | 52 |
| -Y TROA3 | 52 |
| -Y TROA4 | 52 |
| -Y TROA5 | 52 |
| -Y TROA6 | 52 |
| -Y TROA7 | 52 |
| -Y TROA8 | 52 |
| -Y TROA9 | 52 |
| -Y TROP1 | 55 |
| -Y TROP2 | 55 |
| -Y TROP3 | 55 |
| -Y TROP4 | 55 |
| -Y TRSIGN | 57 |
| -Y SECK | 72 |

| OUTPUTS | |
|---|---|
| SIGNAL | DESTINATION |
| -Y 2BDDTSO | 44, 61, 62 |
| -Y 2BDDTSO | 44, 62 |
| -Y DSMSO A | 62 |
| -Y DSMSO A | 62 |
| -Y DTSO | 61 |
| -Y INSSO A | 61 |
| -Y LACH 1 | 48 |
| -Y LACH 2 | 48 |
| -Y LACH 3 | 48 |
| -Y LACH 4 | 48 |
| -Y LACH 5 | 48 |
| -Y LACH 6 | 48 |
| -Y MANCH | 48 |
| -Y MANCH | 48 |
| -Y R | 61 |
| -Y R | 61 |

Figure 10-28. PTC Second Level Logic Diagrams (Sheet 59)

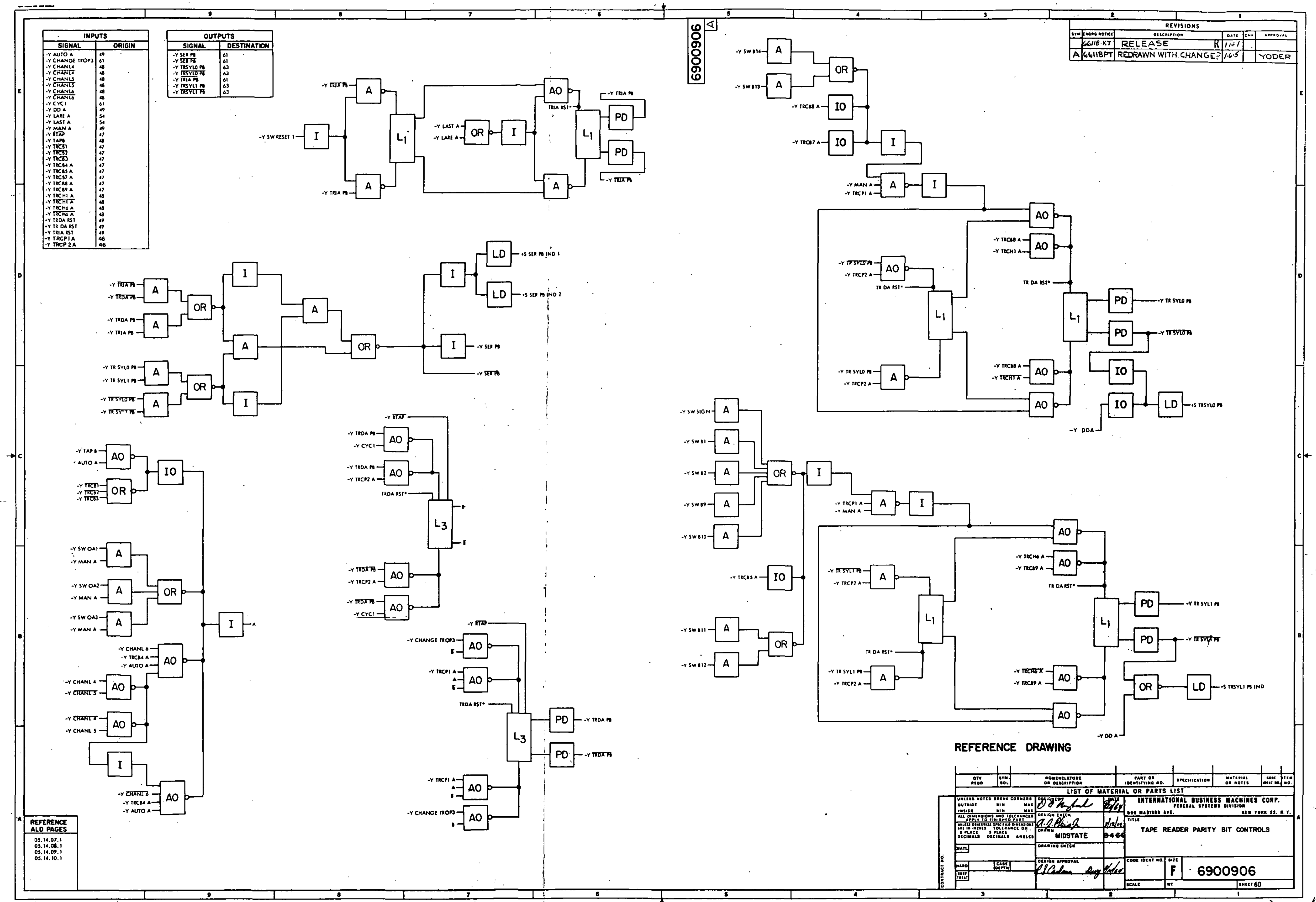


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 60)

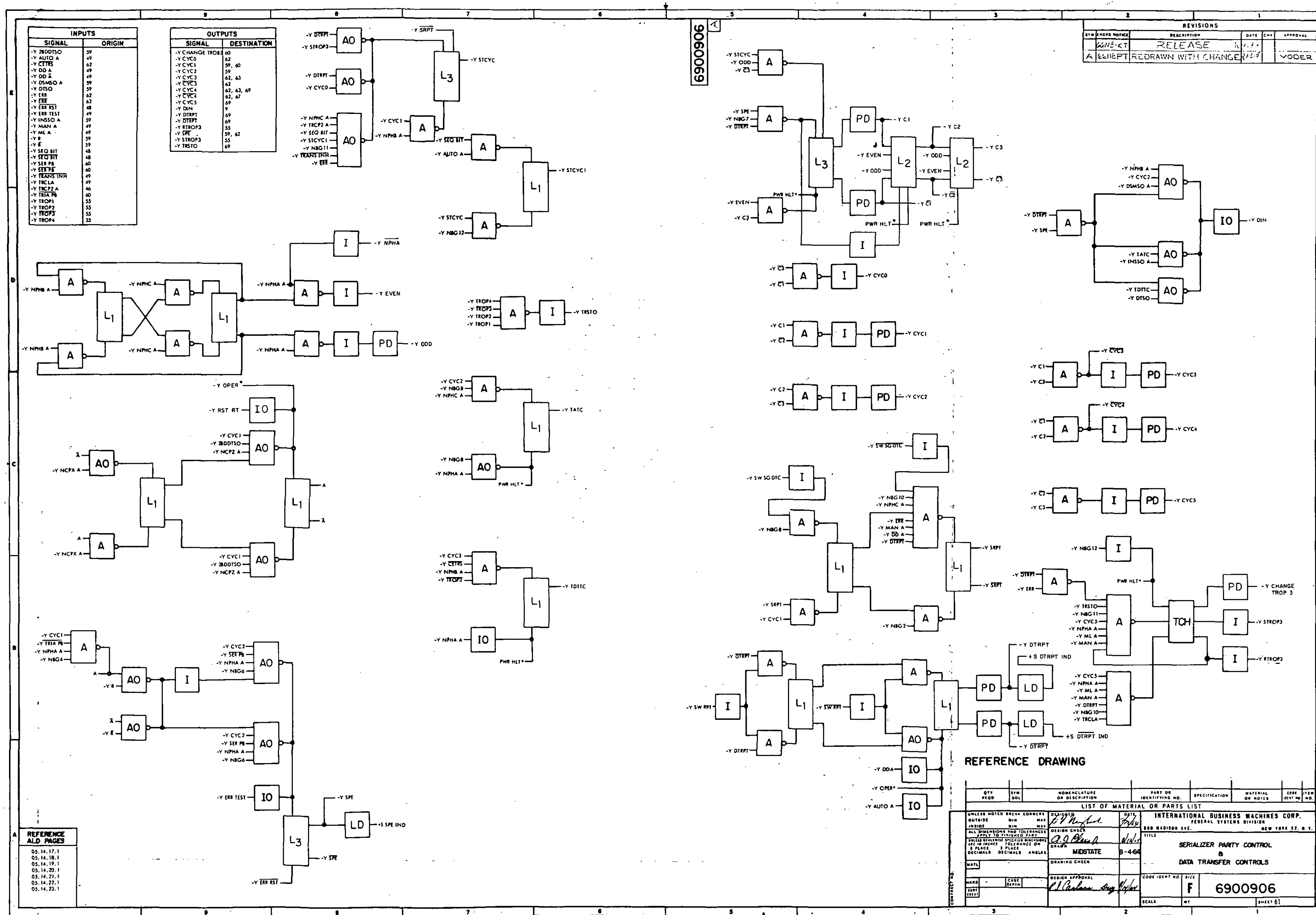



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 61)

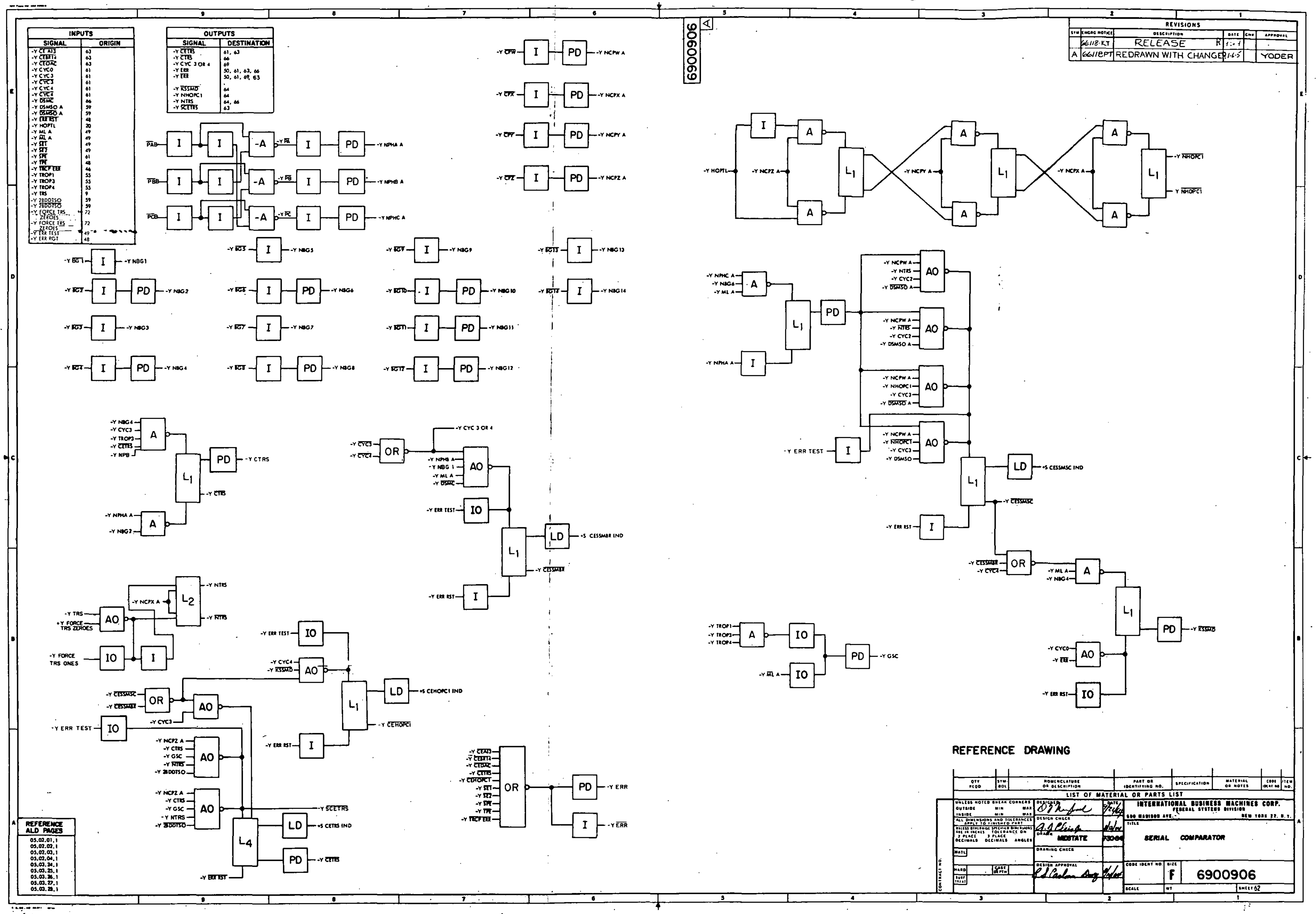



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 62)

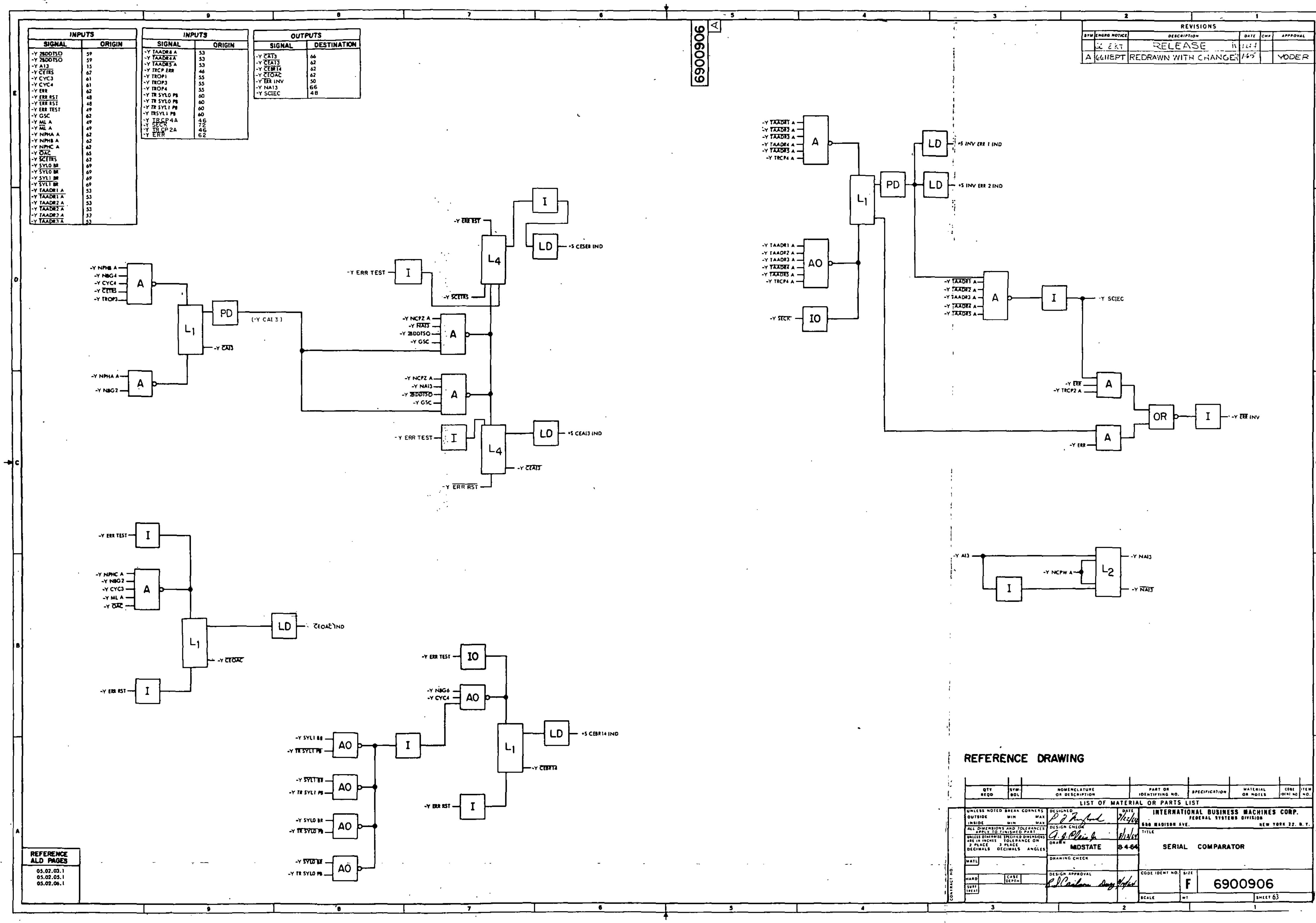



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 63)

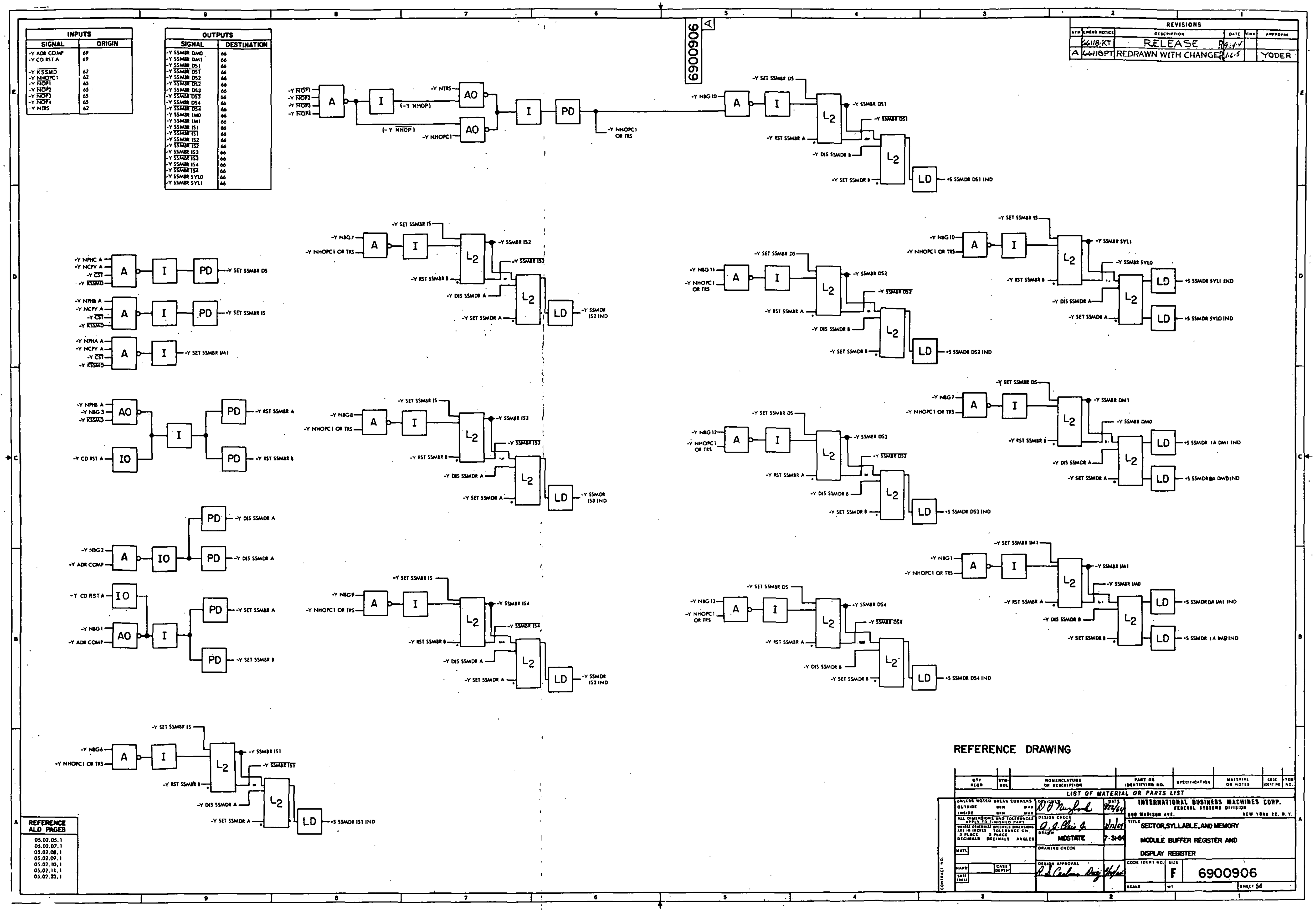



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 64)

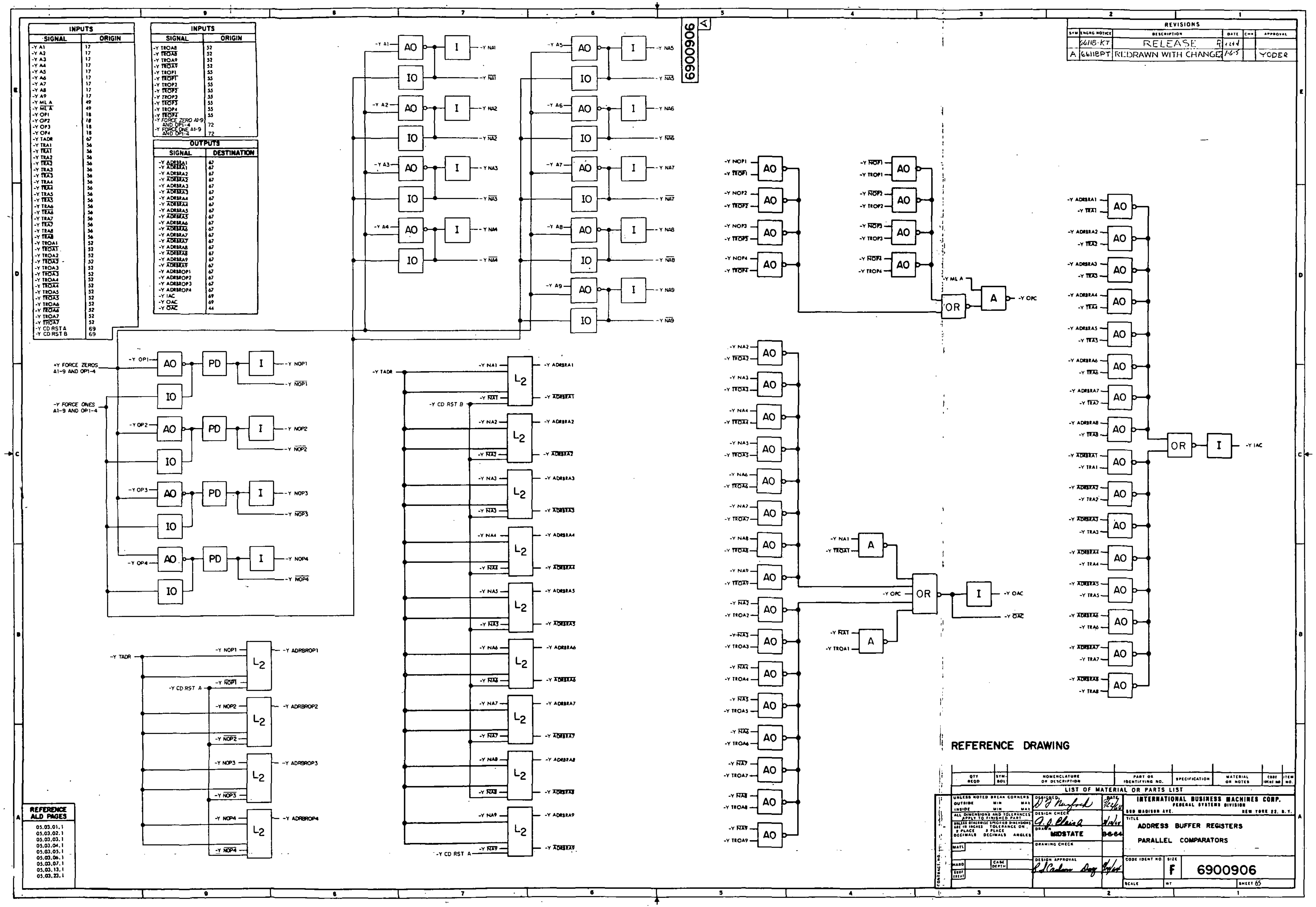



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 65)

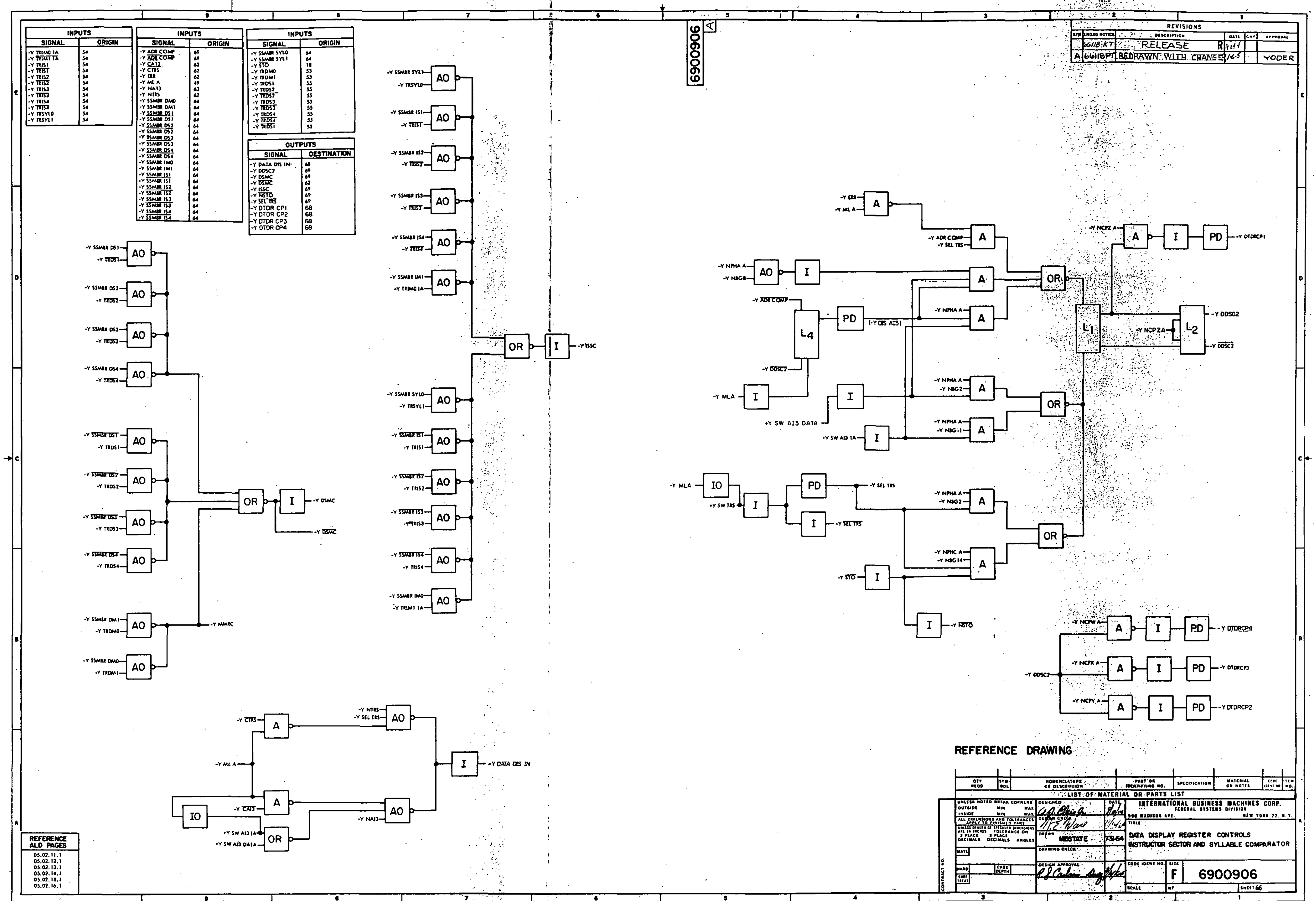


Figure 10-28. PTC Second Level Logic Diagrams (Sheet 66)

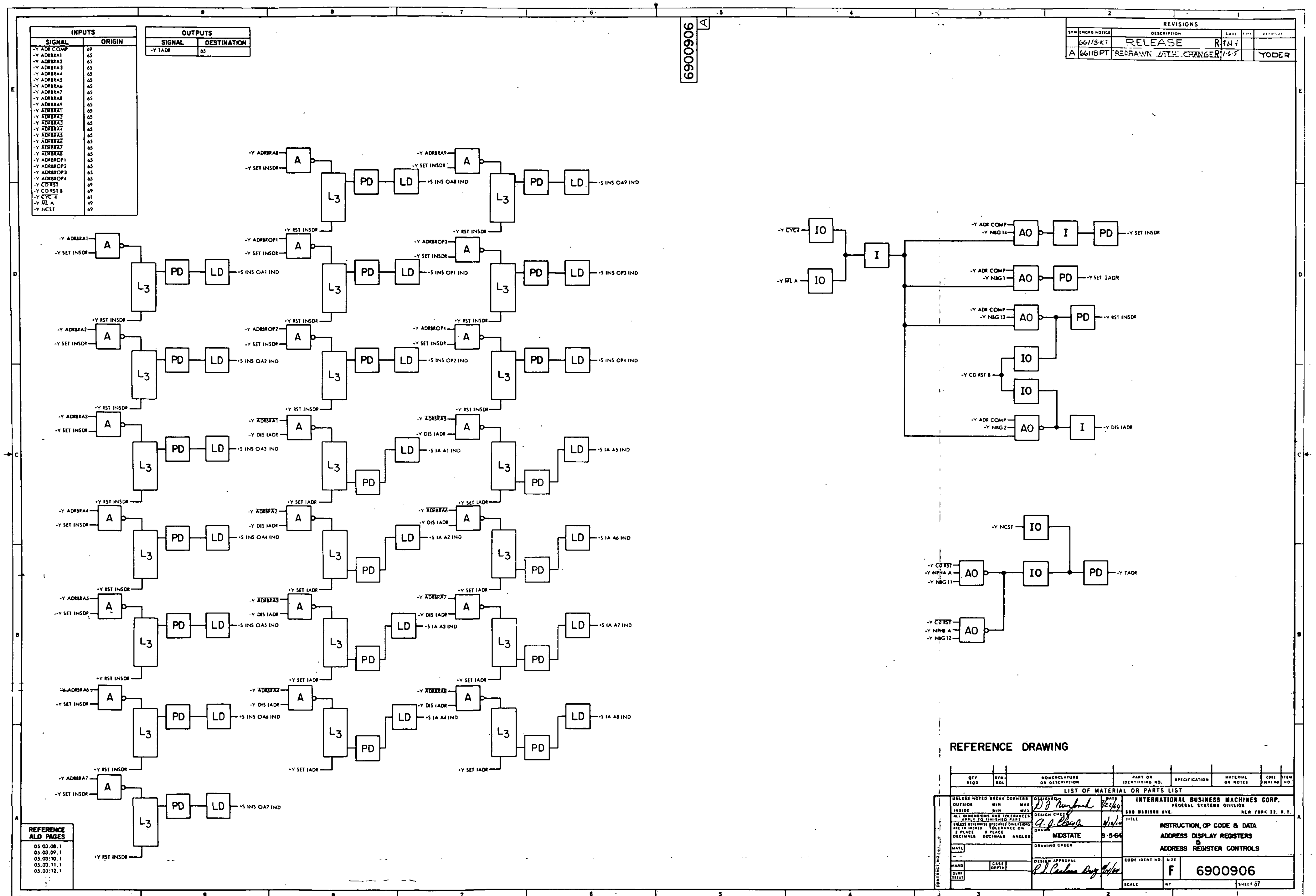



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 67)

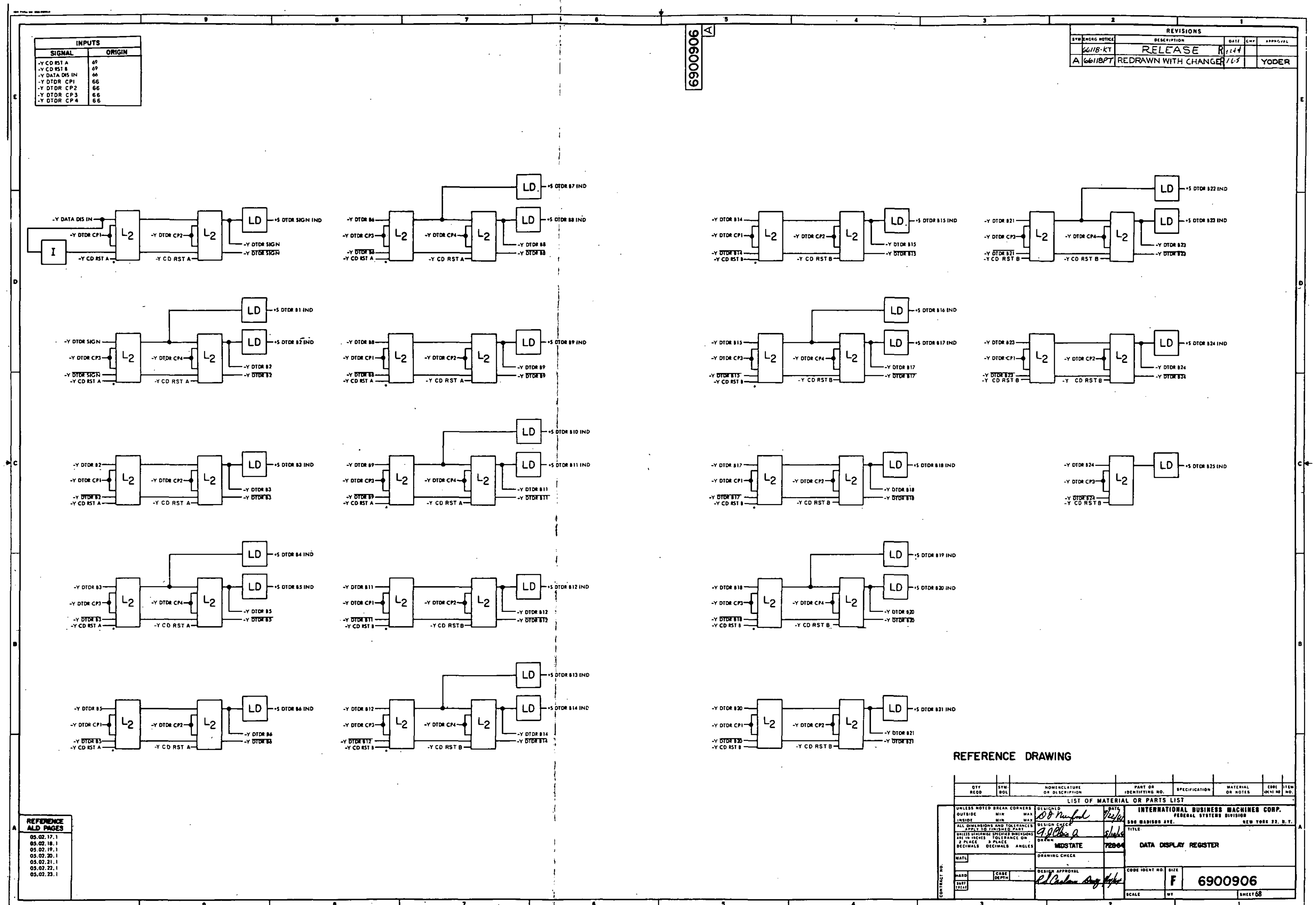



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 68)

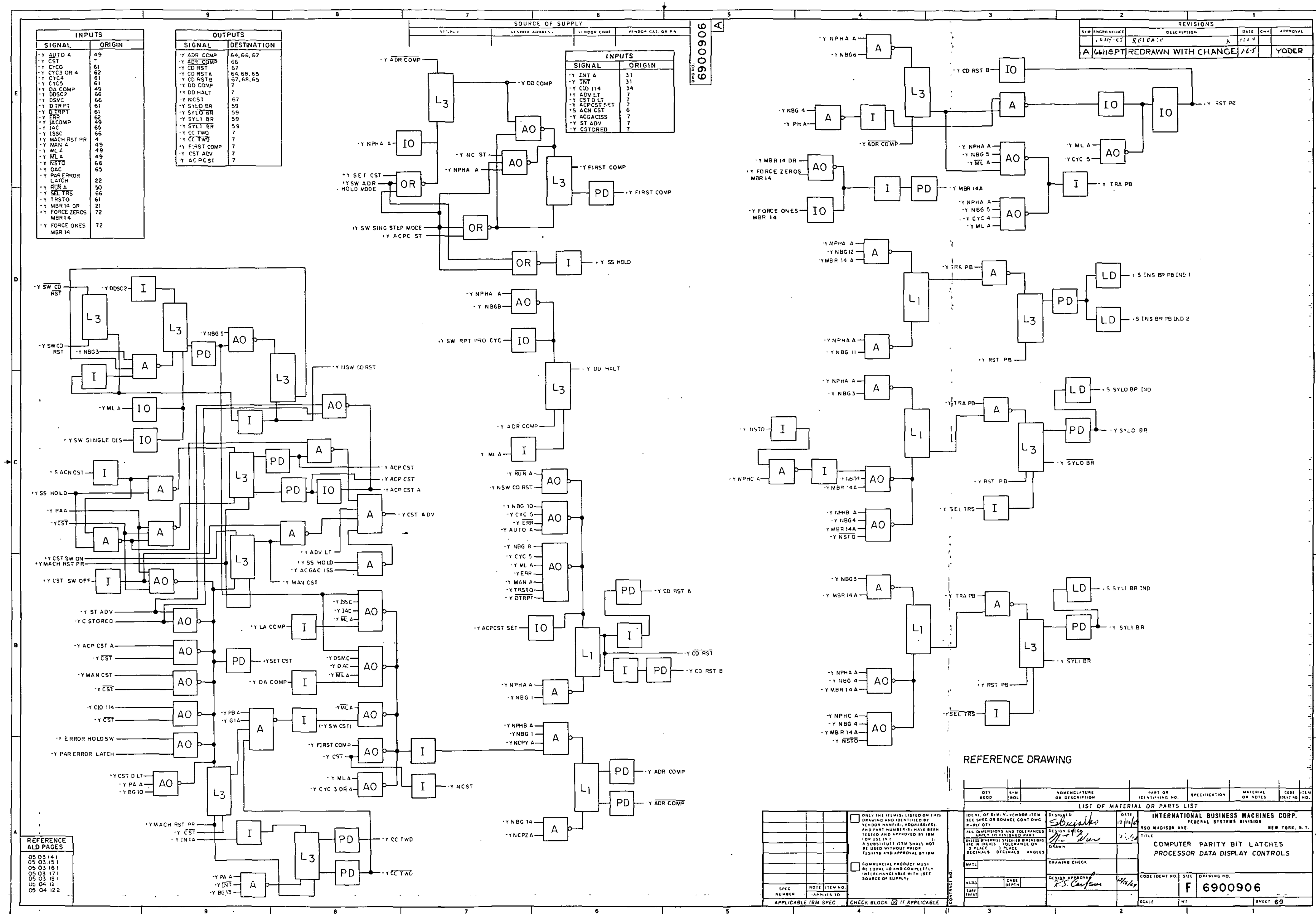



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 69)

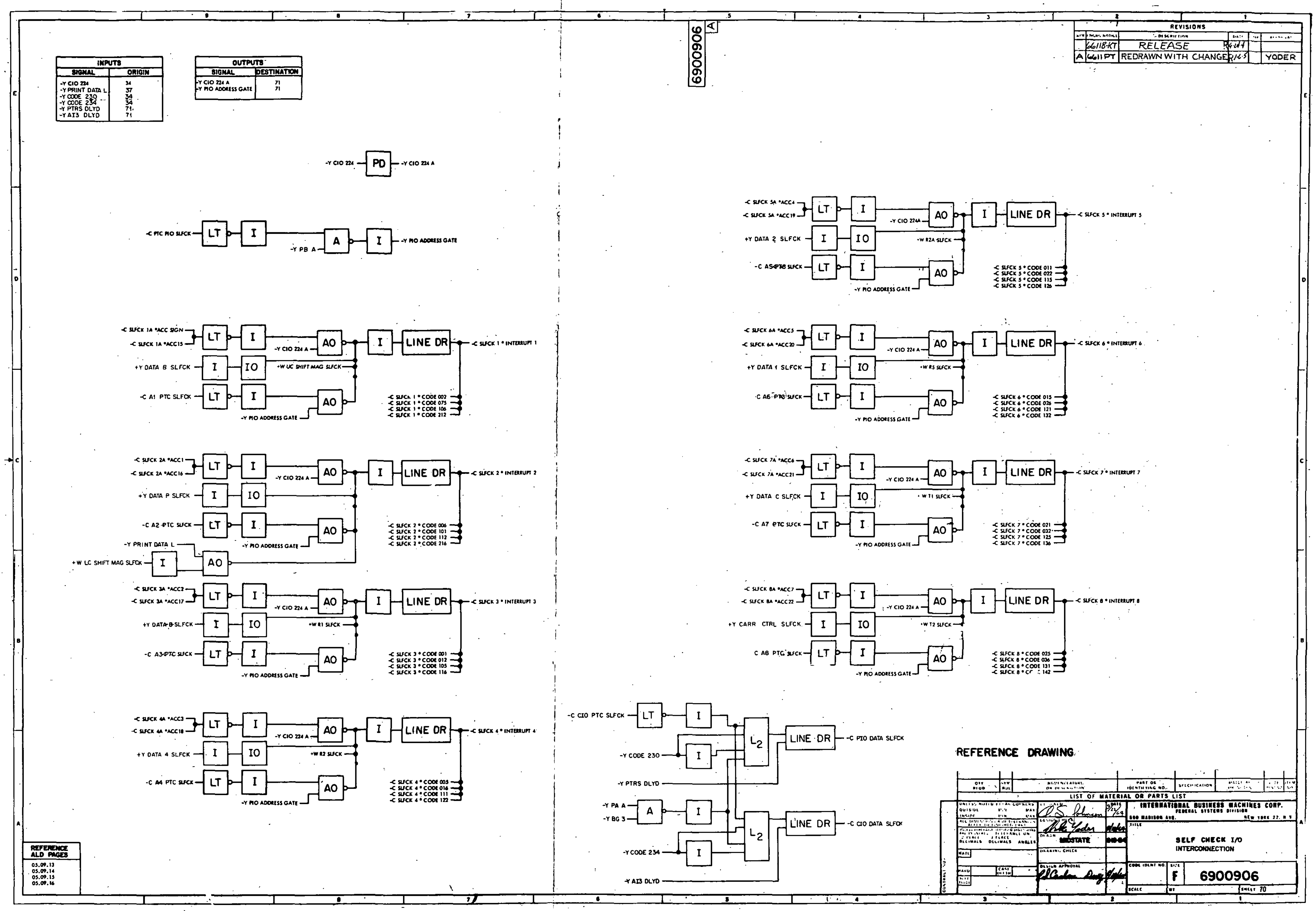



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 70)

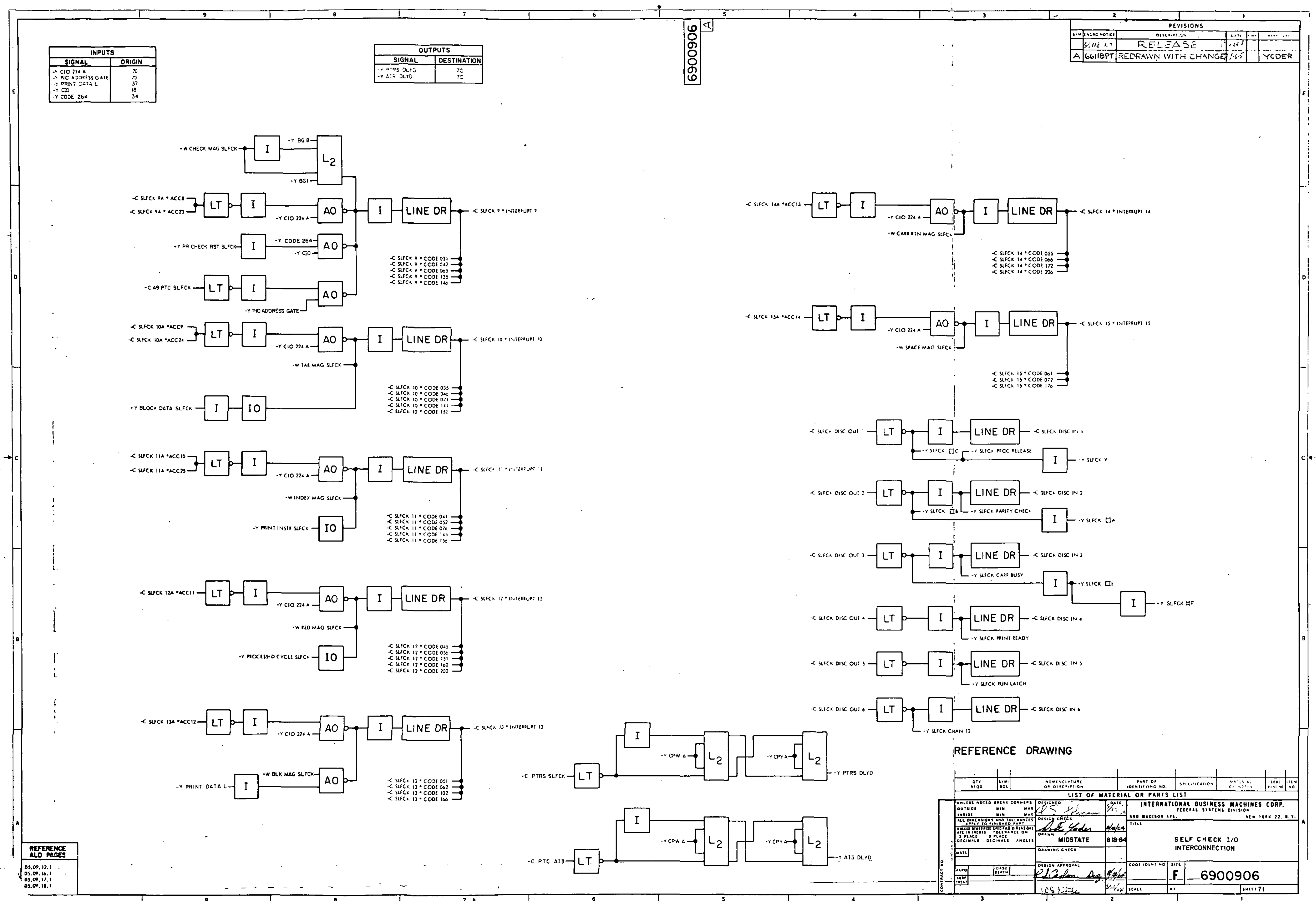
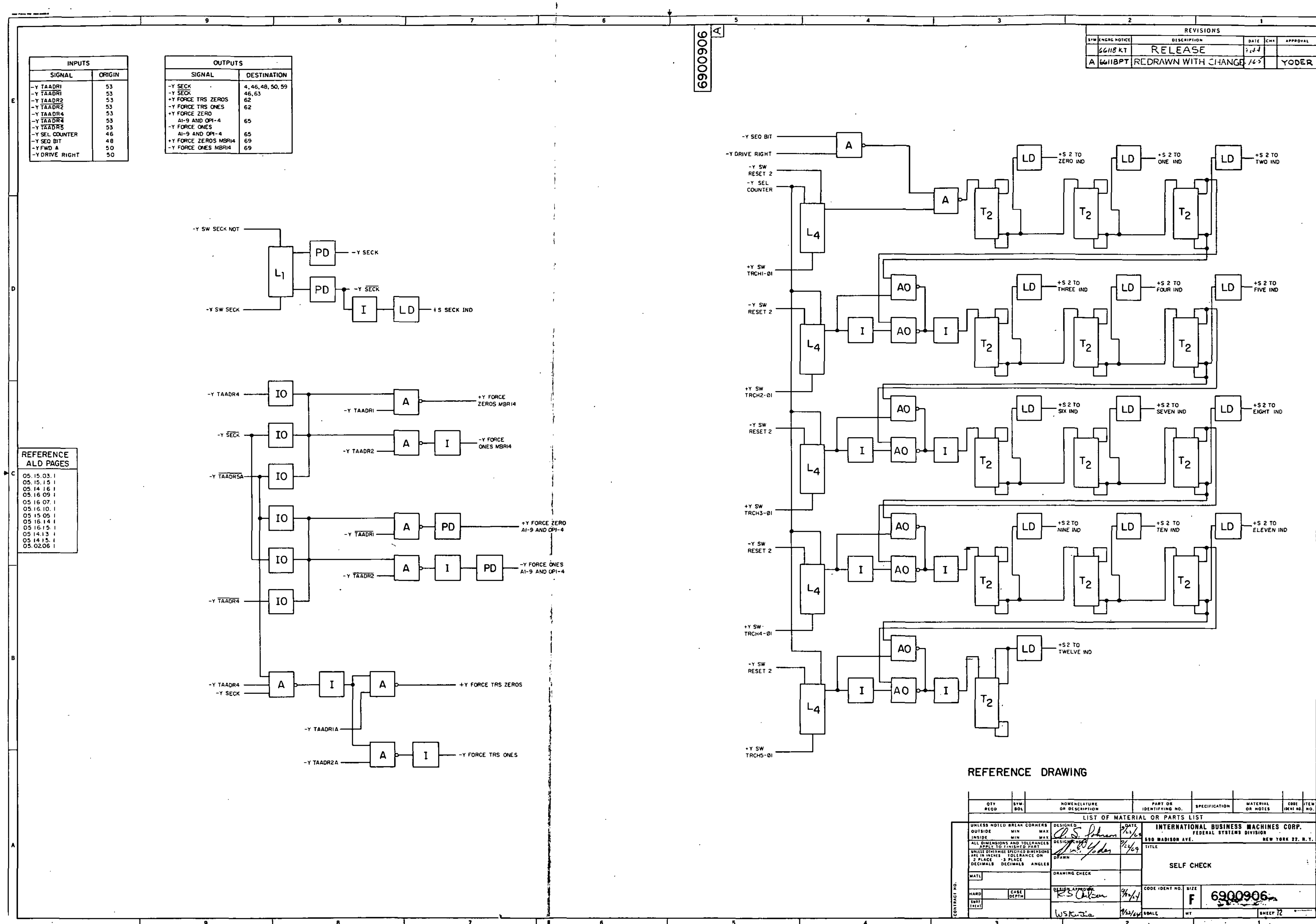



Figure 10-28. PTC Second Level Logic Diagrams (Sheet 71)



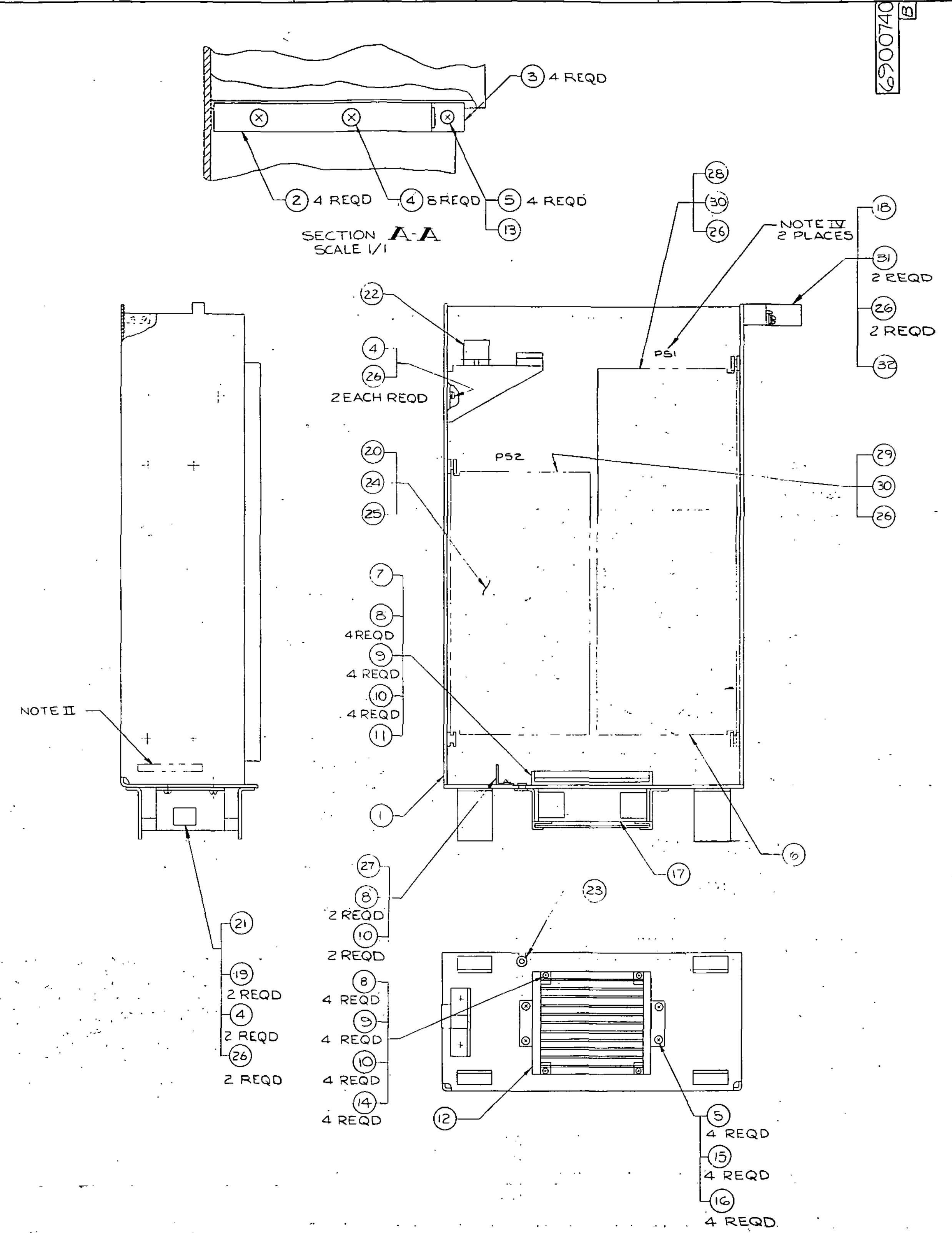

| INPUTS | |
|---|---|
| SIGNAL | ORIGIN |
| -Y TAADR1 | 53 |
| -Y $\overline{\text{TAADR1}}$ | 53 |
| -Y TAADR2 | 53 |
| -Y $\overline{\text{TAADR2}}$ | 53 |
| -Y TAADR4 | 53 |
| -Y $\overline{\text{TAADR4}}$ | 53 |
| -Y $\overline{\text{TAADR5}}$ | 53 |
| -Y SEL COUNTER | 46 |
| -Y SEQ BIT | 48 |
| -Y FWD A | 50 |
| -Y DRIVE RIGHT | 50 |

| OUTPUTS | |
|---|---|
| SIGNAL | DESTINATION |
| -Y SECK | 4, 46, 48, 50, 59 |
| -Y $\overline{\text{SECK}}$ | 46, 63 |
| +Y FORCE TRS ZEROS | 62 |
| -Y FORCE TRS ONES | 62 |
| +Y FORCE ZERO AI-9 AND OPI-4 | 65 |
| -Y FORCE ONES AI-9 AND OPI-4 | 65 |
| +Y FORCE ZEROS MBR14 | 69 |
| -Y FORCE ONES MBR14 | 69 |

| REFERENCE ALD PAGES |
|---|
| 05.15.03.1 |
| 05.15.15 1 |
| 05.14 16 1 |
| 05.16 09 1 |
| 05 16 07.1 |
| 05.16.10.1 |
| 05 15 05 1 |
| 05 16.14 1 |
| 05 16.15.1 |
| 05 14.13 1 |
| 05 14 15.1 |
| 05.02 06 1 |

Figure 10-28. PTC Second Level Logic Diagrams (Sheet 72)

| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
|---|---|---|---|---|---|
| REVISIONS | | | | | |
| | 66118-CW | RELEASE | 4.28.64 | | |
| A | 66118 EW | (1) SEE ENGRG NOTICE | 7.13.64 | | W Cowles |
| B | 66118-MJ | (1) SEE ENGRG NOTICE | 10.4.4 | | W Cowles |




NOTES
I IBM GEN ASSY SPEC 6000003 APPLIES
II PART MARK 6900740 PER IBM SPEC 6009974 COLOR BLACK
III IDENTIFICATION OF SYMBOL:
V: VENDOR ITEM - SEE SPEC CONTROL DRAWING OR SOURCE CONTROL DRAWING
IV ALL CHARACTERS AND NUMERALS TO BE .12 HIGH PER IBM SPEC 6009974, COLOR BLACK. CENTER APPROX. AS SHOWN.

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|
| 1 | | SPACER | 6900275 | | | | 32 |
| 2 | | SCREW (6035739) | MS35217-58 | | | | 31 |
| 2 | | SCREW (6035734) | MS35217-53 | | | | 30 |
| 1 | | GUARD | 473452 | | | T | 29 |
| 1 | | GUARD | 473462 | | | 88360 | 28 |
| 1 | | BRACKET | 6900789 | | | | 27 |
| 6 | | LKWASH (6029221) | MS35338-81 | | | | 26 |
| 1 | | DIFF. CARD | 370613 | | | T | 25 |
| 1 | | O.V. CARD | 370576 | | | 88360 | 24 |
| 1 | | GROMMET (6028374) | MS35489-33 | | | | 23 |
| 1 | | BRACKET ASSY | 6900743 | | | | 22 |
| 1 | | LATCH ASSY | 597320 | | | T | 21 |
| 1 | | PWR SUPPLY | 473390 | | | 88360 | 20 |
| 2 | | WASHER (6301812) | MS15795-308 | | | | 19 |
| 1 | | BRACKET | 597277 | | | T | 18 |
| 1 | | FAN | 480991 | | | 88360 | 17 |
| 4 | | LKWASH (6029220) | MS35338-80 | | | | 16 |
| 4 | | WASHER (6028117) | AN960-C8 | | | | 15 |
| 4 | | NUT (6048620) | MS35649-64 | | | | 14 |
| AR | V | ADHESIVE | 6032901 | | | | 13 |
| 1 | | GUARD | 597343 | | | T | 12 |
| 1 | | SEAL | 185137 | | | 88360 | 11 |
| 10 | | LKWASH (6029219) | MS35338-79 | | | | 10 |
| 8 | | WASHER (6028041) | AN960-C6 | | | 88360 | 9 |
| 10 | | SCREW (6035711) | MS35216-27 | | | | 8 |
| 1 | | GUARD | 177946 | | | T | 7 |
| 1 | | PWR SUPPLY | 477250 | | | 88360 | 6 |
| 8 | | SCREW | 58207 | | | 88360 | 5 |
| 10 | | SCREW (6035736) | MS35217-55 | | | | 4 |
| 4 | | KEEPER | 207293 | | | T | 3 |
| 4 | | RAIL | 207382 | | | 88360 | 2 |
| 1 | | CHASSIS | 6900744 | | | | 1 |

LIST OF MATERIAL OR PARTS LIST

UNLESS NOTED BREAK CORNERS OUTSIDE MIN MAX INSIDE MIN MAX
ALL DIMENSIONS AND TOLERANCES APPLY TO FINISHED PART
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ON 2 PLACE DECIMALS 3 PLACE DECIMALS ANGLES
MATL
HARD CASE DEPTH
SURF TREAT
CONTRACT NO.

DESIGNED P. Hoagland DATE 4.14.64
DESIGN CHECK E Dullanyer 4/16/64
DRAWN P. Hoagland 4.17.64
DRAWING CHECK
DESIGN APPROVAL WC G E Woody 4.22.64
WS Kiule 4/24/64

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

TITLE POWER SUPPLY ASSY- + 48 VDC

CODE IDENT NO. 03640 SIZE F 6900740
SCALE 1/2 WT SHEET

Figure 10-29. Power Supply Assembly (01B4) Assembly Drawing

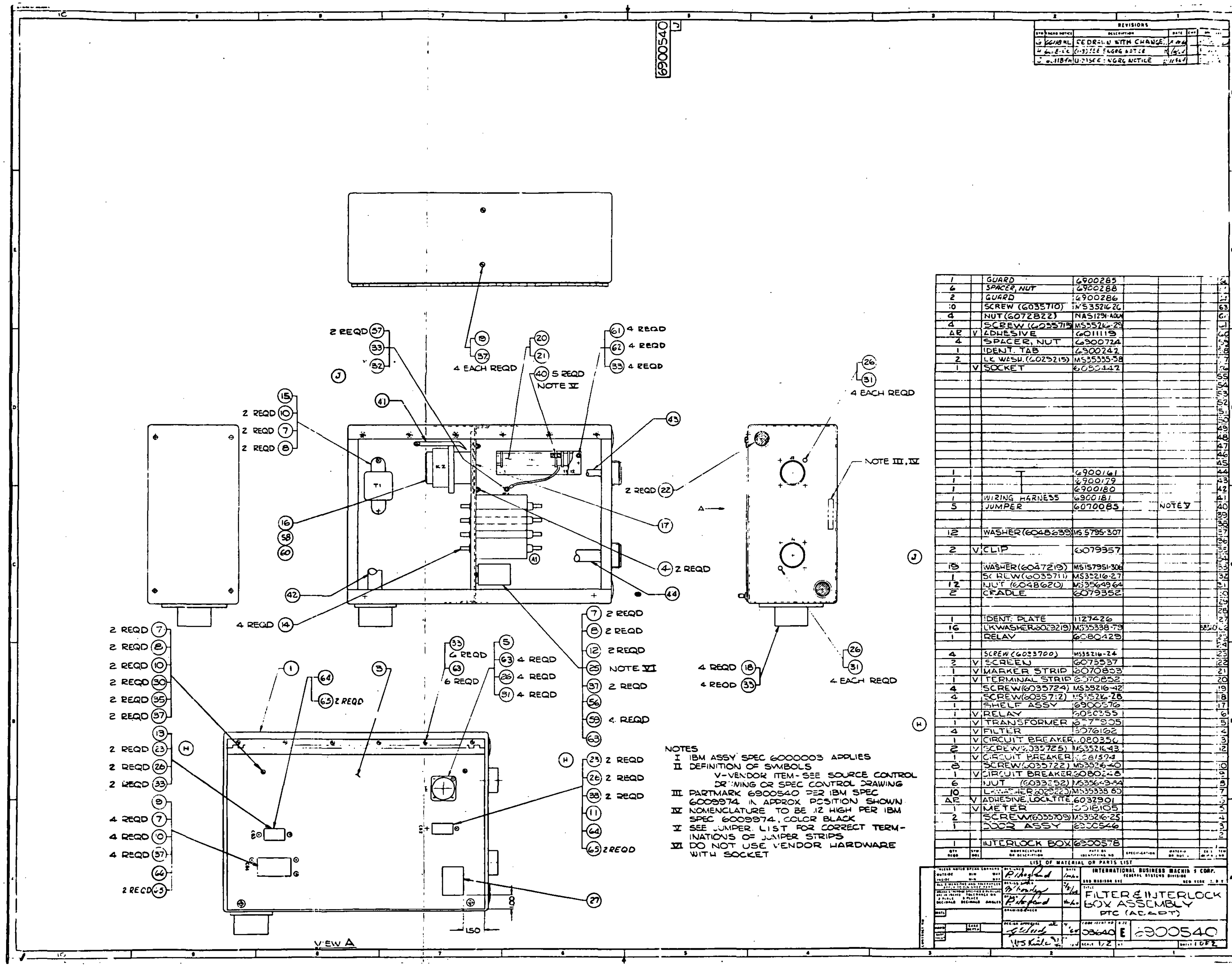
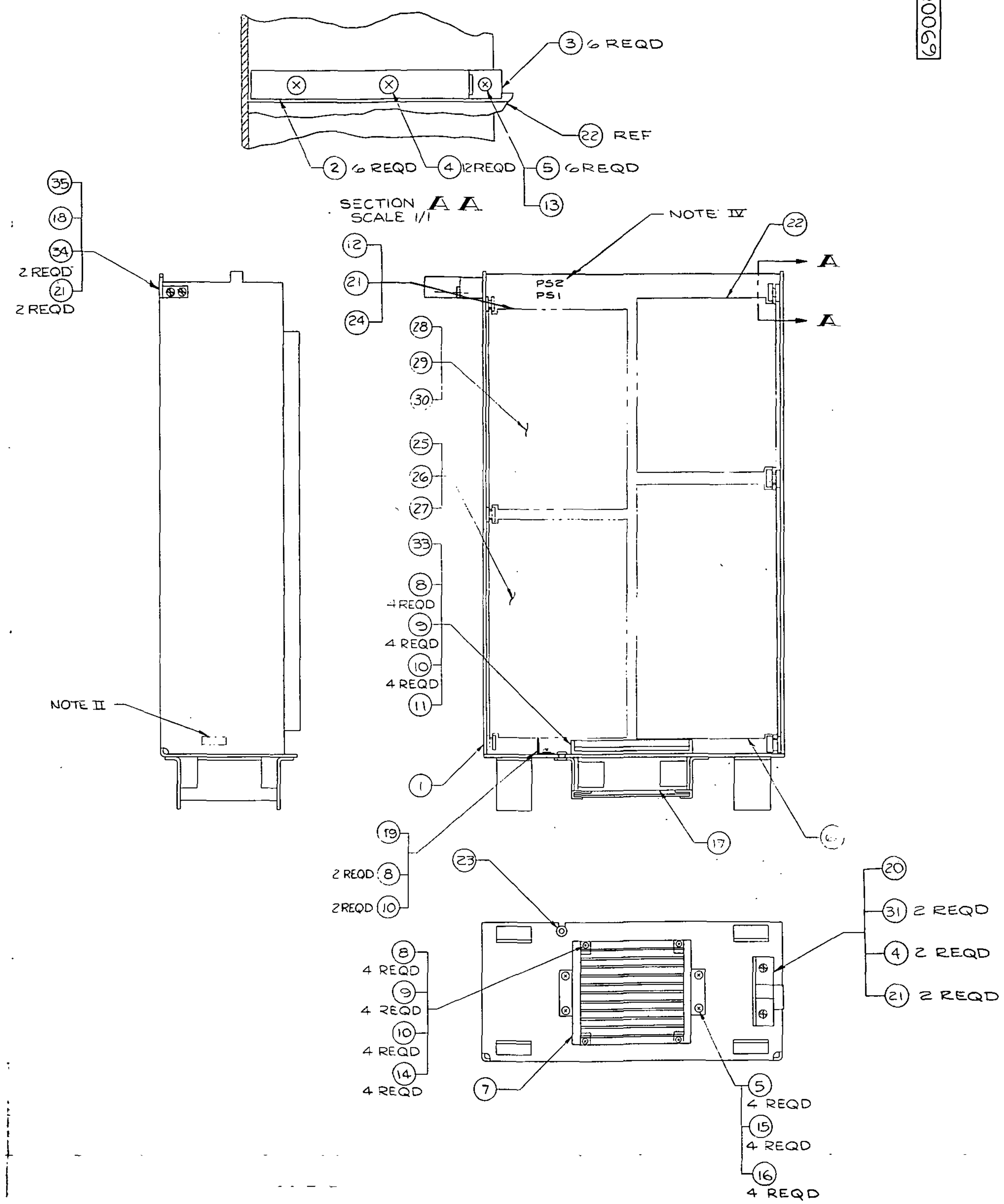



Figure 10-30. Filter and Interlock Box Assembly (01B5) Assembly Drawing

6900810 B

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
| | 6619-CW | RELEASE | | | |
| A | 66118 EW | (1) SEE ENGRG NOTICE | | | |
| B | 66118 JP | (1) SEE ENGRG NOTICE | 9-17-64 | | |




NOTES

I. IBM GEN ASSY SPEC 6000003 APPLIES

II. PARTMARK 6900810 PER IBM SPEC 6009974. COLOR-BLACK.

III IDENTIFICATION OF SYMBOL
V-VENDOR ITEM - SEE SPEC CONTROL DRAWING OR SOURCE CONTROL DRAWING

IV ALL CHARACTERS AND NUMERALS TO BE .12 HIGH PER IBM SPEC 6009974, COLOR BLACK. CENTER APPROX. AS SHOWN.

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO | ITEM NO. |
|---|---|---|---|---|---|---|---|
| | | | | | | | 36 |
| 1 | | SPACER | 6900275 | | | | 35 |
| 2 | | SCREW (6035739) | MS35217-58 | | | | 34 |
| 1 | | GUARD | 177946 | | | 88360 | 33 |
| | | | | | | | 32 |
| 2 | | WASHER (6301812 | MS15795-308 | | | | 31 |
| 1 | | PWR SUPPLY | 477210 | | | 88360 | 30 |
| | | | | | | | 29 |
| | | | | | | | 28 |
| 1 | | PWR SUPPLY | 473400 | | | | 27 |
| 1 | | O.V CARD | 370575 | | | | 26 |
| 1 | | DIFF CARD | 370612 | | | 88360 | 25 |
| 1 | | SCREW (6035734) | MS35217-53 | | | | 24 |
| 1 | | GROMMET (6028374) | MS35489-33 | | | | 23 |
| 1 | | CAPACITOR ASSY | 208205 | | | 88360 | 22 |
| 5 | | LKWASH (6029221) | MS35338-81 | | | | 21 |
| 1 | | LATCH ASSY | 597320 | | | 88360 | 20 |
| 1 | | BRACKET | 6900789 | | | | 19 |
| 1 | | BRACKET | 597276 | | | | 18 |
| 1 | | FAN | 480991 | | | 88360 | 17 |
| 4 | | WASHER, LK (6029220) | MS35338-80 | | | | 16 |
| 4 | | WASHER (6028117) | AN960-C8 | | | | 15 |
| 4 | | NUT (6048620) | MS35649-64 | | | | 14 |
| AR | V | ADHESIVE | 6032901 | | | | 13 |
| 1 | | GUARD | 473452 | | | | 12 |
| 1 | | SEAL | 185137 | | | 88360 | 11 |
| 10 | | WASHER, LK (6029219) | MS35338-79 | | | | 10 |
| 8 | | WASHER (6028041) | AN960-C6 | | | | 9 |
| 10 | | SCREW (6035711) | MS35216-27 | | | | 8 |
| 1 | | GUARD | 597343 | | | | 7 |
| 1 | | TRANSFORMER | 208274 | | | 88360 | 6 |
| 10 | | SCREW | 58207 | | | 88360 | 5 |
| 14 | | SCREW (6035736 | MS35217-55 | | | | 4 |
| 6 | | KEEPER | 207293 | | | | 3 |
| 6 | | RAIL | 207382 | | | 88360 | 2 |
| 1 | | CHASSIS | 6900814 | | | | 1 |

LIST OF MATERIAL OR PARTS LIST

UNLESS NOTED BREAK CORNERS OUTSIDE MIN MAX INSIDE MIN MAX
ALL DIMENSIONS AND TOLERANCES APPLY TO FINISHED PART
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ON 2 PLACE DECIMALS 3 PLACE DECIMALS ANGLES
MAT'L
HARD CASE DEPTH
SURF TREAT

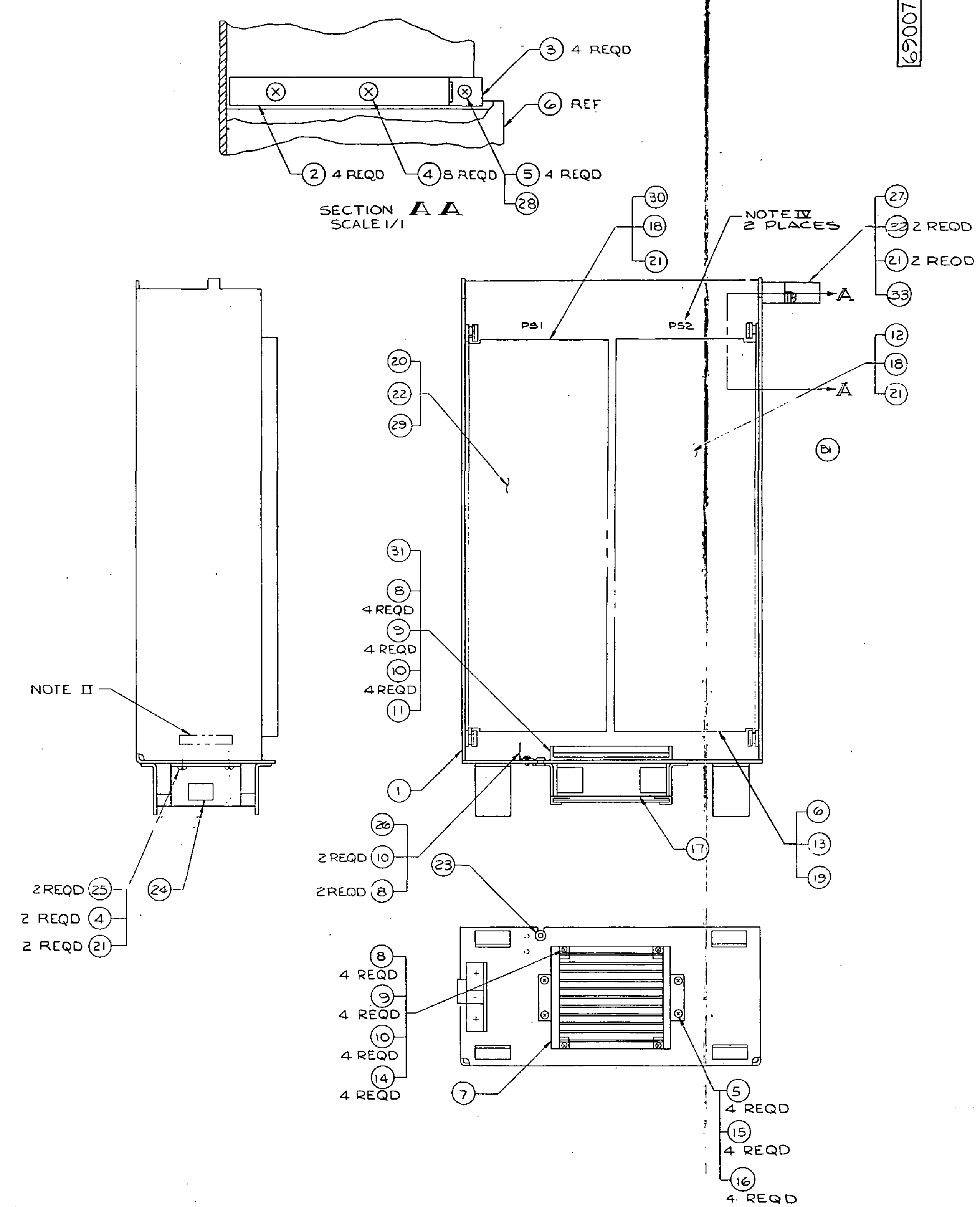
DESIGNED P. Hoagland DATE 4-10-64
DESIGN CHECK E. [illegible] 4/18/64
DRAWN P. Hoagland 4-10-64
DRAWING CHECK
DESIGN APPROVAL [illegible]

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

TITLE RESONATOR SUPPLY

CODE IDENT NO. 03640 SIZE F 6900810
SCALE 1/2 WT SHEET

Figure 10-31. Resonator Supply Assembly (01B6) Assembly Drawing




| SYM | ENGRG NOTICE | DESCRIPTION | DATE | APPROVAL |
|---|---|---|---|---|
| | 66117-C4 | RELEASE | | |
| A | 66118-EW | (1) SEE ENGRG NOTICE | | |
| B | 66118-RZ | (1) SEE ENGRG NOTICE | | |

NOTES
- I IBM GEN ASSY SPEC 6000003 APPLIES.
- II PARTMARK 6900790 PER IBM SPEC 6009974. COLOR - BLACK.
- III IDENTIFICATION OF SYMBOL
  V: VENDOR ITEM - SEE SPEC CONTROL DRAWING OR SOURCE CONTROL DRAWING
- IV ALL CHARACTERS AND NUMERALS TO BE .12 HIGH PER IBM SPEC 6009974, COLOR BLACK CENTER APPROX. AS SHOWN.

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|
| 1 | | SPACER | 6900275 | | | | 33 |
| 2 | | SCREW (6035739) | MS35217-58 | | | | 32 |
| 1 | | GUARD | 177946 | | | | 31 |
| 1 | | GUARD | 473452 | | | | 30 |
| 1 | | O.V. CARD | 370576 | | | 88360 | 29 |
| AR | V | ADHESIVE | 6032901 | | | | 28 |
| 1 | | EXTENDER | 597277 | | | 88360 | 27 |
| 1 | | BRACKET | 6900789 | | | | 26 |
| 2 | | WASHER (6301812) | MS15795-308 | | | | 25 |
| 1 | | LATCH ASSY | 597320 | | | 88360 | 24 |
| 1 | | GROMMET (6028374) | MS35489-33 | | | | 23 |
| 1 | | PWR SUPPLY -12VDC | 473410 | | | 88360 | 22 |
| 6 | | LKWASH (6029221) | MS35338-81 | | | | 21 |
| 1 | | DIFF. CARD | 370613 | | | | 20 |
| 1 | | O.V. CARD | 370575 | | | 88360 | 19 |
| 2 | | SCREW (6035734) | MS35217-53 | | | | 18 |
| 1 | | FAN | 480991 | | | 88360 | 17 |
| 4 | | LKWASH (6029220) | MS35338-80 | | | | 16 |
| 4 | | WASHER (6028117) | AN960-C8 | | | | 15 |
| 4 | | NUT (6048620) | MS35649-64 | | | | 14 |
| 1 | | DIFF. CARD | 370612 | | | | 13 |
| 1 | | GUARD | 473462 | | | | 12 |
| 1 | | SEAL | 185137 | | | 88360 | 11 |
| 10 | | LKWASH (6029219) | MS35338-79 | | | | 10 |
| 8 | | WASHER (6028041) | AN960-C6 | | | | 9 |
| 10 | | SCREW (6035711) | MS35216-27 | | | | 8 |
| 1 | | GUARD | 597343 | | | | 7 |
| 1 | | PWR SUPPLY -6VDC | 473380 | | | 88360 | 6 |
| 8 | | SCREW | 58207 | | | 88360 | 5 |
| 10 | | SCREW (6035736) | MS35217-55 | | | | 4 |
| 4 | | KEEPER | 207293 | | | | 3 |
| 4 | | RAIL | 207382 | | | 88360 | 2 |
| 1 | | CHASSIS | 6900797 | | | | 1 |

LIST OF MATERIAL OR PARTS LIST

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

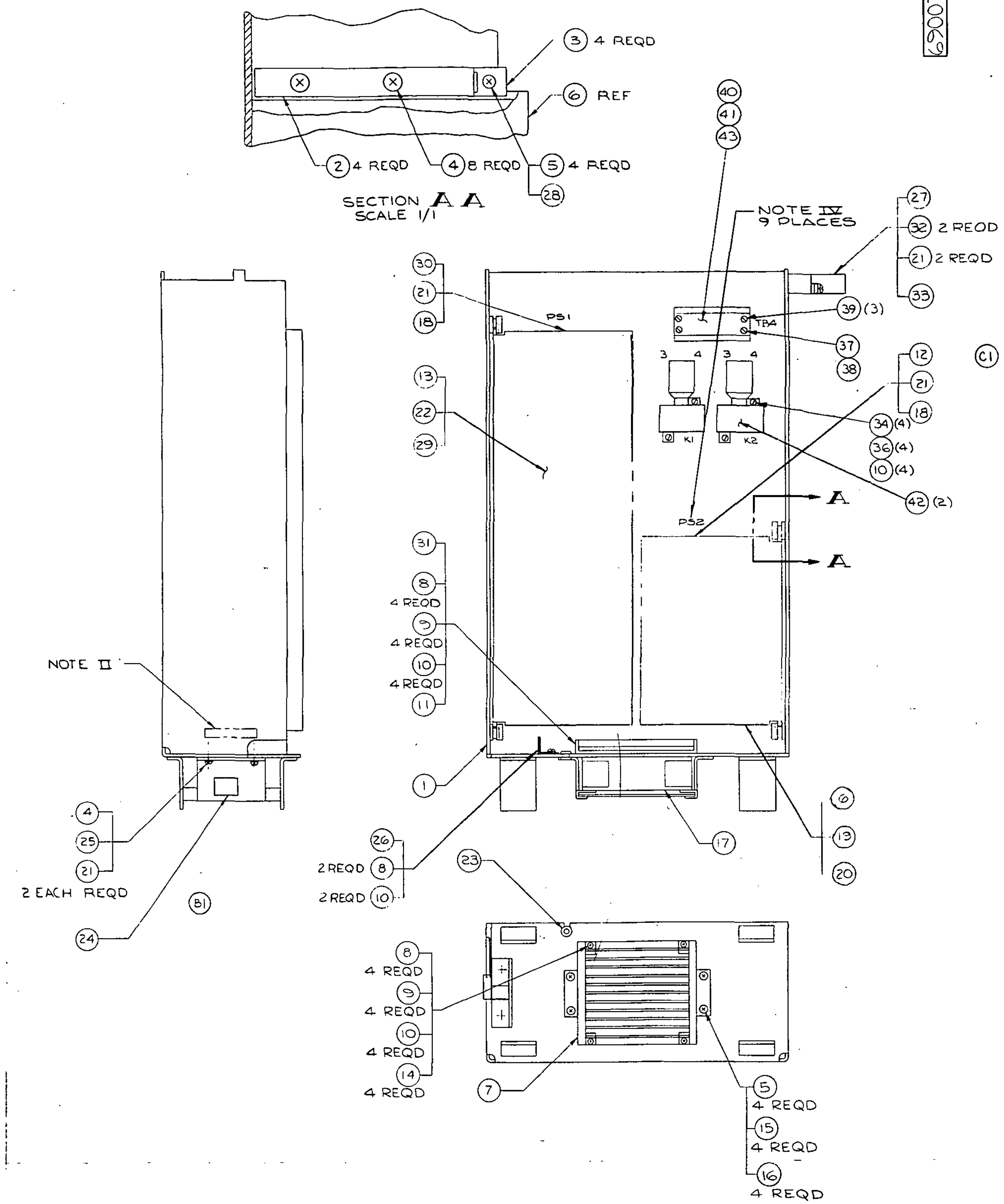
TITLE: POWER SUPPLY ASSY -6VDC -12VDC

CODE IDENT NO. 03640 SIZE F 6900790
SCALE 1/2

Figure 10-32. Power Supply Assembly (01B7) Assembly Drawing

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
| | 66119-CW | RELEASE | | | |
| A | 66118 EW | (1) SEE ENGRG NOTICE | | | |
| B | 66118 JD | (1) SEE ENGRG NOTICE | | | |
| C | 66118-RZ | (1) SEE ENGRG NOTICE | | | |

6900780 C




NOTES:

I. IBM GEN ASSY SPEC 6000003 APPLIES

II. PARTMARK 6900780 PER IBM SPEC 6009974. COLOR-BLACK.

III IDENTIFICATION OF SYMBOL:
V: VENDOR ITEM- SEE SPEC CONTROL DRAWING OR SOURCE CONTROL DRAWING

IV ALL CHARACTERS AND NUMERALS TO BE .12 HIGH PER IBM SPEC 6009974, COLOR BLACK. CENTER APPROX AS SHOWN.

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|
| 1 | | MARKER STRIP | 322271 | | | | 43 |
| 2 | | RELAY | 6081050 | | | | 42 |
| 1 | | SHIELD | 589753 | | | | 41 |
| 1 | | TERM BOARD | 91469 | | | | 40 |
| 3 | | SCREW STUD | 210986 | | | | 39 |
| 1 | | SCREW BRASS | 210984 | | | | 38 |
| 1 | | SCREW STUD | 210985 | | | | 37 |
| 4 | | FLT. WASH #6 | 22478 | | | | 36 |
| | | | | | | | 35 |
| 4 | | SCREW #6 | 6035708 | | | | 34 |
| 1 | | SPACER | 6900275 | | | | 33 |
| 2 | | SCREW (6035739) | MS35217-58 | | | | 32 |
| 1 | | GUARD | 177946 | | | | 31 |
| 1 | | GUARD | 473452 | | | | 30 |
| 1 | | O.V. CARD | 370576 | | | 88360 | 29 |
| AR | V | ADHESIVE | 6032901 | | | | 28 |
| 1 | | EXTENDER | 597277 | | | 88360 | 27 |
| 1 | | BRACKET | 6900789 | | | | 26 |
| 2 | | WASHER (6301812) | MS15795-308 | | | | 25 |
| 1 | | LATCH ASSY | 597320 | | | 88360 | 24 |
| 1 | | GROMMET (6028374) | MS35489-33 | | | | 23 |
| 1 | | DIFF. CARD | 370613 | | | 88360 | 22 |
| 5 | | LKWASH (6029221) | MS35338-81 | | | | 21 |
| 1 | | O.V. CARD | 370578 | | | | 20 |
| 1 | | DIFF. CARD | 370608 | | | 88360 | 19 |
| 2 | | SCREW (6035734) | MS35217-53 | | | | 18 |
| 1 | | FAN | 480991 | | | 88360 | 17 |
| 4 | | LKWASH (6029220) | MS35338-80 | | | | 16 |
| 4 | | WASHER (6028117) | AN960-C8 | | | | 15 |
| 4 | | NUT (6048620) | MS35649-64 | | | | 14 |
| 1 | | PWR SUPPLY | 473380 | | | | 13 |
| 1 | | GUARD | 473462 | | | | 12 |
| 1 | | SEAL | 185137 | | | 88360 | 11 |
| 14 | | LKWASH (6029219) | MS35338-79 | | | | 10 |
| 8 | | WASHER (6028041) | AN960-C6 | | | | 9 |
| 10 | | SCREW (6035711) | MS35216-27 | | | | 8 |
| 1 | | GUARD | 597343 | | | | 7 |
| 1 | | PWR SUPPLY | 473520 | | | 88360 | 6 |
| 8 | | SCREW | 58207 | | | 88360 | 5 |
| 10 | | SCREW (6035736) | MS35217-55 | | | | 4 |
| 4 | | KEEPER | 207293 | | | | 3 |
| 4 | | RAIL | 207382 | | | 88360 | 2 |
| 1 | | CHASSIS | 6900798 | | | | 1 |

LIST OF MATERIAL OR PARTS LIST

A1

UNLESS NOTED BREAK CORNERS OUTSIDE MIN MAX INSIDE MIN MAX

ALL DIMENSIONS AND TOLERANCES APPLY TO FINISHED PART

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ON 2 PLACE DECIMALS 3 PLACE DECIMALS ANGLES

MATL — HARD — CASE DEPTH — SURF TREAT — CONTRACT NO.

DESIGNED H. Pasternak (4/1/64) — DESIGN CHECK E. Buhlmann (4/8/64) — DRAWN E. P. Alamond (4/17/64) — DRAWING CHECK — DESIGN APPROVAL WC G. Eckrody (4/22/64) — W. J. Kinte

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

TITLE: POWER SUPPLY ASSY -12VDC +30VDC

CODE IDENT NO. 03640 — SIZE F — 6900780 — SCALE 1/2 — WT — SHEET

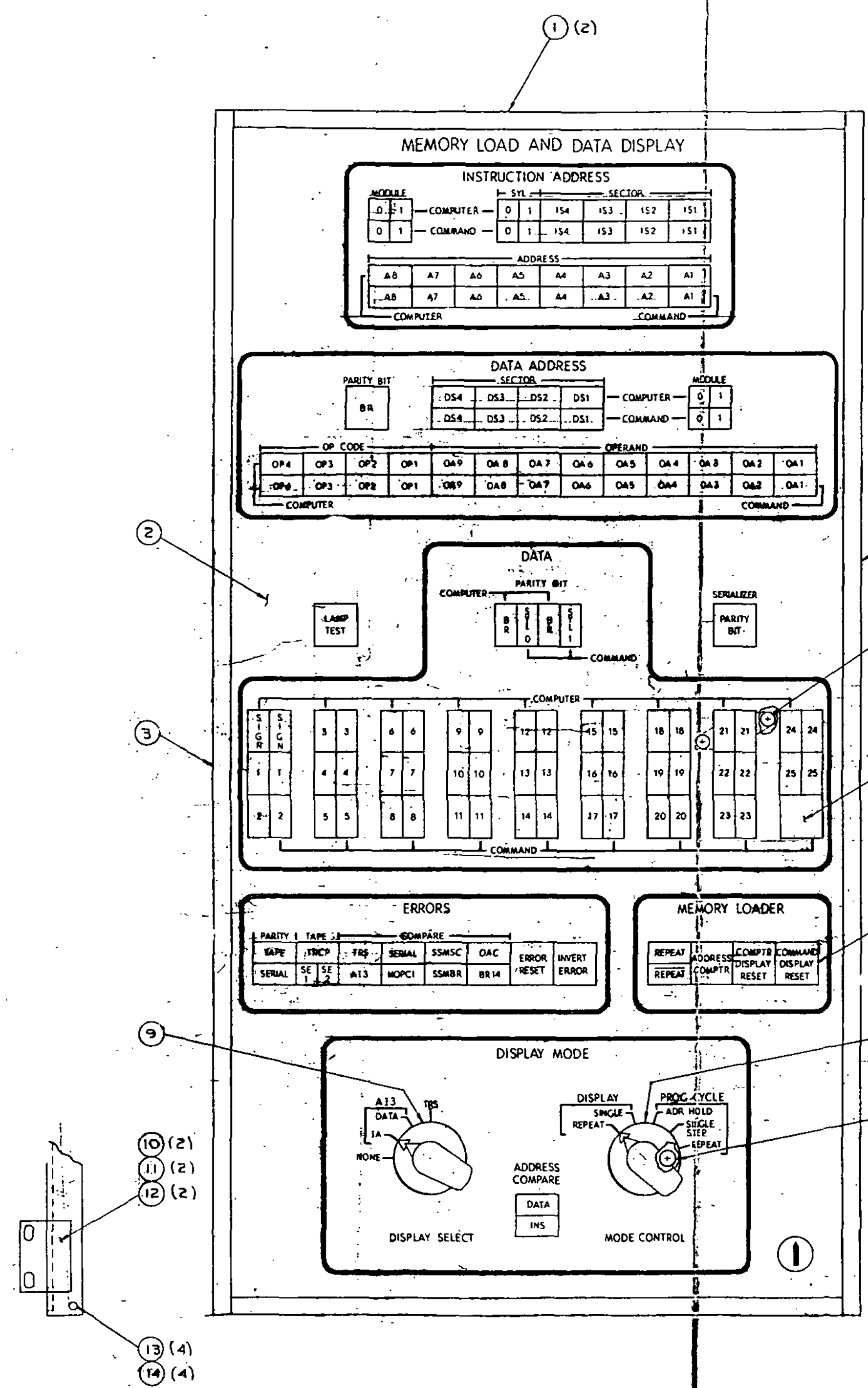
Figure 10-33. Power Supply Assembly (01B8) Assembly Drawing

6900830 D

NOTES
I IBM GEN SPEC 6000003 APPLIES
II IDENTIFICATION OF SYMBOLS:
V: VENDOR ITEM - SEE SPEC CONTROL DRAWING OR SOURCE CONTROL DRAWING
III. INSTALL LAMPS IN ALL LAMP SOCKETS AT PIN POSITIONS 1 AND 3. AT XD74 ADD EXTRA LAMP AT POSITION 4. AT XDS5-S5, XDS6-S6, AND XDS15-S15 ADD TWO (2) EXTRA LAMPS AT POSITIONS 2 AND 4

REVISIONS

| SYM | ENGRG NOTICE | DESCRIPTION | | DATE | CHK | APPROVAL |
|---|---|---|---|---|---|---|
| | 66119-DR | RELEASE | R | 5-7-64 | | |
| A | 66118-GJ | (1-3) SEE ENGRG NOTICE | R | | | W. Cowles |
| B | 66118-JM | SEE ENGRG NOTICE | R | | | W. Cowles |
| C | 66118-MR | (1-3) SEE ENGRG NOTICE | R | | | W. Cowles |
| D | 66118-UK | (1-2) SEE ENGRG NOTICE | R | | | W. Cowles |




| REF DES | ITEM NO | REF DES | ITEM NO | REF DES | ITEM NO | REF DES | ITEM NO |
|---|---|---|---|---|---|---|---|
| S1 | 46 | S22 | 66 | S39 | 86 | S59 | 106 |
| S2 | 47 | S23 | 67 | S40 | 87 | S60 | 107 |
| S3 | 48 | S24 | 68 | S41 | 88 | S61 | 108 |
| S4 | 49 | S25 | 69 | S42 | 89 | S62 | 109 |
| S5, S6, S15 | 50 | S26 | 70 | S43 | 90 | S63 | 110 |
| S7 | 51 | S27 | 71 | S44 | 91 | XDS68 | 111 |
| S8 | 52 | S28 | 72 | S45 | 92 | S64 | 112 |
| S9 | 53 | S29 | 73 | S46 | 93 | XDS70 | 113 |
| S10 | 54 | S30 | 74 | S47 | 94 | XDS71 | 114 |
| S11 | 55 | S31 | 75 | S48 | 95 | XDS72 | 115 |
| S12 | 56 | S32 | 76 | S49 | 96 | XDS73 | 116 |
| S13 | 57 | XDS34 | 77 | S50 | 97 | XDS74 | 117 |
| S14 | 58 | XDS35 | 78 | S51 | 98 | XDS75 | 118 |
| S16 | 59 | XDS36 | 79 | S52 | 99 | S65 | 119 |
| S17 | 60 | S38 | 80 | S53 | 100 | | |
| S18 | 61 | S34 | 81 | S54 | 101 | | |
| S19 | 62 | S35 | 82 | S55 | 102 | | |
| XDS20 | 63 | S36 | 83 | S56 | 103 | | |
| S20 | 64 | S37 | 84 | S57 | 104 | | |
| S21 | 65 | S38 | 85 | S58 | 105 | | |

| QTY REQD | SYM | DESCRIPTION | PART NO | SPEC | NOTES | CODE | ITEM |
|---|---|---|---|---|---|---|---|
| 1 | | SCREW (6035658) | MS24693C48 | | | | 122 |
| 2 | | LOCKNUT (6072821) | NAS1291-[illegible] | | | | 121 |
| 1 | V | | 6078703 | | | | 120 |
| 1 | | | 6078658 | | | | 119 |
| 1 | | | 6078595 | | | | 118 |
| 1 | | | 6081905 | | | | 117 |
| 1 | | | 6081900 | | | | 116 |
| 1 | | | 6081901 | | | | 115 |
| 1 | | | 6081902 | | | | 114 |
| 1 | | | 6081903 | | | | 113 |
| 1 | | | 6078676 | | | | 112 |
| 1 | | | 6081709 | | | | 111 |
| 1 | | | 6078653 | | | | 110 |
| 1 | | | 6078723 | | | | 109 |
| 1 | | | 6078715 | | | | 108 |
| 1 | | | 6078722 | | | | 107 |
| 1 | | | 6078673 | | | | 106 |
| 1 | | | 6078741 | | | | 105 |
| 1 | | | 6078744 | | | | 104 |
| 1 | | | 6078747 | | | | 103 |
| 1 | | | 6078638 | | | | 102 |
| 1 | | | 6078637 | | | | 101 |
| 1 | | | 6078636 | | | | 100 |
| 1 | | | 6078635 | | | | 99 |
| 1 | | | 6078672 | | | | 98 |
| 1 | | | 6078675 | | | | 97 |
| 1 | | | 6078743 | | | | 96 |
| 1 | | | 6078746 | | | | 95 |
| 1 | | | 6078629 | | | | 94 |
| 1 | | | 6078628 | | | | 93 |
| 1 | | | 6078627 | | | | 92 |
| 1 | | | 6078626 | | | | 91 |
| 1 | | | 6078656 | | | | 90 |
| 1 | | | 6078671 | | | | 89 |
| 1 | | | 6078674 | | | | 88 |
| 1 | | | 6078742 | | | | 87 |
| 1 | | | 6078745 | | | | 86 |
| 1 | | | 6078748 | | | | 85 |
| 1 | | | 6078646 | | | | 84 |
| 1 | | | 6078645 | | | | 83 |
| 1 | | | 6078644 | | | | 82 |
| 1 | | | 6078657 | | | | 81 |
| 1 | | | 6078693 | | | | 80 |
| 1 | | | 6081796 | | | | 79 |
| 1 | V | SWITCH ASSY | 6081797 | | | | 78 |

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|
| 1 | V | | 6082034 | | | | 77 |
| 1 | | | 6078619 | | | | 76 |
| 1 | | | 6078618 | | | | 75 |
| 1 | | | 6078617 | | | | 74 |
| 1 | | | 6078616 | | | | 73 |
| 1 | | | 6078615 | | | | 72 |
| 1 | | | 6078614 | | | | 71 |
| 1 | | | 6078613 | | | | 70 |
| 1 | | | 6078612 | | | | 69 |
| 1 | | | 6078611 | | | | 68 |
| 1 | | | 6078610 | | | | 67 |
| 1 | | | 6078609 | | | | 66 |
| 1 | | | 6078608 | | | | 65 |
| 1 | | | 6078634 | | | | 64 |
| 1 | | | 6081707 | | | | 63 |
| 1 | | | 6078623 | | | | 62 |
| 1 | | | 6078622 | | | | 61 |
| 1 | | | 6078621 | | | | 60 |
| 1 | | | 6078620 | | | | 59 |
| 1 | | | 6078601 | | | | 58 |
| 1 | | | 6078600 | | | | 57 |
| 1 | | | 6078599 | | | | 56 |
| 1 | | | 6078598 | | | | 55 |
| 1 | | | 6078597 | | | | 54 |
| 1 | | | 6078596 | | | | 53 |
| 1 | | | 6078625 | | | | 52 |
| 1 | | | 6078624 | | | | 51 |
| 3 | | | 6078734 | | | | 50 |
| 1 | | | 6078605 | | | | 49 |
| 1 | | | 6078604 | | | | 48 |
| 1 | | | 6078603 | | | | 47 |
| 1 | | SWITCH ASSY | 6078602 | | | | 46 |
| 159 | | LAMP | 6078990 | | NOTE III | | 45 |
| 4 | | DIODE | 492543 | | | | 44 |
| 2 | | JUMPER | 6035590 | | | | 43 |
| 1 | | STAND OFF | 6900201 | | | | 42 |
| 1 | | NUT (6034354) | MS35650-104 | | | | 41 |
| 1 | | WASHER (6035798) | MS35335-60 | | | | 40 |
| 1 | | NUT, HEX (6033252) | MS35649-84 | | | | 39 |
| AR | V | SOLDER (6032357) | S.60TYPEAR | QQ-S-571 | | | 38 |
| 1 | | WIRING HARNESS | 6900164 | | | | 37 |
| 4 | | NUT, HEX (6033962) | MS35649-44 | | | | 36 |
| 4 | | SCREW (6035636) | MS24693C7 | | | | 35 |
| 1200 IN | R | WIRE #20 RED | 6032031 | | | | 34 |
| 2 | | SCREW (6035660) | MS24693C50 | | | | 33 |
| 1 | | STAND-OFF | 6900848 | | | | 32 |
| 1 | V | TERMINAL BLOCK | 6077131 | | | | 31 |
| 2 | | SPACER | 6080230 | | | | 30 |
| 1 | V | LATCH | 6079797 | | | | 29 |
| 1 | V | CRADLE | 6079354 | | | | 28 |
| 2 | V | CLIP | 6079358 | | | | 27 |
| 1 | V | CRADLE | 6079353 | | | | 26 |
| 2 | | WASHER (6048639) | MS15795-307 | | | | 25 |
| 2 | | SCREW (6035723) | MS35216-41 | | | | 24 |
| 1200 IN | R | WIRE #20 BLK | 6032029 | | | | 23 |
| 1 | V | MARKER STRIP | 6077132 | | | | 22 |
| 1 | V | CLIP | 6079357 | | | | 21 |
| 1 | V | CRADLE | 6079352 | | | | 20 |
| AR | | LOCTITE-E | 6032901 | | | | 19 |
| 1 | | PANEL | 6900835 | | | | 18 |
| 37 | | WASHER (6048641) | MS15795-303 | | | | 17 |
| 33 | | SCREW (6035699) | MS35216-13 | | | | 16 |
| 1 | | STRIKE | 597097 | | | | 15 |
| 8 | | LKWASH (6029218) | MS35338-78 | | | | 14 |
| 4 | | SCREW (6028009) | AN500AD4-6 | | | | 13 |
| 2 | | SCREW | 257956 | | | | 12 |
| 2 | | HINGE, PIN | 597098 | | | | 11 |
| 2 | | HINGE | 597093 | | | | 10 |
| 1 | V | SWITCH | 5035429 | | | | 9 |
| 1200 IN | R | WIRE #22 YEL | 6032061 | | | | 8 |
| 2 | V | KNOB | 6072801 | | | | 7 |
| 1 | V | SWITCH | 6035426 | | | | 6 |
| 164 | | SCREW (6035644) | MS24693C25 | | | | 5 |
| 1 | | BAR, LATCH | 597087 | | | | 4 |
| 1 | | BAR, HINGE | 597088 | | | | 3 |
| 1 | | PANEL, OVERLAY | 6900833 | | | | 2 |
| 2 | | BAR, PANEL | 597089 | | | | 1 |

LIST OF MATERIAL OR PARTS LIST

UNLESS NOTED BREAK CORNERS OUTSIDE MIN MAX INSIDE MIN MAX
ALL DIMENSIONS AND TOLERANCES APPLY TO FINISHED PART
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCE ON 2 PLACE DECIMALS, 3 PLACE DECIMALS, ANGLES

DESIGNED: A Kemczys DATE 4/30/64
DESIGN CHECK: T. Hill 4/30/64
DRAWN: K6 Price 4/2/64
DRAWING CHECK
DESIGN APPROVAL: G. Dudy WC
8/1/64

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

TITLE: PANEL ASSY MEMORY LOAD & DATA DISPLAY 02A1

CODE IDENT NO. 03640 SIZE E 6900830

SCALE 1/1 SHEET 1 OF 2

Figure 10-34. Memory Load and Data Display Panel Assembly (02A1) Assembly Drawing (Sheet 1 of 2)

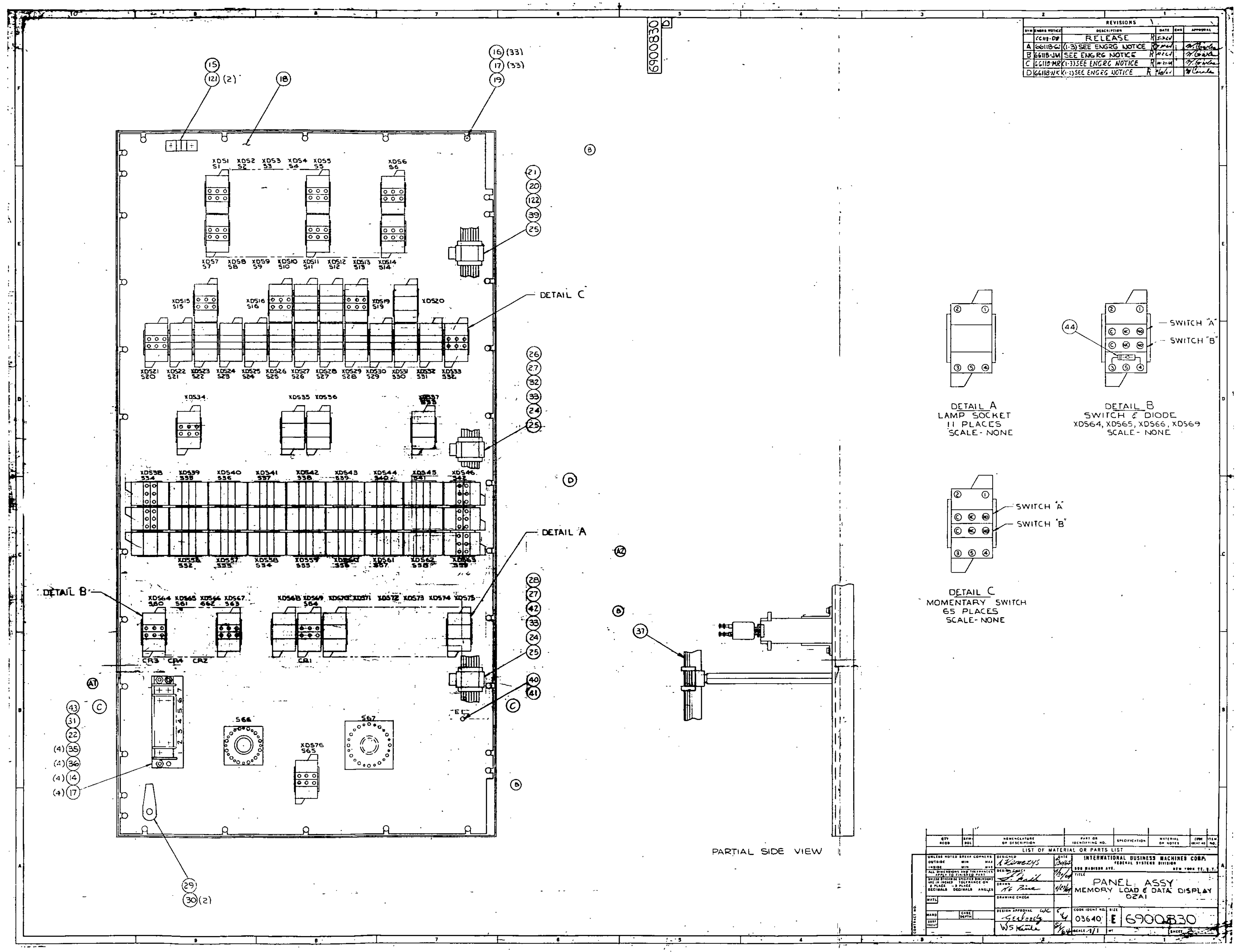
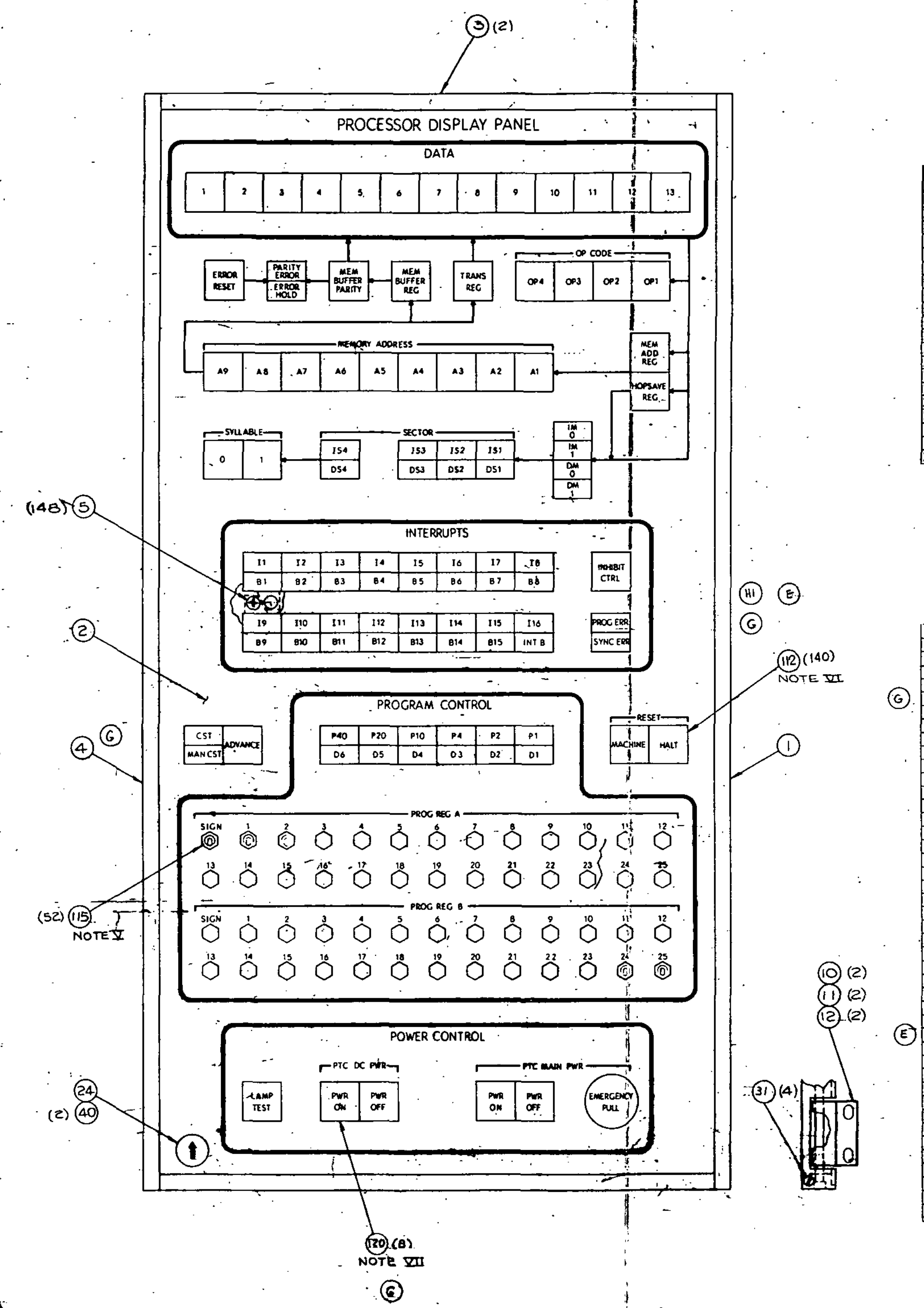



Figure 10-34. Memory Load and Data Display Panel Assembly (02A1) Assembly Drawing (Sheet 2)




6900840 H

NOTES
I IBM GEN ASSY SPEC 6000003 APPLIES
II SWITCH AND LAMP IDENTIFICATION ONLY (SHEET 2)
III IDENTIFICATION OF SYMBOLS
V - VENDOR ITEM - SEE SOURCE OR SPEC CONTROL DWG
R - REFERENCE QUANTITY
IV BLACK BAND DENOTES CATHODE END
V DISCARD LOCATING RING
VI LAMPS TO BE INSTALLED IN LAMP SOCKETS AT PIN POSITIONS 1 AND 3
(G) VII ONLY XDS70, XDS71, XDS72 & XDS73 USE THIS LAMP

REVISIONS

| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
|---|---|---|---|---|---|
| D | CGAP-ML | REDRAWN WITH CHANGES | | | |
| E | 66118-PC | (1-2) SEE ENGRG NOTICE R | | | |
| F | 66118-PS | ( SEE ENGRG NOTICE R | | | |
| G | 66118-SG | (1-5) SEE ENGRG NOTICE R | | | |
| H | 66118-SS | (1) SEE ENGRG NOTICE R | | | |

| REF DES | ITEM NO | REF DES | ITEM NO | REF DES | ITEM NO | REF DES | ITEM NO |
|---|---|---|---|---|---|---|---|
| XDS1 | 41 | S3 | 61 | XDS41 | 80 | S26 | 100 |
| XDS2 | 42 | S4 | 62 | S7 | 81 | XDS62 | 101 |
| XDS3 | 43 | S5 | 63 | S8 | 82 | XDS63 | 102 |
| XDS4 | 44 | S6 | 64 | S9 | 83 | XDS64 | 103 |
| XDS5 | 45 | XDS25 | 65 | S10 | 84 | XDS65 | 104 |
| XDS6 | 46 | XDS26 | 66 | S11 | 85 | XDS66 | 105 |
| XDS7 | 47 | XDS27 | 67 | S12 | 86 | XDS67 | 106 |
| XDS8 | 48 | XDS28 | 68 | S13 | 87 | S27 | 107 |
| XDS9 | 49 | XDS29 | 69 | S14 | 88 | S28 | 108 |
| XDS10 | 50 | XDS30 | 70 | S15 | 89 | S82 | 109 |
| XDS11 | 51 | XDS31 | 71 | S16 | 90 | S83 | 110 |
| XDS12 | 52 | XDS32 | 72 | S17 | 91 | S84 | 109 |
| XDS13 | 53 | XDS33 | 73 | S18 | 92 | S85 | 110 |
| XDS14 | 54 | XDS34 | 74 | S19 | 93 | S86 | 111 |
| XDS15 | 55 | XDS35 | 75 | S20 | 94 | | |
| XDS16 | 56 | XDS36 | 76 | S21 | 95 | | |
| XDS17 | 57 | XDS37 | 77 | S22 | 96 | | |
| S1 | 58 | XDS38 | 78 | S23 | 97 | | |
| S2 | 59 | XDS39 | 79 | S24 | 98 | | |
| XDS20 | 60 | XDS40 | 53 | S25 | 99 | | |

| QTY REQD | SYM | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|
| 8 | V | LAMP | 6074238 | | | | 120 |
| 2 | | WASHER NO.10 (6035798) | MS35335-60 | | | | 119 |
| 1 | | NUT NO.10 (6034354) | MS35650-104 | | | | 118 |
| AR | | ADHESIVE (LOCKTITE) | 6032901 | | | | 117 |
| 52 | | WASHER | 6900697 | | | | 116 |
| 52 | V | SWITCH | 6900674 | | | | 115 |
| 1 | V | SWITCH | 6900229 | | | | 114 |
| 10 | V | DIODE | 492543 | | | 88360 | 113 |
| 140 | V | LAMP | 6078990 | | | | 112 |
| 1 | | | 6082037 | | | | 111 |
| 2 | | | 6078678 | | | | 110 |
| 2 | | | 6080669 | | | | 109 |
| 1 | | | 6081827 | | | | 108 |
| 1 | | | 6078710 | | | | 107 |
| 1 | | | 6081826 | | | | 106 |
| 1 | | | 6081825 | | | | 105 |
| 1 | | | 6081824 | | | | 104 |
| 1 | | | 6081823 | | | | 103 |
| 1 | | | 6081822 | | | | 102 |
| 1 | | | 6081821 | | | | 101 |
| 1 | | | 6081736 | | | | 100 |
| 1 | | | 6081737 | | | | 99 |
| 1 | | | 6081813 | | | | 98 |
| 1 | | | 6081814 | | | | 97 |
| 1 | | | 6081815 | | | | 96 |
| 1 | | | 6081816 | | | | 95 |
| 1 | | | 6081817 | | | | 94 |
| 1 | | | 6081818 | | | | 93 |
| 1 | | | 6081819 | | | | 92 |
| 1 | | | 6081734 | | | | 91 |
| 1 | | | 6082038 | | | | 90 |
| 1 | | | 6081805 | | | | 89 |
| 1 | | | 6081806 | | | | 88 |
| 1 | | | 6081807 | | | | 87 |
| 1 | | | 6081808 | | | | 86 |
| 1 | | | 6081809 | | | | 85 |
| 1 | | | 6081810 | | | | 84 |
| 1 | | | 6081811 | | | | 83 |
| 1 | | | 6081812 | | | | 82 |
| 1 | | | 6081739 | | | | 81 |
| 1 | | | 6081732 | | | | 80 |
| 1 | | | 6081802 | | | | 79 |
| 1 | V | SWITCH ASSY | 6081801 | | | | 78 |

| QTY REQD | SYM | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|
| 1 | | | 6081800 | | | | 77 |
| 1 | | | 6081799 | | | | 76 |
| 1 | | | 6081804 | | | | 75 |
| 1 | | | 6081803 | | | | 74 |
| 1 | | | 6078689 | | | | 73 |
| 1 | | | 6078688 | | | | 72 |
| 1 | | | 6078687 | | | | 71 |
| 1 | | | 6078686 | | | | 70 |
| 1 | | | 6078685 | | | | 69 |
| 1 | | | 6078684 | | | | 68 |
| 1 | | | 6078683 | | | | 67 |
| 1 | | | 6078682 | | | | 66 |
| 1 | | | 6078681 | | | | 65 |
| 1 | | | 6081731 | | | | 64 |
| 1 | | | 6081730 | | | | 63 |
| 1 | | | 6078676 | | | | 62 |
| 1 | | | 6081798 | | | | 61 |
| 1 | | | 6081723 | | | | 60 |
| 1 | | | 6081724 | | | | 59 |
| 1 | | | 6081725 | | | | 58 |
| 1 | | | 6081729 | | | | 57 |
| 1 | | | 6081728 | | | | 56 |
| 1 | | | 6081727 | | | | 55 |
| 1 | | | 6081726 | | | | 54 |
| 2 | | | 6081710 | | | | 53 |
| 1 | | | 6081711 | | | | 52 |
| 1 | | | 6081712 | | | | 51 |
| 1 | | | 6081713 | | | | 50 |
| 1 | | | 6081714 | | | | 49 |
| 1 | | | 6081715 | | | | 48 |
| 1 | | | 6081716 | | | | 47 |
| 1 | | | 6081717 | | | | 46 |
| 1 | | | 6081718 | | | | 45 |
| 1 | | | 6081719 | | | | 44 |
| 1 | | | 6081720 | | | | 43 |
| 1 | | | 6081721 | | | | 42 |
| 1 | V | SWITCH ASSY | 6081722 | | | | 41 |
| 2 | | SPACER | 6080230 | | | | 40 |
| 4 | | NUT,HEX(6033962) | MS35649-44 | | | | 39 |
| 4 | | SCREW(6035636) | MS24693C7 | | | | 38 |
| 4 | | SCREW(6035657) | MS24693[illegible] | | | | 37 |
| 3 | V | JUMPER | 6035590 | | | | 36 |
| 50 IN | R | WIRE | 6032141 | | | | 35 |
| 1,000 IN | R | WIRE | 6032143 | | | | 34 |
| 1 | | WIRING HARNESS | 6900165 | | | | 33 |
| 4 | | FLAT WASHER | 6027494 | | | | 32 |
| 4 | | SCREW (6035701) | MS35216-15 | | | | 31 |
| AR | | SOLDER (6032357) | SN TYPE 60AE QQ-S-571 | | | | 30 |
| 1 | V | MARKER STRIP | 6077132 | | | | 29 |
| 24 | | NUT,SELF-LK(6072822) | NAS1291-4 06M | | | | 28 |
| 1 | V | TERMINAL BLOCK | 6077131 | | | | 27 |
| 4 | | SCREW (6035646) | MS24693C27 | | | | 26 |
| 2 | | NUT (6072821) | NAS1291-4 04M | | | | 25 |
| 1 | | LATCH | 6079797 | | | | 24 |
| 4 | | NUT (6048620) | MS35649-64 | | | | 23 |
| | | | | | | | 22 |
| 3 | V | CLIP | 6079358 | | | | 21 |
| 2 | V | CRADLE | 6079353 | | | | 20 |
| 1200 IN | R | WIRE #22 YEL | 6032061 | | | | 19 |
| 1200 IN | R | WIRE #20 BLK | 6032029 | | | | 18 |
| 1200 IN | R | WIRE #20 RED | 6032031 | | | | 17 |
| 1 | V | CLIP | 6079357 | | | | 16 |
| 2 | V | CRADLE | 6079352 | | | | 15 |
| 1 | | STRIKE | 597097 | | | 88360 | 14 |
| | | | | | | | 13 |
| 2 | | SET SCREW | 257956 | | | | 12 |
| 2 | | HINGE PIN | 597098 | | | | 11 |
| 2 | | HINGE | 597093 | | | 88360 | 10 |
| 33 | | WASHER(6048641) | MS15795-303 | | | | 9 |
| 37 | | LK.WASHER(6029218) | MS35338-78 | | | | 8 |
| 33 | | SCR.PAN HD.(6035695) | MS35206-13 | | | | 7 |
| 1 | | SUB PANEL | 6900843 | | | | 6 |
| 148 | | SCR,FLT.HD(6035644) | MS24693C25 | | | | 5 |
| 1 | | BAR LATCH | 597087 | | | | 4 |
| 2 | | BAR PANEL | 597089 | | | 88360 | 3 |
| 1 | | PANEL OVERLAY | 6900845 | | | | 2 |
| 1 | | BAR HINGE | 597088 | | | 88360 | 1 |

LIST OF MATERIAL OR PARTS LIST

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION

PANEL ASSY PROCESSOR (02A2)

E 6900840

Figure 10-35. Processor Display Panel Assembly (02A2) Assembly Drawing (Sheet 1 of 2)

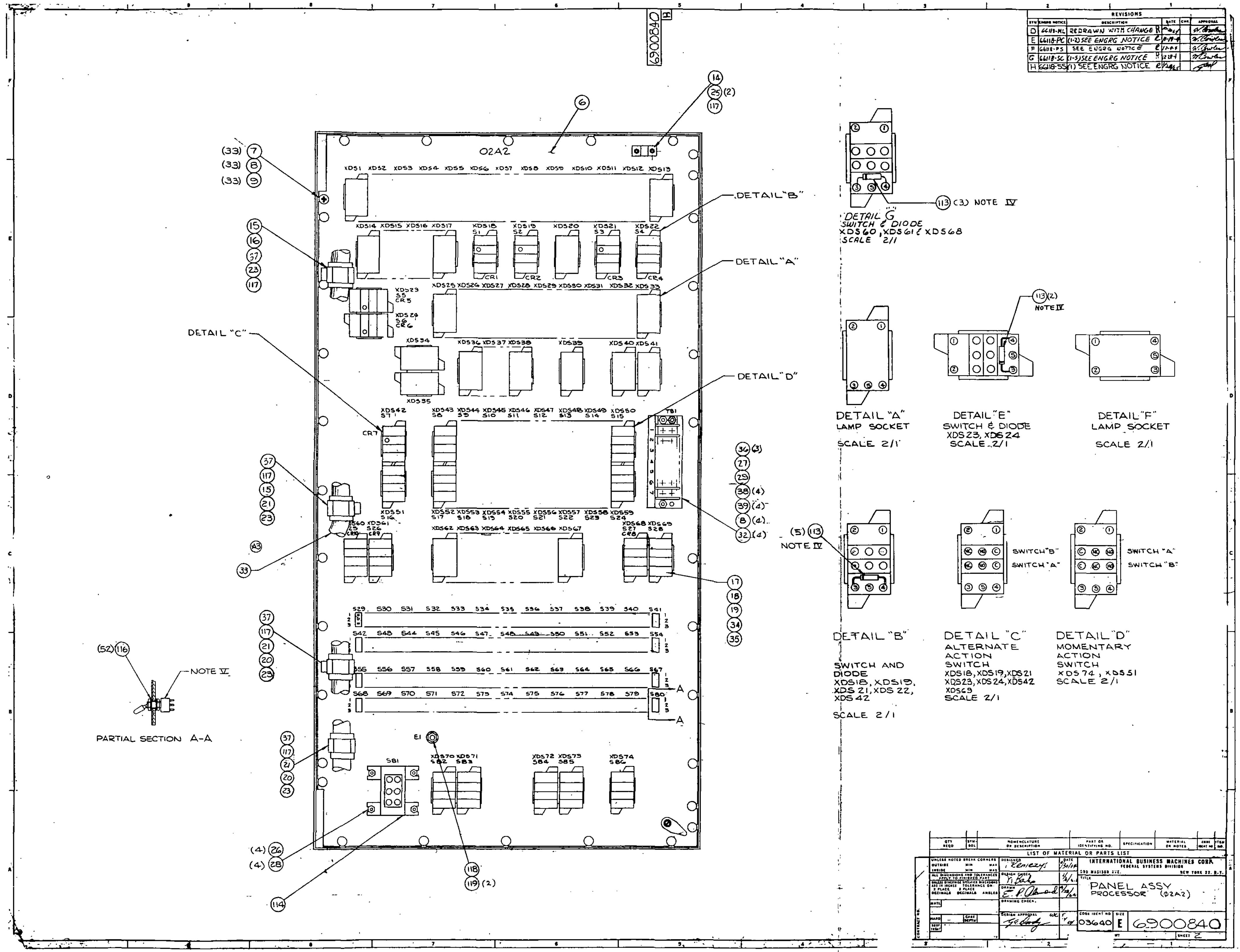
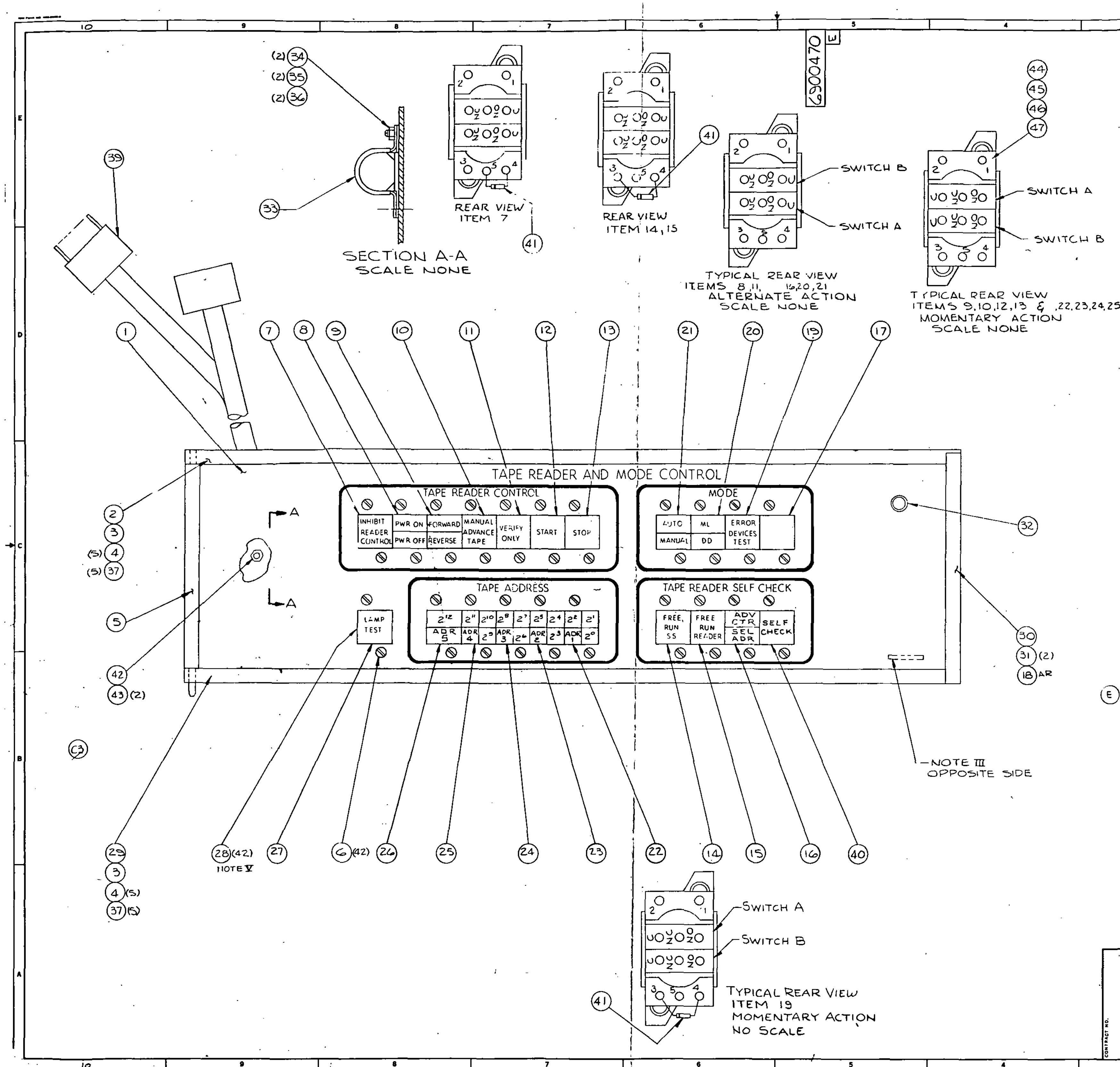



Figure 10-35. Processor Display Panel Assembly (02A2) Assembly Drawing (Sheet 2)




REVISIONS

| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
|---|---|---|---|---|---|
| A | 66118-BL | REVISED & REDRAWN | 8-25-64 | | |
| B | 66118-CC | (1-3) SEE ENGRG NOTICE | | | |
| C | 66118-JV | (1-3) SEE ENGR NOTICE | | | |
| D | 66118-MR | (1-3) SEE ENGRG NOTICE | | | |
| E | 66118-PC | (1) SEE ENGRG NOTICE E | | | |

NOTES
I IBM GEN ASSY SPEC 6000003 APPLIES
II DEFINITION OF SYMBOL
V VENDOR ITEM - SEE SOURCE OR SPEC CONTROL DWG
R REFERENCE QUANTITY
III PARTMARK 6900470 PER IBM SPEC 6009974 COLOR BLACK
IV BLACK BAND DENOTES CATHODE END OF DIODE
V LAMPS TO BE INSTALLED IN ALL LAMPSOCKETS AT PIN POSITIONS 1 AND 3. AT XDS4, XDS5, XDS6 AND XDS7 ADD (2) EXTRA LAMPS AT POSITIONS 2 AND 4.

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|
| 200 IN | R | WIRE #20 BLACK | 6032029 | | | | 47 |
| 600 IN | R | WIRE #22 YEL | 6032061 | | | | 46 |
| AR | | SOLDER (6032357) | Sn60 TYPE AR | QQ-S-571 | | | 45 |
| 300 IN | R | WIRE #20 RED | 6032031 | | | | 44 |
| 2 | | WASH, LK (6035798) | MS35335-60 | | | | 43 |
| 1 | | NUT (6034354) | MS35650-104 | | | | 42 |
| 4 | V | DIODE | 492543 | | NOTE IV | 88[illegible] | 41 |
| 1 | | SWITCH ASSY | 6082036 | | | | 40 |
| 1 | | WIRING HARNESS | 6900160 | | | | 39 |
| 4 | | WASH. FL (6048641) | MS15795-303 | | | | 38 |
| 10 | | WASHER | 6027494 | | | | 37 |
| 2 | | NUT (6033252) | MS35649-84 | | | | 36 |
| 2 | | WASH. FL (6048639) | MS15795-307 | | | | 35 |
| 2 | | WASH. LK (6029220) | MS35338-80 | | | | 34 |
| 1 | V | CLAMP | 6080672 | | | | 33 |
| 1 | V | FASTENER | 6079635 | | | | 32 |
| 2 | | SCREW (6035702) | MS-35216-16 | | | | 31 |
| 1 | | TRIM | 6901136 | | | | 30 |
| 1 | | TRIM | 6901137 | | | | 29 |
| 50 | | LAMP | 6078990 | | | | 28 |
| 1 | | | 6082037 | | | | 27 |
| 1 | | | 6082035 | | | | 26 |
| 1 | | | 6078714 | | | | 25 |
| 1 | | | 6078721 | | | | 24 |
| 1 | | | 6078706 | | | | 23 |
| 1 | | | 6078713 | | | | 22 |
| 1 | | | 6078654 | | | | 21 |
| 1 | | | 6081263 | | | | 20 |
| 1 | | SWITCH ASSY | 6078712 | | | | 19 |
| AR | | LOCKTITE | 6032901 | | | | 18 |
| 1 | | | 6081703 | | | | 17 |
| 1 | | | 6078701 | | | | 16 |
| 1 | | | 6078700 | | | | 15 |
| 1 | | | 6078711 | | | | 14 |
| 1 | | | 6078725 | | | | 13 |
| 1 | | | 6078720 | | | | 12 |
| 1 | | | 6078704 | | | | 11 |
| 1 | | | 6078719 | | | | 10 |
| 1 | | | 6078662 | | | | 9 |
| 1 | | | 6078663 | | | | 8 |
| 1 | V | SWITCH ASSY | 6078699 | | | | 7 |
| 42 | | SCREW | 6079432 | | | | 6 |
| 1 | | HINGE | 6901140 | | | | 5 |
| 10 | | SCREW (6035709) | MS35216-25 | | | | 4 |
| 2 | | SCREW (6035644) | MS24695C25 | | | | 3 |
| 1 | | TRIM | 6901138 | | | | 2 |
| 1 | | PANEL | 6900488 | | | | 1 |

LIST OF MATERIAL OR PARTS LIST

UNLESS NOTED BREAK CORNERS OUTSIDE MIN MAX INSIDE MIN MAX
ALL DIMENSIONS AND TOLERANCES APPLY TO FINISHED PART
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ON 2 PLACE DECIMALS 3 PLACE DECIMALS ANGLES
MATL
HARD CASE DEPTH
SURF TREAT
CONTRACT NO.
DESIGNED n Catalano 4/4/64
DESIGN CHECK N Banks 4/25/64
DRAWN n Catalano 4/16/64
DRAWING CHECK
DESIGN APPROVAL G Eldridge WG 5/64
WS Kunkle 4/29/64

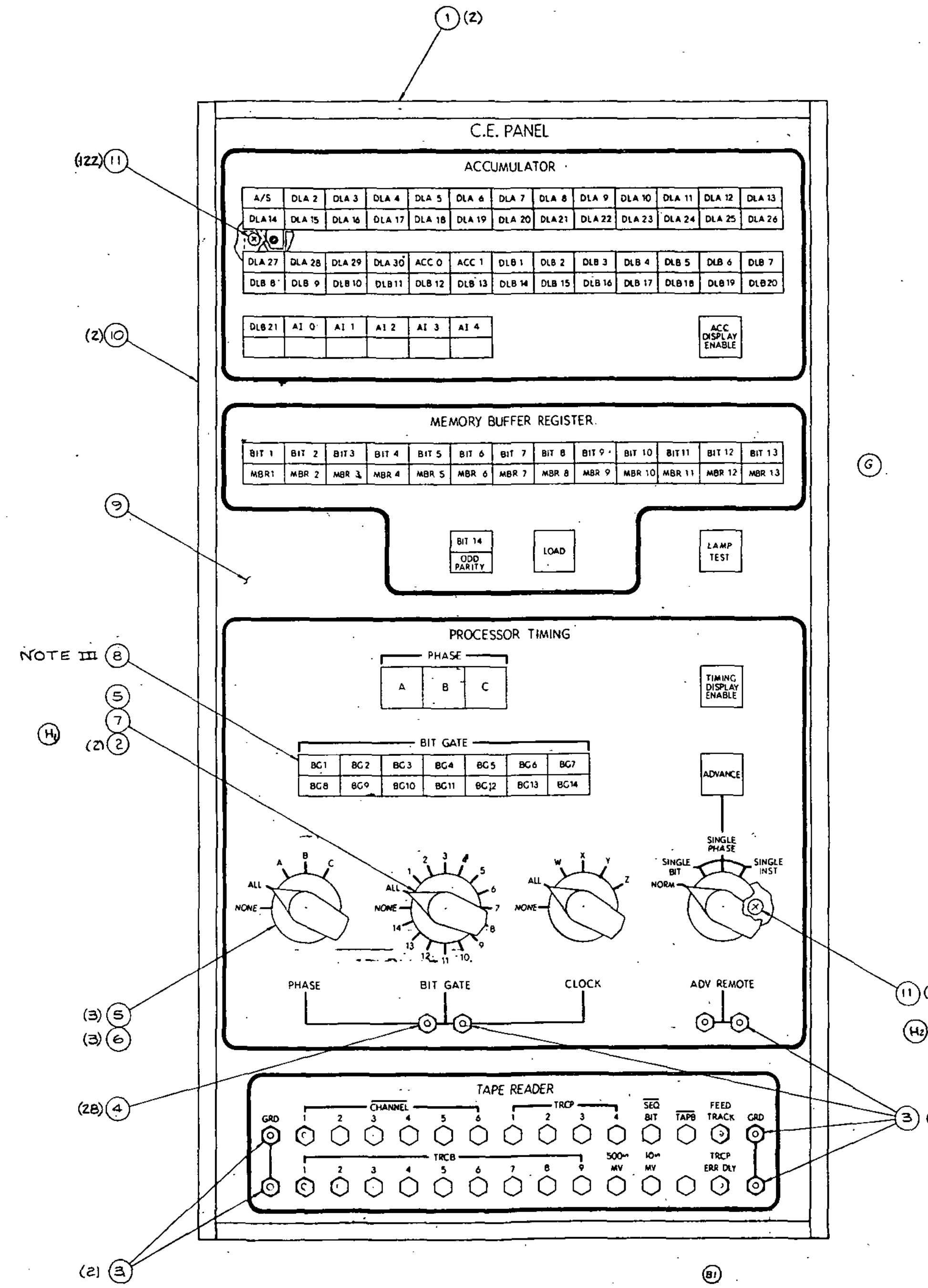
INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

TITLE ASSY, TAPE READER CONTROL PANEL 03A1
CODE IDENT NO. 03640 SIZE F 6900470
SCALE 1/1 WT SHEET 1 OF 5

Figure 10-36. Tape Reader Control Panel Assembly (03A1) Assembly Drawing

NOTES
I IBM GEN ASSY SPEC 6000003 APPLIES
II IDENTIFICATION OF SYMBOLS
V- VENDOR ITEM-SEE SPEC OR SOURCE CONTROL DWG
R- REFERENCE QUANTITY
III LAMPS TO BE LOCATED AT PIN POSITIONS 1 AND 3

| SYM | | DESCRIPTION | | DATE | APPROVAL |
|---|---|---|---|---|---|
| | | RELEASE | | | |
| A | 66118-EG | (1-4) SEE ENGRG NOTICE | R | | |
| B | 66118-FH | (1) SEE ENGRG NOTICE | R | | |
| C | 66118-HH | (1) SEE ENGRG NOTICE | R | | |
| D | 66118-JM | (1-5) SEE ENGRG NOTICE | R | | |
| E | 66118-HR | (1-3) SEE ENGRG NOTICE | R | | |
| F | 66118-ND | (1) SEE ENGRG NOTICE | R | | |
| G | 66118-PV | (1) SEE ENGRG NOTICE | R | | |




| REF DES | ITEM NO. | REF DES | ITEM NO. | REF DES | ITEM NO. | REF DES | ITEM NO. |
|---|---|---|---|---|---|---|---|
| XDS1 | 47 | XDS16 | 62 | XDS31 | 77 | S14 | 92 |
| XDS2 | 48 | XDS17 | 63 | XDS32 | 78 | S15 | 93 |
| XDS3 | 49 | XDS18 | 64 | XDS33 | 79 | S16 | 94 |
| XDS4 | 50 | XDS19 | 65 | S2 | 80 | S17 | 95 |
| XDS5 | 51 | XDS20 | 66 | S3 | 81 | S18 | 96 |
| XDS6 | 52 | XDS21 | 67 | S4 | 82 | XDS51 | 97 |
| XDS7 | 53 | XDS22 | 68 | S5 | 83 | XDS52 | 98 |
| XDS8 | 54 | XDS23 | 69 | S6 | 84 | XDS53 | 99 |
| XDS9 | 55 | XDS24 | 70 | S7 | 85 | S19 | 100 |
| XDS10 | 56 | XDS25 | 71 | S8 | 86 | XDS55 | 101 |
| XDS11 | 57 | XDS26 | 72 | S9 | 87 | XDS56 | 102 |
| XDS12 | 58 | S1 | 73 | S10 | 88 | XDS57 | 103 |
| XDS13 | 59 | XDS28 | 74 | S11 | 89 | XDS58 | 104 |
| XDS14 | 60 | XDS29 | 75 | S12 | 90 | XDS59 | 105 |
| XDS15 | 61 | XDS30 | 76 | S13 | 91 | XDS60 | 106 |
| | | | | | | XDS61 | 107 |

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|
| 2 | | STANDOFF | 6900253 | | | | 118 |
| 2 | | WASH. LK (6029221) | MS35338-81 | | | | 117 |
| 2 | | WASH. FL. (6301812) | MS15795-308 | | | | 116 |
| 4 | | SCREW (6035736) | MS35217-55 | | | | 115 |
| 4 | | WASHER,LK(6029218) | MS35338-78 | | | | 114 |
| 4 | | NUT,HEX(6033962) | MS35649-44 | | | | 113 |
| 4 | | SCREW (6035636) | MS24693C7 | | | | 112 |
| 1 | | WIRING HARNESS | 6900162 | | | | 111 |
| | | | | | | | 110 |
| 1 | V | MARKER STRIP | 6077132 | | | | 109 |
| 1 | V | TERMINAL BLOCK | 6077131 | | | | 108 |
| 1 | | | 6081789 | | | | 107 |
| 1 | | | 6081790 | | | | 106 |
| 1 | | | 6081791 | | | | 105 |
| 1 | | | 6081792 | | | | 104 |
| 1 | | | 6081793 | | | | 103 |
| 1 | | | 6081794 | | | | 102 |
| 1 | | | 6081795 | | | | 101 |
| 1 | | | 6078710 | | | | 100 |
| 1 | | | 6081702 | | | | 99 |
| 1 | | | 6081703 | | | | 98 |
| 1 | | | 6081704 | | | | 97 |
| 1 | | | 6081705 | | | | 96 |
| 1 | | | 6081788 | | | | 95 |
| 1 | | | 6081701 | | | | 94 |
| 1 | | | 6082037 | | | | 93 |
| 1 | | | 6081787 | | | | 92 |
| 1 | | | 6081786 | | | | 91 |
| 1 | | | 6081785 | | | | 90 |
| 1 | | | 6081784 | | | | 89 |
| 1 | | | 6081783 | | | | 88 |
| 1 | | | 6081782 | | | | 87 |
| 1 | V | SWITCH ASSY | 6081781 | | | | 86 |
| 1 | | | 6081780 | | | | 85 |
| 1 | | | 6081779 | | | | 84 |
| 1 | | | 6081778 | | | | 83 |
| 1 | | | 6081777 | | | | 82 |
| 1 | | | 6081776 | | | | 81 |
| 1 | | | 6081775 | | | | 80 |
| 1 | | | 6081769 | | | | 79 |
| 1 | | | 6081770 | | | | 78 |
| 1 | | | 6081771 | | | | 77 |
| 1 | | | 6081772 | | | | 76 |
| 1 | | | 6081773 | | | | 75 |
| 1 | | | 6081774 | | | | 74 |
| 1 | | | 6081700 | | | | 73 |
| 1 | | | 6081756 | | | | 72 |
| 1 | | | 6081757 | | | | 71 |
| 1 | | | 6081758 | | | | 70 |
| 1 | | | 6081759 | | | | 69 |
| 1 | | | 6081760 | | | | 68 |
| 1 | | | 6081761 | | | | 67 |
| 1 | | | 6081762 | | | | 66 |
| 1 | | | 6081763 | | | | 65 |
| 1 | | | 6081764 | | | | 64 |
| 1 | | | 6081765 | | | | 63 |
| 1 | | | 6081766 | | | | 62 |
| 1 | | | 6081767 | | | | 61 |
| 1 | | | 6081768 | | | | 60 |
| 1 | | | 6081743 | | | | 59 |
| 1 | | | 6081744 | | | | 58 |
| 1 | | | 6081745 | | | | 57 |
| 1 | | | 6081746 | | | | 56 |
| 1 | | | 6081747 | | | | 55 |
| 1 | | | 6081748 | | | | 54 |
| 1 | | | 6081749 | | | | 53 |
| 1 | | | 6081750 | | | | 52 |
| 1 | | | 6081751 | | | | 51 |
| 1 | | | 6081752 | | | | 50 |
| 1 | | | 6081753 | | | | 49 |
| 1 | | | 6081754 | | | | 48 |
| 1 | V | SWITCH ASSY | 6081755 | | | | 47 |
| 18 | | DIODE | 492543 | | | | 46 |
| 1 | V | ACTUATOR | 6080557 | | | | 45 |
| 1 | V | SWITCH | 6080558 | | | | 44 |
| 1000 | R | No 22 YEL | 6032061 | | | | 43 |
| 200 | R | No 22 BLK | 6032141 | | | | 42 |
| 1000 | R | No 20 BLK | 6032029 | | | | 41 |
| 1000 IN | R | WIRE No 20 RED | 6032031 | | | | 40 |
| AR | | SOLDER (6032357) | Sn60TYPEAR | QQ-S-571 | | | 39 |
| 3 | | HEX NUT (6048620) | MS35649-64 | | | | 38 |
| 2 | V | CLIP | 6079358 | | | | 37 |
| 2 | V | CRADLE | 6079353 | | | | 36 |
| | | | | | | | 35 |
| 1 | | LK WASH (6035798) | MS35335-60 | | | | 34 |
| 1 | | NUT (6034354) | MS35650-104 | | | | 33 |
| 1 | | SCREW (6035670) | MS24693C270 | | | | 32 |
| 3 | V | CLIP | 6079357 | | | | 31 |
| 3 | V | CRADLE | 6079352 | | | | 30 |
| 1 | | PANEL,CE,CODING | 6900683 | | | | 29 |
| 15 | | SCREW(6035700) | MS35216-14 | | | | 28 |
| AR | V | LOCTITE-E | 6032901 | | | | 27 |
| 26 | | WASHER(6048641) | MS15795-303 | | | | 26 |
| 7 | | SCREW (6035699) | MS35216-13 | | | | 25 |
| 1 | | CABLE ENTRY BOX | 6900682 | | | | 24 |
| 4 | V | SPACER | 6080230 | | | | 23 |
| 2 | V | LATCH | 6079797 | | | | 22 |
| 1 | | DOOR,ACCESS | 6900696 | | | | 21 |
| 4 | | WASHER,LK | 37066 | | | | 20 |
| 4 | | WASHER, FL | 57255 | | | | 19 |
| 4 | | NUT, HEX | 8506 | | | | 18 |
| 4 | | SCREW | 103894 | | | | 17 |
| 1 | V | SPRING ASSY | 6080611 | | | | 16 |
| 13 | | WASHER | 257986 | | | | 15 |
| 24 | | NUT (6072822) | NAS1291A06M | | | | 14 |
| 4 | | SCREW(6035709) | MS35216-25 | | | | 13 |
| 1 | | COVER, ACCESS | 6900695 | | | | 12 |
| 131 | | SCREW(6035644) | MS24693C25 | | | | 11 |
| 2 | | BAR,PANEL | 6900712 | | | | 10 |
| 1 | | PANEL OVERLAY | 6900678 | | | | 9 |
| 122 | V | LAMP | 6078990 | | NOTE III | | 8 |
| 1 | V | SWITCH | 6900199 | | | | 7 |
| 3 | V | SWITCH | 6900198 | | | | 6 |
| 4 | V | KNOB | 6080556 | | | | 5 |
| 28 | V | JACK,TEST | 6015339 | | | | 4 |
| 6 | V | JACK,TEST | 6015537 | | | | 3 |
| 2 | | SCREW(6035658) | MS24693C48 | | | | 2 |
| 2 | | BAR,PANEL | 597089 | | | | 1 |

LIST OF MATERIAL OR PARTS LIST

UNLESS NOTED BREAK CORNERS
ALL DIMENSIONS AND TOLERANCES APPLY TO FINISHED PART
DESIGNED N Kemezys 4/30/64
DESIGN CHECK F. Hill 4/27/64
DRAWN C. Merwin
DRAWING CHECK
INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.
TITLE C.E. PANEL - ASSY
CODE IDENT NO 05640 SIZE E 6900650
SCALE 1/1 SHEET 1 OF 2

Figure 10-37. C. E. Panel Assembly (03A4) Assembly Drawing (Sheet 1 of 2)

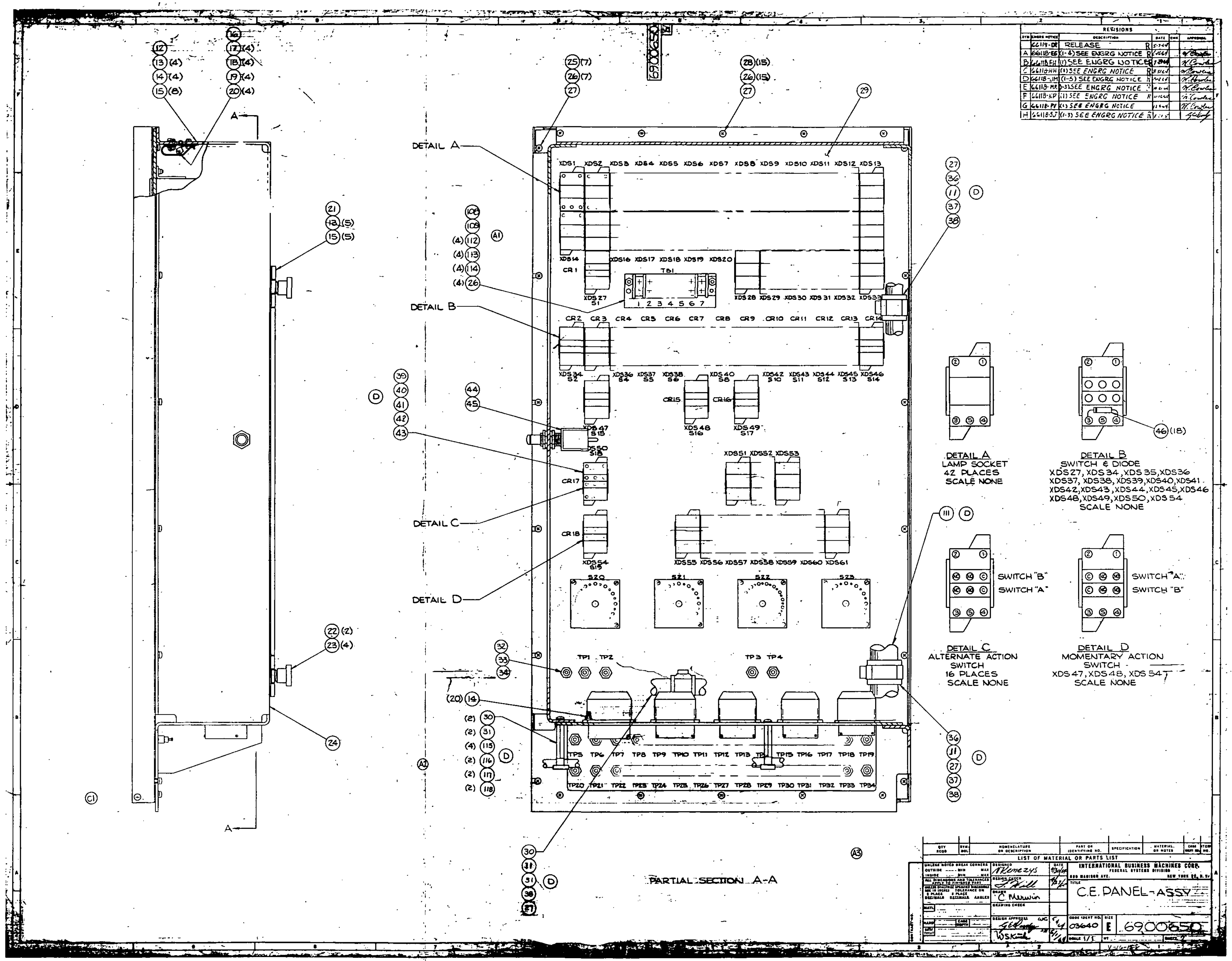



Figure 10-37. C. E. Panel Assembly (03A4) Assembly Drawing(Sheet 2)

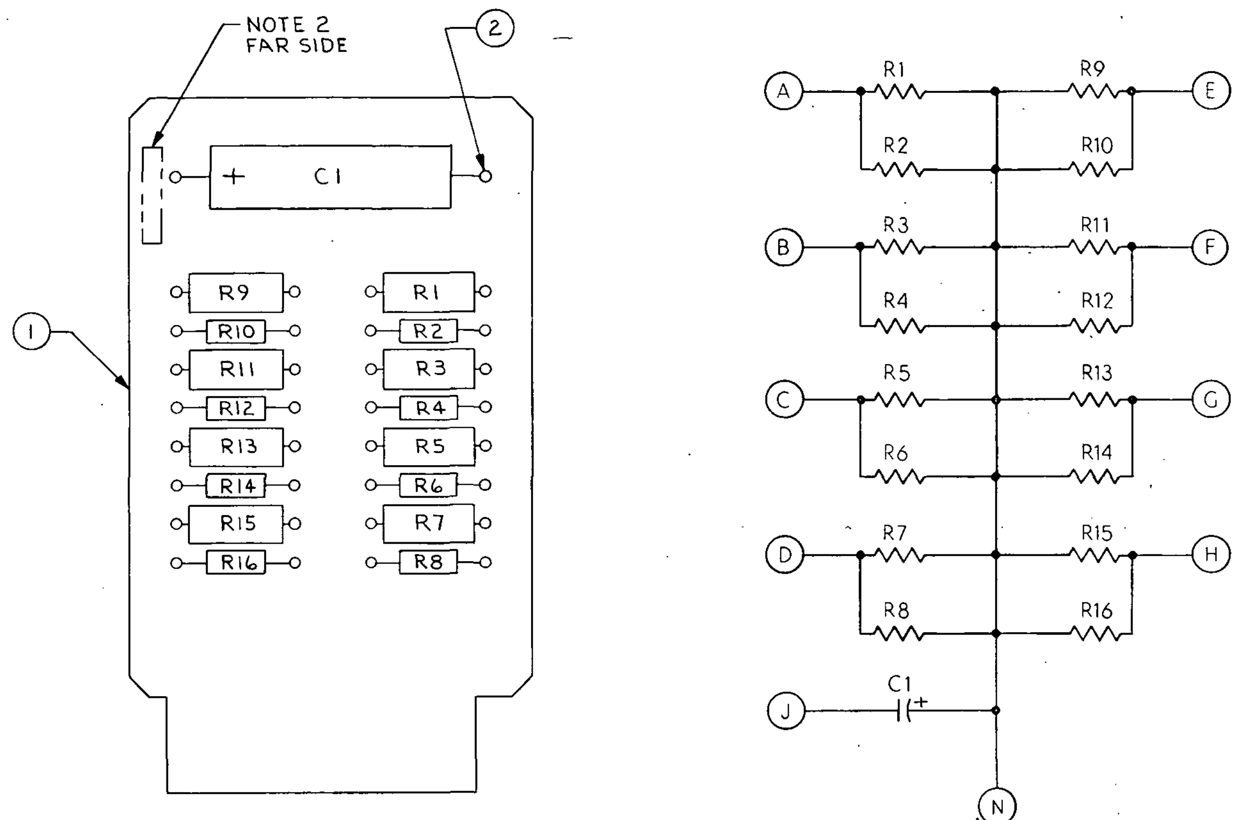
| SOURCE OF SUPPLY | | | |
|---|---|---|---|
| VENDOR | VENDOR ADDRESS | VENDOR CODE | VENDOR CAT. OR PN |

DRAWING NO. 6900227

SHEET | REV

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| CHR | ENGRG NOTICE | LTR | DESCRIPTION | DATE | APPROVED |
| | 66118-SR | | RELEASE | 1/29/65 | |

NOTES:
1. IBM GEN ASSY SPEC 6000003 APPLIES
2. PARTMARK 6900227 PER IBM SPEC 6009974 TYPE I, CLASS I, COLOR BLACK




COMPONENT SIDE

| REF. DES. | ITEM NO. |
|---|---|
| C1 | 3 |
| R1, R3, R5, R7, R9, R11, R13, R15 | 5 |
| R2, R4, R6, R8, R10, R12, R14, R16 | 4 |

SCHEMATIC - REF.

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO |
|---|---|---|---|---|---|---|---|
| 8 | | RESISTOR 37.4 Ω | 492648 | | | 88360 | 5 |
| 8 | | RESISTOR 330 Ω | 317428 | | | 88360 | 4 |
| 1 | | CAPACITOR 50 UFD | 369849 | | | 88360 | 3 |
| AR | | SOLDER (6032357) | SN60 TYPE AR | QQ-S-571 | | | 2 |
| 1 | | PRINTED CIRCUIT BD. | 6900226 | | | | 1 |

LIST OF MATERIAL OR PARTS LIST

| SPECIFICATION NUMBER AND TYPE | NOTE | ITEM NO. APPLIES TO |
|---|---|---|

APPLICABLE IBM SPECIFICATIONS

☐ ONLY THE ITEM(S) LISTED ON THIS DRAWING AND IDENTIFIED BY VENDOR NAME(S), ADDRESS(ES), AND PART NUMBER(S) HAVE BEEN TESTED AND APPROVED BY IBM FOR USE IN ( ). A SUBSTITUTE ITEM SHALL NOT BE USED WITHOUT PRIOR TESTING AND APPROVAL BY IBM

☐ COMMERCIAL PRODUCT MUST BE EQUAL TO AND COMPLETELY INTERCHANGEABLE WITH (SEE SOURCE OF SUPPLY)

CHECK BLOCK ☒ IF APPLICABLE

IDENT. OF SYM: V-VENDOR ITEM SEE SPEC OR SOURCE CONT DWG R-REF QTY

ALL DIMENSIONS AND TOLERANCES APPLY TO FINISHED PART

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ON 2 PLACE DEC 3 PLACE DEC ANGLES

MATL

HARD | CASE DEPTH

SURF TREAT

CONTR NO.

PREPARATION A. F. Serino 1/20/65

DSGN CHK J. R. Fritchley 1/21/65

DRAWING CHECK

DESIGN APPROVAL R. L. Chapdelaine 1/21/65 [illegible] 1/21/65

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
ARMONK, NEW YORK 10504

TITLE PRINTED CIRCUIT BOARD ASSY - INHIBIT CURRENT CONTROL, MEMORY, P.T.C.

SIZE D | CODE IDENT NO. 03640 | DRAWING NO. 6900227

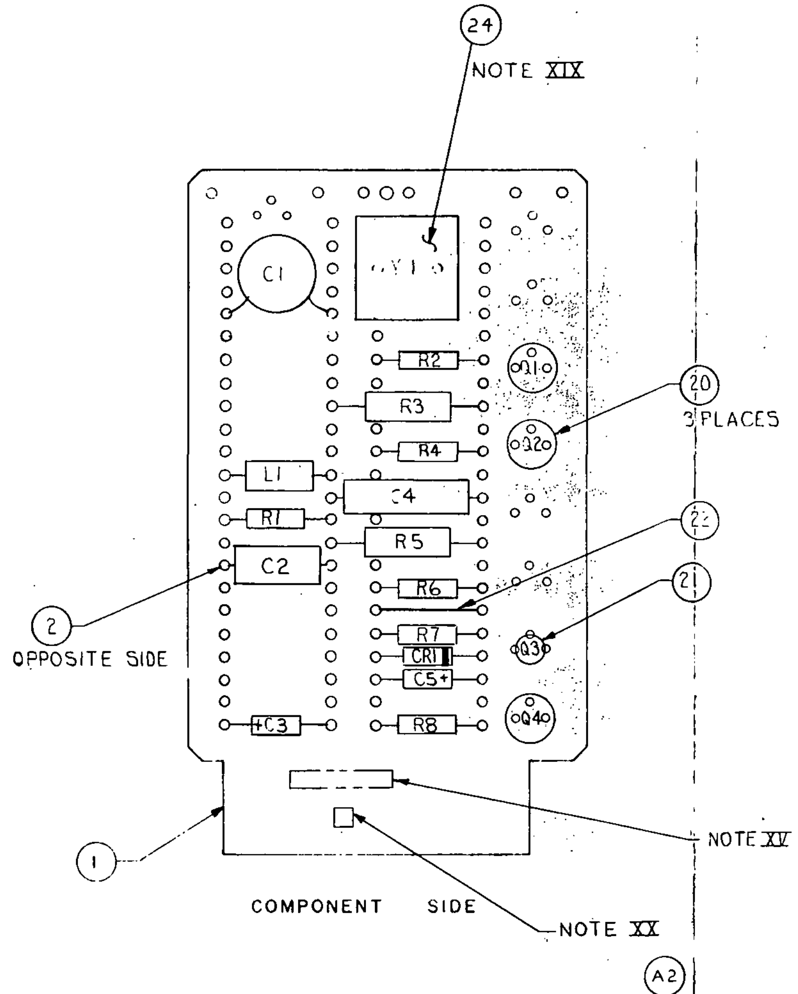
SCALE NONE | WT | SHEET

6900227

Figure 10-38. Inhibit Current Control Printed Circuit Board Assembly (6900227)

6901352 A

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
| | 66112BN | RELEASE | | | |
| A | 66115KG | (1-2) ADDED NOTES XIX AND XX AND ITEM 24 R9264 | | | J.E.WOOD |




NOTES

- X IBM GEN ASSY SPEC 6000003 APPLIES
- XI MIN ELECTRICAL CLEARANCE TO BE .018
- XII COMPONENTS TO BE ASSEMBLED FLAT AGAINST THE BOARD AND/OR OTHER COMPONENTS
- XIII COMPONENTS TO BE CENTERED BETWEEN HOLES WITHIN .06 INCHES
- XIV LEADS TO BE MAINTAINED AXIAL WITH RESPECT TO COMPONENT BODY WHERE POSSIBLE
- XV PARTMARK 6901352 ASSY PER IBM SPEC 6009974, COLOR BLACK
- XVI JUMPER AND COMPONENT LEADS TO BE BENT FLAT AGAINST BOARD BEFORE DIP SOLDERING
- XVII BLACK BAND DENOTES CATHODE END OF DIODE
- XVIII IDENTIFICATION OF SYMBOLS
  V-VENDOR ITEM-SEE SPEC OR SOURCE CONTROL DWG
  R-REFERENCE QUANTITY
- XIX UPPER HALF OF CRYSTAL CAN SHALL BE INSULATED WITH SEALANT INDICATED PER IBM SPEC 6009341. CRYSTAL SHOULD NOT BE SUBJECTED TO TEMP OVER 150°F IN CURING

A1

XX MARK CHANGE LEVEL TYPE I CLASS I COLOR BLACK PER SPEC 6009974

| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|
| AR | V | SEALANT | 6075477 | | | | 24 |
| 1 | | CAPACITOR 7PF±5%500V | 492515 | | | 88360 | 23 |
| 3 IN | V,R | WIRE, #22AWG, YELLOW | 6036152 | | | | 22 |
| 1 | | SPACER | 483070 | | | | 21 |
| 3 | | SPACER | 491299 | | | 88360 | 20 |
| 1 | V | CRYSTAL 2.048 MC | 6079504 | | | | 19 |
| 1 | | | 318325 | | | | 18 |
| 1 | | | 369177 | | | | 17 |
| 2 | | TRANSISTOR | 526798 | | | | 16 |
| 1 | | 510Ω ±5% 1/2W | 317012 | | | | 15 |
| 1 | | 1.6K ±5% 1/2 W | 317018 | | | | 14 |
| 1 | | 2.94 K ±1% 1/8W | 479127 | | | | 13 |
| 1 | | 1.78 K ±1% 1/4W | 479226 | | | | 12 |
| 1 | | 1.3K ±1% 1/8W | 550093 | | | | 11 |
| 1 | | 1 0K ±1% 1/4W | 491010 | | | | 10 |
| 1 | | 1.5K ±5% 1/2 W | 317017 | | | | 9 |
| 1 | | RESISTOR 523Ω ±1% 1/8W | 491238 | | | | 8 |
| 1 | | INDUCTOR 12 UH ±5% | 217136 | | | | 7 |
| 1 | | DIODE | 491008 | | | | 6 |
| 1 | | 75PF | 492464 | | | | 5 |
| 2 | | 1 UF | 124582 | | | | 4 |
| 1 | | CAPACITOR 430PF±5% 00V | 483309 | | | 88360 | 3 |
| AR | | SOLDER (6032357) | Sn 60 AR | QQ-S-571 | | | 2 |
| 1 | | SMS CARD | 6901353 | | | | 1 |

LIST OF MATERIAL OR PARTS LIST

| REF DES | ITEM NO. |
|---|---|
| C2 | 23 |
| Y1 | 19 |
| Q4 | 18 |
| Q3 | 17 |
| Q1-Q2 | 16 |
| R8 | 15 |
| R7 | 14 |
| R6 | 13 |
| R5 | 12 |
| R4 | 11 |
| R3 | 10 |
| R2 | 9 |
| R1 | 8 |
| L1 | 7 |
| CR1 | 6 |
| C4 | 5 |
| C3, C5 | 4 |
| C1 | 3 |

UNLESS NOTED BREAK CORNERS OUTSIDE MIN MAX INSIDE MIN MAX
ALL DIMENSIONS AND TOLERANCES APPLY TO FINISHED PART
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ON 2 PLACE DECIMALS 3 PLACE DECIMALS ANGLES
MATL
HARD CASE DEPTH
SURF TREAT
CONTRACT NO.

DESIGNED J.E. Wood DATE 10-28-63
DESIGN CHECK J K Evans 11/8/63
DRAWN J.E. Wood 10-27-63
DRAWING CHECK
DESIGN APPROVAL 23 / E. McLure 1-8-64

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

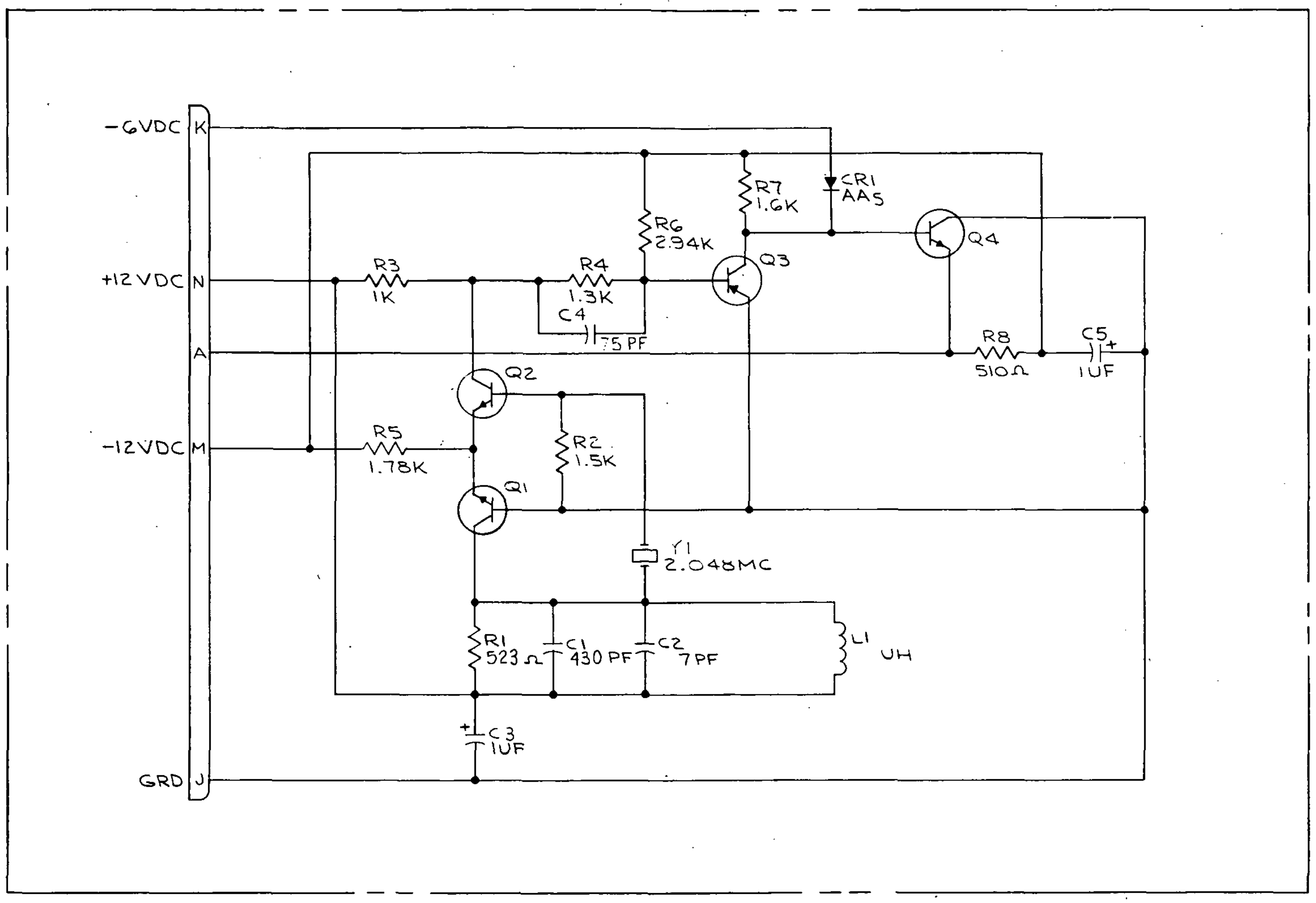
TITLE
PRINTED CIRCUIT BOARD ASSY-
2.048 M.C. OSCILLATOR, SDTDL

CODE IDENT NO. 03640 SIZE D 6901352
SCALE 2/1 WT SHEET 1 OF 2

Figure 10-39. SDTDL 2.048 MC Oscillator Printed Circuit Board Assembly (6901352) (Sheet 1 of 2)

6901352 A

| SYM | ENGRG NOTICE | DESCRIPTION | DATE | CHK | APPROVAL |
|---|---|---|---|---|---|
| | 66112BU | RELEASE | | | |
| A | 66115KG | (1-2) ADDED NOTES XIX AND XX AND ITEM 24 R | 9-2-64 | | J.E. WOOD |




| QTY REQD | SYMBOL | NOMENCLATURE OR DESCRIPTION | PART OR IDENTIFYING NO. | SPECIFICATION | MATERIAL OR NOTES | CODE IDENT NO. | ITEM NO. |
|---|---|---|---|---|---|---|---|

LIST OF MATERIAL OR PARTS LIST

INTERNATIONAL BUSINESS MACHINES CORP.
FEDERAL SYSTEMS DIVISION
590 MADISON AVE. NEW YORK 22, N.Y.

TITLE: PRINTED CIRCUIT BOARD ASSY- 2.048 MC OSCILLATOR

DRAWN: MDEE

CODE IDENT NO. 03640 SIZE D 6901352 SHEET 2

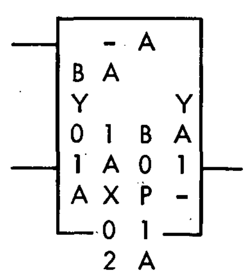
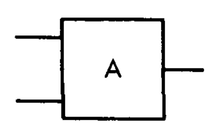
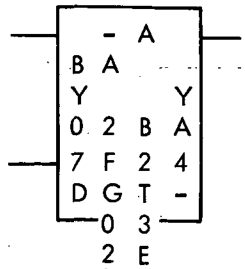
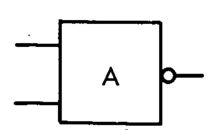
Figure 10-39. SDTDL 2.048 MC Oscillator Printed Circuit Board Assembly (6901352) (Sheet 2)

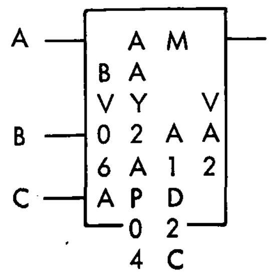
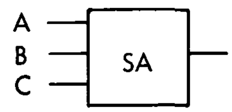
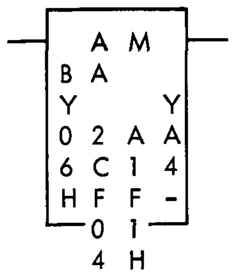
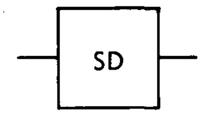
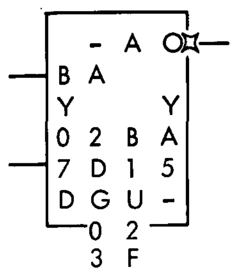
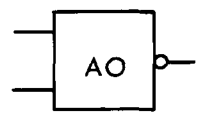
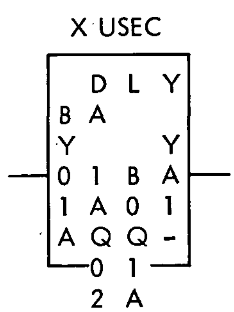
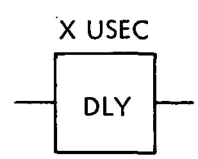
## LOGIC SYMBOLS

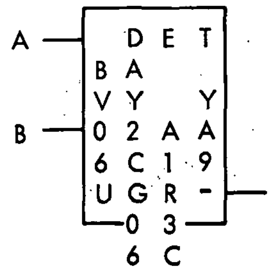
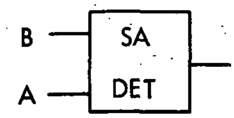
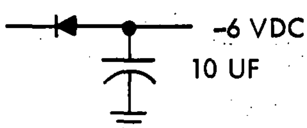
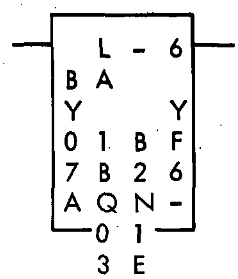
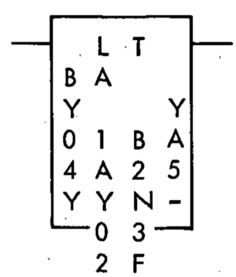
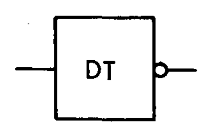
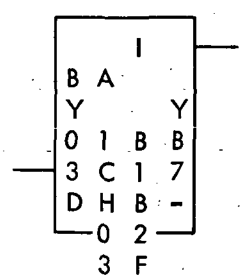
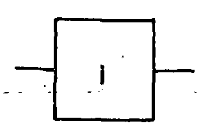
In the list that follows, each type of logic symbol on the PTC ALD's is described. Each typical ALD symbol is shown with the corresponding symbol (if any) used in the simplified logic diagrams on figure 10-28; some of the circuits indicated on the ALD's (such as resistive loads and diode clamps) are not indicated on figure 10-28 because they perform no logic function.

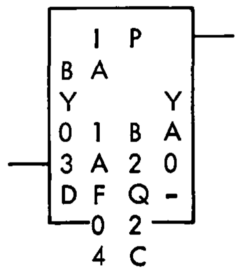
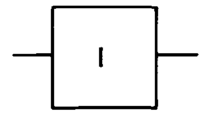
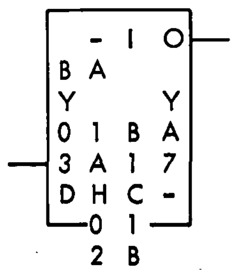
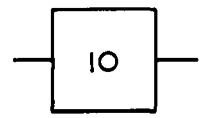
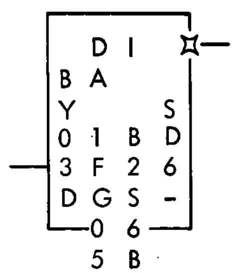
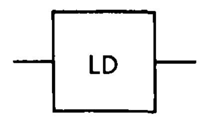
The two letters on the third line down from the top of each ALD symbol (see figure 10-6) indicate the nominal levels of input and output voltage for that circuit. The levels represented by these letters are shown in the following table.

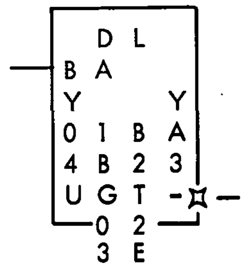
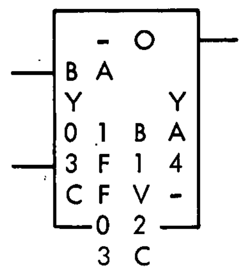
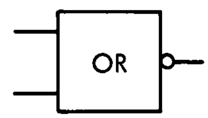
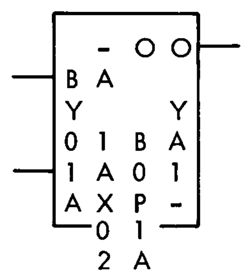
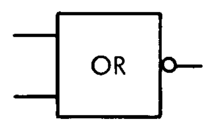
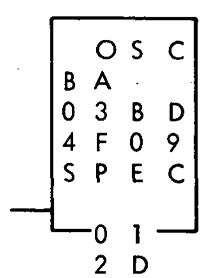
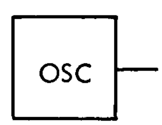
| Symbol | Voltage Levels (Nominal) | |
|---|---|---|
| | Up Level | Down Level |
| C | + 1.30 VDC | -1.25 VDC |
| R | +12.0 VDC | 0 VDC |
| S | 0 VDC | -12 VDC |
| V | Special | Special |
| W | 0 VDC | -48 VDC |
| Y | 0 VDC | -6 VDC |
| Note: The "Special" levels indicated by V are explained in the description of the logic circuits to which it applies. | | |

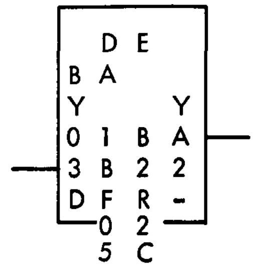
| Circuit Description | ALD Symbol (typical) | Second Level Logic Symbol (used on figure 10-28) |
|---|---|---|
| 1. AND. The output of an AND circuit is the logical AND of its inputs. When all inputs are "1's", the output is a "1"; if any input is a "0", the output is a "0". The AND circuit may have two or more inputs. |  |  |
| 2. AND-INVERTER. This circuit performs the logical AND and INVERT functions. When all inputs are "1's", the output is a "0"; if any input is a "0", the output is a "1". The AND-INVERTER circuit may have two or more inputs. |  |  |
| | Note: The functional symbol "+O" may be substituted for "-A". | |

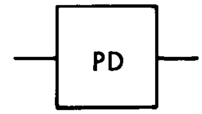
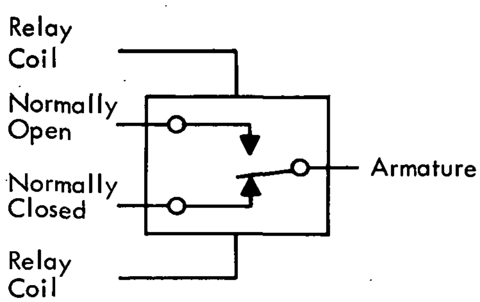
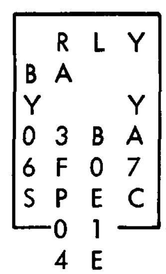
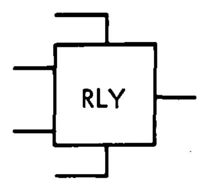
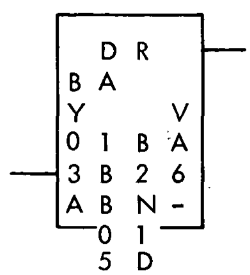
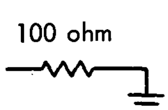
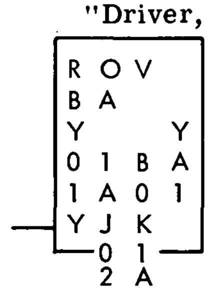
| Circuit Description | ALD Symbol (typical) | Second Level Logic Symbol (used on figure 10-28) |
|---|---|---|
| 3. SENSE AMPLIFIER. The sense amplifier is a gated differential amplifier that senses "1's" at inputs A and B. The amplifier is enabled when input C is a "1". When a "1" is sensed at inputs A and B, the signal is amplified, rectified and sent to a detector. |  |  |
| 4. STROBE DRIVER. The strobe driver provides a signal to strobe the detectors. The strobe driver inverts and amplifies its input signal. |  |  |
| 5. AND-OR-INVERTER. This circuit performs the logical AND, OR, and INVERT functions. The relation between the inputs and outputs is the same as the AND-INVERTER circuit. However the output transistor of this circuit allows the outputs of several AND-OR-INVERTER circuits to be connected (OR'd) together. A "0" output from any AND-OR-INVERTER circuit of an "OR'd" group of circuits will force a "0" output from the group. The AND-OR-INVERTER circuit may have two or more inputs. | <br>Note<br>The functional symbol "+O O" may be substituted for "-AO". |  |
| 6. DELAY. This circuit delays only the positive transition of its input; a delay occurs only when the input changes from a "1" (-6 VDC) to a "0" (0 VDC). The nominal delay duration is indicated above the symbol. A "1" input causes a "1" output. |  |  |

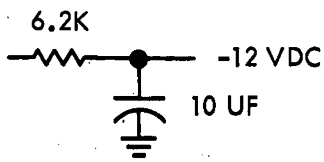
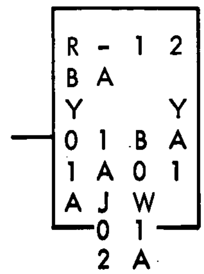
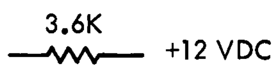
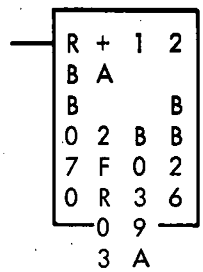
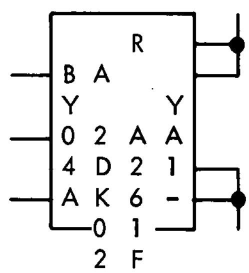
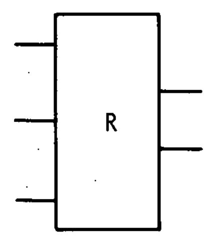
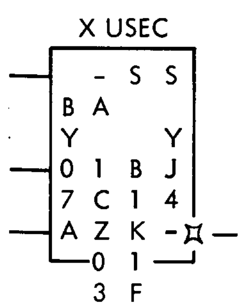
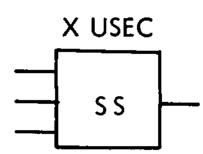
| Circuit Description | ALD Symbol (typical) | Second Level Logic Symbol (used on figure 10-28) |
|---|---|---|
| 7. DETECTOR. This circuit is a strobed Schmitt trigger that produces a "1" output only when one of its associated sense amplifiers senses a "1" and the strobe input is a "0". | <br>Note<br>The "A" input is the input from the sense amplifier and the "B" input is the strobe input. |  |
| 8. DIODE. This circuit is a diode clamped to -6 VDC.<br> |  | None |
| 9. DRIVER TERMINATOR. This circuit is a signal shaper, inverter, and low impedance matching device. |  |  |
| 10. INVERTER. The output of this circuit is the inverse of its input; a "1" input results in a "0" output and vice versa. |  |  |

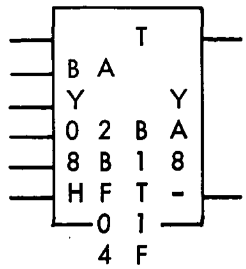
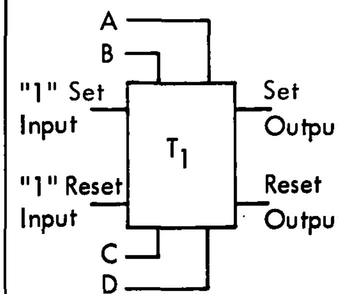
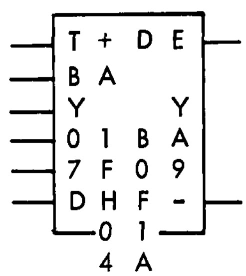
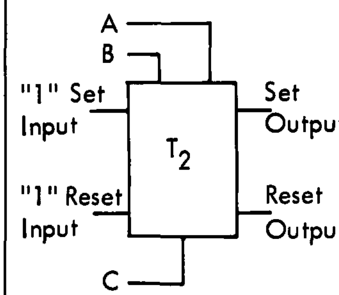
<table>
<tr><th>Circuit Description</th><th>ALD Symbol (typical)</th><th>Second Level Logic Symbol (used on figure 10-28)</th></tr>
<tr><td>11. INVERTER (POWER). This circuit performs signal inversion and amplification; a "1" input results in a "0" output and vice versa.</td><td>
</td><td>
</td></tr>
<tr><td>12. INVERTER-OR. This circuit performs signal inversion; a "1" input results in a "0" output and vice versa. The output transistor of this circuit allows several INVERTER-OR circuits to be connected ("OR'd") together. A "0" output from any INVERTER-OR circuit of an "OR'd" group of circuits will force a "0" output from the group.</td><td>
</td><td>
</td></tr>
<tr><td>13. LAMP DRIVER. A "1" input causes the LAMP DRIVER to turn on its associated indicator lamp; a "0" input causes the LAMP DRIVER to turn off its associated indicator lamp. The input-output levels are as follows:<br><br>Input — Output<br>"1" (-6 VDC) — 0 VDC<br>"0" (0 VDC) — -12 VDC<br><br>Note<br><br>One side of the indicator lamp is connected to -12 VDC; the other side is connected to the output of the LAMP DRIVER. When the output of the LAMP DRIVER is 0 VDC, the potential difference of volts across the lamp lights the lamp.</td><td>
<br><br>Note<br><br>The "DI" functional symbol represents "Driver, Indicator".</td><td>
</td></tr>
</table>

| Circuit Description | ALD Symbol (typical) | Second Level Logic Symbol (used on figure 10-28) |
|---|---|---|
| 14. LINE DRIVER. This circuit functions as a signal driver and low impedance matching device. | <br>Note<br>The "DL" functional symbol represents "Driver, Line". |  |
| 15. OR-INVERTER. This circuit performs the logical OR and INVERT functions. When all inputs are "0's", the output is a "1"; if any input is a "1", the output is a "0". This circuit may have two or more inputs. | <br>Note: The functional symbol "+A" may be substituted for "-O". |  |
| 16. OR-INVERTER-OR. This circuit functions in the same manner as the OR-INVERTER. The outputs of many OR-INVERTER-OR's may be connected (OR'd) together. A "0" output from any OR-INVERTER-OR circuit of an "OR'd" group of circuits will force a "0" output from the group. This circuit may have two or more inputs. |  |  |
| 17. OSCILLATOR. This circuit generates a square wave signal (0 VDC to -6 VDC) at a 2.048 MC frequency. |  |  |

<table>
<tr><th>Circuit Description</th><th>ALD Symbol (typical)</th><th>Second Level Logic Symbol (used on figure 10-28)</th></tr>
<tr><td>18. POWER DRIVER. This circuit provides circuit matching and power amplification. A "1" input causes a "1" output; a "0" input causes a "0" output.</td><td>

Note<br>
The "DE" functional symbol represents "Driver, Emitter". The output portion of this circuit is an emitter follower.</td><td>
</td></tr>
<tr><td>19. RELAY<br>

</td><td>
</td><td>
</td></tr>
<tr><td>20. RELAY DRIVER. This circuit functions as a level shifter to enable a "1" to energize a relay coil.</td><td>
</td><td>
</td></tr>
<tr><td></td><td colspan="2">Note: The "DR" functional symbol represents "Driver, Relay".</td></tr>
<tr><td>21. RESISTOR. This circuit is a 100 ohm resistor connected to ground.<br>

</td><td>
</td><td>None</td></tr>
</table>

<table>
<tr><th>Circuit Description</th><th>ALD Symbol (typical)</th><th>Second Level Logic Symbol (used on figure 10-28)</th></tr>
<tr><td>22. RESISTOR. This circuit is a 6.2K resistor connected to -12 VDC.<br><br></td><td><br></td><td>None</td></tr>
<tr><td>23. RESISTOR. This circuit is a 3.6K resistor connected to +12 VDC.<br><br></td><td><br></td><td>None</td></tr>
<tr><td>24. THERMAL RESISTOR NETWORK. Resistors in this network are shunted across the memory current supply to control the drive current supplied to the memory core array.</td><td><br></td><td><br></td></tr>
<tr><td>25. SINGLE SHOT. Any or all of the inputs may be connected; an unconnected input (indicated by the absence of that input) is effectively a "1" input. All inputs must be "1's" to trigger the SINGLE SHOT. The negative-going transition of the last input to become a "1" triggers the single shot, forcing it to produce a negative output pulse whose negative transition is coincident with the triggering transition of its input. The nominal duration of the pulse is shown above the symbol.</td><td><br></td><td><br></td></tr>
</table>

<table>
<tr><th>Circuit Description</th><th>ALD Symbol (typical)</th><th>Second Level Logic Symbol (used on figure 10-28)</th></tr>
<tr><td>26. TRIGGER 1. This circuit is a bistable device that becomes set (1) if the "1" Set Input becomes a "1" or, (2) if input A is a "0" and input B changes from a "1" to a "0". Similarly, the circuit becomes reset (1) if the "1" Reset Input becomes a "1" or, (2) if input D is a "0" and input C changes from a "1" to a "0".</td><td></td><td></td></tr>
<tr><td>27. TRIGGER 2. This circuit is very similar to the TRIGGER 1. The basic difference is that the circuit becomes reset when input C is a "0" and input B changes from a "1" to a "0". This circuit also provides power amplification.</td><td><br>Note<br>The functional symbol "T + DE" represents "Trigger and Driver, Emitter".</td><td></td></tr>
</table>

## GLOSSARY

In the list that follows, each signal name used on the PTC Second Level Logic (figure 10-28) and the ALD's is listed and described. The signal names are listed in numerical-alphabetical order in the "Symbol" column. The second column, titled "Figure 10-28 Sheet Number," lists the sheet of the Second Level Logic Diagrams on which each signal originates. The third column, titled "ALD and/or Figure 10-4 LN Number and Symbol Definition," lists the sheet of ALD's and/or the Signal Interface List (figure 10-4) or which signal originates, and the definition of the symbol.

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| 10CPS MV | 046 | 05 15 07 1 10CPS MULTIVIBRATOR |
| 10 CPS MV NT | 046 | INVERSE 10 CPS MV |
| 15 30 T | 045 | 05 11 08 1 015 TO 030 TIME PRINTER CLOCK |
| 16 PL THRU 23 PL | 042 | 05 11 05 1 PRINT LATCHES 16 THRU 23 |
| 1 2 4 8 A B BCD | 043 | 05 11 11 1 BINARY DECODER OUTPUTS |
| 1 2 4 8 | 037 | 05 09 03 1 ONE OUTPUTS BINARY CODE DECIMEL LATCHES 1 2 4 8 |
| 1 2 4 OC | 043 | 05 11 12 1 OCTAL DECODER OUTPUT |
| 1 PL THRU 7 PL | 042 | 05 11 03 1 PRINT LATCHES 1 THRU 7 |
| 1X THRU 32X | 039 | 05 10 03 1 DECODED DATA BITS 20 TO 25 CONVERTED TO OCTAL 1 THRU 32 |
| 1Y THRU 256Y | 039 | 05 10 02 1 DECODED DATA BITS 17 TO 25 CONVERTED TO OCTAL 1 THRU 256 |
| 22 DEGREES CENT A | 026 | 04 26 05 0 - 05 26 01 1 TEMPERATURE VERSUS CURRENT CONTROL |
| 22 DEGREES CENT B | 026 | 04 26 05 0 - 05 26 01 0 TEMPERATURE VERSUS CURRENT CONTROL |
| 24 PL THRU 25 PL | 042 | 05 11 06 1 PRINT LATCHES 24 AND 25 |
| 29 DEGREES CENT A | 026 | 04 26 05 0 - 05 26 01 1 TEMPERATURE VERSUS CURRENT CONTROL |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| 29 DEGREES CENT B | 026 | 04 26 05 0 - 05 26 01 0 TEMPERATURE VERSUS CURRENT CONTROL |
| 28DDTSO NOT | 059 | 05 14 13 1 INVERSE 28DDTSO |
| 28DDTSO | 059 | 05 14 13 1 TWO BIT DELAY DATA SERIAL OUT |
| 300 CPS COUNT DOWN | 039 | 05 10 06 1 300 CPS GATED OUTPUT PLOTTER COUNTERS COUNT DOWN |
| 35 DEGREES CENT A | 026 | 04 26 05 0 - 05 26 01 1 TEMPERATURE VERSUS CURRENT CONTROL |
| 35 DEGREES CENT B | 026 | 04 26 05 0 - 05 26 01 0 TEMPERATURE VERSUS CURRENT CONTROL |
| 500CPS MV | 046 | 05 15 03 1 500CPS MULTIVIBRATOR SINGLE SHOT |
| 512Y | 039 | 05 10 03 1 DECODED DATA BIT 16 CONVERTED TO OCTAL 512 |
| 64X THRU 512 | 039 | 05 10 04 1 DECODED DATA BITS 16 THRU 19 CONVERTED TO OCTAL 64 THRU 512 |
| 8 PL THRU 15 PL | 042 | 05 11 04 1 PRINT LATCHES 8 THRU 15 |
| A1 A3 NT A2 | 034 | 05 08 01 1 A1 A3 INVERSE A2 ANDED LEVEL ADDRESS BITS TO DECODE |
| A1 NOT A2 A3 | 034 | 05 08 01 1 A1 INVERSE A2 A3 ANDED LEVEL ADDRESS BITS TO DECODE |
| A1 NOT | 017 | 05 05 09 1 INVERSE A1 |
| A1 | 017 | 05 05 09 1 ONE OUTPUT ADDRESS REGISTER LATCH 1 |
| A1 THRU A4 IND 1 2 | 017 | 05 20 13 1 ADDRESS BITS 1 THRU 4 INDICATOR DRIVERS 1 AND 2 |
| A1 THRU A9 PTC | 006 | 05 09 17 1 ADDRESS BITS 1 THRU 9 OUTPUT FROM PTC |
| A2 A3 A4 A5 NOT | 017 | 05 05 10 1 INVERSE A2 A3 A4 A5 |
| A2 A3 A4 A5 | 017 | 05 05 10 1 ONE OUTPUT ADDRESS REGISTER LATCHES 2 3 4 5 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| A2 A3 NT A1 | 034 | 05 08 01 1 A2 A3 INVERSE A1 ANDED LEVEL ADDRESS BITS TO DECODE |
| A2 NOT A1 A3 | 034 | 05 08 01 1 A2 INVERSE A1 A3 ANDED LEVEL ADDRESS BITS TO DECODE |
| A3 NOT A1 A2 | 034 | 05 08 01 1 A3 INVERSE A1 A2 ANDED LEVEL ADDRESS BITS TO DECODE |
| A4 A5 A6 | 017 | 05 08 02 1 A4 A5 A6 ANDED LEVEL ADDRESS BITS TO DECODE |
| A4 A5 NT A6 | 034 | 05 08 02 1 A4 A5 INVERSE A6 ANDED LEVEL ADDRESS BITS TO DECODE |
| A4 A6 NT A5 | 034 | 05 08 02 1 A4 A6 INVERSE A5 ANDED LEVEL ADDRESS BITS TO DECODE |
| A4 NT A5 A6 | 034 | 05 08 02 1 A4 INVERSE A5 A6 ANDED LEVEL ADDRESS BITS TO DECODE |
| A5 A6 NT A4 | 034 | 05 08 02 1 A5 A6 INVERSE A4 ANDED LEVEL ADDRESS BITS TO DECODE |
| A5 NT A4 A6 | 034 | 05 08 02 1 A5 INVERSE A4 A6 ANDED LEVEL ADDRESS BITS TO DECODE |
| A5 THRU A8 IND 1 2 | 017 | 05 20 14 1 ADDRESS BITS 5 THRU 8 INDICATOR DRIVERS 1 AND 2 |
| A6 A7 A8 A9 NOT | 017 | 05 05 11 1 INVERSE A6 A7 A8 A9 |
| A6 A7 A8 A9 | 017 | 05 05 11 1 ONE OUTPUT FROM ADDRESS REGISTER LATCHES 6 7 8 9 |
| A6 NT A4 A5 | 034 | 05 08 02 1 A6 INVERSE A4 A6 ANDED LEVEL ADDRESS BITS TO DECODE |
| A7 A8 A9 | 034 | 05 08 03 1 A7 A8 A9 ANDED LEVEL ADDRESS BITS TO DECODE |
| A7 A8 NT A9 | 034 | 05 08 03 1 A7 A8 INVERSE A9 ANDED LEVEL ADDRESS BITS TO DECODE |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| A7 NT A8 A9 | 034 | 05 08 03 1 A7 INVERSE A8 A9 ANDED LEVEL ADDRESS BITS IO DECODE |
| A8 NT A7 A9 | 034 | 05 08 03 1 A8 INVERSE A8 A9 ANDED LEVEL ADDRESS BITS IG DECODE |
| A9PAD NOT | 025 | 05 05 12 1 ADDRESS 9 PHASE A DELAYED INVERSE |
| A9 IND 1 2 | 017 | 05 20 18 1 ADDRESS BIT 9 INDICATOR DRIVER |
| AA BB | 037 | 05 09 04 1 ONE OUTPUT BINARY CODE DECIMEL LATCHES AA BB |
| ABG | 015 | 05 06 13 1 ADDRESS BIT GATE |
| ACC0 | 013 | 05 06 24 1 ONE OUTPUT ACCUMULATOR 0 LATCH AT END OF DLA, DELAY A LATCHES 1 THRU 30 |
| ACC1 | 013 | 05 06 24 1 ONE OUTPUT ACCUMULATOR 1 LATCH AT INPUT TO DELAY B LATCHES 1 THRU 21 |
| ACC BIT 12 THRU 15 | 016 | 05 08 21 1 ACCUMULATOR BITS 12 THRU 15 PTC OUTPUT |
| ACC BIT 16 THRU 19 | 016 | 05 08 22 1 ACCUMULATOR BITS 16 THRU 19 PTC OUTPUT |
| ACC BIT 1 2 3 | 016 | 05 08 18 1 ACCUMULATOR BITS 1 THRU 3 PTC OUTPUTS |
| ACC BIT 20 THRU 23 | 016 | 05 08 23 1 ACCUMULATOR BITS 20 THRU 23 PTC OUTPUT |
| ACC BIT 24 25 | 016 | 05 08 24 1 ACCUMULATOR BITS 24 AND 25 PTC OUTPUT |
| ACC BIT 4 THRU 7 | 016 | 05 08 19 1 ACCUMULATOR BITS 4 THRU 7 PTC OUTPUTS |
| ACC BIT 8 THRU 11 | 016 | 05 08 20 1 ACCUMULATOR BITS 8 THRU 11 PTC OUTPUT |
| ACC BIT SIGN | 016 | 05 08 18 1 ACCUMULATOR SIGN BIT PTC OUTPUT |
| ACNCST | 006 | 05 08 17 1 ACNE COMPUTER SINGLE STEP FEED THRU PTC |
| ADD SUB | 011 | 05 07 32 1 OUTPUT LEVEL OF THE ADDER CIRCUIT |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| ADRBR A1-A4 NOT | 065 | 05 03 01 1 INVERSE ADRBR A1-A4 |
| ADRBR A1-A4 | 065 | 05 03 01 1 ADDRESS BUFFER REG BITS A1 THRU A4 |
| ADRBR A5-A8 NOT | 065 | 05 03 02 1 INVERSE ADRBR A5-A8 |
| ADRBR A5-A8 | 065 | 05 03 02 1 ADDRESS BUFFER REG BITS A5 THRU A8 |
| ADRBR A9 NOT | 065 | 05 03 03 1 INVERSE ADRBR A9 |
| ADRBR A9 | 065 | 05 03 03 1 ADDRESS BUFFER REG BIT A9 |
| ADRBR OP1-OP4 NOT | 065 | 05 03 04 1 INVERSE ADRBR OP1-OP4 |
| ADRBR OP1-OP4 | 065 | 05 03 04 1 ADDRESS BUFFER REG BITS OP1 THRU OP4 |
| ADR COMP NOT | 069 | 05 03 16 1 INVERSE ADR COMP |
| ADR COMP | 069 | 05 03 16 1 ADDRESS COMPARE |
| ADR IND INH NOT | 019 | 05 20 15 1 ADDRESS INDICATOR INHIBIT INVERSED |
| ADV IND 2 | 049 | 05 15 15 1 ADVANCE INDICATOR 2 |
| ADV IND | 049 | 05 15 15 1 ADVANCE INDICATOR DRIVER |
| ADV RST | 007 | 05 04 14 1 ADVANCE RESET TIMING CONTROL LEVEL |
| ADV SET B | 007 | 05 04 13 1 ADVANCE SET B INVERSE LEVEL |
| AIO IND | 015 | 05 13 08 1 ACCUMULATOR INSTRUCTION CHANNEL LATCH 0 |
| AIO | 015 | 05 06 29 1 ONE OUTPUT LATCH 0 AT END OF ACCUMULATOR |
| AI1 3 | 015 | 05 06 30 1 ONE OUTPUT LATCHES 1 AND 3 AT END OF ACCUMULATOR INSTRUCTION CHANNEL DLB LATCHES |
| AI2-AI3 IND | 015 | 05 13 08 1 ACCUMULATOR INSTRUCTION CHANNEL LATCHES 2 AND 3 INDICATOR DRIVERS |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| AI4 | 015 | 05 06 31 1 ONE OUTPUT LATCH 4 AT END OF ACCUMULATOR INSTRUCTION CHANNEL DLB LATCHES INDICATOR DRIVER INSTRUCTION CHANNEL DLB LATCHES |
| AI 0 AI 1 IND | 015 | 05 13 09 1 ACCUMULATOR INSTRUCTION CHANNEL LATCHES 0 AND 1 INDICATOR DRIVERS |
| ALP SPA | 037 | 05 09 02 1 ALPHA SPACE |
| AND NOT | 018 | 05 07 22 1 INVERSE LEVEL OF DECODED LOGICAL AND OPERATION |
| A NT | 005 | 05 06 07 1 BIT GENERATOR LATCH A ZERO OUTPUT |
| A | 005 | 05 06 07 1 BIT GENERATOR LATCH A ONE OUTPUT |
| AUTO AND FWD | 047 | 05 15 13 1 AUTOMATIC AND FOWARD |
| AUTO A | 049 | 05 15 01 1 AUTOMATIC FROM DRIVE SOURCE A |
| AUTO IND | 049 | 05 15 01 1 AUTOMATIC INDICATOR DRIVER OUTPUT |
| AUTO RLY COIL | 049 | 05 15 01 1 AUTOMATIC RELAY COIL DRIVER OUTPUT |
| AUTO R START | 050 | 05 15 19 1 AUTOMATIC RESTART |
| BCD LATCH | 042 | 05 11 01 1 BINARY CODED DECIMEL LATCH |
| BCD MODE | 045 | 05 11 07 1 BINARY CODED DECIMEL MODE |
| BG13 14 NT | 006 | 05 05 27 1 INVERSE BG13 14 |
| BG13 14 | 006 | 05 05 27 1 BIT GATES 13 14 |
| BG1 2 3 4 NT | 006 | 05 05 24 1 INVERSE BG1 2 3 4 |
| BG1 2 3 4 | 006 | 05 05 24 1 BIT GATES 1 2 3 4 |
| BG5 6 7 8 NT | 006 | 05 05 25 1 INVERSE BG5 6 7 8 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| BG5 6 7 8 | 006 | 05 05 25 1 BIT GATES 5 6 7 8 |
| BG9 10 11 12 NT | 006 | 05 05 26 1 BG9 10 11 12 INVERSED |
| BG9 10 11 12 | 006 | 05 05 26 1 BIT GATES 9 10 11 12 |
| BG SELECT | 004 | 05 04 05 1 BIT GATE SELECT GENERATE SCOPE SYNC ON CE PANEL |
| BLACK MAG | 038 | 05 09 09 1 BLACK MAGNET DRIVER OUTPUT |
| BLOCK DATA | 042 | 05 11 16 1 BLOCK TRANSFER OF DATA TO PRINTER |
| BLOCK TILT ROTATE | 038 | 05 09 09 1 DEGATE LEVEL PRINT CONTROLS |
| BOR NOT | 010 | 05 07 03 1 INVERSE BOR |
| BOR | 010 | 05 07 03 1 OUTPUT B LATCH TO ADD SUB UNIT |
| BUFF LD OCT PARITY | 045 | 05 11 07 1 BUFFER LOAD OCTAL PARITY ONE OUTPUT OF A LATCH |
| BUFF LD OCT PAR NT | 045 | 05 11 07 1 BUFFER LOAD OCTAL PARITY ZER LATCH OUTPUT |
| C1-C3 NOT | 061 | 05 14 19 1 INVERSE C1-C3 |
| C1-C3 | 061 | 05 14 19 1 CONTROL LEVELS 1 2 AND 3 |
| CA13 NOT | 063 | 05 02 03 1 INVERSE CA13 |
| CARR BUSY NT | 044 | 05 11 15 1 PRINTER CARRIAGE BUSY INVERSE LEVEL |
| CARR BUSY | 044 | 04 11 01 0 - 05 11 15 1 TYPEBAR IN MOTION |
| CARR CH 12 | 044 | 04 11 01 0 - 05 11 15 1 CARRIAGE AT A PUNCH IN CHANNEL 12 OF CARRIAGE CONTROL TAPE |
| CARR CTRL LTCH NT | 042 | 05 11 01 1 CARRIAGE CONTROL LATCH ZERO OUTPUT |
| CARR CTRL LTCH | 042 | 05 11 01 1 CARRIAGE CONTROL LATCH ONE OUTPUT |
| CARR LEFT PLOT | 039 | 05 10 05 1 CARRIAGE LEFT PLOTTER |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| CARR LEFT | 039 | 05 10 03 1 CARRIAGE LEFT LATCH ONE OUTPUT DATA SIGN INPUT |
| CARR RET MAG | 038 | 05 09 09 1 CARRIAGE RETURN MAGNET DRIVER OUTPUT |
| CARR RIGHT PLOT | 039 | 05 10 05 1 CARRIAGE RIGHT PLOTTER |
| CARR RIGHT | 039 | 05 10 03 1 CARRIAGE RIGHT LATCH ZERO OUTPUT DATA SIGN INPUT |
| CBR 1 2 | 008 | 05 07 08 1 CLEAR BUFFER REGISTER 1 2 |
| CB RUN A | 047 | 05 15 08 1 CHARACTER COUNTER BIT RUN FROM DRIVER SOURCE A |
| CB RUN NOT | 047 | 05 15 08 1 INVERSE CB RUN A |
| CD RST NOT | 069 | 05 03 15 1 INVERSE CD RST |
| CD RST | 069 | 05 03 15 1 COMPUTER DISPLAY RESET |
| CDS | 018 | 05 07 22 1 CHANGE DATA SECTOR OPERATION |
| CDS TAY | 018 | 05 05 20 1 CHANGE DATA SECTOR TIME PHASE A CLOCK PULSE Y |
| CDS TAZ | 018 | 05 05 20 1 CHANGE DATA SECTOR TIME PHASE A CLOCK PULSE Z |
| CEAI3 IND | 063 | 05 02 03 1 COMPARE ERROR OUTPUT FROM 3RD DELAY LATCH AT END OF ACCUMULATOR, INSTRUCTION CHANNEL. INDICATOR DRIVER |
| CEAI3 NOT | 063 | 05 02 03 1 INVERSE OF CEAI3 |
| CEBR14 IND | 063 | 05 02 05 1 COMPARE ERROR BUFFER REGISTER 14 INDICATOR DRIVER |
| CEBR14 NOT | 063 | 05 02 05 1 COMPARE ERROR BUFFER REGISTER 14 INVERSE |
| CEOAC NOT | 063 | 05 02 05 1 COMPARE ERROR OPERAND ADDRESS COMPARE INVERSE |
| CEOAC | 063 | 05 02 05 1 COMPARE ERROR OPERAND ADDRESS INDICATOR DRIVER |
| CE ADV OFF | 007 | 04 04 02 0 - 05 04 13 1 ADVANCE OFF CE PANEL |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| CE ADV ON | 007 | 04 04 02 0 - 05 04 13 1 ADVANCE SWITCH ON CE PANEL |
| CE HOPC1 IND | 062 | 05 02 01 1 COMPARE ERROR HOP CONSTANT FOR STORAGE DURNING INTERRUPT OPERATION. INDICATOR DRIVER |
| CE HOPC1 NOT | 062 | 05 02 01 1 COMPARE ERROR HOP CONSTANT FOR STORAGE DURNING INTERRUPT OPERATION. INVERSE LEVEL |
| CESER IND | 063 | 05 02 03 1 COMPARE ERROR SERIAL INDICATOR OUTPUT |
| CESSMBR IND | 062 | 05 02 02 1 COMPARE ERROR SECTOR SYLLABLE MODULE BUFFER REGISTER INDICATOR DRIVER |
| CESSMBR NOT | 062 | 05 02 02 1 COMPARE ERROR SECTOR SYLLABLE MODULE BUFFER REGISTER INVERSE LEVEL |
| CESSMSC IND | 062 | 05 02 04 1 INDICATOR DRIVER CESSMSC |
| CESSMSC NOT | 062 | 05 02 04 1 COMPARE ERROR SECTOR SYLLABLE MODULE SELF CHECK LATCH INVERSE OUTPUT |
| CETRS IND | 062 | 05 02 01 1 COMPARE ERROR TRANSFER REGISTER INDICATOR DRIVER |
| CETRS NOT | 062 | 05 02 01 1 COMPARE ERROR TRANSFER REGISTER SERIAL INVERSED |
| CGA NOT | 004 | 05 04 03 1 INVERSE CGA |
| CGA | 004 | 05 04 03 1 CLOCK GATE A PTC CLOCK PULSE GENERATOR |
| CHANGE TROP3 | 061 | 05 14 22 1 CHANGE TAPE READER OPERATION BIT 3 |
| CHANL 1 NOT | 048 | 05 14 02 1 INVERSE CHANL 1 |
| CHANL 1 | 048 | 05 14 02 1 CHANNEL 1 |
| CHANL 2 NOT | 048 | 05 14 02 1 INVERSE CHANL2 |
| CHANL 2 | 048 | 05 14 02 1 CHANNEL 2 |
| CHANL 3-4 NOT | 048 | 05 14 03 1 INVERSE CHANL 3-4 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| CHANL 3-4 | 048 | 05 14 03 1 CHANNEL 3-4 |
| CHANL 5-6 NOT | 048 | 05 14 04 1 INVERSE CHANL 5-6 |
| CHANL 5-6 | 048 | 05 14 04 1 CHANNEL 5-6 |
| CHECK MAG | 033 | 05 C9 11 1 CHECK MAGNET DRIVER OUTPUT |
| CIO 001 | 035 | 05 08 14 1 UNASSIGNED |
| CIO 002 | 035 | 05 08 10 1 CIO CODE 002 UNASSIGNED |
| CIO 005 | 035 | 05 08 14 1 CIO CODE 005 READ RCA 110 (BRD) |
| CIO 006 | 035 | 05 08 10 1 CIO CODE 006 LOAD SWITCH SELECTION REGISTER SSFB |
| CIO 011 | 035 | 05 08 14 1 CIO CODE 011 READ RCA 110 (MODR RTR TAGR) |
| CIO 012 | 035 | 05 08 10 1 CIO CODE 012 LOAD RCR REGISTER (GC) |
| CIO 015 | 035 | 05 C8 14 1 CIO CODE 015 READ OCV |
| CIO 016 | 035 | 05 08 10 1 CIO CODE 016 LOAD COMM REC (CR) |
| CIO 021 | 035 | 05 08 14 1 CIO CODE 021 READ DISCRETE (DOR) |
| CIO 022 | 035 | 05 08 10 1 CIO CODE 022 LOAD DIS INPUT (DIN) |
| CIO 025 | 035 | 05 08 14 1 CIO CODE 025 READ AD CONVERTER |
| CIO 026 | 035 | 05 08 10 1 CIO CODE 026 LOAD DIS INPUT (DIS) |
| CIO 031 | 035 | 05 08 14 1 CIO CODE 031 READ SWITCH SEL (SSR) |
| CIO 032 | 035 | 05 08 10 1 CIO CODE 032 LOAD NASA DISCRETES |
| CIO 035 | 035 | 05 08 14 1 CIO CODE 035 READ TELEMETRY A (BRD) |
| CIO 036 | 035 | 05 08 10 1 CIO CODE 036 LOAD DDAS REG (TS) |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| CIO 041 | 035 | 05 08 14 1 CIO CODE 041 READ TELEMETRY B (BRD) |
| CIO 042 | 035 | 05 08 10 1 CIO CODE 042 LOAD ERROR REG |
| CIO 045 | 035 | 05 08 15 1 CIO CODE 045 READ DDAS (BRD) |
| CIO 046 | 035 | 05 08 11 1 CIO CODE LOAD INTERRUPT REG |
| CIO 051 | 035 | 05 08 15 1 CIO CODE 051 READ NASA SIM INPUTS |
| CIO 052 | 035 | 05 08 11 1 CIO CODE LOAD OPTISYN REG |
| CIO 055 | 035 | 05 08 15 1 CIO CODE 055 READ IO REG SW SEL (SSFB) |
| CIO 056 | 035 | 05 08 11 1 CIO CODE LOAD COD SHIFT REG |
| CIO 061 | 035 | 05 08 15 1 CIO CODE 061 READ IO REG RCA (GC) |
| CIO 062 | 035 | 05 08 11 1 CIO CODE LOAD ENABLE COD SHIFT REG |
| CIO 065 | 035 | 05 08 15 1 CIO CODE 065 READ IO REG COMM REC (CR) |
| CIO 066 | 035 | 05 08 11 1 CIO CODE LOAD ENABLE COMPARE |
| CIO 071 | 035 | 05 08 15 1 CIO CODE 071 READ IO REG DISCRETES (DIN) |
| CIO 072 | 035 | 05 08 11 1 CIO CODE TELEMETRY SAMPLE |
| CIO 075 | 035 | 05 08 15 1 CIO CODE 075 READ IO REG DISCRETES (DIS) |
| CIO 076 | 035 | 05 08 11 1 CIO CODE RCA 110 SAMPLE |
| CIO 101 | 035 | 05 08 15 1 CIO CODE 101 READ IO REG NASA DISCRETES |
| CIO 102 | 035 | 05 08 11 1 CIO CODE SAMPLE RESET |
| CIO 105 | 035 | 05 08 15 1 CIO CODE 105 READ IO REG DDAS (TS) |
| CIO 106 | 035 | 05 08 11 1 CIO CODE SET DA DST LATCH |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| CIO 111 | 035 | 05 08 16 1 CIO CODE 111 READ IO REG ERRORS |
| CIO 112 | 035 | 05 08 12 1 CIO CODE 112 RESET DA DST LATCH |
| CIO 114 | 035 | 05 08 06 1 PTC CONTROL SINGLE STEP |
| CIO 115 | 035 | 05 08 16 1 CIO CODE 115 READ IO REG INTERRUPT |
| CIO 116 | 035 | 05 08 12 1 CIO CODE 116 SET DA HALT LATCH |
| CIO 121 | 035 | 05 08 16 1 CIO CODE 121 READ IO REG OPTISYN |
| CIO 122 | 035 | 05 08 12 1 CIO CODE 122 RESET DA HALT LATCH |
| CIO 125 | 035 | 05 08 16 1 CIO CODE 125 READ ADDRESS REG (AZTEC) |
| CIO 126 | 035 | 05 08 12 1 CIO CODE 126 INHIBIT ACCEL SUB |
| CIO 131 | 035 | 05 08 16 1 CIO CODE 131 UNASSIGNED |
| CIO 132 | 035 | 05 08 12 1 CIO CODE 132 SET ACCEL PLUS OR MINUS |
| CIO 135 | 035 | 05 08 16 1 CIO CODE 135 LVDCME REAL TIME COUNTER AZTEC |
| CIO 136 | 035 | 05 08 12 1 LOAD ACCEL DELAY LINE |
| CIO 141 THRU 151 | 035 | 05 08 16 1 CIO CODES 141 145 151 UNASSIGNED |
| CIO 142 THRU 152 | 035 | 05 08 12 1 CIO SPARES |
| CIO 154A | 036 | 05 13 13 1 CONTROL INPUT OUTPUT CODE 154 PHASE A |
| CIO 154B | 036 | 05 13 13 1 CONTROL INPUT OUTPUT CODE 154 PHASE B |
| CIO 154C | 036 | 05 13 13 1 CONTROL INPUT OUTPUT CODE 154 PHASE C |
| CIO 154 NOT | 036 | 05 13 01 1 INVERSE CIO 154 |
| CIO 154 | 036 | 05 13 01 1 CONTROL INPUT OUTPUT CODE 154 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| CIO 156 THRU 216 | 035 | 05 08 13 1 CIO SPARES |
| CIO 204 | 035 | 05 08 07 1 PROGRAM LOOP LIGHTS |
| CIO 210 | 035 | 05 08 07 1 DISCRETE OUTPUTS |
| CIO 214A | 036 | 05 13 13 1 CONTROL INPUT OUTPUT CODE 214 PHASE A |
| CIO 214B | 036 | 05 13 13 1 CONTROL INPUT OUTPUT CODE 214 PHASE B |
| CIO 214C | 036 | 05 13 13 1 CONTROL INPUT OUTPUT CODE 214 PHASE C |
| CIO 214 NOT | 036 | 05 13 01 1 INVERSE CIO 214 |
| CIO 214 | 036 | 05 13 01 1 CONTROL INPUT OUTPUT CODE 214 |
| CIO 220A | 036 | 05 13 13 1 CONTROL INPUT OUTPUT CODE 220 PHASE A |
| CIO 220B | 036 | 05 13 13 1 CONTROL INPUT OUTPUT CODE 220 PHASE B |
| CIO 220C | 036 | 05 13 13 1 CONTROL INPUT OUTPUT CODE 220 PHASE C |
| CIO 220 NOT | 036 | 05 13 01 1 INVERSE CIO 220 |
| CIO 220 | 036 | 05 13 01 1 CONTROL INPUT OUTPUT CODE 220 |
| CIO CTRL | 036 | 05 13 14 1 CONTROL INPUT OUTPUT CONTROL |
| CIO DATA C | 010 | 04 07 01 0 - 05 07 03 1 CONTROL INPUT OUTPUT DATA TO LINE TERMINATOR TERMINATOR OUTPUT TO BOR LATCH |
| CIO PTC | 006 | 05 08 17 1 CONTROL INPUT OUTPUT OPERATION CODE OUTPUT PTC |
| CIO | 018 | 05 07 21 1 CODED INPUT OUTPUT INSTRUCTION |
| CIO X LATCH | 039 | 05 10 01 1 CONTROL INPUT OUTPUT X LATCH PLOTTER DRUM MOTION |
| CIO Y LATCH | 039 | 05 10 01 1 CONTROL INPUT OUTPUT Y LATCH PLOTTER CARRIAGE MOTION |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| CIO Y | 039 | 05 10 01 1 CONTROL INPUT OUTPUT Y GENERATION OF COUNT GATE |
| CIO Z LATCH | 039 | 05 10 01 1 CONTROL INPUT OUTPUT Z LATCH PLOTTER PEN MOTION |
| CKP | 008 | 05 07 06 1 CHECK PARITY |
| CLOCK OFF | 007 | 05 04 13 1 CLOCK OFF |
| CLTR NOT | 008 | 05 07 10 1 INVERSE CLTR |
| CLTR | 008 | 05 07 10 1 CLEAR TRANSFER REGISTER |
| CLW | 008 | 05 07 16 1 CLEAR TRANSFER REGISTER AND W CLOCK TIME |
| CLX | 008 | 05 07 05 1 CLEAR X CLOCK TIME |
| CNT 1 2 4 8 NT | 045 | 05 11 09 1 INVERSE CNT 1 2 4 8 |
| CNT 1 2 4 8 | 045 | 05 11 09 1 OCTAL OUTPUTS 12 STATE COUNTER |
| CNT RST | 042 | 05 11 02 1 COUNTER RESET |
| CODE 000 | 034 | 05 08 04 1 CIO CODE 000 SET INTERRUPT INHIBIT REGISTER |
| CODE 004 | 034 | 05 08 04 1 CIO CODE 004 RESET INTERRUPT INHIBIT REGISTER |
| CODE 010 | 034 | 05 08 04 1 CIO CODE 010 RESET INTERRUPT =1 |
| CODE 014 | 034 | 05 08 04 1 CIO CODE 014 RESET INTERRUPT =2 |
| CODE 020 | 034 | 05 08 04 1 CIO CODE 020 RESET INTERRUPT =3 |
| CODE 024 | 034 | 05 08 04 1 CIO CODE 024 RESET INTERRUPT =4 |
| CODE 030 | 034 | 05 08 04 1 CIO CODE 030 RESET INTERRUPT =5 |
| CODE 034 | 034 | 05 08 04 1 CIO CODE 034 RESET INTERRUPT =6 |
| CODE 040 | 034 | 05 08 04 1 CIO CODE 040 RESET INTERRUPT =7 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| CODE 044 | 034 | 05 08 05 1 CIO CODE 044 RESET INTERRUPT =8 |
| CODE 050 | 034 | 05 08 05 1 CIO CODE 050 RESET INTERRUPT =9 |
| CODE 054 | 034 | 05 08 05 1 CIO CODE 054 RESET INTERRUPT =10 |
| CODE 060 | 034 | 05 08 05 1 CIO CODE 060 RESET INTERRUPT =11 |
| CODE 064 | 034 | 05 08 05 1 CIO CODE 064 RESET INTERRUPT =12 |
| CODE 070 | 034 | 05 08 05 1 CIO CODE 070 RESET INTERRUPT =13 |
| CODE 074 | 034 | 05 08 05 1 CIO CODE 074 RESET INTERRUPT =14 |
| CODE 100 | 034 | 05 08 05 1 CIO CODE 100 RESET INTERRUPT =15 |
| CODE 104 | 034 | 05 08 05 1 CIO CODE 104 RESET INTERRUPT =16 |
| CODE 110 | 034 | 05 08 06 1 CIO CODE 110 RESET INTERRUPT LATCH |
| CODE 114 | 034 | 05 08 06 1 CIO CODE 114 SET PTC CONTROL SINGLE STEP LATCH |
| CODE 120 | 034 | 05 08 06 1 CIO CODE 120 TYPE ALPHANUMERIC |
| CODE 124 | 034 | 05 08 06 1 CIO CODE 124 TYPE DECIMEL |
| CODE 130 | 034 | 05 08 06 1 CIO CODE 130 TYPE OCTAL |
| CODE 134 | 034 | 05 08 06 1 CIO CODE 134 TYPEWRITER CONTROL |
| CODE 140 | 034 | 05 08 06 1 CIO CODE 140 PLOTTER X |
| CODE 144 | 034 | 05 08 06 1 CIO CODE 144 PLOTTER Y |
| CODE 150 | 034 | 05 08 06 1 CIO CODE 150 PLOTTER Z |
| CODE 154 | 034 | 05 08 07 1 CIO CODE 154 SCAN INTERRUPT |
| CODE 160 | 034 | 05 08 07 1 CIO CODE 160 PRINT |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| CODE 164 | 034 | 05 08 07 1 CIO CODE 164 PRINT OCTAL |
| CODE 170 | 034 | 05 08 07 1 CIO CODE 170 PRINT BCD |
| CODE 174 | 034 | 05 08 07 1 CIO CODE 174 UNASSIGNED |
| CODE 200 | 034 | 05 08 07 1 CIO CODE 200 UNASSIGNED |
| CODE 204 | 034 | 05 08 07 1 CIO CODE 204 PROGRAM LOOP LIGHTS |
| CODE 210 | 034 | 05 08 07 1 CIO CODE 210 DISCRETE OUTPUT |
| CODE 214 | 034 | 05 08 07 1 CIO CODE 214 READ DISCRETE REGISTER A |
| CODE 220 | 034 | 05 08 08 1 CIO CODE 220 READ DISCRETE REGISTER B |
| CODE 224 THRU 260 | 034 | 05 08 08 1 CIO CODES 224 THRU 260 UNASSIGNED |
| CODE 264 THRU 324 | 034 | 05 08 09 1 CIO CODES 264 THRU 324 UNASSIGNED |
| CODE 774 | 034 | 05 08 02 2 CIO CODE 774 LINE PRINT |
| CODE 775 | 034 | 05 08 02 2 CIO CODE 775 PRINT ACCUMULATOR |
| COMP CTRL NOT | 007 | 05 04 04 1 INVERSE CTRL |
| COMP CTRL | 007 | 05 04 04 1 COMPUTER CONTROL FROM EXTERNAL INPUT |
| COUNT GATE | 039 | 05 10 04 1 GATES 300CPS COUNT DOWN |
| CP CABLE | 007 | 04 04 01 0 - 05 04 01 1 EXTERNAL COMPUTER CABLING PRESENT GENERATE COMPUTER CONTROL TIMING |
| CPW B | 004 | 05 06 05 1 CLOCK PULSE W FROM DRIVE SOURCE B |
| CPW X Y Z A | 004 | 05 04 15 1 CLOCK PULSES W X Y AND Z FROM DRIVE SOURCE A |
| CPW X Y Z NOT | 004 | 05 04 15 1 INVERSE LEVELS CPW X Y AND Z |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| CPW X Y Z | 004 | 05 04 15 1 CLOCK PULSES W X Y AND Z |
| CPX B | 004 | 05 06 05 1 CLOCK PULSE X FROM DRIVE SOURCE B |
| CPY B | 004 | 05 06 05 1 CLOCK PULSE Y FROM DRIVE SOURCE B |
| CPZ B | 004 | 05 06 05 1 CLOCK PULSE Z FROM DRIVE SOURCE B |
| C | 010 | 05 07 01 CARRY |
| C W | 004 | 05 04 02 1 CLOCK W FROM EXTERNAL SOURCE |
| CST IND 1 | 007 | 05 13 01 1 COMPUTER SINGLE STEP INDICATOR DRIVER |
| CST IND 2 | 007 | 05 13 01 1 COMPUTER SINGLE STEP INDICATOR DRIVER |
| CST NT | 007 | 05 04 14 1 INVERSE CST |
| CST | 007 | 05 04 14 1 COMPUTER SINGLE STEP |
| CST SW | 069 | 04 04 01 0 - 05 04 12 1 COMPUTER SINGLE STEP |
| CTRS NOT | 062 | 05 02 01 1 COMPARE TRANSFER REG SERIAL INVERSED |
| CW CY CY CZ | 004 | 05 04 04 1 PTC CLOCK PULSES W X Y Z |
| CW OR W | 004 | 04 04 01 0 - 05 04 01 1 CLOCK PULSE W EXTERNAL SOURCE |
| CYC3 NOT CYC4 NOT | 061 | 05 14 20 1 INVERSE CYCO, CYC4 |
| CYCO - CYC5 | 061 | 05 14 20 1 CYCLE O THRU CYCLE 5 LEVELS |
| D1 D2 IND | 007 | 05 04 10 1 DISCRETE REGISTER INDICATOR DRIVERS |
| D1 D2 | 007 | 05 04 10 1 DISCRETE REGISTER OUTPUTS TO IO |
| D3 D4 D5 D6 IND | 007 | 05 04 09 1 DISCRETE REGISTER INDICATOR DRIVERS |
| D3 D4 D5 D6 | 007 | 05 04 09 1 DISCRETE REGISTER OUTPUTS TO IO |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| DARO | 042 | 05 13 09 1 DATA READ OUT |
| CA COMP IND | 049 | 05 15 21 1 DATA ADDRESS COMPARE INDICATOR DRIVER |
| DA COMP | 049 | 05 15 21 1 DATA ADDRESS COMPARE |
| DATA 13 IND 1 2 | 023 | 05 13 05 1 DATA BIT 13 INDICATOR DRIVERS 1 AND 2 |
| DATA 1 2 | 043 | 05 11 13 1 DATA BITS 1 AND 2 BCD BUFFER LOAD |
| DATA 1 4 IND 1 2 | 023 | 05 13 02 1 DATA BITS 1 THRU 4 INDICATOR DRIVERS 1 AND 2 |
| DATA 4 8 A | 043 | 05 11 14 1 DATA BITS 4 8 AND A BCD BUFFER LOAD |
| DATA 5 8 IND 1 2 | 023 | 05 13 03 1 DATA BITS 5 THRU 8 INDICATOR DRIVERS 1 AND 2 |
| DATA 9 12 IND 1 2 | 023 | 05 13 04 1 DATA BITS 9 THRU 12 INDICATOR DRIVERS 1 AND 2 |
| DATA BIT 1 THRU 8 | 042 | 05 13 10 1 DATA BIT 1 THRU 8 |
| DATA BIT 9 THRU 17 | 042 | 05 13 11 1 DATA BITS 9 THRU 17 |
| DATA BIT SIGN | 042 | 05 13 10 1 DATA BIT SIGN |
| DATA BITS 18 TO 25 | 042 | 05 13 12 1 DATA BITS 18 THRU 25 |
| DATA B | 044 | 05 11 15 1 DATA BIT B BUFFER LOAD |
| DATA C NT | 044 | 05 11 16 1 DATA BIT C BUFFER LOAD |
| DATA DIS IN | 066 | 05 02 16 1 DATA DISPLAY INPUT |
| DC CST | 069 | 04 04 01 0 - 05 04 12 1 DIRECT COMPUTER COMPUTER SINGLE STEP |
| DD A | 049 | 05 15 01 1 DATA DISPLAY FROM DRIVE SOURCE A |
| DD COMP | 069 | 05 03 14 1 DATA DISPLAY COMPARE |
| DD HALT | 069 | 05 03 14 1 DATA DISPLAY HALT |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| DD IND | 049 | 05 15 20 1 DATA DISPLAY INDICATOR DRIVER |
| DD NOT A | 049 | 05 15 01 1 INVERSE DD A |
| DD RELAY COIL | 049 | 05 15 01 1 DATA DISPLAY RELAY COIL DRIVER OUTPUT |
| DDSC1 | 066 | 05 02 15 1 DATA DISPLAY SHIFT REGISTER CONTROL 1 |
| DDSC2 NOT | 066 | 05 02 15 1 INVERSE DDSC2 |
| DDSC2 | 066 | 05 02 15 1 DATA DISPLAY SHIFT REGISTER CONTROL 2 |
| DEC 1 THRU 5 | 045 | 05 11 09 1 DECIMEL OUTPUTS 12 STATE COUNTER |
| DEC 6 THRU 12 | 045 | 05 11 10 1 DECIMEL OUTPUTS 12 STATE COUNTER |
| DET REF VOLT A TS | 028 | 05 28 01 1 DETECTOR REFERENCE VOLTAGE MEMORY A |
| DET REF VOLT B | 028 | 05 28 03 1 DETECTOR REFERENCE VOLTAGE MEMORY B |
| DIN | 061 | 05 14 23 1 SERIALIZED DATA INPUT TO COMPUTER |
| DISCR IN 1 THRU 6 | 036 | 04 13 05 0 - 05 13 14 1 DISCRETE INPUTS 1 THRU 6 FROM IO |
| DISCR IN 1 TO 6 SW | 036 | 05 13 14 1 DISCRETE INPUTS 1 THRU 6 SWITCHES |
| DISC REG RST | 007 | 05 04 08 1 DISCRETE REGISTER RESET |
| DISC REG SET | 007 | 05 04 08 1 DISCRETE REGISTER SET |
| DIS AI3 | 066 | 05 02 14 1 DISPLAY 3RD LATCH ACCUMULATOR INSTRUCTION CHANNEL |
| DIS IADR | 067 | 05 03 12 1 DISPLAY INSTRUCTION ADDRESS DISPLAY REGISTER |
| DIS SSMDR A | 064 | 05 02 07 1 DISPLAY SECTOR SYLLABLE MODULE DISPLAY REGISTER FROM SOURCE A |
| DIS SSMDR B | 064 | 05 02 07 1 DISPLAY SECTOR SYLLABLE MODULE DISPLAY REGISTER FROM SOURCE B |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| DLA 10 12 13 | 011 | 05 06 17 1 ACCUMULATOR DELAY A LATCHES 10 12 13 ONE OUTPUTS |
| DLA 12 IND | 012 | 05 13 10 1 ACCUMULATOR DELAY LINE A LATCH INDICATOR DRIVER |
| DLA 13 14 IND | 012 | 05 13 11 1 ACCUMULATOR DELAY LINE A LATCHES 13 AND 14 INDICATOR DRIVERS |
| DLA 14 16 17 | 012 | 05 06 19 1 ACCUMULATOR DELAY A LATCHES 14 16 17 ONE OUTPUTS |
| DLA 16 17 IND | 012 | 05 13 11 1 ACCUMULATOR DELAY LINE A LATCHES 16 AND 17 INDICATOR DRIVERS |
| DLA 18 20 21 | 012 | 05 06 20 1 ACCUMULATOR DELAY A LATCHES 18 20 21 ONE OUTPUTS |
| DLA 18 20 IND | 012 | 05 13 11 1 ACCUMULATOR DELAY LINE A LATCHES 18 AND 20 INDICATOR DRIVERS |
| DLA 1 2 IND | 011 | 05 13 10 1 ACCUMULATOR DELAY LINE A LATCHES 1 AND 2 INDICATOR DRIVERS |
| DLA 1 | 011 | 05 06 18 1 ACCUMULATOR DELAY A LATCH 1 ONE OUTPUT |
| DLA 21 22 24 IND | 013 | 05 13 11 1 ACCUMULATOR DELAY LIKE A LATCHES 21 22 AND 24 INDICATOR DRIVERS |
| DLA 22 24 25 | 013 | 05 06 21 1 ACCUMULATOR DELAY A LATCHES 22 24 25 ONE OUTPUTS |
| DLA 23 27 IND | 013 | 05 13 09 1 ACCUMULATOR DELAY LINE A LATCHES 23 AND 27 INDICATOR DRIVERS |
| DLA 25 26 IND | 013 | 05 13 12 1 ACCUMULATOR DELAY LINE A LATCHES 25 AND 26 INDICATOR DRIVERS |
| DLA 26 27 | 013 | 05 06 22 1 ACCUMULATOR DELAY LATCHES 26 27 ONE OUTPUTS |
| DLA 28 29 30 IND | 013 | 05 13 12 1 ACCUMULATOR DELAY LINE A LATCHES 28 29 AND 30 INDICATOR DRIVERS |
| DLA 28 29 30 | 013 | 05 06 23 1 ACCUMULATOR DELAY A LATCHES 28 29 30 ONE OUTPUTS |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| DLA 2 4 5 | 011 | 05 06 15 1 ACCUMULATOR DELAY A LATCHES 2 4 AND 5 ONE OUTPUTS |
| DLA 3 IND | 011 | 05 13 09 1 ACCUMULATOR DELAY LINE A LATCH 3 INDICATOR DRIVER |
| DLA 4 5 IND | 011 | 05 13 10 1 ACCUMULATOR DELAY LINE A LATCHES 4 AND 1 INDICATOR DRIVERS |
| DLA 6 7 8 9 | 011 | 05 06 16 1 ACCUMULATOR DELAY A LATCHES 6 THRU 9 ONE OUTPUTS |
| DLA 6 8 IND | 011 | 05 13 10 1 ACCUMULATOR DELAY LINE A LATCHES 6 AND 8 INDICATOR DRIVERS |
| DLA 7 11 15 19 IND | 011 | 05 13 09 1 ACCUMULATOR DELAY LINE A LATCHES 7 11 15 19 INDICATOR DRIVERS |
| DLA 9 10 IND | 011 | 05 13 10 1 ACCUMULATOR DELAY LINE A LATCHES 9 AND 10 INDICATOR DRIVERS |
| DLB 10 | 014 | 05 06 26 1 ACCUMULATOR DELAY B LATCH 10 ONE OUTPUT |
| DLB 14 | 014 | 05 06 27 1 ACCUMULATOR DELAY B LATCH 14 ONE OUTPUT |
| DLB 17 THRU 21 IND | 014 | 05 13 09 1 ACCUMULATOR DELAY LINE B LATCHES 17 THRU 21 INDICATOR DRIVERS |
| DLB 18 | 014 | 05 06 28 1 ACCUMULATOR DELAY B LATCH 18 ONE OUTPUT |
| DLB 19 20 | 015 | 05 06 29 1 ACCUMULATOR DELAY B LATCHES 19 20 ONE OUTPUT |
| DLB 1 IND | 013 | 05 13 08 1 ACCUMULATOR DELAY LINE B LATCH 1 INDICATOR DRIVER |
| DLB 2 3 IND | 013 | 05 13 12 1 ACCUMULATOR DELAY LINE B LATCHES 2 AND 3 INDICATOR DRIVERS |
| DLB 2 | 013 | 05 06 24 1 ACCUMULATOR DELAY B LATCH 1 ONE OUTPUT |
| DLB 3 6 | 014 | 05 06 25 1 ACCUMULATOR DELAY B LATCHES 3 AND 6 ONE OUTPUTS |
| DLB 4 THRU 16 IND | 014 | 05 13 08 1 ACCUMULATOR DELAY LINE B LATCHES 4 THRU 16 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| | | INDICATOR DRIVERS |
| DLY A | 024 | 05 05 16 1 DELAY MEMORY A |
| DM 0 1 IND | 019 | 05 20 17 1 DATA MODULE 0 1 INDICATOR DRIVERS |
| DM 0 | 019 | 05 05 13 1 DATA MODULE 0 |
| DM 1 | 019 | 05 05 13 1 DATA MODULE 1 |
| DRIVE LEFT | 050 | 05 15 14 1 DRIVE LEFT |
| DRIVE RIGHT | 050 | 05 15 14 1 DRIVE RIGHT |
| DRUM DOWN PLOT | 039 | 05 10 05 1 DRUM DOWN PLOTTER |
| DRUM DOWN | 039 | 05 10 04 1 DRUM DOWN ONE OUTPUT OF LATCH DATA SIGN INPUT |
| DRUM UP PLOT | 039 | 05 10 05 1 DRUK UP PLOTTER |
| DRUM UP | 039 | 05 10 04 1 DRUM DOWN ZERO OUTPUT OF LATCH DATA SIGN INPUT |
| DSMC | 066 | 05 02 12 1 DATA SECTOR MODULE COMPARE |
| DSMSO A | 059 | 05 14 15 1 DATA SECTOR MODULE SERIAL CUT FROM SOURCE A |
| DSMSO NOT | 059 | 05 14 15 1 INVERSE DSMSO |
| DS 1 2 3 4 IND | 018 | 05 20 16 1 DATA SECTOR 1 2 3 4 INDICATOR DRIVERS |
| DS 1 2 3 NOT | 018 | 05 05 21 1 INVERSE DS 1 2 3 |
| DS 1 2 3 | 018 | 05 05 21 1 DATA SECTOR 1 2 3 |
| DS 1 - 4 CDS | 018 | 05 05 20 1 DATA SECTOR BITS 1 THRU 4 CHANGE DATA SECTOR |
| DS 4 | 018 | 05 05 22 1 DATA SECTOR 4 |
| DSY | 018 | 05 05 21 1 DATA SECTOR Y TIMING LEVEL |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| DSZ | 018 | 05 05 21 1 DATA SECTOR Z TIMING LEVEL |
| DTDRCP1-4 | 066 | 05 02 16 1 DATA DISPLAY REGISTER CLOCK PULSES 1 THRU 4 |
| DTDR B10 | 068 | 05 02 18 1 DATA DISPLAY REGISTER BIT 10 |
| DTDR B11 NOT | 068 | 05 02 18 1 INVERSE DTDR B11 |
| DTDR B11 | 068 | 05 02 18 1 DATA DISPLAY REGISTER BIT 11 |
| DTDR B12 NOT | 068 | 05 02 19 1 INVERSE DTDR B12 |
| DTDR B12 | 068 | 05 02 19 1 DATA DISPLAY REGISTER BIT 12 |
| DTDR B13 | 068 | 05 02 20 1 DATA DISPLAY REGISTER BIT 13 |
| DTDR B14 NOT | 068 | 05 02 20 1 INVERSE DTDR B14 |
| DTDR B14 | 068 | 05 02 20 1 DATA DISPLAY REGISTER BIT 14 |
| DTDR B15 NOT | 068 | 05 02 19 1 INVERSE DTDR B15 |
| DTDR B15 | 068 | 05 02 19 1 DATA DISPLAY REGISTER BIT 15 |
| DTDR B16 | 068 | 05 02 20 1 DATA DISPLAY REGISTER BIT 16 |
| DTDR B17 NOT | 068 | 05 02 20 1 INVERSE DTDR B17 |
| DTDR B17 | 068 | 05 02 20 1 DATA DISPLAY REGISTER BIT 17 |
| DTDR B18 NOT | 068 | 05 02 19 1 INVERSE DTDR B18 |
| DTDR B18 | 068 | 05 02 19 1 DATA DISPLAY REGISTER BIT 18 |
| DTDR B1 | 068 | 05 02 18 1 DATA DISPLAY REGISTER BIT 1 |
| DTDR B20-B25 | 068 | 05 02 23 1 DATA DISPLAY REGISTER DRIVER INDICATORS BIT 20 THRU BIT 25 |
| DTDR B20 NOT | 068 | 05 02 20 1 INVERSE DTDR B20 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| DTDR B20 | 068 | 05 02 20 1 DATA DISPLAY REGISTER BIT 20 |
| DTDR B21 NOT | 068 | 05 02 19 1 INVERSE DTDR B21 |
| DTDR B21 | 068 | 05 02 19 1 DATA DISPLAY REGISTER BIT 21 |
| DTDR B22 NOT | 068 | 05 02 20 1 INVERSE DTDR B22 |
| DTDR B22 | 068 | 05 02 20 1 DATA DISPLAY REGISTER BIT 22 |
| DTDR B23 NOT | 068 | 05 02 20 1 INVERSE DTDR B23 |
| DTDR B23 | 068 | 05 02 20 1 DATA DISPLAY REGISTER BIT 23 |
| DTDR B24 | 068 | 05 02 21 1 DATA DISPLAY REGISTER BIT 24 |
| DTDR B25 | 068 | 05 02 21 1 DATA DISPLAY REGISTER BIT 25 |
| DTDR B2 NOT | 068 | 05 02 18 1 INVERSE DTDR B2 |
| DTDR B2 | 068 | 05 02 18 1 DATA DISPLAY REGISTER BIT 2 |
| DTDR B3 NOT | 068 | 05 02 17 1 INVERSE DTDR B3 |
| DTDR B3 | 068 | 05 02 17 1 DATA DISPLAY REGISTER BIT 3 |
| DTDR B4 | 068 | 05 02 18 1 DATA DISPLAY REGISTER BIT 4 |
| DTDR B5 NOT | 068 | 05 02 18 1 INVERSE DTDR B5 |
| DTDR B5 | 068 | 05 02 18 1 DATA DISPLAY REGISTER BIT 5 |
| DTDR B6 NOT | 068 | 05 02 17 1 INVERSE DTDR B6 |
| DTDR B6 | 068 | 05 02 17 1 DATA DISPLAY REGISTER BIT 6 |
| DTDR B7 | 068 | 05 02 15 1 DATA DISPLAY REGISTER BIT 7 |
| DTDR B8 NOT | 068 | 05 02 18 1 INVERSE DTDR 8 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| DTDR B8 | 068 | 05 02 18 1 DATA DISPLAY REGISTER BIT 8 |
| DTDR B9 NOT | 068 | 05 02 17 1 INVERSE DTDR B9 |
| DTDR B9 | 068 | 05 02 17 1 DATA DISPLAY REGISTER BIT 9 |
| DTDR SIGN-B19 IND | 068 | 05 02 22 1 DATA DISPLAY REGISTER DRIVER INDICATORS SIGN THRU BIT 19 |
| DTDR SIGN NOT | 068 | 05 02 17 1 INVERSE DTDR SIGN |
| DTDR SIGN | 068 | 05 02 17 1 DATA DISPLAY REGISTER SIGN |
| DTRPT IND | 061 | 05 14 23 1 DATA REPEAT DRIVER INDICATOR |
| DTRPT NOT IND | 061 | 05 14 23 1 INVERSE DTRPT INDICATOR DRIVER |
| DTRPT NOT | 061 | 05 14 23 1 INVERSE DTRPT |
| DTRPT | 061 | 05 14 23 1 DATA REPEAT |
| DTSO B12 THRU B25 | 059 | 05 14 11 1 DATA SERIAL OUT BITS 12 THRU 25 |
| DTSO NOT | 059 | 05 14 12 1 INVERSE DTSO |
| DTSO | 059 | 05 14 12 1 DATA SERIAL OUT LATCH OUTPUT |
| EAP | 022 | 05 07 19 1 ERROR A BUFFER REGISTER PARITY |
| ENABLE 1 CKT 1-3 A | 027 | 05 27 03 1 ENABLE SENSE AMPS SEGMENT 1 CIRCUITS 1-3 MEMORY A |
| ENABLE 1 CKT 1-3 B | 027 | 05 27 04 1 ENABLE SENSE AMPS SEGMENT 1 CIRCUITS 1-3 MEMORY B |
| ENABLE 2 CKT 1-3 A | 027 | 05 27 03 1 ENABLE SENSE AMPS SEGMENT 2 CIRCUITS 1-3 MEMORY A |
| ENABLE 2 CKT 1-3 B | 027 | 05 27 04 1 ENABLE SENSE AMPS SEGMENT 2 CIRCUITS 1-3 MEMORY B |
| EOP | 050 | 05 15 19 1 END OF PROGRAM BIT |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| ERROR HOLD SW | 069 | 04 04 01 0 - 05 04 12 1 ERROR HOLD SWITCH |
| ERROR RST SW | 022 | 04 13 03 0 - 05 13 01 1 ERROR RESET SWITCH |
| ERR NOT INV | 062 | 05 02 06 1 ERROR NOT INVERSE |
| ERR NOT | 062 | 05 02 02 1 INVERSED ERROR LEVEL |
| ERR RST NOT | 048 | 05 14 06 1 INVERSE ERR RST |
| ERR RST | 048 | 05 14 06 1 ERROR RESET |
| ERR TEST NOT | 049 | 05 15 02 1 INVERSE ERR TEST |
| ERR TEST | 049 | 05 15 02 1 ERROR TEST |
| EVEN | 061 | 05 14 18 1 EVEN DATA TRANSFER LEVEL |
| EXT GND | 039 | 05 10 05 1 SIGNAL GROUND TO PLOTTER |
| FEED TRACK | 046 | 04 15 02 0 - 05 15 03 1 TAPE FEED HOLES |
| FIRE SS | 045 | 05 11 07 1 FIRE SINGLE SHOT |
| FIR WO | 049 | 05 15 15 1 FIRST WORD |
| FIRST COMP | 069 | 05 03 14 1 FIRST COMPARE |
| FORCE A1 | 031 | 05 20 03 1 SETS TRANSFER REGISTER BIT 8 |
| FORCE A2 | 031 | 05 20 01 1 SETS TRANSFER REGISTER BIT 7 |
| FORCE A3 | 031 | 05 20 03 1 SETS TRANSFER REGISTER BIT 6 |
| FORCE A4 | 031 | 05 20 03 1 SETS TRANSFER REGISTER BIT 5 |
| FREE RUN SS NOT | 046 | 05 15 03 1 INVERSE FREE RUN SS |
| FREE RUN SS | 046 | 05 15 03 1 FREE RUN SINGLE SHOT |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| FRSS 10 | 046 | 05 15 19 1 FREE RUN SINGLE SHOT AND 10CPS MULTIVIBRATOR |
| F RUN | 050 | 05 15 14 1 FOWARD RUN TAPE READER |
| F START | 050 | 05 15 17 1 FOWARD START |
| FWD A | 050 | 05 15 15 1 FOWARD LEVEL FROM DRIVE SOURCE A TAPE READER |
| FWD IND | 050 | 05 15 15 1 FOWARD INDICATOR DRIVER |
| G1 G2 G3 G4 NT | 005 | 05 06 06 1 BIT GATE GENERATOR LATCHES 1 THRU 4 ZERO OUTPUT |
| G1 G2 G3 G4 | 005 | 05 06 06 1 BIT GATE GENERATOR LATCHES 1 THRU 4 ONE OUTPUTS |
| G5 G6 G7 NT | 005 | 05 06 07 1 BIT GATE GENERATOR LATCHES 5 THRU 7 ZERO OUTPUT |
| G5 G6 G7 | 005 | 05 06 07 1 BIT GATE GENERATOR LATCHES 5 THRU 7 ONE OUTPUTS |
| GACISS | 006 | 05 08 17 1 GATE ADVANCE COMPUTER ONE INSTRUCTION DURNING SINGLE STEP |
| GATE B1 A6A | 034 | 05 08 01 1 CIO GATE OUT CODES FROM DRIVE SOURCE A |
| GATE B1 A6B | 034 | 05 08 01 1 CIO GATE OUT CODES FROM DRIVE SOURCE B |
| GATE B1 A6 | 034 | 05 08 01 1 GATE PHASE B BIT GATE 1 TO PHASE A BIT GATE 6 |
| GATE L | 037 | 05 09 02 1 LEVEL USED IN GENERATION OF SPACE OR TILT SELECT |
| GCW | 004 | 05 04 01 1 CLOCK W FROM EXTERNAL SOURCE DELAYED CW |
| GCX | 004 | 05 04 02 1 CLOCK X FROM EXTERNAL SOURCE DELAYED CW |
| GCY | 004 | 05 04 02 1 CLOCK Y FROM EXTERNAL SOURCE DELAYED CW |
| GCZ | 004 | 05 04 02 1 CLOCK Z FROM EXTERNAL SOURCE DELAYED CW |
| GMWM CARR PRS775 | 042 | 05 11 02 1 GROUP MARK WORD MARK CARRIAGE PRINT STORAGE OR PRINT ACCUMULATOR |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| GMWM LTCH NT | 042 | 05 11 01 1 ZERO OUTPUT GMWM LTCH |
| GMWM LTCH | 042 | 05 11 01 1 GROUP MARK WORD MARK LATCH ONE OUTPUT SET BY CIO CODE 774 |
| GO TO UC NT | 037 | 05 09 05 1 GO TO UPPER CASE INVERSE LEVEL |
| GO TO UC | 037 | 05 09 05 1 GO TO UPPER CASE |
| GSC | 062 | 05 02 03 1 GATE SERIAL COMPARE |
| GT1 | 020 | 05 20 19 1 GATE TIME 1 |
| GT2 | 020 | 05 20 19 1 GATE TIME 2 |
| HALT 1 | 007 | 05 04 11 1 HALT 1 |
| HALT SW OFF | 007 | 04 04 01 0 - 05 04 11 1 HALT SWITCH OFF |
| HALT SW ON | 007 | 04 04 01 0 - 05 04 06 1 HALT SWITCH ON |
| HDMO 1 | 020 | 05 20 24 1 HOP SAVER REGISTER DATA MODULE 0 1 |
| HDS1 2 3 | 020 | 05 20 23 1 HOP SAVER REGISTER DATA SECTORS 1 2 3 |
| HDS4 | 020 | 05 20 24 1 HOP SAVER REGISTER DATA SECTOR 4 |
| HIC1 2 3 | 020 | 05 20 22 1 HOP SAVER REGISTER OLA OUTPUT 17 16 14 |
| HIC 4 5 6 7 8 | 020 | 05 20 23 1 HOP SAVER REGISTER OLA OUTPUTS 12 13 10 7 8 |
| HIMO 1 | 020 | 05 20 24 1 HOP SAVER REGISTER INSTRUCTION MODULE 0 1 |
| HIS1 2 3 4 | 020 | 05 20 22 1 HOP SAVER REGISTER INSTRUCTION SECTOR BITS 1 TO 4 |
| HOPCI | 020 | 05 20 21 1 HOP CONTANT LEVEL 1 GENERATE HOP CONSTANT |
| HOP | 018 | 05 07 23 1 HOP OPERATION |
| HOPSAVE SW | 019 | 04 20 02 0 - 05 20 15 1 HOP SAVE SWITCH |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| HOPTL | 020 | 05 20 19 1 HOP TAPE LOAD |
| HPS IND INH NOT | 019 | 05 20 15 1 HOPSAVE INDICATOR INHIBIT INVERSED |
| HSYLC1 HSYLC0 | 020 | 05 20 22 1 SYLLABLE CONTROL LATCH STATUS HOP SAVER REGISTER |
| IAC NOT | 065 | 05 03 07 1 INVERSE IAC |
| IAC | 065 | 05 03 07 1 INSTRUCTION ADDRESS COMPARE |
| IADR A1-A8 NOT | 067 | 05 03 11 1 INVERSE IADR A1-A8 |
| IADR A1-A8 | 067 | 05 03 11 1 INSTRUCTION ADDRESS DISPLAY REG BITS 1 THRU 8 |
| IA A1-A8 IND | 067 | 05 03 08 1 INSTRUCTION ADDRESS BITS 1 THRU 8 INDICATOR DRIVE |
| IA COMP IND | 049 | 05 15 21 1 INSTRUCTION ADDRESS COMPARE INDICATOR DRIVER |
| IA COMP | 049 | 05 15 21 1 INSTRUCTION ADDRESS COMPARE |
| IA RLY COIL | 049 | 05 15 02 1 INSTRUCTION ADDRESS RELAY COIL DRIVER OUTPUT |
| IM 0 1 IND | 019 | 05 20 17 1 INSTRUCTION MODULE 0 1 INDICATOR DRIVERS |
| IM 0 | 019 | 05 05 13 1 INSTRUCTION MODULE 0 |
| IM 1 | 019 | 05 05 13 1 INSTRUCTION MODULE 1 |
| INDEX MAG | 038 | 05 09 09 1 INDEX MAGNET DRIVER OUTPUT |
| IND B 11 12 | 031 | 05 20 07 1 BLOCK INTERRUPT 11 12 INDICATOR DRIVERS |
| IND B 13 14 | 031 | 05 20 06 1 BLOCK INTERRUPTS 13 14 INDICATOR DRIVERS |
| IND B 15 | 031 | 05 20 05 1 BLOCK INTERRUPT 15 INDICATOR DRIVER |
| IND B 16 | 031 | 05 20 05 1 BLOCK INTERRUPT 16 INDICATOR DRIVER |
| IND B 1 2 | 031 | 05 20 12 1 BLOCK INTERRUPT 1 2 INDICATOR DRIVERS |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| IND B 3 4 | 031 | 05 20 11 1 BLOCK INTERRUPT 3 4 INDICATOR DRIVERS |
| IND B 5 6 | 031 | 05 20 10 1 BLOCK INTERRUPT 5 6 INDICATOR DRIVERS |
| IND B 8 9 | 031 | 05 20 09 1 BLOCK INTERRUPT 8 9 INDICATOR DRIVERS |
| IND B 9 10 | 031 | 05 20 08 1 BLOCK INTERRUPT 9 10 INDICATOR DRIVERS |
| IND I 11 12 | 031 | 05 20 07 1 INTERRUPT 11 12 INDICATOR DRIVERS |
| IND I 13 14 | 031 | 05 20 06 1 INTERRUPT INDICATOR DRIVERS 13 AND 14 |
| IND I 15 | 031 | 05 20 05 1 INTERRUPT 15 INDICATOR DRIVER |
| IND I 1 2 | 031 | 05 20 12 1 INTERRUPT 1 2 INDICATOR DRIVERS |
| IND I 3 4 | 031 | 05 20 11 1 INTERRUPT 3 4 INDICATOR DRIVERS |
| IND I 5 6 | 031 | 05 20 10 1 INTERRUPT 5 6 INDICATOR DRIVERS |
| IND I 7 8 | 031 | 05 20 09 1 INTERRUPT 7 8 INDICATOR DRIVERS |
| IND I 9 10 | 031 | 05 20 08 1 INTERRUPT 9 10 |
| INHIBIT GATE A | 024 | 05 05 14 1 INHIBIT GATE MEMORY A |
| INHIBIT GATE B | 024 | 05 05 17 1 INHIBIT GATE B |
| INHIBIT OC ZERO | 045 | 05 11 10 1 INHIBIT OCTAL ZERO |
| INH A O MB13-14 RET | 027 | 05 27 15 1 - 04 27 01 0 INHIBIT MEMORY A BUFFER BITS 13 AND 14 RETURNS SYLLABLE 0 |
| INH A O MB1-14 | 027 | 04 27 01 0 - 05 27 16 1 INHIBIT MEMORY A SYLLABLE 0 BITS 1 THRU 14 DRIVE RESISTORS |
| INH A O MB9-12 RET | 027 | 05 27 14 1 - 04 27 01 0 INHIBIT MEMORY A BUFFER BITS 9 THRU 12 RETURNS SYLLABLE 0 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| INH A 0 MB 1-4 RET | 027 | 05 27 12 1 - 04 27 01 0 INHIBIT MEMORY A BUFFER BITS 1 THRU 4 RETURNS SYLLABLE 0 |
| INH A 0 MB 5-8 RET | 027 | 05 27 13 1 - 04 27 01 0 INHIBIT MEMORY A BUFFER BITS 5 THRU 8 RETURNS SYLLABLE 0 |
| INH A 0 | 027 | 05 27 03 1 INHIBIT MEMORY A SYLLABLE 0 |
| INH A 1 MB13-14 RET | 027 | 05 27 15 1 - 04 27 01 0 INHIBIT MEMORY A BUFFER BITS 13 AND 14 RETURNS SYLLABLE 1 |
| INH A 1 MB1-14 | 027 | 04 27 01 0 - 05 27 16 1 INHIBIT MEMORY A SYLLABLE 1 BITS 1 THRU 14 DRIVE RESISTORS |
| INH A 1 MB9-12 RET | 027 | 05 27 14 1 - 04 27 01 0 INHIBIT MEMORY A BUFFER BITS 9 THRU 12 RETURNS SYLLABLE 1 |
| INH A 1 MB 1-4 RET | 027 | 05 27 12 1 - 04 27 01 0 INHIBIT MEMORY A BUFFER BITS 1 THRU 4 RETURNS SYLLABLE 1 |
| INH A 1 MB 5-8 RET | 027 | 05 27 13 1 - 04 27 01 0 INHIBIT MEMORY A BUFFER BITS 5 THRU 8 RETURNS SYLLABLE 1 |
| INH A 1 | 027 | 05 27 03 1 INHIBIT MEMORY A SYLLABLE 1 |
| INH B 0 MB13-14 RET | 027 | 05 27 15 1 - 04 27 02 0 INHIBIT MEMORY B BUFFER BITS 13 AND 14 RETURNS SYLLABLE 0 |
| INH B 0 MB1-14 | 027 | 04 27 02 0 - 05 27 17 1 INHIBIT MEMORY B SYLLABLE 0 BITS 1 THRU 14 DRIVE RESISTORS |
| INH B 0 MB9-12 RET | 027 | 05 27 14 1 - 04 27 02 0 INHIBIT MEMORY B BUFFER BITS 9 THRU 12 RETURNS SYLLABLE 0 |
| INH B 0 MB 1-4 RET | 027 | 05 27 12 1 - 04 27 02 0 INHIBIT MEMORY B BUFFER BITS 1 THRU 4 RETURNS SYLLABLE 0 |
| INH B 0 MB 5-8 RET | 027 | 05 27 13 1 - 04 27 02 1 INHIBIT MEMORY B BUFFER BITS 5 THRU 8 RETURNS SYLLABLE 0 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| INH B 0 | 027 | 05 27 04 1 INHIBIT MEMORY B SYLLABLE 0 |
| INH B 1 MB13-14 RET | 027 | 05 27 15 1 - 04 27 02 0 INHIBIT MEMORY B BUFFER BITS 13 AND 14 RETURNS SYLLABLE 1 |
| INH B 1 MB1-14 | 027 | 04 27 02 0 - 05 27 17 1 INHIBIT MEMORY B SYLLABLE 1 BITS 1 THRU 14 DRIVE RESISTORS |
| INH B 1 MB9-12 RET | 027 | 05 27 14 1 - 04 27 02 0 INHIBIT MEMORY B BUFFER BITS 9 THRU 12 RETURNS SYLLABLE 1 |
| INH B 1 MB 1-4 RET | 027 | 05 27 12 1 - 04 27 02 0 INHIBIT MEMORY B BUFFER BITS 1 THRU 4 RETURNS SYLLABLE 1 |
| INH B 1 MB 5-8 RET | 027 | 05 27 13 1 - 04 27 02 1 INHIBIT MEMORY B BUFFER BITS 5 THRU 8 RETURNS SYLLABLE 1 |
| INH B 1 | 027 | 05 27 04 1 INHIBIT MEMORY B SYLLABLE 1 |
| INH CTRL OFF | 031 | 04 20 02 0 - 05 20 02 1 INHIBIT CONTROL OFF SWITCH |
| INH CTRL ON | 031 | 04 20 02 0 - 05 20 02 1 INHIBIT CONTROL ON SWITCH |
| INH CTRL | 031 | 05 20 02 1 INHIBIT CONTROL |
| INH SW 11 12 | 031 | 04 20 02 0 - 05 20 07 1 INHIBIT SWITCHES 11 AND 12 |
| INH SW 13 14 | 031 | 04 20 02 0 - 05 20 06 1 INHIBIT SWITCHES 13 AND 14 |
| INH SW 15 | 031 | 04 20 02 0 - 05 20 05 1 INHIBIT SWITCH 15 |
| INH SW 15 | | 04 20 02 0 - 05 20 05 1 INHIBIT SWITCH 15 |
| INH SW 1 2 | 031 | 04 20 02 0 - 05 20 12 1 INHIBIT SWITCHES 1 AND 2 |
| INH SW 3 4 | 031 | 04 20 02 0 - 05 20 11 1 INHIBIT SWITCHES 3 AND 4 |
| INH SW 5 6 | 031 | 04 20 02 0 - 05 20 10 1 INHIBIT SWITCHES 5 AND 6 |
| INH SW 7 8 | 031 | 04 20 02 0 - 05 20 09 1 INHIBIT SWITCHES 7 AND 8 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| INH SW 9 10 | 031 | 04 20 02 0 - 05 20 08 1 INHIBIT SWITCHES 9 AND 10 |
| INS BR PB IND | 069 | 05 03 18 1 INSTRUCTION BUFFER REGISTER PARITY BIT INDICATOR DRIVER |
| INS DROP1-OP4 | 067 | 05 03 10 1 INSTRUCTION DISPLAY REGISTER OPERATION BITS 1 THRU 4 |
| INS DRO A1-A9 | 067 | 05 03 09 1 INSTRUCTION DISPLAY REGISTER OPERAND ADDRESS BITS 1 THRU 9 |
| INS OA1-OA9 IND | 067 | 05 03 08 1 INSTRUCTION OPERAND ADDRESS BITS 1 THRU 9 INDICATOR DRIVERS |
| INS OP1-OP4 IND | 067 | 05 03 08 1 INSTRUCTION OPERATION BITS 1 TO 4 INDICATOR DRIVE |
| INSSO A | 059 | 05 14 14 1 INSTRUCTION SERIAL OUT FROM SOURCEA |
| INSSO NOT | 059 | 05 14 14 1 INVERSE INSSO A |
| INTCC | 031 | 05 20 03 1 INTERRUPT COMPUTER CONTROL |
| INTIME | 031 | 05 20 02 1 INTERRUPT TIME |
| INTRPT 1 THRU 15 | 031 | 04 20 03 0 - 05 20 01 1 INTERRUPTS 1 THRU 15 INPUTS FROM EXTERNAL SOURCE |
| INT 11 12 LATCH | 032 | 05 20 07 1 INTERRUPT 11 12 LATCH OUTPUTS |
| INT 13 14 LATCH | 033 | 05 20 06 1 INTERRUPT 13 AND 14 LATCH OUTPUTS |
| INT 15 LATCH | 033 | 05 20 05 1 INTERRUPT 15 LATCH OUTPUT |
| INT 1 2 LATCH | 031 | 05 20 11 1 INTERRUPT 1 2 LATCH OUTPUTS |
| INT 1 THRU 15 | 031 | 05 20 01 1 INTERRUPT 1 THRU 15 OUTPUT OF LINE TERMINATORS |
| INT 3 4 LATCH | 031 | 05 20 11 1 INTERRUPT 3 4 LATCH OUTPUTS |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| INT 5 6 LATCH | 032 | 05 20 10 1 INTERRUPT 5 6 LATCH OUTPUTS |
| INT 7 8 LATCH | 032 | 05 20 09 1 INTERRUPT 7 8 LATCH OUTPUTS |
| INT 9 10 LATCH | 032 | 05 20 08 1 INTERRUPT 9 10 LATCH OUTPUTS |
| INT ADDR 400 401 | 031 | 05 20 12 1 INTERRUPT ADDRESS 400 401 |
| INT ADDR 402 403 | 031 | 05 20 11 1 INTERRUPT ADDRESS 402 403 |
| INT ADDR 404 405 | 031 | 05 20 10 1 INTERRUPT ADDRESS 404 405 |
| INT ADDR 406 407 | 031 | 05 20 09 1 INTERRUPT ADDRESS 406 407 |
| INT ADDR 410 411 | 031 | 05 20 08 1 INTERRUPT ADDRESS 410 411 |
| INT ADDR 412 413 | 031 | 05 20 07 1 INTERRUPT ADDRESS 412 413 |
| INT ADDR 416 | 031 | 05 20 05 1 INTERRUPT ADDRESS 416 |
| INT ADDR 417 | 031 | 05 20 05 1 INTERRUPT ADDRESS 417 |
| INT ADR 414 415 | 031 | 05 20 06 1 INTERRUPT ADDRESSES 414 AND 415 |
| INT | 031 | 05 20 04 1 INTERRUPT |
| INT SW 16 OFF | 031 | 04 20 02 0 -- 05 20 24 1 INTERRUPT SWITCH 16 OFF |
| INT SW 16 ON | 031 | 04 20 02 0 - 05 20 24 1 INTERRUPT SWITCH 16 ON |
| INVERSE | | DEFINITION ZERO OUTPUT OF A LATCH |
| INV ERR IND | 063 | 05 02 06 1 INVERT ERROR INDICATOR DRIVER |
| INV ERR NOT | 063 | 05 02 06 1 INVERT ERROR INVERSE |
| INV ERR | 063 | 05 02 06 1 INVERT ERROR |
| IO CHK STOP SW ON | 044 | 05 11 17 1 INPUT OUTPUT STOP ON ERROR SWITCH ON TIED OFF |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| IS 1 2 3 IND | 019 | 05 20 15 1 INSTRUCTION SECTOR 1 2 3 INDICATOR DRIVERS |
| IS 1 IS 2 | 019 | 05 05 22 1 INVERSE IS 1 IS 2 |
| IS 1 IS 2 | 019 | 05 05 22 1 INSTRUCTION SECTOR 1 2 |
| IS 3 IS 4 NOT | 019 | 05 05 23 1 INVERSE IS 3 IS 4 |
| IS 3 IS 4 | 019 | 05 05 23 1 INSTRUCTION SECTOR 3 4 |
| IS 4 IND | 019 | 05 20 18 1 INSTRUCTION SECTOR 4 INDICATOR DRIVER |
| ISSC NOT | 066 | 05 02 13 1 INVERSE ISSC |
| ISSC | 066 | 05 02 13 1 INSTRUCTION SECTOR SYLLABLE COMPARE |
| ISY | 019 | 05 05 22 1 INSTRUCTION SECTOR Y TIMING LEVEL |
| ISZ | 019 | 05 05 22 1 INSTRUCTION SECTOR Z TIMING LEVEL |
| KSSMD NOT | 062 | 05 02 04 1 KEEP SECTOR SYLLABLE MODULE DISPLAY INVERSED |
| KWIAF NOT | 046 | 05 15 03 1 RESULTS FROM THE PRESENTS OF START SS LEVEL OR ANY OF THE TAPE READER CHARACTER COUNTER BITS. IT GUARANTEES A FULL COMPLEMENT OF TAPE CHARACTERS, AND ALLOWS CLOCK PULSE 3 AND 4 WHILE IN MANUAL MODE. |
| KWIAN NOT A | 049 | 05 15 15 1 FIRST WORD RECOGNITION TO GENERATE START TAPE READER |
| LACH 1-4 | 059 | 05 14 05 1 LATCHES 1 THRU 4 |
| LACH 5 6 | 059 | 05 14 05 1 LATCHES 5 AND 6 |
| LARE A | 054 | 05 16 19 1 LATCH RESET FROM DRIVE SOURCE A |
| LAST A | 054 | 05 16 19 1 LATCH SET FROM DRIVE SOURCE A |
| LATCH 7 NOT | 051 | 05 03 22 1 INVERSE LATCH 7 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| LATCH 7 | 051 | 05 03 22 1 CONTROLS MANUAL SELECTION OF TAPE READER REGISTER |
| LC A | 047 | 05 15 08 1 LATCH C FROM DRIVE SOURCE A |
| LC LATCH | 037 | 05 09 05 1 LOWER CASE LATCH ONE OUTPUT |
| LC NOT | 047 | 05 15 08 1 INVERSE LC A |
| LC SHIFT MAG | 037 | 05 09 06 1 LOWER CASE SHIFT MAGNET DRIVER OUTPUT |
| LE LH NOT | 047 | 05 15 09 1 INVERSE LE THRU LH |
| LE LH | 047 | 05 15 09 1 LATCHES E THRU H |
| LF SH | 015 | 05 06 12 1 LEFT SHIFT ACCUMULATOR |
| LFSH CONTROL | 015 | 05 06 11 1 LEFT SHIFT ACCUMULATOR CONTROL LINE |
| LI LK NOT | 047 | 05 15 10 1 INVERSE LI THRU LK |
| LI LK | 047 | 05 15 10 1 LATCHES I THRU K |
| LMD | 047 | 05 15 11 1 LATCH MD |
| LM NOT A | 047 | 05 15 11 1 LATCH M INVERSE |
| LM | 047 | 05 15 11 1 LATCH M |
| LOGIC GND | 049 | 00 00 00 0 - 05 15 20 1 LOGIC GROUND |
| LTRCP 2 3 4 NOT | 046 | 05 15 06 1 INVERSED LATCH OUTPUT TAPE READER CLOCK PULSES 2 3 AND 4 |
| MACH RST NT | 031 | 05 04 01 1 INVERSE MACH RST |
| MACH RST NT | | 04 20 02 0 - 05 20 04 1 MACHINE RESET INVERSE LEVEL |
| MACH RST RLY | 004 | 04 04 01 0 - 05 04 01 1 MACHINE RESET RELAY |
| MACH RST | 004 | 05 04 01 1 MACHINE RESET |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| MACH RST SW | 004 | 04 04 01 0 - 05 04 01 1 MACHINE RESET SWITCH |
| MANCH NOT | 059 | 05 14 05 1 INVERSE MANCH |
| MANCH | 059 | 05 14 05 1 MANUAL CHANNEL |
| MAN A | 049 | 05 15 01 1 MANUAL FROM DRIVE SOURCE A |
| MAN CH SET | 051 | 05 03 19 1 MANUAL CHANNEL SET |
| MAN GATE A | 046 | 05 15 04 1 MANUAL GATE DRIVE SOURCE A |
| MAN IND | 049 | 05 15 20 1 MANUAL INDICATOR DRIVER |
| MAN OR RUN NOT | 047 | 05 15 11 1 MANUAL OR INVERSE RUN LEVEL |
| MAR 10 11 12 | 023 | 05 05 07 1 MEMORY ADDRESS REGISTER 10 11 AND 12 DECODER OUTPUT LEVELS |
| MAR 11 NOT | 023 | 05 05 06 1 MEMORY ADDRESS REGISTER 11 INVERSE DECODER OUTPUT LEVEL |
| MAR 12 NOT | 023 | 05 05 06 1 MEMORY ADDRESS REGISTER 12 INVERSE DECODER OUTPUT LEVEL |
| MAR 1 NOT | 017 | 05 05 09 1 INVERSE MAR 1 |
| MAR 1 | 017 | 05 05 09 1 MEMORY ADDRESS REGISTER 1 |
| MAR 2 3 4 5 NOT | 017 | 05 05 10 1 INVERSE MAR 2 3 4 5 |
| MAR 2 3 4 5 | 017 | 05 05 10 1 MEMORY ADDRESS REGISTER 2 3 4 5 |
| MAR 5 NOT READ | 024 | 05 05 20 1 INVERSE MAR 5 |
| MAR 5 READ | 024 | 05 05 20 1 MEMORY ADDRESS REGISTER 5 READ |
| MAR 6 7 8 | 017 | 05 05 11 1 MEMORY ADDRESS REGISTER 6 7 8 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| MAR 9 10 NOT | 023 | 05 05 08 1 INVERSE MAR 9 MAR 10 |
| MAR 9 | 023 | 05 05 08 1 MEMORY ADDRESS REGISTER 9 DECODER OUTPUT LEVEL |
| MBR1-14 | 021 | 05 07 26 1 MEMORY BUFFER REGISTER BITS 1 THRU 14 DRIVERS |
| MBR1-6 NOT DR | 021 | 05 07 24 1 MEMORY BUFFER REGISTER 1 THRU 6 NOT DRIVE PARITY DRIVE |
| MBR7-14 NOT DR | 021 | 05 07 25 1 MEMORY BUFFER REGISTER 7 THRU 14 NOT DRIVE PARITY DRIVE |
| MBRL 1 2 NOT | 022 | 05 07 17 1 INVERSE MBRL 1 2 |
| MBRL 1 2 | 022 | 05 07 17 1 MEMORY BUFFER REGISTER LEVELS 1 AND 2 PARITY CHECKING |
| MBRL 3 4 | 022 | 05 07 18 1 MEMORY BUFFER REGISTER LEVELS 3 AND 4 PARITY CHECKING |
| MBR 11 12 | 021 | 05 27 10 1 MEMORY BUFFER BITS 11 AND 12 |
| MBR 11 12 S | 021 | 05 27 10 1 MEMORY BUFFER BITS 11 AND 12 GENERATE INHIBIT |
| MBR 13 14 | 021 | 05 27 11 1 MEMORY BUFFER BITS 13 AND 14 |
| MBR 13 14 S | 021 | 05 27 11 1 MEMORY BUFFER BITS 13 AND 14 GENERATE INHIBIT |
| MBR 1 2 | 021 | 05 27 05 1 MEMORY BUFFER BITS 1 2 |
| MBR 1 2 S | 021 | 05 27 05 1 MEMORY BUFFER BITS 1 2 GENERATE INHIBIT |
| MBR 1 THRU 14 DR | 021 | 05 07 26 1 MEMORY BUFFER REGISTER BITS 1 THRU 14 DRIVERS |
| MBR 1 THRU 14 | 021 | 04 07 01 1 - 05 07 26 1 MEMORY BUFFER REGISTER BIT 1 THRU 14 |
| MBR 1 THRU 5 IND | 021 | 05 13 05 1 MEMORY BUFFER REGISTER BITS 1 THRU 5 INDICATOR DRIVERS |
| MBR 3 4 | 021 | 05 27 06 1 MEMORY BUFFER BITS 3 4 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| MBR 3 4 S | 021 | 05 27 06 1 MEMORY BUFFER BITS GENERATE INHIBIT |
| MBR 5 6 | 021 | 05 27 07 1 MEMORY BUFFER BIT S 5 AND 6 |
| MBR 5 6 S | 021 | 05 27 07 1 MEMORY BUFFER BITS 5 AND 6 GENERATE INHIBIT |
| MBR 6 THRU 13 IND | 021 | 05 13 06 1 MEMORY BUFFER REGISTER BITS 6 THRU 13 INDICATOR DRIVERS |
| MBR 7 8 | 021 | 05 27 08 1 MEMORY BUFFER BITS 7 AND 8 |
| MBR 7 8 S | 021 | 05 27 08 1 MEMORY BUFFER BITS 7 AND 8 GENERATE INHIBIT |
| MBR 9 10 | 021 | 05 27 09 1 MEMORY BUFFER BITS 9 AND 10 |
| MBR 9 10 S | 021 | 05 27 09 1 MEMORY BUFFER BITS 9 10 GENERATE INHIBITS |
| MBR IND INH NOT | 023 | 05 13 01 1 MEMORY BUFFER REGISTER INDICATOR INHIBIT INVERSED |
| MBR SW 11 12 | 021 | 04 27 03 0 - 05 27 10 1 MEMORY BUFFER SWITCH INPUT 11 AND 12 |
| MBR SW 13 14 | 021 | 04 27 03 0 - 05 27 11 1 MEMORY BUFFER SWITCH INPUT 13 AND 14 |
| MBR SW 1 2 | 021 | 04 27 03 0 - 05 27 05 1 MEMORY BUFFER SWITCH INPUTS 1 AND 2 |
| MBR SW 3 4 | 021 | 04 27 03 0 - 05 27 06 1 MEMORY BUFFER SWITCH INPUTS 3 AND 4 |
| MBR SW 5 6 | 021 | 04 27 03 0 - 05 27 07 1 MEMORY BUFFER SWITCH INPUTS 5 AND 6 |
| MBR SW 7 8 | 021 | 04 27 08 0 - 05 27 08 1 MEMORY BUFFER SWITCH INPUTS 7 AND 8 |
| MBR SW 9 10 | 021 | 04 27 03 0 - 05 27 09 1 MEMORY BUFFER SWITCH INPUTS 9 AND 10 |
| MBRST | 021 | 05 07 24 1 MEMORY BUFFER REGISTER START |
| MEM ADD SW | 019 | 04 20 02 0 - 05 20 15 1 MEMORY ADDRESS SWITCH |
| MEM BUFF PAR IND 1 | 023 | 05 13 05 1 MEMORY BUFFER PARITY INDICATOR DRIVER 1 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| MEM BUFF PAR IND 2 | 023 | 05 13 05 1 MEMORY BUFFER PARITY INDICATOR DRIVER 2 |
| MEM LOAD SW | 021 | 04 07 01 0 - 05 07 24 1 MEMORY LOAD SWITCH |
| MEM REG SW | 023 | 04 13 03 0 - 05 13 01 1 MEMORY BUFFER REGISTER SWITCH |
| ML A | 049 | 05 15 01 1 MEMORY LOAD FROM DRIVE SOURCE A |
| ML ERR | 066 | 05 02 14 1 MEMORY LOADER ERROR |
| ML IND | 049 | 05 15 01 1 MEMORY LOAD INDICATOR DRIVER OUTPUT |
| ML NOT A | 049 | 05 15 01 1 INVERSE ML |
| MMRC | 066 | 05 02 12 1 MEMORY MODULE COMPARE |
| MOP | 025 | 05 05 03 1 MEMORY OPERATE |
| NA1 THRU NA9 NOT | 065 | 05 03 13 1 INVERSE NA1 THRU NA9 |
| NA1 THRU NA9 | 065 | 05 03 13 1 NAND ADDRESS BITS A1 THRU A9 |
| NAI3 | 063 | 05 02 03 1 NAND, OUTPUT OF 3RD DELAY LATCH AT END OF ACCUMULATOR INSTRUCTION CHANNEL |
| NBG10 THRU NBG14 | 062 | 05 03 26 1 NAND BIT GATE 10 THRU BIT GATE 14 |
| NBG1 THRU NBG4 | 062 | 05 03 24 1 NAND BIT GATE 1 THRU BIT GATE 4 |
| NBG5 THRU NBG9 | 062 | 05 03 25 1 NAND BIT GATE 5 THRU BIT GATE 9 |
| NCPW THRU NCPZ A | 062 | 05 03 28 1 NAND CLOCK PULSES W X Y AND Z FROM SOURCE A |
| NHOPC1 NOT | 062 | 05 02 02 1 INVERSE NHOPC1 |
| NHOPC1 OR TRS | 064 | 05 02 07 1 NAND HOPC1 OR TRANSFER REGISTER SERIAL |
| NHOPC1 | 062 | 05 02 02 1 NAND LATCH OUTPUT WHICH GENERATES HOP CONSTANT FOR STORAGE DURNING INTERRUPT OPERATION |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| NHOP NOT | 062 | 05 02 05 1 INVERSE NHOP |
| NHOP | 062 | 05 02 05 1 NAND HOP OPERATION |
| NOP1 THRU NOP4 NOT | 065 | 05 03 23 1 INVERSE NOP1 THRU NOP4 |
| NOP1 THRU NOP4 | 065 | 05 03 23 1 NAND OPERATION CODE BITS 1 THRU 4 |
| NORMAL RESET | 037 | 05 09 06 1 RESET BCD LATCHES |
| NPHA TO NPHC A | 062 | 05 03 27 1 NAND PHASES A B AND C FROM DRIVE SOURCE A |
| NTRS NOT | 062 | 05 02 01 1 NAND, TRANSFER REG SERIAL INVERSED |
| NTRS | 062 | 05 20 01 1 NAND TRANSFER REGISTER SERIAL |
| NT 1 2 4 8 16 YS | 041 | 05 10 07 1 INVERSE OCTAL Y COUNTER OUTPUTS |
| NT 1 2 4 8 16XS | 040 | 05 10 10 1 INVERSE OCTAL X COUNTER OUTPUTS |
| NT 1 2 4 8 | 037 | 05 09 03 1 INVERSE OUTPUT 1 2 4 8 |
| NT 256 512XS | 040 | 05 10 12 1 INVERSE OCTAL X COUNTER OUTPUTS |
| NT 256 512YS | 041 | 05 10 09 1 INVERSE OCTAL Y COUNTER OUTPUTS |
| NT 32 64 128XS | 040 | 05 10 11 1 INVERSE OCTAL X COUNTER OUTPUTS |
| NT 32 64 128YS | 041 | 05 10 08 1 INVERSE OCTAL Y COUNTER OUTPUTS |
| NT A1 A2 A3 | 034 | 05 08 01 1 INVERSE ANDED LEVEL A1 A2 A3 ADDRESS BITS TO DECODE |
| NT A4 A5 A6 | 034 | 05 08 02 1 INVERSE A4 A5 A6 ANDED LEVEL ADDRESS BITS TO DECODE |
| NT A7 A8 A9 A | 034 | 05 08 03 1 INVERSE A7 A8 A9 ANDED LEVEL ADDRESS BITS TO DECODE FROM DRIVE SOURCE A |
| NT A7 A8 A9 B | 034 | 05 08 03 1 INVERSE A7 A8 A9 ANDED LEVEL ADDRESS BITS TO |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| | | DECODE FROM DRIVE SOURCE B |
| NT AA BB | 037 | 05 09 04 1 INVERSE AA BB |
| NI ACCO | 013 | 05 06 24 1 INVERSE ACCO |
| NT AIO | 015 | 05 06 29 1 INVERSE AIO |
| NT AI1 2 3 | 015 | 05 06 30 1 ZERO OUTPUT LATCHES 1 2 AND 3 AT END OF ACCUMULATOR INSTRUCTION CHANNEL DLB LATCHES |
| NT AI4 | 015 | 05 06 31 1 INVERSE AI4 |
| NT CIO CTRL | 036 | 05 13 14 1 INVERSE CIO CTRL |
| NT DLA 10 11 12 13 | 011 | 05 06 17 1 ZERO OUTPUT ACCUMULATOR DELAY A LATCHES 10 TO 13 |
| NT DLA 14 15 16 17 | 012 | 05 06 19 1 ZERO OUTPUT ACCUMULATOR DELAY A LATCHES 14 TO 17 |
| NT DLA 18 19 20 21 | 012 | 05 06 20 1 ZERO OUTPUT ACCUMULATOR DELAY A LATCHES 18 TO 21 |
| NT DLA 1 | 011 | 05 06 18 1 ZERO OUTPUT ACCUMULATOR DELAY A LATCH 1 |
| NT DLA 22 23 24 25 | 013 | 05 06 21 1 ZERO OUTPUT ACCUMULATOR DELAY A LATCHES 22 TO 25 |
| NT DLA 26 27 | 013 | 05 06 22 1 ZERO OUTPUT ACCUMULATOR DELAY A LATCHES 26 27 |
| NT DLA 28 29 30 | 013 | 05 06 23 1 ZERO OUTPUT ACCUMULATOR DELAY A LATCHES 28 TO 30 |
| NT DLA 2 THRU 4 | 011 | 05 06 15 1 ZERO OUTPUTS ACCUMULATOR DELAY A LATCHES 2 THRU 4 |
| NT DLA 6 7 8 9 | 011 | 05 06 16 1 INVERSE DLA 6 7 8 9 |
| NT DLB 11 12 13 14 | 014 | 05 06 27 1 ZERO OUTPUT ACCUMULATOR DELAY B LATCHES 11 TO 14 |
| NT DLB 15 16 17 18 | 014 | 05 06 28 1 ZERO OUTPUT ACCUMULATOR DELAY B LATCHES 15 TO 18 |
| NT DLB 19 20 21 | 015 | 05 06 29 1 ZERO OUTPUT ACCUMULATOR DELAY B LATCHES 19 TO 21 |
| NT DLB 1 2 | 013 | 05 06 24 1 ZERO OUTPUT ACCUMULATOR DELAY B LATCHES 1 AND 2 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| NT DLB 3 4 5 6 | 014 | 05 06 25 1 ZERO OUTPUT ACCUMULATOR DELAY B LATCHES 3 THRU 6 |
| NT DLB 7 8 9 10 | 014 | 05 06 26 1 ZERO OUTPUT ACCUMULATOR DELAY B LATCHES 7 TO 10 |
| NT HOPCA | 020 | 05 20 20 1 INVERSE HOP CONSTANT LEVEL A FROM HOP SAVER 2 |
| NT HOP | 018 | 05 07 23 1 INVERSE HOP |
| NT INTCC | 031 | 05 20 03 1 INVERSE INTCC |
| NT INT B | 031 | 05 20 02 1 INVERSE INTERRUPT B LATCH OUTPUT |
| NT MBR 11 12 | 021 | 05 27 10 1 INVERSE MBR 11 12 |
| NT MBR 13 14 | 021 | 05 27 11 1 INVERSE MBR 13 14 |
| NT MBR 1 2 | 021 | 05 27 05 1 INVERSE MBR 1 2 |
| NT MBR 1 THRU 6 | 021 | 04 07 01 0 - 05 07 24 1 SWITCH INPUTS 1 THRU 6 MEMORY BUFFER REGISTER |
| NT MBR 3 4 | 021 | 05 27 06 1 INVERSE MBR 3 4 |
| NT MBR 5 6 | 021 | 05 27 07 1 INVERSE MBR 5 6 |
| NT MBR 7 8 | 021 | 05 27 08 1 INVERSE MBR 7 8 |
| NT MBR 7 THRU 14 | 021 | 04 07 01 0 - 05 07 25 1 SWITCH INPUTS 7 THRU 14 MEMORY BUFFER REGISTER |
| NT MBR 9 10 | 021 | 05 27 09 1 INVERSE MBR 9 10 |
| NT R1 | 038 | 05 09 08 1 INVERSE R1 |
| NT R2A | 038 | 05 09 08 1 INVERSE R2A |
| NT R2 | 038 | 05 09 09 1 INVERSE R2 |
| NT R5 | 038 | 05 09 08 1 INVERSE R5 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| NT RT SH | 015 | 05 06 13 1 INVERSE RIGHT SHIFT LEVEL |
| NT SBRZ | 008 | C5 07 09 1 INVERSE SBRZ |
| NT SIGN CTRL | 015 | 05 06 14 1 INVERSE SIGN CONTROL LEVEL |
| NT SSS | 018 | 05 07 23 1 INVERSE SSS |
| NT T1 | 038 | 05 09 09 1 INVERSE T1 |
| NT T2 | 038 | 05 09 09 1 INVERSE T2 |
| OAC NOT | 065 | 05 03 05 1 INVERSE OAC |
| OAC | 065 | 05 03 05 1 OPERAND ADDRESS COMPARE |
| OCT LATCH | 042 | 05 11 01 1 OCTAL LATCH |
| OCT LTCH | 037 | 05 09 02 1 OCTAL LATCH |
| OCT MODE | 045 | 05 11 07 1 OCTAL MODE |
| ODD PARITY IND | 021 | 05 13 06 1 ODD PARITY INDICATOR DRIVER |
| ODD | 061 | 05 14 18 1 ODD DATA TRANSFER LEVEL |
| OP1 3 NOT | 018 | 05 07 21 1 INVERSE OP1 3 |
| OP1 3 | 018 | 05 07 21 1 OPERATION BITS 1 3 |
| OP1 4 IND 1 2 | 018 | 05 13 07 1 OPERATION BITS 1 THRU 4 INDICATOR DRIVERS 1 AND 2 |
| OP2 4 NOT | 018 | 05 07 22 1 INVERSE OP2 4 |
| OP2 4 | 018 | 05 07 22 1 OPERATION 2 4 BITS |
| OPC | 065 | 05 03 06 1 OPERATION CODE COMPARE |
| OPER | 049 | 05 15 20 1 OPERATE |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| OSC PULSES NT | 007 | 05 04 13 1 INVERSE OSC PULSES |
| OSC PULSES | 007 | 05 04 13 1 OSCILLATOR PULSES |
| P10 IND | 007 | 05 04 07 1 PROGRAM CONTROL REGISTER BIT 10 INDICATOR DRIVER |
| P20 IND | 007 | 05 04 07 1 PROGRAM CONTROL REGISTER BIT 20 INDICATOR DRIVER |
| P40 IND | 007 | 05 04 07 1 PROGRAM CONTROL REGISTER BIT 40 INDICATOR DRIVER |
| P4 P2 P1 IND | 007 | 05 04 08 1 PROGRAM CONTROL REGISTER BITS 1 2 4 INDICATOR DRIVERS |
| PA3P | 039 | 05 10 01 1 PHASE A BIT GATE 3 PLOTTER |
| PAD NOT A9 | 019 | 05 05 13 1 INVERSE PHASE A DELAYED ADDRESS 9 |
| PAD NOT | 005 | 05 06 09 1 PHASE A DELAYED LATCH ZERO OUTPUT |
| PAD | 005 | 05 06 09 1 PHASE A DELAYED LATCH ONE OUTPUT |
| PARITY CHECK | 044 | 04 11 01 0 – 05 11 17 1 PARITY IN PRINTER |
| PARITY ERROR | 022 | 05 07 20 1 PARITY ERROR |
| PAR ERROR IND | 022 | 05 13 01 1 PARITY ERROR INDICATOR DRIVER |
| PAR ERROR LATCH | 022 | 05 13 01 1 PARITY ERROR LATCH |
| PAR | 008 | 05 07 09 1 PARITY GENERATES FINAL PARITY |
| PA 3 | 045 | 05 11 06 1 PHASE A BIT GATE 3 |
| PA 8 | 045 | 05 11 06 1 PHASE A BIT GATE 8 |
| PA 9 | 045 | 05 11 06 1 PHASE A BIT GATE 9 |
| PA A THRU PC A | 005 | 05 06 08 1 PHASE A THRU PHASE C FROM DRIVE SOURCE A |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| P . BG11 | 016 | 05 08 25 1 PHASE A BIT GATE 11 |
| PA BG1 CPZ | 016 | 05 08 24 1 PHASE A BIT GATE 1 CLOCK PULSE Z |
| PA B THRU PC B | 005 | 05 06 08 1 PHASE A THRU PHASE C FROM DRIVE SOURCE B |
| PA CPY | 025 | 05 05 01 1 PHASE A CLOCK PULSE Y |
| PA CPZ | 025 | 05 05 01 1 PHASE A CLOCK PULSE Z |
| PA THRU PC NOT | 005 | 05 06 08 1 INVERSE PA THRU PC |
| PGN NOT | 004 | 04 04 01 0 - 05 04 01 1 ZERO OUTPUT PHASE GENERATOR LATCH B |
| PB 10 | 045 | 05 11 06 1 PHASE B BIT GATE 10 |
| PB CPY | 025 | 05 05 01 1 PHASE B CLOCK PULSE Y |
| PB CPZ | 025 | 05 05 01 1 PHASE B CLOCK PULSE Z |
| PC 10 | 045 | 05 11 06 1 PHASE C BIT GATE 10 |
| POD NOT | 008 | 05 07 06 1 INVERSE POD |
| POD | 008 | 05 07 06 1 PARITY DELAY |
| PEN DOWN | 039 | 05 10 05 1 PLOTTER PEN DOWN |
| PEN UP PEN DOWN RESET | 039 | 05 10 05 1 PLOTTER PEN UP OR DOWN RESET |
| PEN UP | 039 | 05 10 05 1 PEN UP PLOTTER |
| PHA BG8 | 066 | 05 02 14 1 PHASE A BIT GATE 8 |
| PIO DATA C | 010 | 05 07 04 1 PROCESS INPUT OUTPUT DATA INPUT TO LINE TERMINATOR |
| PIO DATA Y | 010 | 05 07 04 1 PROCESS INPUT OUTPUT DATA OUTPUT LINE TERMINATOR |
| PIO | 018 | 05 07 21 1 PROCESS INPUT OUTPUT INSTRUCTION |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| PLOTTER READY | 039 | 05 10 06 1 PLOTTER READY |
| PL REG RST | 007 | 05 04 07 1 PROGRAM LOOP RESET |
| PL REG SET | 007 | 05 04 07 1 PROGRAM LOOP SET CIO 204 |
| POD NOT | 008 | 05 07 10 1 INVERSE POD |
| POD | 008 | 05 07 10 1 PARITY OUT DELAY |
| PRINT ALPHANUM CTRL | 037 | 05 09 02 1 CONTROLS DATA INPUT TO BCD LATCHES |
| PRINT ALPHA NUM | 037 | 05 09 01 1 PRINT ALPHABETIC NUMERIC TYPERWRITER |
| PRINT BCD | 042 | 05 11 01 1 PRINT BINARY CODED DECIMEL |
| PRINT CHECK RST | 042 | 05 11 02 1 PRINT CHECK RESET |
| PRINT CONTROLS NT | 037 | 05 09 01 1 GENERATED BY CODE 134 TYPERWRITER CONTROL |
| PRINT CONTROLS | 037 | 05 09 02 1 LEVEL USED TO GENERATE TYPERWRITER OPERATIONS |
| PRINT DEC NT | 037 | 05 09 01 1 INVERSE PRINT DEC |
| PRINT DEC | 037 | 05 09 01 1 PRINT DECIMEL TYPERWRITE CONTROL LEVEL |
| PRINT INSTR | 042 | 05 11 01 1 PRINT INSTRUCTION |
| PRINT OCT NT | 037 | 05 09 01 1 INVERSE PRINT OCT |
| PRINT OCT | 037 | 05 09 01 1 PRINT OCTAL TYPERWRITER CONTROL LEVEL |
| PRINT READ | 044 | 05 11 17 1 PRINTER READY |
| PRINT READY | 044 | 04 11 01 0 - 05 11 17 1 INITIATES TRANSFER OF DATA |
| PRNT OCT | 042 | 05 11 01 1 PRINT OCTAL |
| PRNT RST | 042 | 05 11 02 1 PRINT RESET |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| PROCESSOR RELEASE | 042 | 04 11 01 0 - 05 11 02 1 RELEASE PROCESSOR FROM PRINT INSTRUCTION |
| PROCESS LTCH NT | 042 | 05 11 02 1 ZERO OUTPUT PROCESS LATCH |
| PRUCESS | 042 | 05 11 02 1 ONE OUTPUT PROCESS LATCH |
| PRU RST | 049 | 00 00 00 0 - 05 15 20 1 PROCESS RESET |
| PR DATA L | 037 | 05 09 02 1 LEVEL USED IN GENERATION OF SPACE OR TILT SELECT |
| PR ADV OFF | 007 | 04 04 02 0 - 05 04 13 1 PROCESS ADVANCE OFF |
| PR ADV ON | 007 | 04 04 02 0 - 05 04 13 1 PROCESS ADVANCE SWITCH ON |
| PRS CARR GATE | 045 | 05 11 06 1 PRINT CARRIAGE GATE |
| PRS GATE | 045 | 05 11 06 1 PRINT GATE |
| PRS MEM NT | 010 | 05 07 03 1 PRINT MEMORY INVERSE |
| PRS PRS775 LTCH NT | 042 | 05 11 01 1 INVERSE PRS PRS775 LTCH |
| PRS PRS775 LTCH | 042 | 05 11 01 1 ONE OUTPUT LATCH PRINT STORAGE OR PRINT ACCUMULATOR |
| PRS PRS775 | 042 | 05 11 01 1 PRINT STORAGE OR PRINT ACCUMULATOR |
| PRS | 010 | 05 07 03 1 PRINT OPERATION |
| PRT CHAR POS 10 | 044 | 05 11 17 1 PRINT CHARACTER POSITION 10 PARITY ERROR INDICATOR |
| PRT CHAR POS 1 NT | 044 | 05 11 17 1 INVERSE PRT CHAR POS1 |
| PRT CHAR POS 1 | 044 | 05 11 17 1 PRINT CHARACTER POSITION 1 PARITY ERROR INCICATOR |
| PTC CST | 006 | 05 08 17 1 COMPUTER SINGLE STEP OUTPUT FROM PTC |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| PIRS C | 009 | 05 07 16 1 TRANSFER REGISTER SERIAL OUTPUT OF LINE DRIVER |
| R1 | 038 | 05 09 08 1 ROTATE 1 |
| R1 W | 038 | 05 09 08 1 ROTATE 1 PRINT DRIVER OUTPUT |
| R2A | 038 | 05 09 08 1 ROTATE 2A |
| R2A W | 038 | 05 09 08 1 ROTATE 2A PRINT DRIVER OUTPUT |
| R2 | 038 | 05 09 08 1 ROTATE 2 |
| R2 W | 038 | 05 09 08 1 ROTATE 2 PRINT DRIVER OUTPUT |
| R5 | 038 | 05 09 08 1 ROTATE 5 |
| R5 W | 038 | 05 09 08 1 ROTATE 5 PRINT DRIVER OUTPUT |
| RAC NOT | 010 | 05 07 02 1 RECIRCULATE ACCUMULATOR INVERSE |
| RD1 WR X DRIVE A | 026 | 05 26 01 1 READ 1 TIME WRITE X DRIVE MEMORY A |
| RD1 WR X DRIVE B | 026 | 05 26 01 1 READ 1 TIME WRITE X DRIVE MEMORY B |
| RD2 WR Y DRIVE A | 026 | 05 26 01 1 READ 2 TIME WRITE Y DRIVE MEMORY A |
| RD2 WR Y DRIVE B | 026 | 05 26 01 1 READ 2 TIME WRITE Y DRIVE MEMORY B |
| RDM NOT | 025 | 05 05 02 1 INVERSE RDM |
| RDM | 025 | 05 05 02 1 READ MEMORY CONTROL READ FROM MEMORY OPERATION |
| RD GATE A | 024 | 05 05 15 1 READ GATE MEMORY A |
| RD GATE A | | 05 27 01 1 READ GATE MEMORY A |
| RD GATE B | 024 | 05 05 19 1 READ GATE B |
| RD GATE B | | 05 27 02 1 READ GATE MEMORY B |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| RD NOT | 025 | 05 05 03 1 INVERSE RD |
| RD | 025 | 05 05 03 1 READ READ MEMORY OPERATION |
| RD SYL1 WR SYLO GTA | 026 | 05 27 01 1 READ SYLLABLE 1 WRITE SYLLABLE 0 GATE MEMORY A |
| RD SYL1 WR SYLO GTB | 026 | 05 27 02 1 READ SYLLABLE 1 WRITE SYLLABLE 0 GATE MEMORY B |
| RD WR A | 024 | 05 05 14 1 READ WRITE MEMORY A |
| RD WR B | 024 | 05 05 17 1 READ WRITE MEMORY B |
| RD WR DLY 0.75 A | 024 | 05 05 16 1 READ WRITE DELAY 0.75US MEMORY A |
| RD WR DLY 0.75 B | 024 | 05 05 18 1 READ WRITE DELAY 0.75US MEMORY B |
| RD WR DLY 1.25 A | 024 | 05 05 16 1 READ WRITE DELAY 1.25US MEMORY A |
| RD WR DLY 1.25 B | 024 | 05 05 18 1 READ WRITE DELAY 1.25US MEMORY B |
| RD WR DLY 1.75 A | 024 | 05 05 15 1 READ WRITE DELAY 1.75US MEMORY A |
| RD WR DLY 1.75 B | 024 | 05 05 19 1 READ WRITE DELAY 1.75US MEMORY B |
| RD WR DLY 2.25 A | 024 | 05 05 15 1 READ WRITE DELAY 2.25US MEMORY A |
| RD WR DLY 2.25 B | 024 | 05 05 19 1 READ WRITE DELAY 2.25US MEMORY B |
| RD WR DLY 2.75 A | 024 | 05 05 16 1 READ WRITE DELAY 2.75US MEMORY A |
| RD WR DLY 2.75 B | 024 | 05 05 18 1 READ WRITE DELAY 2.75US MEMORY B |
| RD WR NOT A | 024 | 05 05 14 1 READ WRITE INVERSE MEMORY A |
| RD WR NOT B | 024 | 05 05 17 1 READ WRITE INVERSE MEMORY B |
| READY | 037 | 05 09 07 1 TYPERWRITER READY |
| RED MAG | 038 | 05 09 09 1 RED MAGNET DRIVER OUTPUT |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| REM ADV OFF | 007 | 04 04 02 0 - 05 04 13 1 REMOTE ADVANCE OFF |
| REM ADV ON | 007 | 04 04 02 0 - 05 04 13 1 REMOTE ADVANCE SWITCH ON |
| RESET LC NT | 037 | 05 09 07 1 RESET LOWER CASE |
| RETOP | 018 | 05 07 23 1 RESET OPERATION |
| RIGHT MARGIN NT | 038 | 05 09 10 1 INVERSE RIGHT MARGIN |
| RIGHT MARGIN | 038 | 05 09 10 1 RIGHT MARGIN TYPER WRITER FEED BACK |
| R NOT | 059 | 05 14 16 1 INVERSE R |
| R RUN | 050 | 05 15 14 1 REVERSE RUN TAPE READER |
| R | 059 | 05 14 16 1 LEVEL USED IN SERIALIZER PARITY CHECKING |
| R START | 050 | 05 15 17 1 REVERSE START |
| RST ERROR LTCH | 044 | 05 11 17 1 RESET ERROR LATCH |
| RST GMWM | 042 | 05 11 02 1 RESET GROUP MARK WORD MARK |
| RST INH | 031 | 05 20 02 1 RESET INHIBIT |
| RST INSDR | 067 | 05 03 12 1 RESET INSTRUCTION DISPLAY REGISTER |
| RST INT | 031 | 05 20 04 1 RESET INTERRUPT |
| RST PARITY | 044 | 05 11 17 1 RESET PARITY |
| RST PB | 069 | 05 03 17 1 RESET PARITY BIT |
| RST PROCESS | 044 | 05 11 17 1 RESET PROCESS |
| RST RT | 059 | 05 14 16 1 RESET SERIALIZER PARITY BIT LATCHES |
| RST SSMBRA | 064 | 05 02 07 1 RESET SECTOR SYLLABLE MODULE BUFFER REGISTER FROM SOURCE A |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| RST SSMBRB | 064 | 05 02 07 1 RESET SECTOR SYLLABLE MODULE BUFFER REGISTER FROM SOURCE B |
| RST X REG | 039 | 05 10 01 1 RESET X REGISTER |
| RST Y REG | 039 | 05 10 01 1 RESET Y REGISTER |
| RSU | 010 | 05 07 02 1 REVERSE SUBSTRACT |
| RTAP NOT | 047 | 05 15 11 1 RESET TAPE PARITY INVERSE |
| RTROP3 | 061 | 05 14 22 1 RESET TAPE READER OPERATION BIT 3 |
| RUN A | 050 | 05 15 14 1 RUN LEVEL FROM DRIVE SOURCE A |
| RUN LATCH | 044 | 04 11 01 0 - 05 11 17 1 PRINTER IN RUN CONDITION |
| RUN NOT A | 050 | 05 15 14 1 INVERSE RUN A |
| RUN NOT | 025 | 05 05 02 1 INVERSE RUN LEVEL |
| RUNY | 008 | 05 07 11 1 RUN Y CLOCK TIME |
| RVS A | 050 | 05 15 15 1 REVERSE LEVEL FROM DRIVE SOURCE A TAPE READER |
| RVS IND | 050 | 05 15 15 1 REVERSE INDICATOR DRIVER |
| SAM ERRS | 048 | 05 14 06 1 SAMPLE ERRORS |
| SA STROBE A | 028 | 05 28 01 1 SENSE AMPLIFIER STROBE MEMORY A |
| SA STROBE B | 028 | 05 28 03 1 SENSE AMPLIFIER STROBE MEMORY B |
| SBRX | 008 | 05 07 08 1 SET BUFFER REGISTER X CLOCK PULSE |
| SBRY | 008 | 05 07 06 1 SET BUFFER REGISTER Y CLOCK TIME |
| SBRZ | 008 | 05 07 09 1 SET BUFFER REGISTER Z CLOCK TIME |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SCC TRANSFER NT | 038 | 05 09 10 1 INVERSE SCC TRANSFER |
| SCC TRANSFER | 038 | 05 09 10 1 DEGATE LEVEL PRINT CONTROLS TYPERWRITER FEEDBACK |
| SCETRS NOT | 062 | 05 02 01 1 SERIAL COMPARE ERROR TRANSFER REGISTER SERIAL INVERSE LEVEL |
| SCOPE SYNC | 004 | 05 04 06 1 ANDED OUTPUTS OF SELECTED BIT GATE PHASE AND CLOCK PULSE AVAILABLE ON CE TEST PANEL |
| SCRS NT | 036 | 05 13 22 1 INVERSE SCRS |
| SCRS | 036 | 05 13 22 1 LOAD ACCUMULATOR FROM A OR B SWITCHES CONTROLLED BY A CIO |
| SC BC BITS | 036 | 05 13 19 1 SCREEN BITS PROGRAM SWITCH REGISTERS A OR B |
| SC B BITS | 036 | 05 13 14 1 SCREEN BITS PROGRAM SWITCH REGISTERS A OR B |
| SC C BITS | 036 | 05 13 16 1 SCREEN BITS PROGRAM SWITCH REGISTERS A OR B |
| SE1 IND | 049 | 05 15 22 1 SEQUENCE ERROR 1 INDICATOR DRIVER |
| SE1 NOT | 049 | 05 15 22 1 SEQUENCE ERROR 1 INVERSE |
| SE2 IND | 049 | 05 15 22 1 SEQUENCE ERROR 2 INDICATOR DRIVER |
| SE2 NOT | 049 | 05 15 22 1 SEQUENCE ERROR 2 INVERSE |
| SECK NOT | | 00 00 00 0 - 05 02 06 1 INVERSE SELF CHECK LEVEL |
| SECK NOT | | 00 00 00 0 - 05 15 03 1 SELF CHECK INVERSE LEVEL |
| SECK | | 00 00 00 0 - 05 15 14 1 SELF CHECK |
| SEL ADR IND | 046 | 05 15 05 1 SELECT ADDRESS INDICATOR DRIVER |
| SEL ADR | 046 | 05 15 05 1 SELECT ADDRESS |
| SEL A13 DATA | 066 | 05 02 14 1 SELECT DATA 3RD LATCH ACCUMULATOR INSTRUCTION |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| | | CHANNEL |
| SEL AI3 IA | 066 | 05 02 14 1 SELECT INSTRUCTION ADDRESS 3RD LATCH ACCUMULATOR INSTRUCTION CHANNEL |
| SEL AI3 | 066 | 05 02 14 1 SELECT 3RD LATCH ACCUMULATOR INSTRUCTION CHANNEL |
| SEL TRS | 066 | 05 02 14 1 SELECT TRANSFER REGISTER SERIAL |
| SEN B MB9 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 9 SEGMENT 2 |
| SENSE A MB10 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 10 SEGMENT 1 |
| SENSE A MB10 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 10 SEGMENT 2 |
| SENSE A MB11 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 11 SEGMENT 1 |
| SENSE A MB11 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 11 SEGMENT 2 |
| SENSE A MB12 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 12 SEGMENT 1 |
| SENSE A MB12 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 12 SEGMENT 2 |
| SENSE A MB13 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 13 SEGMENT 1 |
| SENSE A MB13 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 13 SEGMENT 2 |
| SENSE A MB1 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 1 SEGMENT 1 |
| SENSE A MB1 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 1 SEGMENT 2 |
| SENSE A MB2 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 2 SEGMENT 1 |
| SENSE A MB2 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 2 SEGMENT 2 |
| SENSE A MB3 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 3 SEGMENT 1 |
| SENSE A MB3 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 3 SEGMENT 2 |
| SENSE A MB4 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 4 SEGMENT 1 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SENSE A MB4 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 4 SEGMENT 2 |
| SENSE A MB5 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 5 SEGMENT 1 |
| SENSE A MB5 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 5 SEGMENT 2 |
| SENSE A MB6 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 6 SEGMENT 1 |
| SENSE A MB6 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 SENSE MEMORY A BIT 6 SEGMENT 2 |
| SENSE A MB7 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 7 SEGMENT 1 |
| SENSE A MB7 SEG 2 | 028 | 04 25 01 0 - 05 28 02 1 SENSE MEMORY A BIT 7 SEGMENT 2 |
| SENSE A MB8 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 8 SEGMENT 1 |
| SENSE A MB8 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 8 SEGMENT 2 |
| SENSE A MB9 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 9 SEGMENT 1 |
| SENSE A MB9 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A BIT 9 SEGMENT 2 |
| SENSE A MBR1-6 | 028 | 05 28 01 1 MEMORY A SENSE AMP DETECTOR OUTPUTS TO MEMORY BUFFER BITS 1 THRU 6 |
| SENSE A MBR7-14 | 028 | 05 28 02 1 SENSE MEMORY A MEMORY BUFFER REGISTER BITS 7 - 14 |
| SENSE A PAR SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A PARITY BIT SEGMENT 1 |
| SENSE A PAR SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 SENSE MEMORY A PARITY BIT SEGMENT 2 |
| SENSE B MB10 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 10 SEGMENT 1 |
| SENSE B MB10 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 10 SEGMENT 2 |
| SENSE B MB11 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 11 SEGMENT 1 |
| SENSE B MB11 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 11 SEGMENT 2 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SENSE B MB12 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 12 SEGMENT 1 |
| SENSE B MB12 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 12 SEGMENT 2 |
| SENSE B MB13 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 13 SEGMENT 1 |
| SENSE B MB13 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 13 SEGMENT 2 |
| SENSE B MB1 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 1 SEGMENT 1 |
| SENSE B MB1 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 1 SEGMENT 2 |
| SENSE B MB2 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 2 SEGMENT 1 |
| SENSE B MB2 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 2 SEGMENT 2 |
| SENSE B MB3 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 3 SEGMENT 1 |
| SENSE B MB3 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 3 SEGMENT 2 |
| SENSE B MB4 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 4 SEGMENT 1 |
| SENSE B MB4 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 4 SEGMENT 2 |
| SENSE B MB5 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 5 SEGMENT 1 |
| SENSE B MB5 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 5 SEGMENT 2 |
| SENSE B MB6 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 6 SEGMENT 1 |
| SENSE B MB6 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 6 SEGMENT 2 |
| SENSE B MB7 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 7 SEGMENT 1 |
| SENSE B MB7 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 7 SEGMENT 2 |
| SENSE B MB8 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 8 SEGMENT 1 |
| SENSE B MB8 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 8 SEGMENT 2 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SENSE B MB9 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B BIT 9 SEGMENT 1 |
| SENSE B MB9 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 SENSE MEMORY B BIT 9 SEGMENT 2 |
| SENSE B MBR1-6 | 028 | 05 28 03 1 SENSE MEMORY B MEMORY BUFFER REGISTER BITS 1 - 6 |
| SENSE B MBR7 THRU 14 | 028 | 05 28 04 1 SENSE MEMORY B BITS 7 TO 14 TO BUFFER REGISTER |
| SENSE B PAR SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B PARITY BIT SEGMENT 1 |
| SENSE B PAR SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 SENSE MEMORY B PARITY BIT SEGMENT 2 |
| SEQ BIT NOT | 048 | 05 14 06 1 INVERSE SEQ BIT |
| SEQ BIT | 048 | 05 14 06 1 SEQUENCE BIT |
| SEQ ERR 2 RST INH | 049 | 05 15 22 1 SEQUENCE ERROR 2 RESET INHIBIT |
| SER PB ID 2 | 060 | 05 14 10 1 SERIAL PARITY BIT INDICATOR 2 DRIVER OUTPUT |
| SER PB IND 1 | 060 | 05 14 10 1 SERIAL PARITY BIT INDICATOR 1 DRIVER OUTPUT |
| SER PB | 060 | 05 14 10 1 SERIAL PARITY BIT |
| SETOP | 018 | 05 07 23 1 SET OPERATION |
| SET IADR | 067 | 05 03 12 1 SET INSTRUCTION ADDRESS DISPLAY REGISTER |
| SET INH | 031 | 05 20 02 1 SET INHIBIT |
| SET INSDR | 067 | 05 03 12 1 SET INSTRUCTION DISPLAY REGISTER |
| SET LE NOT | 047 | 05 15 08 1 INVERSE SET LE |
| SET LE | 047 | 05 15 08 1 SET LATCH E |
| SET LL NOT | 047 | 05 15 08 1 INVERSE SET LL |
| SET LL | 047 | 05 15 08 1 SET LATCH L |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SET MAN CH | 051 | 05 03 21 1 SET MANUAL CHANNEL |
| SET MBR 1 | 021 | 05 07 24 1 SET MEMORY BUFFER REGISTER POSITIONS 1 THRU 7 |
| SET MBR 1 | | 04 27 03 0 - 05 27 05-08 1 SET MEMORY BUFFER REGISTER CIRCUIT 1 |
| SET MBR 2 | 021 | 05 07 24 1 SET MEMORY BUFFER REGISTER POSITIONS 8 THRU 14 |
| SET MBR 2 | | 04 27 03 0 - 05 27 09-11 1 SET MEMORY BUFFER REGISTER CIRCUIT 2 |
| SET SSMBR DS | 064 | 05 02 07 1 SET SECTOR SYLLABLE MODULE BUFFER REGISTER DATA SECTOR |
| SET SSMBR IM1 | 064 | 05 02 07 1 SET SECTOR SYLLABLE MODULE BUFFER REGISTER INSTRUCTION MODULE 1 |
| SET SSMBR IS | 064 | 05 02 07 1 SET SECTOR SYLLABLE MODULE BUFFER REGISTER INSTRUCTION SECTOR |
| SET SSMDR A | 064 | 05 02 07 1 SET SECTOR SYLLABLE MODULE DISPLAY REGISTER FROM SOURCE A |
| SET SSMDR B | 064 | 05 02 07 1 SET SECTOR SYLLABLE MODULE DISPLAY REGISTER FROM SOURCE B |
| SHF OP | 018 | 05 07 22 1 SHIFT OPERATION |
| SH DATA | 015 | 05 07 32 1 SHIFTED DATA OUTPUT DLB TO DLA LATCHES |
| SH W | 015 | 05 06 12 1 SHIFT CLOCK PULSE W |
| SH Y | 015 | 05 06 12 1 SHIFT CLOCK PULSE Y |
| SH Z | 015 | 05 06 12 1 SHIFT CLOCK PULSE Z |
| SIGN PL | 042 | 05 11 03 1 SIGN PRINT LATCH |
| SINGLE BIT SW | 007 | 04 04 02 0 - 05 04 13 1 SINGLE BIT SWITCH |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SINGLE INST SW | 007 | 04 07 01 0 - 05 07 24 1 SINGLE INSTRUCTION SWITCH |
| SINGLE PHASE SW | 007 | 04 04 02 0 - 05 04 13 1 SINGLE PHASE SWITCH |
| SINK | 025 | 05 05 04 1 LEVEL USED IN GENERATION OF MEMORY SYNC LEVELS A |
| SKIP FIRST NOT | 050 | 05 15 16 1 INVERSE SKIP |
| SKIP FIRST | 050 | 05 15 16 1 SKIP FIRST SEQUENCE BIT |
| SKIP TO CHAN 1 NT | 044 | 05 11 15 1 INVERSE SKIP TO CHAN 1 OF THE PRINTER CARRIAGE TAPE |
| SKIP TO CHAN 1 | | 05 11 15 1 MOVES PRINTER FORMS UNTIL A HOLE IS SENSED IN CHANNEL 1 OF THE CARRIAGE TAPE |
| SPACE CODE NT | 037 | 05 09 05 1 INVERSE SPACE CODE LEVEL |
| SPACE CODE | 037 | 05 09 05 1 SPACE CODE DECODED OUTPUT |
| SPACE MAG | 038 | 05 09 09 1 SPACE MAGNET DRIVER OUTPUT |
| SPACE NT | 037 | 05 09 06 1 INVERSE SPACE LEVEL |
| SPE IND | 061 | 05 14 17 1 SERIALIZER PARITY ERROR INDICATOR DRIVER |
| SPE NOT | 061 | 05 14 17 1 INVERSE SPE |
| SPE | 061 | 05 14 17 1 SERIALIZER PARITY ERROR |
| SRPT NOT | 061 | 05 14 21 1 SET REPEAT INVERSED |
| SRTR NOT | 008 | 05 07 06 1 INVERSE SHIFT RIGHT TRANSFER REGISTER |
| SSMBR DM0 | 064 | 05 02 09 1 SECTOR SYLLABLE MODULE BUFFER REGISTER DATA MODULE 0 |
| SSMBR DM1 | 064 | 05 02 09 1 SECTOR SYLLABLE MODULE BUFFER REGISTER DATA MODULE 1 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SSMBR DS1-3 NOT | 064 | 05 02 10 1 INVERSE SSMBR DS1-3 |
| SSMBR DS1-3 | 064 | 05 02 10 1 SECTOR SYLLABLE MODULE BUFFER REGISTER DATA SECTORS 1 2 AND 3 |
| SSMBR DS4 | 064 | 05 02 11 1 SECTOR SYLLABLE MODULE BUFFER REGISTER DATA SECTOR 4 |
| SSMBR IMO-1 | 064 | 05 02 11 1 SECTOR SYLLABLE MODULE BUFFER REGISTER INSTRUCTION MODULES 0 AND 1 |
| SSMBR IS1 | 064 | 05 02 08 1 SECTOR SYLLABLE MODULE BUFFER REGISTER INSTRUCTION SECTOR 1 |
| SSMBR IS 1 NOT | 064 | 05 02 08 1 INVERSE SSMBR IS 1 |
| SSMBR IS 2 NOT | 064 | 05 02 08 1 INVERSE SSMBR IS 2 |
| SSMBR IS 2 | 064 | 05 02 08 1 SECTOR SYLLABLE MODULE BUFFER REGISTER INSTRUCTION SECTOR 2 |
| SSMBR IS 3 NOT | 064 | 05 02 08 1 INVERSE SSMBR IS 3 |
| SSMBR IS 3 | 064 | 05 02 08 1 SECTOR SYLLABLE MODULE BUFFER REGISTER INSTRUCTION SECTOR 3 |
| SSMBR IS 4 NOT | 064 | 05 02 09 1 INVERSE SSMBR IS 4 |
| SSMBR IS 4 | 064 | 05 02 09 1 SECTOR SYLLABLE MODULE BUFFER REGISTER INSTRUCTION SECTOR 4 |
| SSMBR SYL 1 NOT | 064 | 05 02 09 1 INVERSE SSMBR SYL 1 |
| SSMBR SYL 1 | 064 | 05 02 09 1 SECTOR SYLLABLE MODULE BUFFER REGISTER SYLLABLE 1 |
| SSMDR DA DMO IND | 064 | 05 02 23 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER DATA ADDRESS DATA MODULE 0 INDICATOR DRIVER |
| SSMDR DA DM1 IND | 064 | 05 02 23 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER DATA |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| | | ADDRESS DATA MODULE 1 INDICATOR DRIVER |
| SSMDR DM0 | 064 | 05 02 09 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER DATA MODULE 0 |
| SSMDR DM1 | 064 | 05 02 09 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER DATA MODULE 1 |
| SSMDR DS1-3 | 064 | 05 02 10 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER DATA SECTORS 1 2 AND 3 |
| SSMDR DS1-4 IND | 064 | 05 02 23 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER DATA SECTORS 1 THRU 4 INDICATOR DRIVERS |
| SSMDR DS4 | 064 | 05 02 11 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER DATA SECTOR 4 |
| SSMDR IA IM0 IND | 064 | 05 02 23 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER INSTRUCTION ADDRESS INSTRUCTION MODULE 0 INDICATOR DRIVER |
| SSMDR IA IM1 IND | 064 | 05 02 23 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER INSTRUCTION ADDRESS INSTRUCTION MODULE 1 INDICATOR DRIVER |
| SSMDR IM0-1 | 064 | 05 02 11 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER INSTRUCTION MODULES 0 AND 1 |
| SSMDR IS1-4 IND | 064 | 05 02 23 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER INSTRUCTION SECTORS 1 THRU 4 INDICATOR DRIVERS |
| SSMDR IS1 | 064 | 05 02 08 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER INSTRUCTION SECTOR 1 |
| SSMDR IS 2 | 064 | 05 02 08 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER INSTRUCTION SECTOR 2 |
| SSMDR IS 3 | 064 | 05 02 08 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER INSTRUCTION SECTOR 3 |
| SSMDR IS 4 | 064 | 05 02 09 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER INSTRUCTION SECTOR 4 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SSMDR SYL1 | 064 | 05 02 09 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER SYLLABLE 1 |
| SSMDR SYL 0-1 IND | 064 | 05 02 23 1 SECTOR SYLLABLE MODULE DISPLAY REGISTER SYLLABLES 0 AND 1 INDICATOR DRIVERS |
| SSMDR SYL 1 NOT | 064 | 05 02 09 1 INVERSE SSMDR SYL 1 |
| SSS | 018 | 05 07 23 1 GENERATES STORE ACCUMULATOR |
| STACC | 008 | 05 07 16 1 STORE ACCUMULATOR |
| START IND 1 2 | 050 | 05 15 16 1 START INDICATOR 1 2 DRIVERS |
| START SS NOT A | 046 | 05 15 03 1 INVERSE INVERSE START SINGLE SHOT DRIVE SOURCE A |
| STCYC1 | 061 | 05 14 19 1 START CYCLE 1 |
| STCYC | 061 | 05 14 18 1 START CYCLE |
| STOP IND 1 2 | 050 | 05 15 16 1 STOP INDICATOR 1 2 DRIVERS |
| STOP MOM 1 | 007 | 05 04 14 1 DEGATING TO CLOCK CONTROL |
| STOP NOT | 050 | 05 15 18 1 INVERSE STOP |
| STOP | 050 | 05 15 18 1 STOP |
| STO NOT | 018 | C5 07 22 1 INVERSE STO |
| STO | 018 | 05 07 22 1 STORE INSTRUCTION |
| STROBE A INH | 027 | 05 07 22 1 STROBE A INHIBIT PREVENTS BUFFER LOAD FROM SENSE AMPLIFIERS A |
| STROBE A | 027 | 05 27 03 1 STROBE MEMORY A |
| STROBE B INH | 027 | 05 07 22 1 STROBE B INHIBIT PREVENTS BUFFER LOAD FROM SENSE AMPLIFIERS B |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| STROBE B | 027 | 05 27 04 1 STROBE MEMORY B |
| STROP3 | 061 | 05 14 22 1 SET TAPE READER OPERATION BIT 3 |
| STRT RESET | 037 | 05 09 07 1 START RESET TYPEWRITER |
| SW A1 THRU A8 | 051 | 04 03 01 0 - 05 03 22 1 SWITCH INSTRUCTION ADDRESS BITS 1 THRU 8 |
| SW ADR HOLD | 069 | 04 03 02 0 - 05 03 14 1 SWITCH ADDRESS HOLD |
| SW ADV NOT | 050 | 04 15 01 0 - 05 15 17 1 INVERSE SW ADV |
| SW ADV | 050 | 04 15 01 0 - 05 15 17 1 SWITCH ADVANCE |
| SW A13 DATA | 066 | 04 02 01 0 - 05 02 14 1 SWITCH LATCH 3 AT END OF ACCUMULATOR INSTRUCTION CHANNEL DATA |
| SW A13 IA | 066 | 04 02 01 0 - 05 02 14 1 SWITCH LATCH 3 AT END OF ACCUMULATOR INSTRUCTION CHANNEL INSTRUCTION ADDRESS |
| SW ALL BG | 004 | 04 04 02 0 - 05 04 06 1 SWITCH ALL BIT GATES SCOPE SYNC |
| SW ALL CLOCKS | 004 | 04 04 02 0 - 05 04 06 1 SWITCH ALL CLOCK PULSES SCOPE SYNC |
| SW ALL PHASE | 004 | 04 04 02 0 - 05 04 06 1 SWITCH ALL PHASES SCOPE SYNC |
| SW AUTO | 049 | 04 15 01 0 - 05 15 01 1 SWITCH AUTO |
| SW B16 THRU B25 | 051 | 04 03 02 0 - 05 03 21 1 SWITCH BITS 16 THRU 25 |
| SW B1 THRU B15 | 051 | 04 03 02 0 - 05 03 20 1 SWITCH BITS 1 THRU 15 |
| SW BG1 THRU 14 | 004 | 04 04 02 0 - 05 04 05 1 SWITCH BIT GATES 1 THRU 14 SYNC SELECT GENERATION |
| SW CCW X Y Z | 004 | 04 04 02 0 - 05 04 06 1 SWITCH CLOCK PULSES W X Y Z SYNC |
| SW CD RST NOT | 069 | 04 03 01 0 - 05 03 16 1 INVERSE SW CD RST |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SW CD RST | 069 | 04 03 01 0 - 05 03 15 1 SWITCH COMPUTER DISPLAY RESET |
| SW CST | 069 | 05 04 12 1 SWITCH COMPUTER SINGLE STEP |
| SW DA MM | 051 | 04 03 01 0 - 05 03 19 1 SWITCH DATA ADDRESS MEMORY MODULE |
| SW DD | 049 | 04 15 01 0 - 05 15 01 1 SWITCH DATA DISPLAY |
| SW DIR NOT | 050 | 04 15 01 0 - 05 15 15 1 INVERSE SW DIR |
| SW DIR | 050 | 04 15 01 0 - 05 15 15 1 SWITCH DIRECTION |
| SW DS1 THRU 4 | 051 | 04 03 01 0 - 05 03 19 1 SWITCH DATA SECTORS 1 THRU 4 |
| SW ERR RST | 048 | 04 14 01 0 - 05 14 06 1 SWITCH ERROR RESET |
| SW ERR TEST NOT | 049 | 04 15 01 0 - 05 15 02 1 INVERSE SW ERR TEST |
| SW ERR TEST | 049 | 04 15 01 0 - 05 15 02 1 SWITCH ERROR TEST |
| SW FRSS NOT | 046 | 04 15 01 0 - 05 15 03 1 SWITCH FREE RUN SINGLE SHOT INVERSE |
| SW FRTR NOT | 050 | 04 15 01 0 - 05 15 17 1 INVERSE SW FRTR |
| SW FRTR | 050 | 05 15 14 1 SWITCH FREE RUN TAPE READER |
| SW FRTR | | 04 15 01 0 - 05 15 14 1 SWITCH FREE RUN TAPE READER |
| SW IA MM | 051 | 04 03 01 0 - 05 03 22 1 SWITCH INSTRUCTION ADDRESS MEMORY MODULE |
| SW IA NOT | 049 | 04 15 01 0 - 05 15 02 1 INVERSE SW IA |
| SW IA | 049 | 04 15 01 0 - 05 15 02 1 SWITCH INSTRUCTION ADDRESS |
| SW IS1 THRU 4 | 051 | 04 03 01 0 - 05 03 22 1 SWITCH INSTRUCTION SECTORS 1 THRU 4 |
| SW LAMP TEST 1A | 049 | 04 15 01 0 - 05 15 20 1 SWITCH LAMP TEST CIRCUIT 1A |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SW LAMP TEST 1 | 049 | 04 15 01 0 - 05 15 01 1 LAMP TEST PANEL 1 |
| SW LAMP TEST 2A | 049 | 04 15 01 0 - 05 15 21 1 SWITCH LAMP TEST CIRCUIT 2A |
| SW LAMP TEST 2 | 057 | 04 03 02 0 - 05 03 08 1 SWITCH LAMP TEST 2 |
| SW LAMP TEST 2 | | 04 16 04 0 - 05 16 01 1 SWITCH LAMP TEST CIRCUIT 2 |
| SW MAN | 049 | 04 15 01 0 - 05 15 01 1 SWITCH MANUAL |
| SW ML | 049 | 04 15 01 0 - 05 15 01 1 SWITCH MEMORY LOAD |
| SW OA1 THRU OA3 | 051 | 04 03 01 0 - 05 03 19 1 SWITCH OPERAND ADDRESS BITS 1 THRU 3 |
| SW OA4 | 051 | 04 03 02 0 - 05 03 20 1 SWITCH OPERAND ADDRESS BIT 4 |
| SW OA5 THRU OA9 | 051 | 04 03 01 0 - 05 03 19 1 SWITCH OPERAND ADDRESS BITS 5 THRU 9 |
| SW OP1 THRU OP4 | 051 | 04 03 02 1 - 05 03 19 1 SWITCH OPERATION BITS 1 THRU 4 |
| SW PA PB PC | 004 | 04 04 02 0 - 05 04 06 1 SWITCH PHASE A B AND C SCOPE SYNC |
| SW PREG A 11 - 13 | 036 | 04 13 04 0 - 05 13 20 1 PROGRAM REGISTER A SWITCHES 11 - 13 |
| SW PREG A 14 | 036 | 04 13 04 0 - 05 13 22 1 PROGRAM REGISTER A SWITCH 14 |
| SW PREG A 15 | 036 | 04 13 04 0 - 05 13 19 1 PROGRAM REGISTER A SWITCH 15 |
| SW PREG A 16 - 19 | 036 | 04 13 04 0 - 05 13 21 1 PROGRAM REGISTER A SWITCHES 16 - 19 |
| SW PREG A 20 21 | 036 | 04 13 04 0 - 05 13 14 1 PROGRAM REGISTER A SWITCHES 20 21 |
| SW PREG A 22 - 25 | 036 | 04 13 04 0 - 05 13 15 1 PROGRAM REGISTER A SWITCHES 22 - 25 |
| SW PREG A 1 2 | 036 | 04 13 04 0 - 05 13 16 1 PROGRAM REGISTER A SWITCHES 1 2 |
| SW PREG A 3 TO 5 | 036 | 04 13 04 0 - 05 13 17 1 PROGRAM REGISTER A SWITCHES 3 TO 5 |
| SW PREG A 6 TO 8 | 036 | 04 13 04 0 - 05 13 18 1 PROGRAM REGISTER A SWITCHES 6 TO 8 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SW PREG A 9 - 10 | 036 | 04 13 04 0 - 05 13 19 1 PROGRAM REGISTER A SWITCHES 9 TO 10 |
| SW PREG A SGN | 036 | 04 13 04 0 - 05 13 16 1 PROGRAM REGISTER A SWITCH SIGN |
| SW PREG B 11 - 13 | 036 | 04 13 04 0 - 05 13 20 1 PROGRAM REGISTER B SWITCHES 11 - 13 |
| SW PREG B 15 | 036 | 04 13 04 0 - 05 13 19 1 PROGRAM REGISTER B SWITCH 15 |
| SW PREG B 15 | | 04 13 04 0 - 05 13 22 1 PROGRAM REGISTER B SWITCH 14 |
| SW PREG B 16 - 19 | 036 | 04 13 04 0 - 05 13 21 1 PROGRAM REGISTER B SWITCHES 16 - 19 |
| SW PREG B 20 21 | 036 | 04 13 04 0 - 05 13 14 1 PROGRAM REGISTER B SWITCHES 20 21 |
| SW PREG B 22 - 25 | 036 | 04 13 04 0 - 05 13 15 1 PROGRAM REGISTER B SWITCHES 22 - 25 |
| SW PREG B 1 2 | 036 | 04 13 04 0 - 05 13 16 1 PROGRAM REGISTER B SWITCHES 1 2 |
| SW PREG B 3 TO 5 | 036 | 04 13 04 0 - 05 13 17 1 PROGRAM REGISTER B SWITCHES 3 TO 5 |
| SW PREG B 6 TO 8 | 036 | 04 13 04 0 - 05 13 18 1 PROGRAM REGISTER B SWITCHES 6 TO 8 |
| SW PREG B 9 - 10 | 036 | 04 13 04 0 - 05 13 19 1 PROGRAM REGISTER B SWITCHES 9 TO 10 |
| SW PREG B SGN | 036 | 04 13 04 0 - 05 13 16 1 PROGRAM REGISTER B SWITCH SIGN |
| SW RESET 1 | 046 | 04 15 01 0 - 05 15 03 1 SWITCH RESET CIRCUIT 1 |
| SW RESET 2 | 047 | 04 15 01 0 - 05 15 13 1 SWITCH RESET CIRCUIT 2 |
| SW RPT NOT | 061 | 04 14 01 0 - 05 14 23 1 INVERSE SW RPT |
| SW RPT PRO CYC | 069 | 04 03 02 0 - 05 03 14 1 SWITCH REPEAT PROCESS CYCLE |
| SW RPT | 061 | 04 14 01 0 - 05 14 23 1 SWITCH REPEAT |
| SW | 008 | 05 07 11 1 SHIFT W CLOCK TIME |
| SW SEL ADR | 046 | 04 15 02 0 - 05 15 05 1 SWITCH SELECT ADDRESS |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SW SGDTC NOT | 061 | 04 14 01 0 - 05 14 21 1 ADDRESS COMPUTER INVERSE LEVEL |
| SW SGDTC | 061 | 04 14 01 0 - 05 14 21 1 ADDRESS COMPUTER |
| SW SIGN | 051 | 04 03 02 0 - 05 03 19 1 SWITCH SIGN |
| SW SINGLE DIS | 069 | 04 03 02 0 - 05 03 16 1 SWITCH SINGLE DISPLAY |
| SW SING STEP MODE | 069 | 04 03 02 0 - 05 03 14 1 SWITCH SINGLE STEP |
| SW START NOT | 050 | 04 15 01 0 - 05 15 17 1 INVERSE SW START |
| SW START | 050 | 04 15 01 0 - 05 15 17 1 SWITCH START |
| SW START SS | 046 | 05 15 03 1 SWITCH START SINGLE SHOT |
| SW START SS | | 04 15 01 0 - 05 15 03 1 SWITCH START SINGLE SHOT |
| SW STOP | 050 | 04 15 01 0 - 05 15 18 1 SWITCH STOP |
| SW SYL | 051 | 04 03 01 0 - 05 03 22 1 SWITCH SYL INSTRUCTION TAPE |
| SW TAADR1-5 | 051 | 04 03 02 0 - 05 03 21 1 SWITCH TAPE ADDRESS BITS 1 THRU 5 |
| SW TA PWR | 050 | 04 15 01 1 - 05 15 16 1 SWITCH TAPE POWER |
| SW TRCB1 2 | 047 | 04 15 02 0 - 05 15 11 1 SWITCH TAPE READER CHARACTER BIT 1 2 |
| SW TRCB3 THRU 6 | 047 | 04 15 02 0 - 05 15 12 1 SWITCH TAPE READER CHARACTER BITS 3 THRU 6 |
| SW TRCB7 THRU 9 | 047 | 04 15 02 0 - 05 15 13 1 SWITCH TAPE READER CHARACTER BIT 7 THRU 9 |
| SW TRCH1-5 01 | 059 | 04 14 01 0 - 05 14 05 1 SWITCH TAPE READER CHANNEL 1 THRU 5 FROM PANEL 1 |
| SW TRCH1-6 02 | 059 | 04 14 01 0 - 05 14 05 1 SWITCH TAPE READER CHANNEL 1 THRU 6 FROM PANEL 2 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SW TR RST | 049 | 04 15 01 0 - 05 15 20 1 SWITCH TAPE READER RESET |
| SW TRS | 066 | 04 02 01 0 - 05 02 14 1 SWITCH TRANSFER REGISTER SERIAL |
| SW VER ONLY NOT | 049 | 04 15 01 0 - 05 15 19 1 INVERSE SW VER ONLY |
| SW VER ONLY | 049 | 04 15 01 0 - 05 15 19 1 SWITCH VERIFY ONLY |
| SX | 008 | 05 07 11 1 SHIFT X CLOCK TIME |
| SYL0 BR IND | 069 | 05 03 18 1 SYLLABLE 0 BUFFER REGISTER INDICATOR DRIVER |
| SYL0 BR NOT | 069 | 05 03 18 1 INVERSE SYL0 BR |
| SYL0 BR | 069 | 05 03 18 1 SYLLABLE 0 BUFFER REGISTER |
| SYL1 BR IND | 069 | 05 03 18 1 SYLLABLE 0 BUFFER REG INDICATOR DRIVER |
| SYL1 BR NOT | 069 | 05 03 18 1 INVERSE SYL1 BR |
| SYL1 BR | 069 | 05 03 18 1 SYLLABLE 1 BUFFER REGISTER |
| SYL 0 1 IND 1 2 | 019 | 05 20 18 1 SYLLABLE 0 1 INDICATOR DRIVERS 1 2 |
| SYL 0 | 025 | 05 05 05 1 SYLLABLE 0 CONTROLS MEMORY READ WRITE SYLLABLE 0 |
| SYL 0 SYL 1 | 027 | 05 27 01 1 SYLLABLE 0, SYLLABLE 1, MEMORY CONTROL LEVELS |
| SYL 1 | 025 | 05 05 05 1 SYLLABEE 1 CONTROLS MEMORY READ WRITE SYLLABLE 1 |
| SYL C1 NOT | 019 | 05 05 03 1 INVERSE SYL C1 |
| SYL C1 | 019 | 05 05 03 1 SYLLABLE 1 CONTROL |
| SYNC A | 025 | 05 05 12 1 SYNC A GENERATES MEMORY A TIMING |
| SYNC B | 025 | 05 05 12 1 SYNC B GENERATES MEMORY B TIMING |
| SYNC CTRL NT | 004 | 05 04 01 1 INVERSE SYNC CTRL |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| SYNC CTRL | 004 | 05 04 01 1 SYNC CONTROL FROM EXTERNAL SOURCE DELAYED PHASE B |
| SZ | 008 | 05 07 11 1 SHIFT Z CLOCK TIME |
| T1 | 038 | 05 09 09 1 TILT ONE |
| T1 W | 038 | 05 09 09 1 TILT 1 PRINT DRIVER OUTPUT |
| T2 | 038 | 05 09 09 1 TILT TWO |
| T2 W | 038 | 05 09 09 1 TILT 2 PRINT DRIVER OUTPUT |
| TAADR1A - TAADR3A | 053 | 05 16 13 1 TAPE ADDRESS BITS 1 TO 3 FROM DRIVE SOURCE A |
| TAADR1-TAADR3 NOT A | 053 | 05 16 13 1 INVERSE TAADR1A THRU 3A |
| TAADR1 -3 IND | 053 | 05 16 13 1 TAADR1 -3 INDICATOR DRIVERS |
| TAADR4A - TAADR5A | 053 | 05 16 14 1 TAPE ADDRESS BITS 4 THRU 5 FROM DRIVE SOUCE A |
| TAADR4-TAADR5 NOT A | 053 | 05 16 14 1 INVERSE TAADR4A THRU 5A |
| TAADR4 - 5 IND | 053 | 05 16 14 1 TAADR4 -5 INDICATOR DRIVERS |
| TAB CRTN INLK | 038 | 05 09 10 1 DEGATE LEVEL PRINT CONTROL TYPERWRITER FEEDBACK |
| TAB MAG | 038 | 05 09 09 1 TABULATOR MAGNET DRIVER OUTPUT |
| TADR | 067 | 05 03 12 1 TRANSFER ADDRESS DISPLAY REGISTER |
| TAPB NOT | 048 | 05 14 06 1 INVERSE TAPB |
| TAPB | 048 | 05 14 06 1 TRACH PARITY BIT |
| TA PWR ERR INT | 049 | 05 15 14 1 TAPE POWER ERROR INTERRUPT |
| TA PWR RLY GRD | 049 | 05 15 21 1 TAPE POWER RELAY GROUND |
| TA | 017 | 05 05 09 1 TRANSFER ADDRESS ONE OUTPUT FROM LATCH |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TATC | 061 | 05 14 21 1 TRANSFER ADDRESS TO COMPUTER |
| TAZ | 017 | 05 05 09 1 TRANSFER ADDRESS ZERO OUTPUT FROM LATCH |
| TBC | 005 | 05 06 09 1 ONE OUTPUT OF TIMING LATCH FROM BIT GATE 3 CLOCK Y PHASE B TO BIT GATE 1 CLOCK PULSE Y PHASE A |
| TBR NOT | 008 | 05 07 07 1 INVERSE TBR |
| TBR | 008 | 05 07 07 1 TRANSFER BUFFER REGISTER |
| TDTTC | 061 | 05 14 21 1 TRANSFER DATA TO COMPUTER |
| TILT ROTATE GATE | 037 | 05 09 06 1 GATES PRINT DRIVER OUTPUTS |
| TILT SELECT | 037 | 05 09 06 1 GATES PRINT CONTROL DRIVER OUTPUTS |
| TIME 015 030 | 045 | 05 11 08 1 015 TO 030 TIME PRINTER CLOCK |
| TIME 060 090 | 045 | 05 11 08 1 060 TO 090 TIME PRINTER CLOCK |
| TIME 090 000 | 045 | 05 11 08 1 090 TO 000 TIME PRINTE CLOCK |
| TIME 105 000 | 045 | 05 11 08 1 105 TO 000 TIME PRINTER CLOCK |
| TPE IND | 048 | 05 14 01 1 TAPE ERROR INDICATOR DRIVER |
| TPE | 048 | 05 14 01 1 TAPE ERROR |
| TR10 11 12 | 009 | 05 07 15 1 TRANSFER REGISTER 10 11 12 |
| TR12D NOT | 009 | 05 07 15 1 INVERSE TR12D |
| TR12D | 009 | 05 07 15 1 TRANSFER REGISTER 12 DELAYED |
| TR13 NOT | 009 | 05 07 11 1 INVERSE TR13 |
| TR13 | 009 | 05 07 11 1 TRANSFER REGISTER 13 |
| TR1D NOT | 009 | 05 07 13 1 INVERSE TR1D |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TR1D | 009 | 05 07 13 1 TRANSFER REGISTER 1 DELAYED |
| TR1 NOT | 009 | 05 07 05 1 INVERSE TR1 |
| TR1 | 009 | 05 07 05 1 TRANSFER REGISTER 1 |
| TR2 3 4 NOT | 009 | 05 07 12 1 INVERSE TR2 3 4 |
| TR2 3 4 | 009 | 05 07 12 1 TRANSFER REGISTER 2 3 4 |
| TR3D NOT | 009 | 05 07 13 1 INVERSE TR3D |
| TR3D | 009 | 05 07 13 1 TRANSFER REGISTER 3 DELAYED |
| TR5 6 7 NOT | 009 | 05 07 14 1 INVERSE TR5 6 7 |
| TR5 6 7 | 009 | 05 07 14 1 TRANSFER REGISTER 5 6 7 |
| TR6D | 009 | 05 07 13 1 TRANSFER REGISTER 6 DELAYED |
| TR8 NOT | 009 | 05 07 13 1 INVERSE TR8 |
| TR8 | 009 | 05 07 13 1 TRANSFER REGISTER 8 |
| TR9D NOT | 009 | 05 07 16 1 INVERSE TR9D |
| TR9D | 009 | 05 07 16 1 TRANSFER REGISTER 9 DELAYED |
| TR9 | 009 | 05 07 16 1 TRANSFER REGISTER 9 |
| TRA1 THRU 4 IND | 056 | 05 16 17 1 TAPE READER ADDRESS BITS 1 THRU 4 INDICATOR DRIVERS |
| TRA1 THRU 4 IND | | 05 16 17 1 TAPE READER ADDRESS BITS A1 THRU A4 INDICATOR DRIVERS |
| TRA1 THRU 4 NOT | 056 | 05 16 17 1 INVERSE TRA1 THRU 4 |
| TRA1 THRU 4 NOT | | 05 16 17 1 INVERSE TRA1 THRU A4 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TRA1 THRU 4 | 056 | 05 16 17 1 TAPE READER ADDRESS BITS 1 THRU 4 |
| TRA1 THRU 4 | | 05 16 17 1 TAPE READER ADDRESS BITS A1 THRU A4 |
| TRA5 THRU 8 IND | 056 | 05 16 18 1 TAPE READER ADDRESS BITS 5 THRU 8 INDICATOR |
| TRA5 THRU 8 IND | | 05 16 18 1 TAPE READER ADDRESS BITS A5 THRU A8 INDICATOR DRIVERS |
| TRA5 THRU 8 NOT | 056 | 05 16 18 1 INVERSE TRA5 THRU 8 |
| TRA5 THRU 8 NOT | | 05 16 18 1 INVERSE TRA5 THRU A8 |
| TRA5 THRU 8 | 056 | 05 16 18 1 TAPE READER ADDRESS BITS 5 THRU 8 DRIVERS |
| TRA5 THRU 8 | | 05 16 18 1 TAPE READER ADDRESS BITS A5 THRU A8 |
| TRACK 1 TRACK 2 | 048 | 04 14 01 0 - 05 14 02 1 TAPE READER TRACKS 1 AND 2 |
| TRACK 3 TRACK 4 | 048 | 04 14 01 0 - 05 14 03 1 TAPE READER TRACKS 3 AND 4 |
| TRACK 5 TRACK 6 | 048 | 04 14 01 0 - 05 14 04 1 TAPE READER TRACKS 5 AND 6 |
| TRACK 7 TRACK 8 | 048 | 04 14 01 0 - 05 14 06 1 TAPE READER TRACKS 7 AND 8 |
| TRANS INH NOT | 049 | 05 15 19 1 INVERSE TRANSFER INHIBIT |
| TRA PB | 069 | 05 03 17 1 TRANSFER PARITY BIT |
| TRB12 - TRB15 IND | 057 | 05 16 04 1 TRB12 - TRB15 INDICATOR DRIVERS |
| TRB12 - TRB15 NOT | 057 | 05 16 04 1 INVERSE TRB12 - TRB15 |
| TRB12 - TRB15 | 057 | 05 16 04 1 TAPE READER BITS 12 TU 15 |
| TRB16 - TRB19 IND | 058 | 05 16 05 1 TRB16 - TRB19 INDICATOR DRIVERS |
| TRB16 - TRB19 NOT | 058 | 05 16 05 1 INVERSE TRB16 - TRB19 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TRB16 - TRB19 | 058 | 05 16 05 1 TAPE READER BITS 16 TO 19 |
| TRB1 - TRB3 IND | 057 | 05 16 01 1 TRB1 - TRB3 INDICATOR DRIVERS |
| TRB1 - TRB3 NOT | 057 | 05 16 01 1 INVERSE TRB1 - TRB3 |
| TRB1 - TRB3 | 057 | 05 16 01 1 TAPE READER BITS 1 THRU 3 |
| TRB20 - TRB23 IND | 058 | 05 16 06 1 TRB20 - TRB23 INDICATOR DRIVERS |
| TRB20 - TRB23 NOT | 058 | 05 16 06 1 INVERSE TRB20 - TRB23 |
| TRB20 - TRB23 | 058 | 05 16 06 1 TAPE READER BITS 20 TO 23 |
| TRB24 - TRB25 IND | 058 | 05 16 07 1 TRB24 - TRB25 INDICATOR DRIVERS |
| TRB24 - TRB25 NOT | 058 | 05 16 07 1 INVERSE TRB24 - TRB25 |
| TRB24 - TRB25 | 058 | 05 16 07 1 TAPE READER BITS 24 AND 25 |
| TRB4 - TRB7 IND | 057 | 05 16 02 1 TRB4 - TRB7 INDICATOR DRIVERS |
| TRB4 - TRB7 NOT | 057 | 05 16 02 1 INVERSE TRB4 - TRB7 |
| TRB4 - TRB7 | 057 | 05 16 02 1 TAPE READER BITS 4 TO 7 |
| TRB8 - TRB11 IND | 057 | 05 16 03 1 TRB8 - TRB11 INDICATOR DRIVERS |
| TRB8 - TRB11 NOT | 057 | 05 16 03 1 INVERSE TRB8 - TB11 |
| TRB8 - TRB11 | 057 | 05 16 03 1 TAPE READER BITS 8 TO 11 |
| TRCB1A 2A | 047 | 05 15 11 1 TAPE READER CHARACTER COUNTER BITS 1 AND 2 FROM DRIVE SOURCE A |
| TRCB1 TRCB2 NOT | 047 | 05 15 11 1 INVESE TRCB1 TRCB2 |
| TRCB3A-6A | 047 | 05 15 12 1 TAPE READER CHARACTER COUNTER BITS 3 THRU 6 FROM DRIVE SOURCE A |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TRCB3 TRCB6 NOT | 047 | 05 15 12 1 INVERSE TRCB3 THRU TRCB6 |
| TRCB7A-9A | 047 | 05 15 13 1 TAPE READER CHARACTER COUNTER BITS 7 THRU 9 FROM DRIVE SOURCE A |
| TRCB7 TRCB9 NOT | 047 | 05 15 13 1 INVERSE TRCB7 THRU TRCB 9 |
| TRCH 1A NOT | 048 | 05 14 02 1 INVERSE TRCH 1A |
| TRCH 1A | 048 | 05 14 02 1 TAPE READER CHANNEL 1 FROM DRIVE SOURCE A |
| TRCH 2A NOT | 048 | 05 14 02 1 INVERSE TRCH 2A |
| TRCH 2A | 048 | 05 14 02 1 TAPE READER CHANNEL 2 FROM DRIVE SOURCE A |
| TRCH 3A-4A NOT | 048 | 05 14 03 1 INVERSE TRCH 3A-4A |
| TRCH 3A-4A | 048 | 05 14 03 1 TAPE READER CHANNELS 3 AND 4 FROM DRIVE SOURCE A |
| TRCH 5A-6A NOT | 048 | 05 14 04 1 INVERSE TRCH 5A-6A |
| TRCH 5A-6A | 048 | 05 14 04 1 TAPE READER CHANNELS 5 AND 6 FROM DRIVE SOURCE A |
| TRCLA | 049 | 05 15 19 1 TAPE READER CLEAR AND ADD |
| TRCP1 2 ERROR NOT | 046 | 05 15 06 1 TAPE READER CLOCK PULSES 1 AND 2 ERROR LEVEL INVERSED |
| TRCP1 A | 046 | 05 15 04 1 TAPE READER CLOCK PULSE 1 FROM DRIVE SOURCE A |
| TRCP1 NOT A | 046 | 05 15 04 1 INVERSE TAPE READER CLOCK PULSE 1 A |
| TRCP2 A | 046 | 05 15 04 1 TAPE READER CLOCK PULSE 1 FROM DRIVE SOURCE A |
| TRCP2 NOT A | 046 | 05 15 04 1 INVERSE TAPE READER CLOCK PULSE 2 A |
| TRCP3 4 ERROR NOT | 046 | 05 15 06 1 TAPE READER CLOCK PULSES 3 AND 4 ERROR LEVEL INVERSED |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TRCP3 A | 046 | 05 15 05 1 TAPE READER CLOCK PULSE 3 FROM DRIVE SOURCE A |
| TRCP3 NOT A | 046 | 05 15 05 1 INVERSE TRCP3 A |
| TRCP4 A | 046 | 05 15 05 1 TAPE READER CLOCK PULSE 4 FROM DRIVE SOURCE A |
| TRCP4 NOT A | 046 | 05 15 05 1 INVERSE TRCP4 A |
| TRCP ERR DLY | 046 | 05 15 07 1 TAPE READER CLOCK PULSE ERROR DELAY |
| TRCP ERR IND | 046 | 05 02 05 1 TAPE READER CLOCK PULSE ERROR INDICATOR DRIVER |
| TRCP ERR NOT | 046 | 05 15 07 1 INVERSE TRCP ERR |
| TRCP ERR | 046 | 05 15 07 1 TAPE READER CLOCK PULSE ERROR |
| TRCP GEN | 046 | 05 15 03 1 TAPE READER CLOCK PULSE GENERATOR |
| TRDA PB NOT | 060 | 05 14 09 1 INVERSE TRDA |
| TRDA PB | 060 | 05 14 09 1 TAPE READER DATA PARITY BIT |
| TRDA RST | 049 | 05 15 20 1 TAPE READER DATA RESET |
| TRDMO 1 IND | 053 | 05 16 15 1 TAPE READER DATA MODULES 0 AND 1 INDICATOR DRIVER |
| TRDMO 1 IND | | 05 16 15 1 TAPE READER DATA MODULES 0 AND 1 INDICATOR DRIVERS |
| TRDMO 1 | 053 | 05 16 15 1 TAPE READER DATA MODULES 0 AND 1 |
| TRDMO 1 | | 05 16 15 1 TAPE READER DATA MODULES 0 AND 1 |
| TRDS1 - TRDS4 IND | 055 | 05 16 12 1 TRDS1 - TRDS4 INDICATOR DRIVERS |
| TRDS1 - TRDS4 NOT | 055 | 05 16 12 1 INVERSE TRDS1 - TRDS4 |
| TRDS1 - TRDS4 | 055 | 05 16 12 1 TAPE READER DATA SECTOR BITS 1 THRU 4 |
| TRIA PB NOT | 060 | 05 14 10 1 INVERSE TRIA PB |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TRIA PB | 060 | 05 14 10 1 TAPE READER INSTRUCTION ADDRESS PARITY BIT |
| TRIA RST | 049 | 05 15 20 1 TAPE READER INSTRUCTION RESET |
| TRIMO 1 IA IND | 054 | 05 16 19 1 TAPE READER INSTRUCTION MODULES 0 AND 1 INDICATOR DRIVERS |
| TRIMO 1 IA | 054 | 05 16 19 1 TAPE READER INSTRUCTION MODULES 0 AND 1 INSTRUCTION ADDRESS |
| TRIS1 THRU 4 IND | 054 | 05 16 16 1 TAPE READER INSTRUCTION SECTOR 1 THRU 4 INDICATOR DRIVERS |
| TRIS1 THRU 4 IND | | 05 16 16 1 TAPE READER INSTRUCTION SECTOR 1 THRU 4 INDICATOR DRIVERS |
| TRIS1 THRU 4 NOT | 054 | 05 16 16 1 INVERSE TRIS1 THRU 4 |
| TRIS1 THRU 4 NOT | | 05 16 16 1 INVERSE TRIS1 THRU 4 |
| TRIS1 THRU 4 | 054 | 05 16 16 1 TAPE READER INSTRUCTION SECTOR 1 THRU 4 |
| TRIS1 THRU 4 | | 05 16 16 1 TAPE READER INSTRUCTION SECTOR 1 THRU 4 |
| TROA1 - TROA4 IND | 052 | 05 16 08 1 TROA1 - TROA4 INDICATOR DRIVERS |
| TROA1 - TROA4 NOT | 052 | 05 16 08 1 TROA1 - TROA4 INVERSED |
| TROA1 - TROA4 | 052 | 05 16 08 1 TAPE READER OPERAND ADDRESS BITS 1 TO 4 |
| TROA5 - TROA7 IND | 052 | 05 16 09 1 TROA5 - TROA7 INDICATOR DRIVERS |
| TROA5 - TROA7 NOT | 052 | 05 16 09 1 INVERSE TROA5 - TROA7 |
| TROA5 - TROA7 | 052 | 05 16 09 1 TAPE READER OPERAND ADDRESS BITS 5 TO 7 |
| TROA8 - TROA9 IND | 052 | 05 16 10 1 TROA8 - TROA9 INDICATOR DRIVERS |
| TROA8 - TROA9 NOT | 052 | 05 16 10 1 INVERSED TROA8 - TROA9 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TROA8 - TROA9 | 052 | 05 16 10 1 TAPE READER OPERAND ADDRESS BITS 8 AND 9 |
| TROP1 - TROP4 IND | 055 | 05 16 11 1 TROP1 - TROP4 INDICATOR DRIVERS |
| TROP1 - TROP4 NOT | 055 | 05 16 11 1 INVERSE TROP1 - TROP4 |
| TROP1 - TROP4 | 055 | 05 16 11 1 TAPE READER OPERATION BITS 1 THRU 4 |
| TR DA RST | 049 | 05 15 20 1 TAPE READER DATA RESET |
| TR IND INH NOT | 023 | 05 13 01 1 TRANSFER REGISTER INDICATOR INHIBIT INVERSED |
| TR REG SW | 023 | 04 13 03 0 - 05 13 01 1 TRANSFER REGISTER SWITCH |
| TR SYL 0 PB IND | 060 | 05 14 08 1 TAPE READER SYLLABLE 0 PARITY BIT INDICATOR DRIVE |
| TR SYL 0 PB NOT | 060 | 05 14 08 1 INVERSE TR SYL 0 PB |
| TR SYL 0 PB | 060 | 05 14 08 1 TAPE READER SYLLABLE 0 PARITY BIT |
| TR SYL 1 PB IND | 060 | 05 14 07 1 TAPE READER SYLLABLE 1 INDICATOR DRIVER OUTPUT |
| TR SYL 1 PB NOT | 060 | 05 14 07 1 INVERSE TR SYL 1 PB |
| TR SYL 1 PB | 060 | 05 14 07 1 TAPE READER SYLLABLE 1 PARITY BIT |
| TRSIGN IND | 057 | 05 16 01 1 TAPE READER SIGN INDICATOR DRIVER |
| TRSIGN NOT | 057 | 05 16 01 1 INVERSE TRSIGN |
| TRSIGN | 057 | 05 16 01 1 TAPE READER SIGN |
| TRS NOT | 009 | 05 07 16 1 INVERSE TRS |
| TRS | 009 | 05 07 16 1 TRANSFER REGISTER SERIAL |
| TRSTO | 061 | 05 14 21 1 TAPE READER STORE OPERATION DECODED |
| TRSYLO 1 IND | 054 | 05 16 19 1 TAPE READER SYLLABLES 0 AND 1 INDICATOR DRIVERS |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TRSYLO 1 IND | | 05 16 19 1 TAPE READER SYLLABLES 0 AND 1 |
| TRSYLO 1 | 054 | 05 16 19 1 TAPE READER SYLLABLES 0 AND 1 |
| TRSYLO 1 | | 05 16 19 1 TAPE READER SYLLABLES 0 AND 1 |
| T D OFF | 042 | 05 11 02 1 TIME DELAY HAMMER RESTORE POWER OFF |
| TTT | 008 | 05 07 09 1 INDICATES NO TRANSFER OPERATION |
| TW SENA MB9 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB9 SEG 2 |
| TW SEN A MB10 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB10 SEG 1 |
| TW SEN A MB10 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB10 SEG 2 |
| TW SEN A MB11 SEG2 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB11 SEG 2 |
| TW SEN A MB11 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB11 SEG 1 |
| TW SEN A MB12 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB12 SEG 1 |
| TW SEN A MB12 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB12 SEG 2 |
| TW SEN A MB13 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB12 SEG 1 |
| TW SEN A MB13 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB13 SEG 2 |
| TW SEN A MB1 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB1 SEG 1 |
| TW SEN A MB1 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB1 SEG 2 |
| TW SEN A MB2 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB2 SEG 1 |
| TW SEN A MB2 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB2 SEG 2 |
| TW SEN A MB3 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB3 SEG 1 |
| TW SEN A MB3 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A SEGMENT 2 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TW SEN A MB4 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB4 SEGMENT 1 |
| TW SEN A MB4 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB4 SEG 2 |
| TW SEN A MB5 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB5 SEG 1 |
| TW SEN A MB5 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB5 SEG 2 |
| TW SEN A MB6 SEG 1 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB6 SEG 1 |
| TW SEN A MB6 SEG 2 | 028 | 04 28 01 0 - 05 28 01 1 TWISTED WIRE SENSE A MB6 SEG 2 |
| TW SEN A MB7 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB7 SEG 1 |
| TW SEN A MB7 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB7 SEG 2 |
| TW SEN A MB8 SEG2 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB8 SEG 2 |
| TW SEN A MB8 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB8 SEG 1 |
| TW SEN A MB9 SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB9 SEG 1 |
| TW SEN A MB9 SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A MB9 SEG 2 |
| TW SEN A PAR SEG 1 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A PAR SEG 1 |
| TW SEN A PAR SEG 2 | 028 | 04 28 01 0 - 05 28 02 1 TWISTED WIRE SENSE A PAR SEG 2 |
| TW SEN B MB10 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB10 SEG 1 |
| TW SEN B MB10 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB10 SEG 2 |
| TW SEN B MB11 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB11 SEG 1 |
| TW SEN B MB11 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB11 SEG 2 |
| TW SEN B MB12 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB12 SEG 1 |
| TW SEN B MB12 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB12 SEG 2 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TW SEN B MB13 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB13 SEG 1 |
| TW SEN B MB13 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB13 SEG 2 |
| TW SEN B MB1 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB1 SEG 1 |
| TW SEN B MB1 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB1 SEG 2 |
| TW SEN B MB2 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB2 SEG 1 |
| TW SEN B MB2 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB2 SEG 2 |
| TW SEN B MB3 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB3 SEG 1 |
| TW SEN B MB3 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB3 SEG 2 |
| TW SEN B MB4 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB4 SEG 1 |
| TW SEN B MB4 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB4 SEG 2 |
| TW SEN B MB5 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB5 SEG 1 |
| TW SEN B MB5 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB5 SEG 2 |
| TW SEN B MB6 SEG 1 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB6 SEG 1 |
| TW SEN B MB6 SEG 2 | 028 | 04 28 02 0 - 05 28 03 1 TWISTED WIRE SENSE B MB6 SEG 2 |
| TW SEN B MB7 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB7 SEG 1 |
| TW SEN B MB7 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB7 SEG 2 |
| TW SEN B MB8 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB8 SEG 1 |
| TW SEN B MB8 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB8 SEG 2 |
| TW SEN B MB9 SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB9 SEG 1 |
| TW SEN B MB9 SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B MB9 SEG 2 |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| TW SEN B PAR SEG 1 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B PAR SEG 1 |
| TW SEN B PAR SEG 2 | 028 | 04 28 02 0 - 05 28 04 1 TWISTED WIRE SENSE B PAR SEG 2 |
| TX | 008 | 05 07 05 1 TRANSFER X CLOCK TIME |
| TYPR READY | 037 | 05 09 07 1 TYPERWRITER READY SENSE BY CIO 214 |
| TY | 008 | 05 07 11 1 TRANSFER Y CLOCK TIME |
| TZ | 008 | 05 07 08 1 TRANSFER BUFFER REGISTER AND Z CLOCK TIME |
| UACCU | 010 | 05 07 04 1 SPECIFIES USE OF INSTRUCTION |
| UC LATCH | 037 | 05 09 05 1 UPPER CASE LATCH ONE OUTPUT |
| UC SHIFT MAG | 037 | 05 09 06 1 UPPER CASE SHIFT MAGNET DRIVER OUTPUT |
| UC SHIFT NT | 037 | 05 09 06 1 UPPER CASE SHIFT RESETS UC LATCH DELAYED 30MS |
| UTR | 010 | 05 07 04 1 SPECIFIES USE OF OPERAND ADDRESS TO REPLACED INSTRUCTION COUNTER ADDRESS DURNING TRANSFER OR NOP OPERATION |
| VER ONLY IND A B | 049 | 05 15 19 1 VERIFY ONLY INDICATOR DRIVERS A B |
| WAIT FOR SHIFT NT | 037 | 05 09 07 1 DEGATE TYPERWRITER READY |
| WR GATE A | 024 | 05 05 15 1 WRITE GATE MEMORY A |
| WR GATE A | | 05 27 01 1 WRITE GATE MEMORY A |
| WR GATE B | 024 | 05 05 19 1 WRITE GATE B |
| WR GATE B | | 05 27 02 1 WRITE GATE MEMORY B |
| WR GATE NOT A | 024 | 05 05 15 1 INVERSE WR GATE A |
| WR GATE NOT B | 024 | 05 05 19 1 INVERSE WR GATE B |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| WR SYL1 RD SYLO GTA | 026 | 05 27 01 1 WRITE SYLLABLE 1 READ SYLLABLE 0 GATE MEMORY A |
| WR SYL1 RD SYLO GTB | 026 | 05 27 02 1 WRITE SYLLABLE 1 READ SYLLABLE 0 GATE MEMORY B |
| W A NOT | 005 | 05 06 06 1 CLOCK PULSE W ANDED WITH BIT GATE LATCH A ZERO |
| W A | 005 | 05 06 06 1 CLOCK PULSE W ANDED WITH BIT GATE LATCH A ONE |
| W DLY | 004 | 05 04 02 1 CLOCK W FROM EXTERNAL SOURCE DELAYED CW |
| W OR CW | 004 | 04 04 01 0 - 05 04 01 1 CLOCK PULSE W EXTERNAL SOURCE |
| X AND Y COUNT RESET | 039 | 05 10 06 1 X AND Y COUNTER RESET |
| X COUNT 0 | 039 | 05 10 06 1 X COUNTER EQUAL TO ZERO |
| X COUNT NT 0 | 039 | 05 10 06 1 X COUNTER NOT ZERO |
| X EIGHTS 0-7 DR B | 030 | 05 26 07 1 - 04 26 03 0 EIGHTS X 0 THRU 7 DRIVES MEMORY B |
| X EIGHTS 0-7 RET B | 030 | 05 26 07 1 - 04 26 03 0 EIGHTS X 0 THRU 7 RETURNS MEMORY B |
| X EIGHTS 0 - 7 DR A | 029 | 05 26 03 1 - 04 26 01 0 X EIGHTS 0 THRU 7 DRIVES MEMORY A |
| X EIGHTS 0 - 7 RT A | 029 | 05 26 03 1 - 04 26 01 0 X EIGHTS 0 THRU 7 RETURNS MEMORY A |
| X UNITS 0-7 DR B | 030 | 05 26 06 1 - 04 26 03 0 UNITS X 0 THRU 7 DRIVES MEMORY B |
| X UNITS 0-7 RET B | 030 | 05 26 06 1 - 04 26 03 0 UNITS X 0 THRU 7 RETURNS MEMORY B |
| X UNITS 0 TO 7 DR A | 029 | 05 26 02 1 - 04 26 01 0 X UNITS 0 THRU 7 DRIVES MEMORY A |
| X UNITS 0 TO 7 RT A | 029 | 05 26 02 1 - 04 26 01 0 X UNITS 0 THRU 7 RETURNS MEMORY A |
| Y COUNT NT 0 | 039 | 05 10 06 1 Y COUNTER NOT ZERO |
| Y DRIVE A | 027 | 05 26 01 1 Y DRIVE MEMORY A |
| Y DRIVE B | 027 | 05 26 01 1 Y DRIVE MEMORY B |

| Symbol | Figure 10-28 Sheet Number | ALD and/or Figure 10-4 LN Number and Symbol Definition |
|---|---|---|
| Y EIGHTS 0-7 DR A | 029 | 05 26 05 1 - 04 26 02 0 EIGHTS Y DRIVES 0 THRU 7 MEMORY A |
| Y EIGHTS 0-7 DR B | 030 | 05 26 09 1 - 04 26 04 0 EIGHTS Y 0 THRU 7 DRIVES MEMORY B |
| Y EIGHTS 0-7 RET A | 029 | 05 26 05 1 - 04 26 02 0 EIGHTS 0 THRU 7 Y RETURNS MEMORY A |
| Y EIGHTS 0-7 RET B | 030 | 05 26 09 1 - 04 26 04 0 EIGHTS Y 0 THRU 7 RETURNS MEMORY B |
| Y )A | 038 | 04 09 01 1 CARRIAGE OPERATION TYPERWRITER FEEDBACK |
| Y )B | 038 | 04 09 01 1 CARRIAGE RETURN INDEX TYPERWRITER FEEDBACK |
| Y )C | 038 | 04 09 01 1 TAB INTERLOCK TYPERWRITER FEEDBACK |
| Y )E | 038 | 04 09 01 1 END OF LINE INTERLOCK TYPERWRITER FEEDBACK |
| Y )F | 038 | 04 09 01 0 END OF LINE TYPERWRITER |
| Y )Y | 038 | 04 09 01 1 TAB INTERLOCK |
| Y UNITS 0-7 DR A | 029 | 05 26 04 1 - 04 26 02 0 Y UNITS 0 THRU 7 DRIVES MEMORY A |
| Y UNITS 0-7 DR A | | 05 26 04 1 UNITS Y 0-7 DRIVES MEMORY A |
| Y UNITS 0-7 DR B | 030 | 05 26 08 1 - 04 26 04 0 UNITS Y 0 THRU 7 DRIVES MEMORY B |
| Y UNITS 0-7 RET B | 030 | 05 26 08 1 - 04 26 04 0 UNITS Y 0 THRU 7 RETURNS MEMORY B |
| Y UNITS 0 TO 7 RT A | 029 | 05 26 04 1 - 04 26 02 0 Y UNITS 0 THRU 7 RETURNS MEMORY A |
| Y Z | 038 | 04 09 01 0 - 05 09 10 1 PRINT FEEDBACK |
| ZER NOT | 010 | 05 07 02 1 ZERO INVERSE LEVEL |

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