NP NEW PRODUCTS

Wang's digitizer converts data directly from a graphic to a digital format.

Wang Adds Digitizer for Input to Computer/Calculator Systems

The new Model 62 digitizer available from Wang Laboratories, Inc., automatically inputs coordinates directly into the company's computers and programmable calculator systems. The unit eliminates intermediate steps between measuring information and its receipt by the system because it converts data directly from a graphic to a digital format without measuring, keyboarding, or card punching.

Coordinates can be read at a rate of 200 points per second with a high degree of accuracy (.01"), with a tablet, a digital control unit, a controller board, a cursor or pen-type stylus, and a Wang 600 or 700 calculator or System 2200 computer.

Either of two types of stylus may be used with Wang's digitizer: the cursor stylus for precision and zero parallax, a pen-type stylus for inking or fast informal work.

Wang supplies a variety of utility programs: length and area calculations, re-set origin, interpolation, plotting utilities, storage of images on tape or disk, and form/menu set-up.

The digitizer varies in price according to the tablet size ordered: $5000 for the 20 X 20", $7000 for the 30 X 40", and $8000 for the 36 X 48".

Reader Service Number 582

Remex Introduces Flexible Disk Software to Replace or Enhance Paper Tape in PDP-11

A software package which will permit users of PDP-11 series minicomputers with limited software capabilities to put a flexible disk system on-line to replace or enhance paper tape I/O devices has been introduced by Ex-Cell-O Corporation, REMEX. The software, designated as RIOX-11, is an "enhanced" paper tape program generation system permitting the user to take advantage of the greater convenience and mass storage of the flexible disk while maintaining a price/performance ratio competitive with paper tape systems.

The RIOX-11 software is available with the REMEX RFS7400 Flexible Disk System, an IBM compatible system incorporating from one to four diskette drives for up to 7.6M bits of data storage.

It provides asynchronous I/O service for the flexible disk system in non-file oriented functions. Included in the system is a load/utility program which permits the user to load programs, copy and verify data, and generate a master program on a flexible disk. RIOX-11 also incorporates a text editor program and program assembly language program. The program assembly language program, available in an 8K version only, allows the user to write his own source programs on-line (using the text editor), or off-line. These source programs are then assembled into object programs in absolute binary for use by the computer.

Other software available with the REMEX RFS7400 includes the ROS-11 operating system, diagnostic and driver packages, and a program for IBM initialization of diskettes.

The interface hardware controller with RIOX-11 software is priced at $750, with delivery two to four weeks after receipt of order.

Reader Service Number 578

Digital Announces Fully Supported APL Language for DECsystem-10

Digital Equipment Corporation has announced a fully supported version of the APL language at reduced prices for its DECsystem-10 family of computers. APL-10, an extended version of APL, has been reduced in price 25 to 33 percent, depending on the specific software package; it is available as the result of the company's recent acquisition of APL Software Systems, Inc., which originally developed and marketed APL-10.

Three versions of APL-10 are offered: the basic system, an extended system, and a double-precision extended system. Each of the extended versions add features to the basic version. The codes of all versions are sharable; the extended versions permit the user more power and speed than the basic version. The double-precision extended version of APL-10, which is available only for DECsystem-10 KI-10 and KL-10 central processors, allows 18 decimal digits of precision.

The basic APL-10 system is available through license at $10,000; the extended and double-precision extended versions are priced at $19,500 and $22,500, respectively. These packages are available 30 days after receipt of order.

APL-10 is compatible with standard APL languages, but it has additional features. These include extended function editing, desk calculator mode editing, and password facilities.

ASCII hardcopy or display terminals are supported under APL-10. Support for IBM 2714-type terminals is available as an option. Where the requirement exists, a workspace translator, for translating APL-360 workspaces to Digital file formats is available. APL-10 will run on a DECsystem-10 concurrently with Digital's other languages.

New Mini Offers Large-Scale Power with 32-Bit Functions

Varian Data Machines' new V75 minicomputer combines hardware, firmware, and software that extends its performance while maintaining full capability with all V70 software and peripherals.

The CPU's instruction set is an expansion of previous V70 computers. New instructions operate on eight general purpose registers and handle 8-, 16- and 32-bit operands. Dual memory buses allow I/O transfers at up to three million 32-bit words per second. Up to 512K bytes of 330 nanosecond memory is accessible via 1024 mapping and protection registers.

The V75's writable control store is delivered with new firmware modules, including byte and stack manipulation and accelerated FORTRAN functions. Array indexing, parameter passing, loop termination, double precision integer, floating point compare and branch, square root, and relational expression to logical value conversion operations, are among the functions accelerated by use of the writable control store.

The V75's hardware is complemented by a new FORTRAN that is comparable to large machine compilers and includes the following features: double precision integer data, compiler overlays, seven dimensional arrays, and direct access I/O. The new FORTRAN compiler generates assembly and micro code optimized around a 64-bit floating point processor.

The V75 is compatible with all the V70 family software and peripherals. All V70 software modules such as language processors, real-time interactive and batch systems are integrated with the multiprogramming operating system, VORTEX II. VORTEX II supports a wide variety of peripherals, including a moving head disk system of up to 360 million bytes.
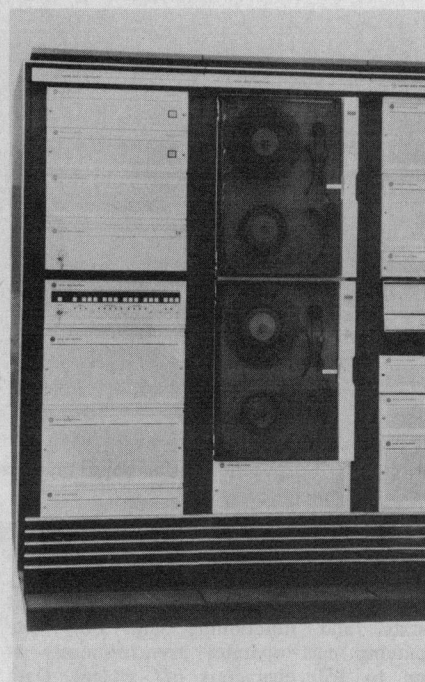
Varian Data Machine's V75 minicomputer features 32-bit functions and combines hardware, firmware, and software to extend performance.

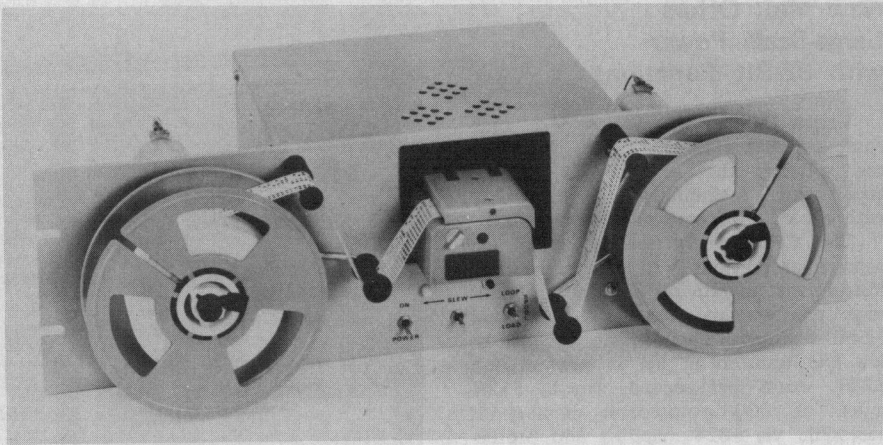## Zeno Offers Macro Assembler for Intel 8008/8080 Microprocessors

Zeno Systems, Inc., of Santa Monica, California, has announced the availability of a combined macro cross-assembler for the Intel 8008 and 8080 microprocessors. Written in the Macro-10 assembly language for the PDP-10 computer, the ZSI cross-assembler is a cost effective performer compared to packages written in FORTRAN; an IBM 360/370 assembly language version will be available shortly. The ZSI cross-assembler runs as a conversational program on a time-sharing system; a batch version is also available.

The package is functionally equivalent to the software provided by the manufacturer; however, various enhancements have been added. The use of toggle switches has been supplanted by an improved user interface and a few simple pseudo-operations; the radix of the assembler listing can be specified as octal, decimal, or hexadecimal; the ORG pseudo-operation has been improved; every statement is numbered on the assembler listing; the assembler provides clear and extensive error messages in the assembler listing and at the user's terminal which reference exact statement numbers.

The package can be obtained for $3750 under a one-time licensing agreement or be utilized on a pay-as-you-go basis on a time-sharing network.

Interdata Announces New Megamini

Calling it "the most powerful minicomputer in the world today," Interdata recently announced the company's newest 32-bit processor, the Model 8/32 Megamini.

The micro-programmed Megamini maintains full compatibility with Interdata's medium performance 32-bit processor, the Model 7/32. Software compatibility across the 32-bit and 16-bit product lines is achieved through CAL, the Common Assembly Language, which allows the writing of common source code that can be assembled for either 16- or 32-bit Interdata machines.

Features include 32-bit architecture with up to one megabyte of directly addressable core memory, interleaved 32-bit word memory modules for an effective 32-bit cycle time of 450 nanoseconds, and dual look-ahead stacks which store instructions and permit execution of programs at a high rate.

The Megamini has up to eight stacks of 16 general registers, each register 32 bits wide. Internal memory and data paths are 32 bits wide. High speed Schottky logic is used in all processor circuits; processor cycle time is 240 nanoseconds.

Additional features include direct-memory-access burst transfer rate of six megabytes per second; powerful instruction set with 210 instructions, including all necessary commands to optimize for high throughput data communications applications; and high performance floating point hardware. The 8/32 executes a floating point multiply in 3.0 microseconds.

With 128K bytes of memory, the Model 8/32 Megamini has a single unit list price of $51,900. With the full megabyte of memory, it costs $179,400. Production deliveries will begin in June 1975.

Addmaster Corporation makes paper tape reading equipment to fit a variety of needs.

Librascope's new controller and memory package contains one megaword capacity rotating disk memory. Interface is compatible with DEC PDP-11.

Photoelectric Paper Tape Reading Assembly Offered

Addmaster Corporation's Model 601 paper tape reader—Photoelectric, solid state, and functioning with only one moving part—operates asynchronously at up to 150 characters per second. Data and control functions are at TT1 levels and it reads 5, 6, 7, or 8-level tape in fanfold or on reels. It stops on character and automatically detects end of tape or taut tape. Priced competitively with mechanical readers, it offers the features of more expensive photoelectric readers, according to the manufacturer.

Addmaster's line of peripherals also includes the 606 (parallel) and the 608 (serial, RS232) stand-alone readers, a fanfold box with a capacity of 150 feet of tape, and a self-contained bi-directional spooler.

Reader Service Number 584

Librascope Introduces Controller, Memory Package

A controller and memory package, compatible with the DEC PDP-11, has been introduced by Singer's Librascope Division.

The chassis, a rack 19 inches wide by 15.75 inches high by 26 inches deep, contains the one megaword capacity model L107SB hermetically sealed, fast access rotating disk memory, the controller electronics, motor controller, line filter, and power supplies. Designed for rugged industrial environments, the unit is equally useful in applications aboard ships, aircraft, and rough terrain transport vehicles. The disk controller allows the PDP-11 to access two L107 disk memories.

Reader Service Number 586

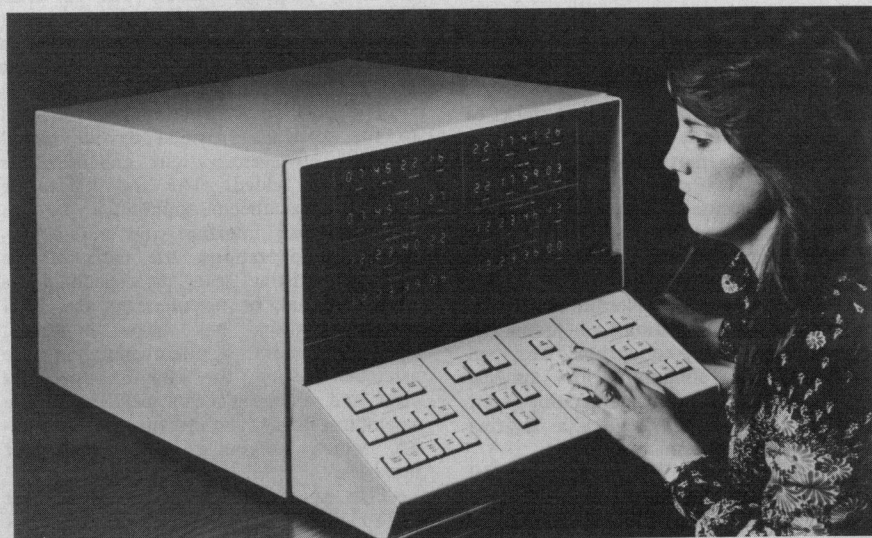## Expandable Video Editor Introduced by Datatron

An expandable model of video editor, Model 5050-200/300, has been announced by Datatron, Inc. The basic unit is capable of operating with two tape machines and can be expanded in logical steps up to any desired configuration, including a computer-controlled, completely automatic on-line, off-line system.

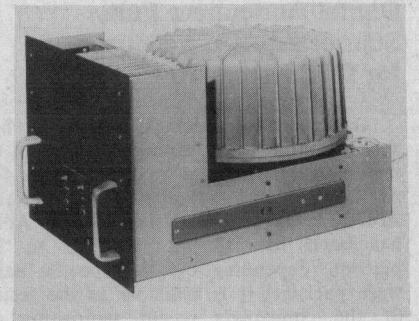It incorporates a visual display of tape position and all edit points, and retains the "Jam-Sync" features of the firm's previous video editors. Jam-Sync automatically sets and syncs the system's time code generator during pre-roll so that time always picks up exactly where it left off—to the frame.

With the new system, time consuming edits can be accomplished on low cost helicals and later automatically transferred to quads, thus minimizing tape-head wear and quad operating time.

Reader Service Number 585

Resident Microprocessor Compiler Language Developed

A high-level compiler language, known as "PL/M plus" and which runs on the firm's IMP-16P, -16L, and PACE microprocessor systems, has been developed by the Microprocessors Department of National Semiconductor Corp.

A compatible extension of the PL/M language, National's version provides the user with high efficiency and extended capability.

Most microprocessor applications involve a considerable amount of bit and field manipulation. 'PL/M plus' allows the user direct access to bits and fields through variable names. This permits all standard compiler operations to operate on bits and fields, as well as whole words, according to National.

National's new "PL/M plus" compiler will run on any IMP-16 or PACE Development System equipped with 8,192 bits of memory and a TTY. However, the compiler will support a full range of standard peripherals, including paper tape reader, card reader, line printer, and CRT terminal. It is also available as a module in National's Disk Operating System, which also runs on these peripherals.

Deliveries of "PL/M plus" are scheduled for this month at a price of $750.

Reader Service Number 581

The "Vidicue" system can be purchased to operate in a two machine mode but is then expandable by modular additions up to the maximum configuration, a fully computer controlled editor.

Fairchild's N-Channel Isoplanar Microprocessor Serves Wide Range of Controller Applications

Fairchild Camera & Instrument Corporation has introduced a versatile, two-chip, 8-bit microprocessor system, aimed at applications which encompass over 80 percent of the available microprocessor market.

Fairchild also announced four additional circuits which will become available for use with the basic CPU and Program Storage Unit circuits by mid-1975.

Called the F8, the new N-channel Isoplanar microprocessor is heavily I/O oriented to maximize flexibility and minimize external parts requirements.

In the minimum two-chip F8 system, the CPU and PSU chip each provide two 8-bit bidirectional I/O ports, resulting in a total of 32 available I/O bits. This allows the two-chip system to accommodate directly virtually all common I/O devices such as keyboards, printers, readers, displays, modems, and magnetic devices.

The versatility of the F8, stemming primarily from its I/O orientation, makes it useful across a broad spectrum of tasks and exceptionally powerful in controller applications, according to the manufacturer. Potential systems use of the F8 spans simple equipment such as appliance controls to sophisticated point-of-sale systems. Other applications include interactive intelligent terminals, floppy disk controllers, electronic games and vending machines, and a variety of automotive systems.

The four new circuits being added to the basic CPU and PSU set are a Memory Interface (MI), Direct Memory Access (DMA), communications interface (USART), and a 256 X 4-bit N-channel static RAM.

The basic two-chip F8 system consists of the 3850 CPU and the 3851 Program Storage Unit, containing 1,024 X 8 bits of storage plus I/O capability, interrupt, timer, and clock generator. The CPU chip communicates with other F8 circuits by means of an 8-bit bidirectional data bus, and has five control lines to set the state of other chips.

Contained in the CPU circuit are an arithmetic logic unit, an accumulator, a 512-bit scratch-pad memory, a W (status) register, two 8-bit bidirectional I/O ports, clock circuits to control all chips in the system, an interrupt control circuit, and a power-on detect circuit that disables the interrupt system and assures that processing starts from a unique address when power is first applied.

The PSU chip serves principally for storage of programmed instructions and non-volatile data constants used during program execution. The PSU can interface directly with the CPU without the use of buffer circuits. The PSU chip also contains a program counter, stack register, data counter, local interrupt control, and a timer.

The program counter contains the address of the next instruction byte to be fetched from memory and is automatically incremented after each fetch

cycle. The stack register receives the contents of the program counter and aids in developing a multilevel program function. The 16-bit data counter, used to reference memory addresses, can address up to 65 kilobytes of memory.

More complex systems using expanded memory can be implemented by using the memory interface circuit and the direct memory access circuit, which will be available by mid-year. Medium complexity systems can be designed by adding additional PSU chips directly to the basic CPU and PSU set.

The communications interface circuit (USART) also available by mid-year, is a peripheral device programmed by the CPU to operate using virtually any serial data transmission technique currently in use. It will have a speed of 4 megabits per second for synchronous operation and 250 kilobits per second for asynchronous operation.

Evaluation quantities of the F8 CPU (3850) and PSU (3851) are available on four-week delivery for $130 each in quantities of one to nine. Production quantities will be available in the third quarter of 1975.
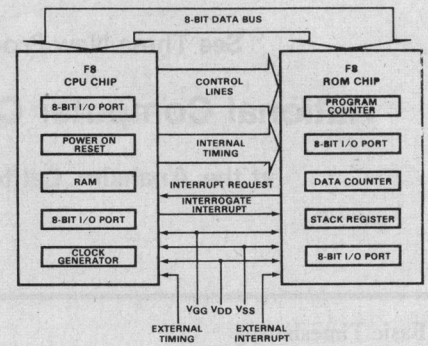
Fairchild's basic two-chip F8 microprocessor consists of the 3850 CPU and the 3851 Program Storage Unit.

In addition to the circuits, systems simulation boards, and software for development purposes are being prepared. The first such simulator, the F8M, consists of the F8 with additional memory and logic and is available for $850 per set.

Reader Service Number 577

TI Announces New Annotating Recorder-Logger

The Digital Systems Division of Texas Instruments has developed the TI-Graphic 200, an annotating recorder-logger. Utilizing thermal stylii, a non-moving solid-state printhead, and highly stable thermal sensitive paper, it records one or two continuous traces on a 10-inch wide chart while printing alpha-numeric characters over the middle 8¾ inch width of the chart paper.

The TI-Graphic 200 is designed for use as an OEM module in analytical, test and measuring, and process control systems. It is packaged to provide maximum chart display while requiring minimum panel space and is designed to be mounted in any orientation.

The annotation section uses TTL logic with six-bit parallel USASCII Code. The data format, as provided by the source, is loaded a line at a time into

an 80-character buffer and clocked out synchronously with the chart movement.

Analog trend data are produced as recorder traces through the analog section of the instrument. This section consists of one or two self-balancing potentiometric servo systems designed to accept a wide range of voltage input signals. The response rating of the recording stylus is 0.25 second full span with an accuracy rating of better than 0.5% total error.

The chart is driven at a single, preselected, factory-set speed of from 1.5 inches per hour to 6.0 inches per minute with character line printout control to provide up to six character lines per inch.

Prices will be under $3000, depending on quantity and model required.

Reader Service Number 583
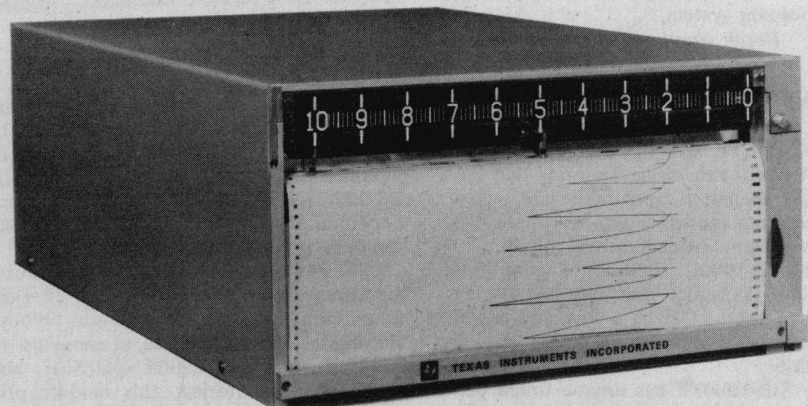
Recorder/logger records one or two continuous traces on a 10-inch wide chart while printing alpha-numeric character over the middle 8¾ inches of the paper.

# See These New Products Exhibited at the
National Computer Conference—May 19-22
at the Anaheim, California, Convention Center

Basic Timesharing

The Model 4000 series Interactive Timesharing System, a clustered system with eight processors, can support as many as 256 concurrent users, and offers almost 5 billion bytes of on-line disk storage. The 4000 clustered system allows central processor power and disk storage to be deployed dynamically to satisfy shifts in user demand. The 4000 series also includes a new central processor, to enhance system speed, and a hardware remote operating capability, enabling a service engineer to test system operation over a dial-up telephone line.

Booth Number 1221
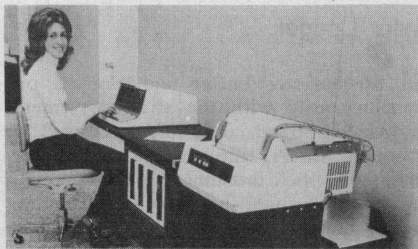
Datapoint Corporation

Datapoint Corporation announces the addition of a medium speed belt printer that utilizes a moving character belt to impact print fully formed upper and lower case characters on a 120 column format.

The printer is available as either a local system printer or as a remote terminal printer operating over communications lines. The terminal printer version is primarily intended for use in the DATA-SHARE multi-terminal business data entry and processing system.

Booth Number 1649-51

MEGADATA

MEGADATA will be showing the SiR-1000WP Word Processing Terminal that has extended memory capabilities plus video enhancements and other features applicable to the word processing industry.

The SiR-1000C Color Intelligent Programmable Terminal unit has the display ability of four or eight colors and offers upper and lower case and character graphic capabilities.

The SiR-1000TP has unique touch pad capabilities and virtually can eliminate the use of a keyboard.

Booth Number 1115-17

Hydra Corporation

An auxiliary printer designed to be a part of large systems will be shown and demonstrated for the first time at NCC. This nine wire matrix printer is capable of printing synchronously and bidirectionally at 180 characters per second, or asynchronously with keyboard input. It incorporated an entirely new "ballistic head" that requires only 1/8 the powe; of previous matrix heads, prints single part to six-part forms without adjustment, offers 10 times life expectancy, and much more.

Booth Number 2710

Peripheral Dynamics Inc.

The Model 1000 series card reader is PDI's new entre into the field of data collection. The 1000 series is a single feed card reader that is designed to handle 22 column, 51 column, and 80 column cards. It comes in three (3) basic configurations: a straight-thru feed system; a card return to insertion slot feed system; and a turn around and card return via an exit slot feed system. These configurations have been developed to cover the three major single-feed data collection applications.

Booth Number 2250
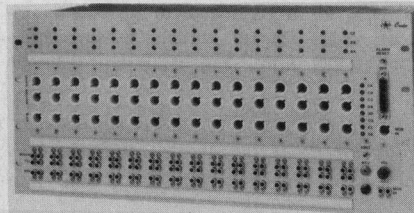
Cooke Engineering Co.

Continuous monitoring digital data patching modules are an extension of the Cooke DYNA-PATCH product line. The modules provide for patching sixteen EIA RS-232 full duplex data channels between communications devices (modems) and terminals or computer ports.

The new continuous monitoring features are also available in a combination VF/Digital patching module that interfaces on both the digital and analog side of modems. In addition to the digital patching and continuous monitoring, this module provides for cross connection between the modems and terminals or computer ports.

Booth Number 2372

Decision Data Computer Corporation

An off-line subsystem for conversion of punched paper tape into 80 column punched cards, Model SP0010 Paper Tape Reader, is designed to read industry standard paper tape codes and convert that data into Hollerith code on 80 column cards, at a rate of 45 to 75 cards per minute, using a Decision Data Model 8010 Interpreting Data Recorder. The Tape Reader can be table-top mounted within 10 feet of the Data Recorder.

The CS 200 Data Communication System is a remote batch system with many advanced capabilities. In addition to its comprehensive data recording and auxiliary functions, CS 200 provides data transmission and data reception in a fully protected environment.

Booth Number 2320

Decitek Division of Jamesbury Corp.

Dual-sprocket drive, photo-electronic punched tape readers with reading speeds from 100 to 600 characters per second will be shown, along with a maintenance-free, positive start-stop tape transport system, featuring synchronized dual sprocket bi-directional drive which provides negligible tape wear. Also shown will be the nine-element fiber-optic photo-transistor read head.

Booth Number 2647

Tektronix, Inc.

Tektronix will display for the first time its E-4010 terminal, 4923 digital tape cartridge memory and E-31 programmable calculator. Also shown will be the 4631 Head-Copy unit and RE4012 Ruggedized Computer Graphics Terminal.

Booth Number 1417

DELTAK, Inc.

DELTAK will be demonstrating two course series (Programmer Productivity Techniques and IMS). Video samples of the courses will be available as well as copies of brochures. All computer installations that train analysts, programmers, operators, managers and users would have particular interest in the DELTAK exhibit.

Booth Number 2555

Harris Corporation

Harris Corporation's Data Communications Division will display two of its new COPE 1600 Remote Communications Processors, along with associated peripherals. Demonstrations will feature Dual Emulators running concurrently in each 1600 terminal. The company's COPE Technical Control System will also be shown.

Booths 2739, 2745, 2749
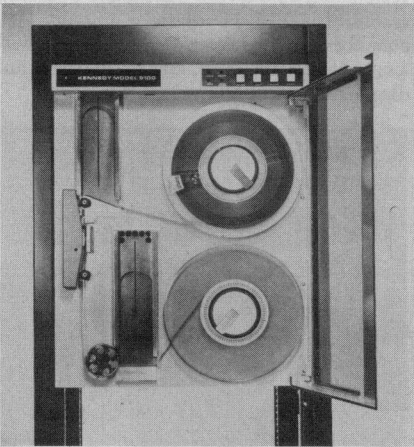
The Kennedy Model 9100, a new 10.5 in. reel, 75 ips vacuum-column tape transport, reads and writes IBM and ANSI compatible tapes. Typical applications are minicomputer and data collection systems which require high reliability at moderate tape speeds.

Booth Number 2117

Applied Data Communications

Mini add-on peripheral systems. IBM Compatible Floppy Disk System for DEC PDP11, DEC PDP8/e, Data General Nova and Intel Intellec 8/80. 3M Tape Cartridge System for DEC PDP11, Data General Nova. Program Loading Unit for DEC PDP11. Reprogrammable ROM Memory (128, 256, 512, 1024 word) for DEC PDP11. One board tape drive controller for DEC PDP8/e.

Series 62 Intelligent Floppy Disk System—a microcomputer/IBM Compatible Floppy Disk System. Series 70 Microcomputer System—a one board computer.

Demonstration of IBM compatible floppy disk media operated by a microcomputer.

Booth Number 2332
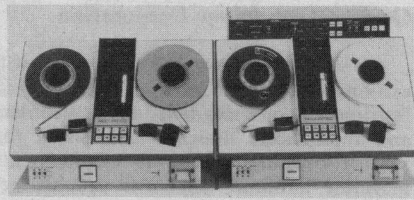
Recortec, Inc.

Recortec will be demonstrating magnetic tape library and service center equipment for cleaning, testing, duplicating and verifying magnetic tape independent of the computer installation. The equipment requires no programming so personnel untrained in computer operations can use it.

The Recortec Computer Tape Copier is a new product for duplication, verification, cleaning and testing of magnetic tape. It automatically performs tasks formerly possible only within the computer center using expensive tape drives and computer time. Transferring tape duplication and verification to tape library of service personnel also reduces the labor overhead for these functions while increasing the responsibility and job satisfaction of these personnel.

Booth Number 1304-6

ICC/Milgo

Modem 96 Multi-mode is a 9600 bps modem designed to increase economy and flexibility in business data communication networks by allowing the user to eliminate multiple line charges on polled networks as well as point-to-point communications. Extensive diagnostics built into the modem help the user isolate faults in his telecommunication system.

Booth Number 1505

Applied Systems Corporation

The new programmable ASC Communications Terminal Controller is designed for on-line operation with medium or high speed communications networks and includes options for terminal selective calling, automatic answering, data translation, error checking, peripheral clustering and line multiplexing functions. The ASC Controller incorporates communications interfaces for dial-up lines or private line polling systems and performs automatic control and buffering for one or more terminal devices including teletypes, keyboards, printers, CRT displays, tape cassettes, card readers or floppy discs. Optional analog and digital I/O is also offered.

The ASC Communications Controller utilizes an 8080 Micro-Processor System configured with multiple interrupts to control one or more terminal devices including teletypes, CRTs, disk storage unit, or 3M tape cartridge. The Binary Synchronous Communication (BSC) option is available on the ASC Communications Controller to allow communication with IBM BSC Systems using RS-232-C compatible modems.

Booth Number 2301

Harris Corporation

Data Communications Division will demonstrate its recently announced COPE 1600 Remote Communications Processor family. This system features the operation of dual emulators in RBT mode into two separate hosts. The COPE 1600 features its own Communications Operating System (COS), a modular, task-oriented software system.

Booth Number 1317

Digital Development Corporation

DDC introduces two new fixed head disk memory systems offering high quality and performance in the lower price ranges of fixed head disk systems. The Systems 60 and 90 are self-contained with electronics for reading, writing, track selection and timing generation. The Systems' flying head assembly has proven highly reliable.

Booth Number 1100

Cullinane Corporation

Seminars on IDMS—Integrated Database Management System—a complete database system for efficient use in virtually every application, CULPRIT—the fastest information retrieval system on the market, and EDP-AUDITOR—a modern auditing package easily used by non-programmers will be given free of charge at NCC by both sales and technical representatives of Cullinane Corporation.
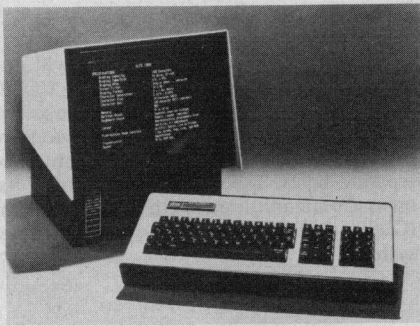
Booth Number 1103
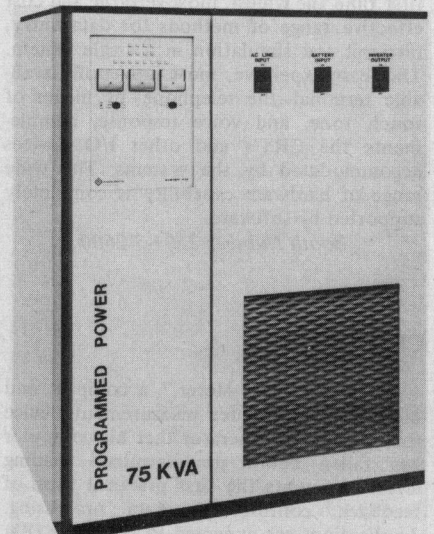
Programmed Power Inc.

The SYSTEM 475 solid-state power system is available either as a Frequency Converter or as an Uninterruptible Power System (UPS). The output frequency may be specified at 400 Hz, 415 Hz, or 441 Hz. The SYSTEM 475 was designed especially for computers requiring power at these frequencies.

Booth Number 1211

Datamedia Corporation

A new low-cost conversational CRT terminal—the Elite 1520A video terminal—is designed for interactive applications, data entry, information retrieval and any related data communications requirement. The new CRT accommodates a standard RS232C or optional 20/60 mA current loop interface.

Also featured will be other members of the company's family of Elite CRT terminals, including Datamedia's Elite 1500A "dumb" terminal; the Elite 1500P, a portable version of the 1500A, being shown for the first time; and the Elite 2500A CRT terminal, a full performance video terminal that features upper/lower case, protected format, dual intensity and blink together with text editing, a range of communications data rates, and a number of other features and options.

Booth Number 1141

McDonnell Douglas Corporation

The McDonnell Douglas 1018 series of Data Exchange Systems combine for the first time the widest, most versatile and cost effective range of methods for data entry, retrieval and simulation in a single system. The least expensive, most universally available terminal—the telephone—by means of touch tone, and voice response, complements the CRT's and other I/O devices accommodated by the systems. This wide range of hardware capability is completely supported by software.

Booth Number 2501-3-2600

CRU

"The Capacity Meter," a compact and inexpensive computer measurement device that signals the operator that his computer has fallen below predetermined loading levels represents the first practical form of feedback control for data processing. Applications are expected to cover the IBM 370/135 and larger computer systems which have the capability of processing more than one job at a time at the operators' discretion.

The differences between this system and other computer measurement devices is that it minimizes the amount of data taken directly from the computer, but emphasizes the broadest possible view of computer productivity including hardware, software, and people.

Booth Number 2263

Genisco Technology Corporation

Genisco Technology Corporation will exhibit a complete line of digital and instrumentation magnetic tape recorders and reproducers designed and tested for reliable operation in severe environments including airborne, shipborne and off-the-road vehicular applications. All recorders/reproducers can record data in standard digital and instrumentation formats.

*Booth Number 1364*

Computer Communications, Inc.

A new communications processor serving both as a front-end processor and a remote concentrator for medium- to large-scale computer terminal networks, designated the CC-80, is a higher-performance version of the CC-70 Computer Communicator.

Booth Number 2654-56

DATA 100 Corporation

DATA 100 will exhibit and demonstrate Remote Batch Terminals and Remote Job Entry Terminals. These products extend data processing capabilities through telephone communication networks where users are geographically separated from large central processors. Model 76 Remote Batch Terminal is a highly flexible low cost device with communications capabilities that substitute either the IBM 2780 or the IBM 3780 terminals but allow the user a wider choice of input and output peripherals. An enhanced version of DATA 100's Keybatch II model with unique editing, balancing and formatting features will also be shown.

Booth Number 2321
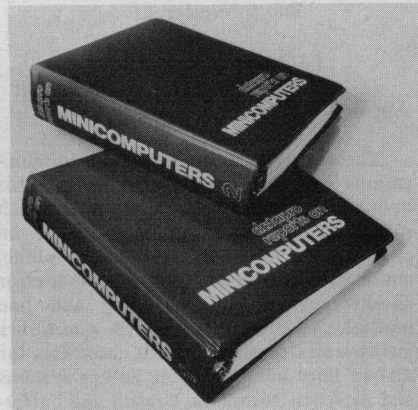
Datapro Research Corporation

Free 60-day trial subscriptions to *Datapro Reports on Minicomputers*, an information service that provides in-depth reports and evaluations of minicomputers, microcomputers, and small business computer products and services, and the companies that supply them, will be featured by Datapro Research Corporation. The service provides detailed product information for system designers, end users, and equipment vendors, as well as consultants, educators, and industry professional groups.

Booth Number 1551
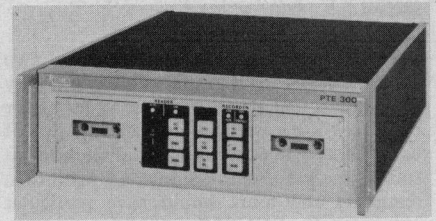
EX-CELL-O (Remex)

The RCS1300 Punched Tape Emulator from Ex-Cell-O Corporation, REMEX, is a dual drive digital cassette system which is functionally interchangeable and fully compatible with all paper tape equipment, while still providing asynchronous read and record speeds to 300 cps and 160,000 characters of storage capacity. The RCS1300 (called PTE) is installed with "plug-in" simplicity and will begin operating immediately with existing high speed punched tape software using the I/O controller provided by REMEX.

REMEX also offers three flexible disk system software levels: a complete operating system for PDP-11 users, a unique "I/O enhancement" package for the system with less than 8K memory, and basic driver and diagnostic programs.
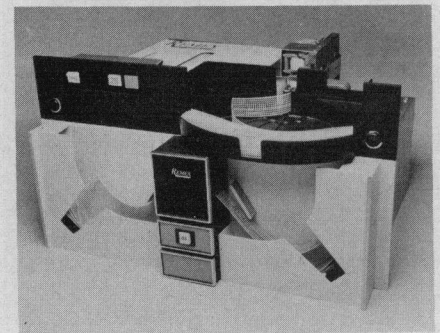
The new REMEX RAR6120 "Combo" is the first combination tape perforator/reader to offer both a high speed punch and a high speed reader for minicomputer and communications applications. It incorporates a 120 cps perforator, among the fastest on the market, and a 300 cps reader. The system is bidirectional and will punch and read tape of 5-8 levels in paper or mylar. The reader of the RAR6120 features the newly introduced REMEX fiber optic light distribution system, with an easily replaceable light source.

Booth Number 1128

Tennecomp Systems, Inc.

The DataPacer is a new cartridge tape system that gives more data storage and handling capability than anything you can plug into a PDP-8 or PDP-11 at a comparable price. It has real-time operating systems capability, plus flexible, familiar DEC-compatible software to speed and simplify input and output, and simple, reliable single card, single ribbon interfacing. It is a complete system loaded with *extras* to help you get maximum use from your minicomputer.

Booth Number 2451