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COLOSSUS Memo #252

To: . Distribution  
From: N. W. Brodeur, P. Rye  
Date: 26 February 1970  
Subject: Revisions 90 through 96 of COMANCHE

Revision 96 of COMANCHE was GOOD. The following changes were incorporated into Revisions 90 through 96.

- A modification to the Gyro Torquing Routine was made so that pulse torquing will always finish with negative polarity pulses. (PCR 970.1)
- 2) The value of DELTYME was changed from .1 to .05. This constant is used to distribute the rate more efficiently in R61. (PCR 859)
- C13STALL routine was implemented to delay writing into channel 13 during a VHF radar read during P20 and thus prevent the "split radar pulse problem" from occurring. (ACB 111)
  - a) RADTIME and RADDEL are 2 erasables that were defined to implement the above ACB.
  - b) Calls to C13STALL were added to the following places:  
ERROR routine in Pinball, ZEROJET routine in RCS-CSM DAP, JETSLECT routine and T6 program and channel setup routine in Jet Selection Logic, DODOWNTM routine and WOZERO routine in Down-Telemetry Program.
- Stable Orbit Rendezvous programs P38, P39, P78 and P79 were deleted. (PCR 935)
  - a) Noun 57 used exclusively in Stable Orbit Rendezvous was made a spare and Assembly & Operations Information log section was updated to reflect its deletion.
  - b) P39/79SW flag and bit were deleted (BIT 9 FLAG 8).  
OPTNSW and bit were deleted (BIT 7 FLAG 2).

- X 5) UPRUPT was modified so that during ground testing only (there is a check on NODOP01 flag) the number of uplink key codes is counted and each key code is summed and stored in a newly defined erasable UPSUM. The keystroke count is kept in UPSUM +1. (PCR 991.1)
- NA 6) GOMANUR was moved from Bank 7 to Bank 4.
- X 7) The uninhibited call to ZEROEROR in KALCMANU STEERING was corrected. (COM33)
- NA 8) R02 was moved from bank 7 to bank 20 to make room for the implementation of PCR 970.1.
- X 9) V94 restart point was changed from an interpretive tag to a basic tag correcting an error made in the original implementation of PCR 993.
- NA 10) FALTOF was deleted from PINPALL as it was not used and l. c. - l. c. memory was needed. (ACB 112)
- NA 11) P29 (TIME of LONGITUDE) program was added to provide a method for inputting a longitude to the CMC and receiving a display of time of arrival at that longitude and a display of the corresponding latitude. It was placed in the Ground Tracking Determination Program Log section as it makes use of some of the P21 logic and coding. (PCR 956)
- a) FLAGTABL used in zeroing flags in V37 was modified to include the newly defined NEWTFLAG (BIT 5 FLAG 7).
  - b) The Rendezvous downlink is sent during P29.
- X 12) A new log section P15 was added to accommodate the newly added program P15 (astronaut initialization of Saturn SIVB Injection Sequence Start). Two new restart entries were added in conjunction with the addition of this program: 3.17SPOT and 3.21SPOT. The Coast and Align downlist is sent during P15. (PCR 973)

~~NA~~ 13) The following P24 erasables were relocated to correct known conflicts: AOPOLD, TRTEMP, SRTEMP and PACTEMP. (PCR 869)

~~NA~~ 14) Changes were made in P23 to make HORISLP double precision to accomodate more accurate pad-loaded values. HORISLP was re-defined as double precision. (PCR 868)

*Roy*

~~NA~~ 15) The zeroing of 8NN was deleted from R52 and incorporated in the beginning of P24 to avoid conflict with P22. (PCR 869)

*Roy*

~~NA~~ 16) A correction was made to R57 to enable the recycle option on V06N87. (PCR 868)

*Roy*

#### Changes to COLOSSUS GSOP

The following items should be examined for inclusion in the GSOP sections indicated.

Section 1 (Item 5)

Section 2 (Items 3, 4\*, 5, 11, 12)

Section 4 (Items 2, 4, 11, 12, 16)

Section 5 (Items 2, 4, 11, 12, 14)

\*It should be noted that OFFSET POINT in the downlink lists will now contain garbage.