

Massachusetts Institute of Technology
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COLOSSUS Memo #264

TO: Distribution
FROM: P. Rye
DATE: 26 March 1970
SUBJECT: Revisions 99 through 101 of COLOSSUS

Revision 101 was good.

The following changes were incorporated into Revisions 99 through 101:

- ~~(1)~~ A check for negative or zero ΔT was added to the LONGCALL routine to ensure that a LONGCALL with $\Delta T \leq 0$ will result in a 21204 POODOO abort. The LONGCALL routine was moved from Bank 01 to Bank 04 to make room for this change. (COM34)
- ~~(2)~~ Code in V37, TVCEXEC, TVCINIT and P40 which checked Bit 13 of Channel 11 (SPS engine on bit) was changed to check ENGONFLG instead, so that failure of the engine on discrete will not affect software logic. Code was added in the IMUCAGE routine to insure consistency of ENGONFLG and the engine state by clearing ENGONFLG when Bit 13 of Channel 11 is cleared. (PCR 995)
- ~~(3)~~ The restart protection logic in P15 was corrected. This involved creation of 3.2SPOT in the Restart Tables. 3.5SPOT was zeroed out since it is no longer used. (PCR 973)
- NA(4) The clearing of the rate registers at the start of R52 was deleted in order to avoid clearing the registers in the case of a restart. Since these registers are cleared by V37 the R52 code was redundant. (PCR 869) *Rye*
- NA(5) The value of the altitude displayed in N43 in P29 was changed to show altitude above the pad or RLS rather than above the Fischer ellipsoid or lunar radius. This was accomplished by entering the LAT-LONG routine with ERADFLAG cleared instead of set. (PCR 956)
- ~~(6)~~ Code to clear STATEFLG was added to the INTEXIT section to avoid the possibility of exiting from an integration call with this flag still set. (COM36)
- ~~(7)~~ A change was made in the integration code to set X2 to the contents of PBODY in the case of origin change so that proper scaling will be used in the storing of RN, VN for downlink. (COM35)

- ~~(8)~~ A correction was made in the Down Telemetry program of an error caused by the calling of C13STALL. The ID word, temporarily stored in the L register, was being overwritten by C13STALL. This was corrected by using ITEMP1 instead of L as the temporary storage. (ACB111)
- ~~(9)~~ The erasable UPSUM, formerly defined as DP, was redefined to be 3 words long. UPSUM + 2 is used in ground testing procedures. (PCR 991.1)
- ~~(10)~~ A call to R02BOTH, which checks the status of the IMU, was added at the start of P24. (PCR 869)

COLOSSUS GSOP

GSOP sections to be checked with respect to the changes described:

Section 2 (item 2, item 5)
Section 4 (item 5, item 10)

Section 5 (item 5)

Anomaly Status

As of Revision 101, COM37 is the only known anomaly.