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COLOSSUS Memo # 250

TO: Distribution  
FROM: Sumner Rosenberg  
DATE: 18 February 1970  
SUBJECT: Contents of Artemis from Revision 20 to Revision 24

Revision 24 of Artemis was good and should be equivalent in performance to Revision 72 of Comanche (Colossus 2D).

Major changes incorporated in Revisions 20 through 24:

- (1) A new flagbit POOFLAG (Bit 9, Flagwrd 3) was created, the purpose of which is to indicate that P00 integration is active. This flag is set when P00 integration is established and is checked within the integration routine to avoid backwards integration of the CM state vector during P00. The integration routine formerly depended on a major mode check for this decision and thus could take the wrong branch if P00 integration happened to be operating during P27.  
POOFLAG is cleared in INITSUB (R00). (Anomaly COM 21)
- (2) Coding was added to the Extended Verb subroutine TESTXACT to do a "CCS NEWJOB." This will allow a possible waiting display which was awakened by RELDSP to come up before the extended verb display. (Anomaly COM 22)
- (3) In order to make room for the coding added for (2), a superfluous INHINT instruction in V89 was deleted, (ACB 98)
- (4) The PINBALL routine for V25 N07 flag setting was expanded to permit setting of Channel bits. If the address keyed into R1 is 30 or under, the specified channel will be updated (unless Channel 7 is selected). R2 and R3 should be loaded as for flag setting. (PCR 806.1)
- (5) The illegal PROCEED response to a load verb was changed to exit after turning on the operator error light rather than recycling back to the beginning of the load sequence. This will preserve whatever load has been made and eliminate the necessity of repeating the load. (ACB 91).

- (6) A change was made to R36 to display the value of TIG in N16 as the nominal time both on the initial pass and on each recycle. In order to implement this, the erasable OPTIONY, previously defined in EBANK4, was redefined to share in unswitched with OPTION82, the register used by R30 for a similar purpose. The JOB call for R36 was changed to establish R36 in EBANK7 rather than EBANK4. (PCR 936.1)
- (7) Coding was added to P76 to set the NODOFLAG during state vector manipulation. The flag is cleared at the end of P76. This prevents selection of a new program during P76 which could cause the LM state vector update to be incomplete. (PCR 863.1)
- (8) A change was made in R52 so that if the desired trunnion  $> 50^{\circ}$ , the trunnion will be driven to  $50^{\circ}$ . The program alarm (code 407) which was formerly turned on if desired trunnion  $> 50^{\circ}$  has been deleted. (PCR 963)
- (9) Coding was added in P37 to set the EBANK to E4 before calling the VN1645 subroutine. (Anomaly COM 27)
- (10) A change was made in the Conic Subroutines to pick up the constant TWEEKIT as single instead of double precision. (Anomaly COM 24)
- (11) Delete redundant coding in FRESH START. (ACB A2)
- (12) Coding was added in P40 and P41 to clear PFRATFLG at TIG-30. This will allow option code 3 to be displayed by any subsequent P52. Leaving PFRATFLG set would cause option code 1 to come up in P52 at all times subsequent to the selection of P40 or P41. (PCR 966)

The following changes were implemented in Artemis Rev. 20-24:

ACB's: 91, 98, A2

PCR's: 806.1, 863.1, 936, 963, 966

Anomalies: Com 21, 22, 24, 27