

MSF TELEMETRY/COMMAND COMPUTER SYSTEM

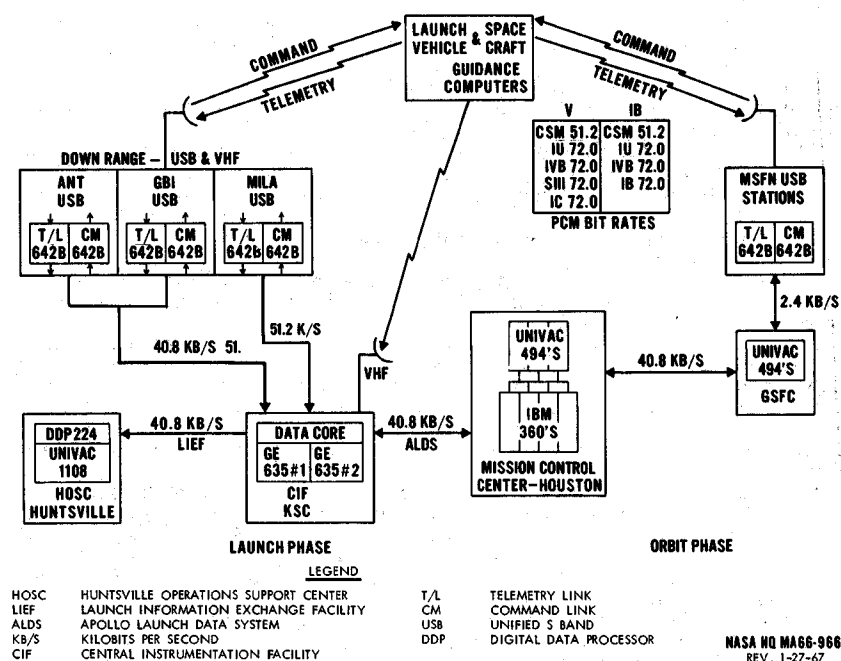


FIGURE 96

Information in the form of commands to the space vehicle and telemetry to the ground is processed by the three stations which are located in the Cape Kennedy area to cover the launch, and processed into the Data Core equipment, which is located in the Central Instrumentation Facility at the Cape. Data then is passed back to the Mission Control Center at Houston, where it is processed by the UNIVAC 494's, and IBM 360's. We also are processing data to Huntsville, where we can provide real-time off-line advice and assistance to the launch vehicle area.

After we get into orbit, the information is processed by the Manned Space Flight Network stations. It proceeds on to the 494 computers at Goddard Space Flight Center, then into the Control Center at Houston. During the three orbit life of the launch vehicle these data are passed to Huntsville.

Interface checkout problems

One of the major problems that we have is working out the interfaces between the various software programs and making sure that they operate together properly as we progress towards the mission.

Based upon our present experience, we estimate it will take us something like 48 days from the time we have all of the software available to mate it progressively, until we have checked it out with the launch pad, the Control Center and the Manned Space Flight Network. Our software programs, prepared by Goddard, must be available for delivery to the Manned Space Flight Network stations approximately two weeks before launch so that we then can conduct our final flight controller training.

Checkout of this software first progresses within the Mission Control Center where all of the hardware and software systems must be checked out. Next it