

## New Computer System Now Being Installed in Apollo Network

A new computer system of vastly increased capabilities, designed expressly for the Apollo program, has arrived at Goddard from Univac Military Systems Division in St. Paul, Minnesota, and is being implemented into the Manned Space Flight Network, reports Dale W. Call, Head of the Manned Flight Engineering Branch.

The Apollo computing system, consisting of two Univac 642B Mod. computers and peripheral equipment, are identical in every respect with exception to the mission requirements which are assigned to them.

One computer system will be assigned the task of processing all telemetry data for display at the Flight Control Consoles to be presented on cathode ray tubes, transmission of data via high speed (2.4 kbs) data lines, and transmission of 60 wpm, 100 wpm teletype messages to the Mission Control Center in Houston, and other remote sites.

The second computer will be assigned the task of command data processing between the orbiting spacecraft and the Mission Control Center. The computer under program control will receive command information from the Mission Control Center via high speed data lines and store this data in memory until required for retransmission to the orbiting spacecraft at acquisition. This command can be changed manually by the Flight Controller located at the consoles, or can be changed in the computer by additional transmission of data from the Mission Control Center in Houston.

In addition to the functions previously described, each computer will have the capability of supporting the other by performing both tasks should a failure in either computer occur at any time during the mission.

Eventually a total of 39 computer systems will be installed throughout the Apollo network: Apollo ships; Carnarvon and Canberra, Australia; Bermuda; Guam; Guaymas, Mexico; Merritt Island, Florida; Ascension Island (in the Atlantic, off African coast); Kauai, Hawaii; Madrid, Spain; Goldstone, California; Corpus Christi, Texas; Antigua Island and Grand Bahama Island in British West Indies; and Grand Canary Island (off the African west coast). Manned Spacecraft Center, Houston, will also receive computer systems for simulation and checkout purposes.



*DON MAGER and Ed Willis (foreground) inspect a chassis that has been removed from the 642B Modified Computer. In the background are Les Brunker, Program Manager, and Glen Johnson inspecting a partially removed chassis from the computer.*