

3.5 SERVICE CENTER DATA PROCESSING

At Slidell, Louisiana, MSFC has established a centralized computer facility to meet the needs of the MSFC contractors at MAF and the MTF (fig. 3-5). The computer center has resident NASA management and is operated by a computer specialist contractor. Programming is a user responsibility and programming languages are standardized.

Six Honeywell computers are available for business-type applications. Scientific applications use the IBM 7094 II or IBM 7040/7094 computers and their peripherals. A GE 205 computer is used for weather forecasting and sound propagation prediction in conjunction with stage testing.

The special purpose computers perform two functions: the digitizing of Saturn TM data (pulse amplitude modulation, pulse code modulation, and frequency modulation) and computational support involving the use of hybrid systems. The former application uses an SDS 930 and the latter a Raytheon 520 computer. The Raytheon 520 is combined with several EAL 231R analog computers to provide a capability for loading structural and control problems encountered during a mission.

3.6 GENERAL-PURPOSE DATA PROCESSING

3.6.1 Centralized Data Processing Equipment

The centralized data processing equipment installed in the Computation Laboratory at MSFC is used in the following areas: data reduction, scientific and engineering data processing, and business-type applications.

Data reduction activities.- The computers used in data reduction usually work in conjunction with analog-to-digital (A/D) equipment, either controlling equipment (Raytheon 440, Raytheon 520, SDS 92) or monitoring (SDS 92, DDP 116). They cover applications in lunar orbit simulation and modeling or may be used in hybrid (analog and digital) simulations. Their principal use, however, is in that of conversion and processing of TM data, reformatting of data, and engineering unit conversion. The data sources are wind tunnels, flights, or test stands.

Scientific application equipment.- Presently, most of the applications in the Computation Laboratory in this area are processed on two IBM 7094 II computers. These are supported by six IBM 1401 C3 peripheral computers used for printing, utility assembly, card handling,