Second TETR Satellite Set
To Exercise The MSFN

The second Test and Training Satellite (TETR-B) is scheduled to be launched on November 6 as a secondary payload aboard an improved Delta launch vehicle.

As was the case with the first TETR Satellite, launched December 13, 1967 TETR-B will be inserted into an elliptical orbit and will provide an active, orbiting target for training MSFN Unified S-band system personnel. TETR-1 successfully completed its mission and reentered on April 28, 1968 after 138 days in orbit.

Using the orbiting TETR-B as a target, MSFN personnel operating USB systems will receive training in the following areas:
1. Premission checkout of USB systems at MSFN stations
2. Mission simulation
3. Development and verification of acquisitions and handover procedures, and
4. Development and verification of orbits determination programs.

In addition, TETR-B will be used in performing MSFN engineering and operational tests to aid in defining and/or correcting possible USB systems problem areas.

The TETR-B will contain an S-band transponder which is compatible with the USB systems of the MSFN. The S-band transponder will provide a means of exercising the USB systems by turning around an uplinked composite signal of PCM telemetry (1.6, 51.2 or 72 kbps), voice, angle tracking, ranging, and biomed information. These signals will be used singularly or simultaneously.

It is expected that TETR-B will be in orbit for approximately 16 months. TETR-C will be launched in late 1969. At that time TETR-B will become a backup or secondary spacecraft. For training purposes, MSFN stations will be scheduled on a regular basis to track the TETR-B and accomplish the mission objectives.

The TETR-B Satellite will be launched from Cape Kennedy, on a 108 degree launch azimuth and inserted into an elliptical orbit with an apogee of 502 nautical miles and a perigee of 203 nautical miles at a 33 degree inclination.

The launch vehicle will be a three-stage improved Delta with the TETR-B enclosed in the second stage engine compartment. The TETR-B will be ejected into Earth orbit about 21 minutes after liftoff.

Interferometer tracking, telemetry, data acquisition, and commanding will be conducted by STADAN by direction of the MSFN TETR Operations Manager. Tracking with the USB systems will be performed by the MSFN for the duration of the mission.

The TETR-B mission has been divided into functional phases so as to provide a better definition of the mission objectives and support requirements. These phases are:

1. Prelaunch Phase (Launch minus 20 days to launch)--Achieve and demonstrate operational readiness.
2. Launch and Early Orbit Phase (Launch to launch plus 4 hours)--Insert spacecraft into planned orbit, verify

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Final Design Plans For AAP Telescope

NASA has announced plans, for final design, fabrication, assembly, integration, test qualification and acceptance of a prototype and flight unit X-ray Spectrographic Telescope to be used in the Apollo Applications Program.

The telescope will fly in the 1970's as part of a giant Apollo Telescope Mount which is to be attached to a spent Saturn rocket stage, called the Saturn I workshop. The orbiting spent stage will be converted into a space workshop in which men will stay for prolonged periods and perform various experiments.

The Spectrographic Telescope will be used to accumulate data on X-ray emissions from the quiet and active regions of the Sun.

It is estimated that deliveries of the prototype and flight unit to Marshall Center will begin in late 1968 and the Center will integrate the equipment into the Apollo Telescope Mount.

Training Schedule

The course schedule at the Network Test and Training Facility, GSFC, for the remainder of 1968 is as follows:

- Course 110, MSFTP-2 PCM Decom, 9 weeks--September 30.
- Course 200, 642B Computer System, 8 weeks--October 28.
- Course 230, RSDF Peripheral Equipment, 6 weeks--October 7.
- Course 510, MSFN Recorders, 5 weeks--September 30.
- Course 520, Apollo Timing System, 4 weeks--November 4.
- Course 610, Digital Computer Fundamentals, 4 weeks--September 16 and September 30.
- Course 320, USB Land Antenna System, 6 weeks--October 28.
- Course 330, USB Receiver/Exciter System, 7 weeks--September 30.
- Course 340, USB Power Amplifier Group, 7 weeks--October 28.
- Course 350, USB Ranging, 5 weeks--September 30.
- Course 360, USB Tracking Data Handling, 7 weeks--October 28.
- Course 372, USB System II, 3 weeks--September 30.
- Course 400, Teletype Operations, 2 weeks--October 28.
- Course 410, Teletype Maintenance, 5 weeks--November 11.
- Course 430, Apollo Data Modems, 3 weeks--October 28.
- Course 640, MSFN Operations Center, 1 week--September 23 and November 18.
- Course 600, Apollo Program, 1 week--September 23, October 21, and November 4.
Operations documentation published recently includes:

- Documentation scheduled for distribution in the next month includes:
  - Network Operations Plan for Intelsat III-A.

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