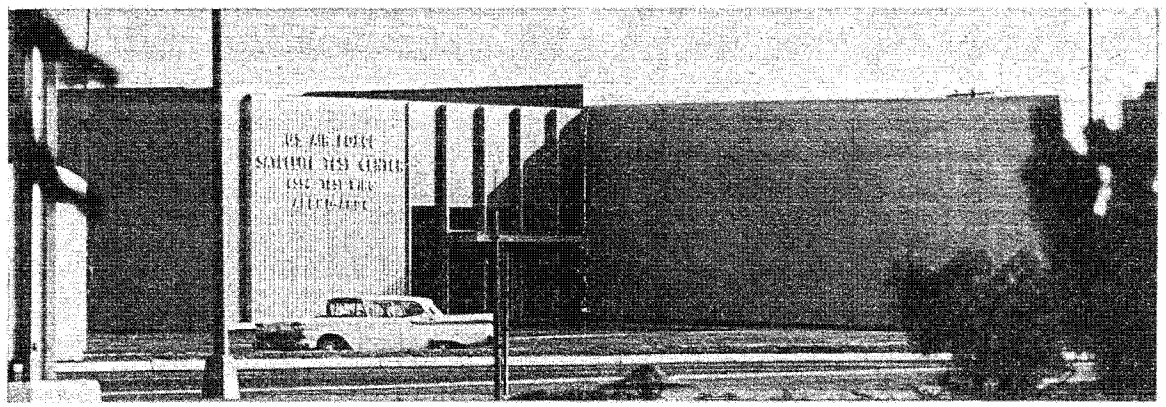
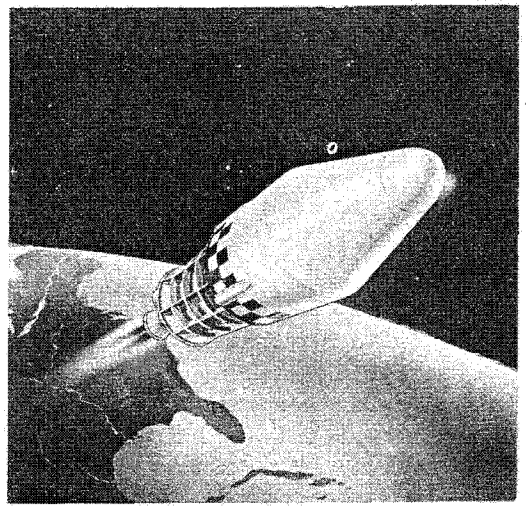


United States Air Force

SATELLITE TEST CENTER

6594th Test Wing (Satellite)

Sunnyvale, California



.... DISCOVERER SATELLITE ....

Satellite Test Center

The USAF Satellite Test Center, command post for the Air Force earth satellite programs, was activated in January 1960. The facility is the nucleus of a far-flung network of technical stations required to operate a satellite system.

As the focal point of the satellite complex, the Satellite Test Center provides the direction which coordinates and meshes the launch, tracking, data acquisition, and recovery activities during satellite operations.

The Satellite Test Center is an operating activity of the 6594th Test Wing (Satellite), the element of the Air Force Ballistic Missile Division, Air Research & Development Command, devoted exclusively to earth satellites.

Prime contractor to the Air Force Ballistic Missile Division for development of the Air Force Discoverer and Midas earth satellites is the Lockheed Missiles and Space Division. Actual operation of the new center is charged jointly to this military-industrial team.

GPO 979916

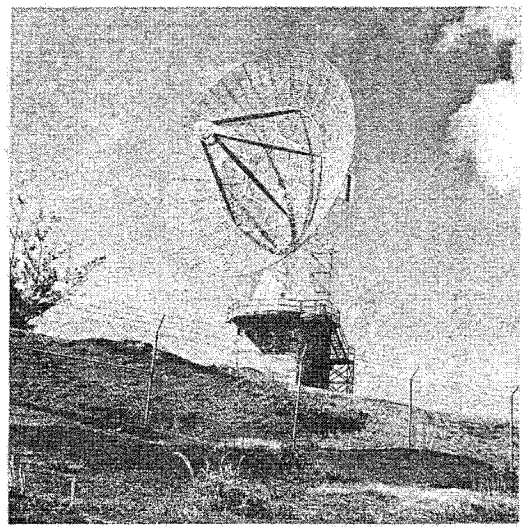
Satellite Control Room

The heart of the test center is the Satellite Control Room. This tiered satellite theater contains the six consoles from which Air Force Test Controllers and Lockheed Technical Directors command the satellite launch, orbital, and recovery phases.

Each console contains closed-circuit television screens, a push-button communications panel for instantaneous voice contact with all stations, intercom to support areas within the building, and remote controls for the tape recorders.

The two tiers of consoles face a display of three large Vu-Graph screens and a bank of clocks and timers. The Vu-Graph screens permit controllers to call for visual presentations of maps, weather conditions, standing of the 13-hour countdown procedure, and other data.

Three primary areas support the control room during operations: the Operational Support Area provides the plotting, display, and meteorology support; the Program Information Center is manned by technical experts during critical phases; the Communications Center operates the communications.



.... RADAR STATION ....

Approved for Release: 2022/09/23 C05140939

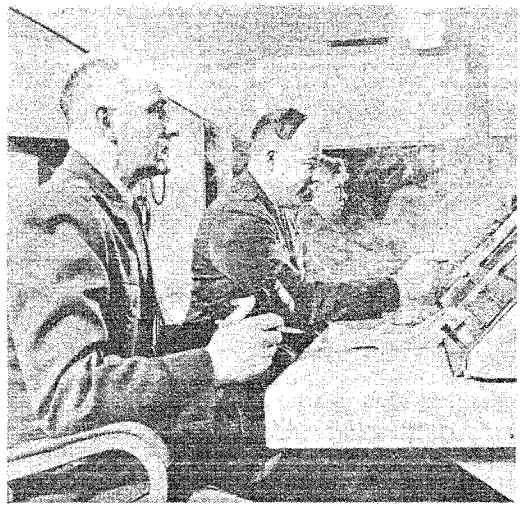
Operating Locations

For the **Discoverer** satellite system, five types of specialized facilities are required: command, launch, tracking and acquisition, data reduction, and recovery. The first of these, command, is the responsibility of the Satellite Test Center.

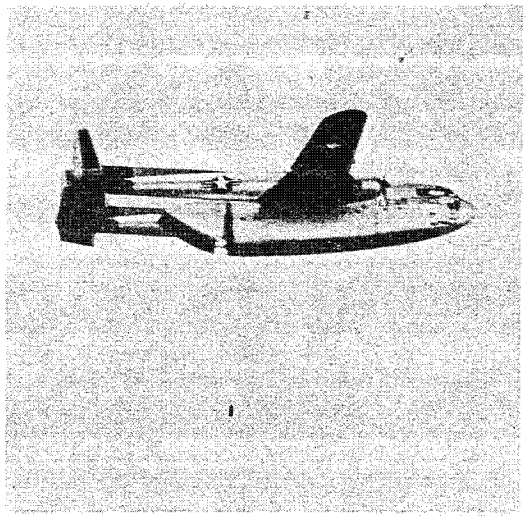
The **Discoverer** is launched from Vandenberg AF Base, Calif., on a polar orbit. The system uses six radar sites to track and acquire data from the satellites: Vandenberg; Pt. Mugu, Calif; Kodiak, Alaska; Kaena Point, Hawaii; and two telemetry ships in Pacific waters.

Telemetry data received from the satellites by the radar stations is transmitted to the Lockheed laboratory in Palo Alto, Calif., for reduction and evaluation. Recovery of the satellite-ejected capsule is charged to the Recovery Control Group at Hickam AF Base, Hawaii.

The Recovery Control Group operates the Hawaiian Control Center. Following the ejection sequence, the center deploys the RC-121 radar aircraft, the modified C-119 **Flying Boxcar** recovery aircraft, and the sea recovery forces.



.... *TEST CONTROLLERS* ....



.... C-119 *RECOVERY AIRCRAFT* ....

6594th Test Wing (Satellite)

With the emergence of the ballistic missile as a major weapon came a new phrase: "Concept of Concurrency." Each family of missiles requires a different military organization, and equipment, to operate and support the new weapons system.

This concept of concurrency serves to decrease the time between prototype and attack-ready versions of a new missile by developing concurrently the military unit to operate it.

The 6594th Test Wing (Satellite) is such a concurrent Air Force organization. When the research and development phases of an assigned satellite system have been completed, the Satellite Test Wing will have matured with the system, and will be adequately manned, equipped, and experienced to operate it.

To fulfill the requirements of a satellite system, the wing has specialized squadrons and operating locations spread from California east to New Hampshire, north to Alaska, and west to Hawaii.

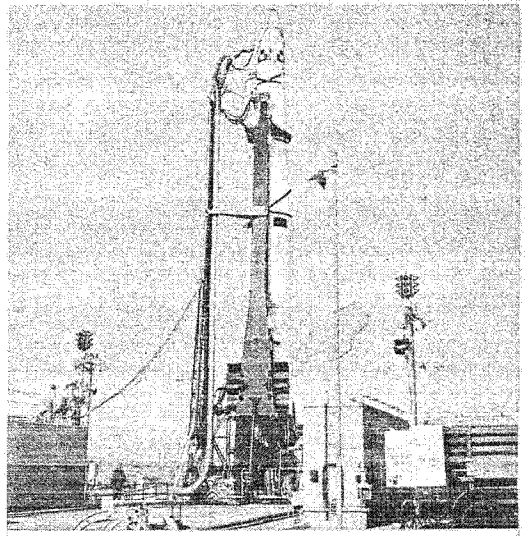
DISCOVERER & MIDAS

By April 1, 1960, the United States had orbited sixteen earth satellites — six **Discoverers**, five **Explorers**, three **Vanguards**, the **Atlas-Score**, and a **Tiros**. The USSR had placed its third and last earth satellite, **Sputnik III**, in orbit in May 1958.

Almost 32% of the total number of earth satellites orbited have been **Discoverers**. This Air Force program is a series of launches designed to develop a working military satellite system. **Discoverer** I was launched February 28, 1959.

During 1959, only two out of eight launches failed to place the **Discoverer** in orbit, an unprecedented satellite record of 75% effectiveness. **Midas** (missile defense alarm system) is a refinement of the **Discoverers**, and will give warning of an enemy missile attack.

The **Discoverer** employs a **Thor** IRBM as the first stage, and a 19-foot, 1700-pound **Agena** as the second stage and orbiting satellite vehicle. **Midas** uses the **Atlas** ICBM as the booster, with a 22-foot **Agena** as the satellite.



.... *DISCOVERER ON THE PAD* ....