

## **6594 AEROSPACE TEST WING**

### **MISSION**

The 6594th Aerospace Test Wing is an Air Force organization devoted solely to the support of flight test of satellites and space vehicles. With Headquarters near the Lockheed Missile and Space Company in Sunnyvale, California, the 6594th operate a far-flung network of command, control, tracking, data acquisition and spore recovery activities. Taken collectively, these activities are performed by the Satellite Control Facilities and include the Satellite Test Center at Sunnyvale; tracking stations spread from California east to New Hampshire, north to Alaska and Greenland, and west to Hawaii; and a Recovery Control Group with Headquarters at Hickam Air Force Base, Hawaii. The parent organization of the Test Wing is the Space System Division, Air Force Systems Command.

The Satellite Test Center, Sunnyvale, California, is the focal point of the Satellite Control Facilities complex and provides the direction which coordinates and meshes the tracking, commanding, data acquisition, and recovery activities which occur during flight test activities. The heart of the Test Center is the Satellite Control Room. This room contains the eight consoles from which the Test Controllers and Test Conductors command the Satellite or space system test operation.

Four primary areas support the control room during operations: The Operational Support Area provides the plating, display, and meteorological support; the Communications Center operates the various communications links; the Computer/PICE area performs high speed computation and data reduction; and the Technical Director Rooms, manned by the prime space system contractor, provides consultative support. With the exception of the Technical Director Rooms, all areas of the STC are manned by Air Force personnel of the 6594th Aerospace Test Wing or Lockheed Missiles and Space Company personnel under a direct support contract.

Some satellite systems, such as Discoverer, carry a recoverable space capsule. These capsules are ejected from orbit in the Hawaiian area on command from the Satellite Test Center. The 6594th Recovery Control Group, Hickam Air Force Base, operates the Recovery Control Center and is the parent organization of the 6593rd Test Sqdn. and the 6593rd last. Sqdn. The 6593rd Test Sqdn. flies specially equipped C-130 aircraft, designed to "air-snatch" the parachute on the descending capsule. The 6593rd Instrumentation Sqdn. operates the Hawaiian Tracking Station which tracks

the descending space capsules and reports their position to the Recovery Control Center. The first capsule ever recovered from space was recovered by these forces on August 11, 1960, and has been followed by many such successful recoveries since.

A particular space system test may require the participation of any or all of the operating locations within the Satellite Control Facilities. These are supplemented on special purpose flights by tracking stations belonging to the National Ranges and by telemetry-recording ships at sea of the U.S. Navy. All participating elements are welded together through communications and data transmission links with the Satellite Test Center. Depending on the geographical area of the ground track of a space vehicle, and its own peculiar operating requirements, a combination of the capabilities of the different operating locations enables the acquisition and tracking of its radio signals, the recording of telemetry data, the sending of radio/radar commands to the vehicle, the transmission of received data in both raw and reduced form to the Satellite Test Center, and the high speed analysis and presentation, of this data to the appropriate console within the Satellite Control Room.

#### **LINEAGE**

6594 Test Wing (Development)

Organized, 6 Apr 1959

Redesignated 6594 Test Wing (Satellite), 15 Jan 1960

Redesignated 6594 Aerospace Test Wing, 1 Nov 1961

Discontinued, 1 Jul 1965

#### **STATIONS**

Lockheed Missile and Space Facility, Palo Alto, CA

#### **ASSIGNMENTS**

Air Research and Development Command (later, Air Force Systems Command)

Air Force Ballistic Missile Division (of Air Research and Development Command), 16 Nov 1959

Space Systems Division (of Air Force Systems Command), 1 Apr 1961

#### **COMMANDERS**

Col A. N. Moore, #1961

#### **HONORS**

**Service Streamers**

**Campaign Streamers**

**Armed Forces Expeditionary Streamers**

**Decorations**

## EMBLEM

## MOTTO

## OPERATIONS

6594th Test Wing, one of its first primary missions was operations of the CORONA spacecraft, the nation's first imagery satellite. During the subsequent years, the base became home of the Air Force Satellite Control Network, which provided the world's only global antenna network for command and control of military, intelligence, and civil spacecraft constellations.



Airmen of the 6594th Test Wing with a practice satellite payload. Note the falling star logo on their JC-130B Hercules aircraft.

---

DEPARTMENT OF THE AIR FORCE UNIT HISTORIES

Created: 7 Aug 2022

Updated: 16 Mar 2024

### Sources

Air Force Historical Research Agency. U.S. Air Force. Maxwell AFB, AL.