

SATCOM Aids in Providing Apollo 11 TV to Alaska

Alaskan residents enjoyed their first live TV coverage of a major news story during the Apollo 11 moon mission by way of Army SATCOM Agency terminals and the Air Force TACSAT I communications satellite.

Unique can be used properly to describe the relay system devised to achieve this objective. TV signals traveled from Apollo 11 to National Aeronautics and Space Administration ground stations in California. Commercial TV facilities and microwave links relayed signals to HQ, SATCOM Engineering Test Facility, Fort Monmouth, N.J. TACSAT I was used to link with the SATCOM terminal in Anchorage.

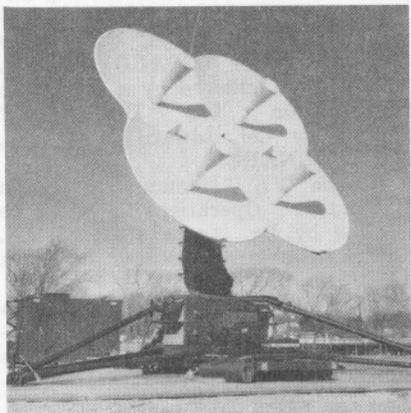
The Anchorage station was an AN/TSC-54 terminal flown with its military operating crew from HQ SATCOM to Alaska July 11.

The SATCOM Agency Test Facility station was the Lincoln Experimental Terminal (LET-1), with an AN/MS-46 terminal as backup, both operated by SATCOM personnel. LET-1 was designed by the Lincoln Laboratory of the Massachusetts Institute of Technology.

In normal use, TSC-54 and MSC-46 terminals form the worldwide ground network of the operational Defense Satellite Communications System. Stations of this system located in Alaska include an AN/TSC-54 at Shemya and an AN/MS-46 at Wildwood.

Terminals in the Apollo 11 Alaskan TV project (AN/TSC-54, LET-1 and AN/MS-46) are used by the SATCOM Agency for research and development activities in connection with satellite communications.

TACSAT I, developed for the Air Force Space and Missiles Organization, was launched from Cape Kennedy in February 1969. It is a 1,600-pound synchronous satellite orbiting



AN/TSC-54 Terminal

22,000 miles above the equator, designed to test the feasibility of tactical satellite communications.

The AN/TSC-54 was designed as the quick-reaction terminal for the Defense Satellite Communications System. A complete 23,000-pound terminal—antenna, antenna trailer, operations shelter and power generator—plus its crew can be loaded into a

AMC Employees Draw Anniversary Acclaim, Challenge

Army Materiel Command support of U.S. Forces in Vietnam "will stand tall in military history," General F. J. Chesarek, CG of the AMC, stated Aug. 1, AMC's seventh anniversary.

That praise for achievements of AMC's 177,000 military and civilian personnel was combined with a "second generation" challenge to "consolidate our experience, refine our procedures, and develop new methodologies for difficult tasks which lie ahead."

General Chesarek, in his message to AMC's 180 installations and activities, pledged the command "to prove through performance that it is the master of the sciences of research, development, procurement, distribution and maintenance...The second generation of AMC will be tough, professional, confident and alert."

Army Chief of Staff General William C. Westmoreland sent this message:

"In the difficult task of combining the most recent scientific and technological developments with present and future needs of the Army, you are ensuring that our soldiers are the best equipped in the world.

"While accomplishing this tremendous undertaking, you have reduced the number of project managers and made possible a higher level of responsiveness to requirements from the field. In addition, through your Integrated Logistic Support Planning, we are assured that necessary logistical support and instructions are available when new weapons systems are sent to the field."

Under organizational realignments reported in recent editions of the *Army R&D Newsmagazine*, General Chesarek's span of control was reduced about 60 percent. Instead of the 190 commands, agencies or individuals reporting directly to HQ AMC, there will be 78.

Efforts also are under way to secure suitable office space to consolidate HQ AMC, now scattered in five government-owned facilities and four commercial office buildings, at a single

single C-141 aircraft and flown anywhere on earth. A novel feature is its antenna—a Cassegrain type with four parabolas in a cloverleaf configuration measuring 18 feet across.

The AN/MS-46 was developed for SATCOM Agency and is transportable by aircraft or ground vehicle. The terminal consists of a 40-foot diameter parabolic antenna enclosed in a protective radome, operations unit, cargo and maintenance vans, and power generators.

site in Northern Virginia within a 10-mile radius of the Pentagon. The target date for the move is late 1971.

Specific AMC actions during the past 12 months in support of U.S. Forces in Vietnam, and to increase over-all readiness of the Army in the field, ranged from advances in techniques to development and introduction of new or improved weapons and equipment. Cited as examples are:

- VLAPA (Vietnam Laboratory Assistance Program, Army), established by AMC to provide quick-reaction, in-country scientific and engineering assistance to U.S. Army Forces in Vietnam. AMC laboratory representatives in Vietnam are allowed to leave their parent laboratories for quick engineering solutions to problems they encounter in the field.

- The newly developed M551 armored reconnaissance/airborne assault vehicle, the General Sheridan, was initially deployed to Vietnam and committed to combat in February.

- An AMC development project equipped the M113 armored personnel carrier to perform as an assault bridge. Twenty-four units were shipped to Vietnam for operation evaluation.

- Under AMC direction, Combat Evaluation Tests of five Vulcan Air Defense Weapons systems were conducted in Vietnam. Good results were reported.

- AMC accelerated development of a 4½ gallon-per-hour lightweight water purification unit shipped to Vietnam for battalion-size mobile forces.

- AMC continued to emphasize its program to employ volunteers for overseas assignments in support of users of Army materiel. As of July 1969, about 500 AMC personnel were in a "ready" position to provide quick reaction assistance when requested by commanders in Vietnam and other overseas areas.

- In the field of aircraft development, maintenance and armament, the AMC made numerous advances that will directly enhance the Army's combat effectiveness, including new armament subsystem (XM35) deployed recently for the AH-1G Hueycopter helicopter. Later in 1969, a new subsystem (XM59) caliber for 0.50 machinegun, pintle-mounted is expected to become available for use on the UH-1D or H helicopter.

- In the final stages of development is the new CH-54B heavy-lift helicopter, an improved version of the CH-54A, which has proved its worth in Vietnam by recovering downed aircraft worth more than the total system cost.

- Preproduction models of the newest version of the OV-1 Mohawk surveillance aircraft, the OV-1D, have been accepted by the Army for testing. Improvements include interchangeable infrared and side-looking airborne radar surveillance systems, increased engine power, and installation of an inertial guidance system.

- Turbine aircraft engine overhaul and repair production at the Army Aeronautical Depot Maintenance Center increased by 37 percent during the past year, compared with FY 1968. Production has climbed to an out-

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