



# The Air Force Communications Service

**T**HE AIR Force's most globally dispersed command—Air Force Communications Service (AFCS)—has enhanced its ability to respond to emergency situations and improved global communications capabilities for air operations generally.

AFCS, which has nearly 50,000 people at more than 500 separate locations in forty-five states and thirty-six foreign countries, is commanded by Maj. Gen. Kenneth P. Bergquist. Sixty percent of the command's personnel are stationed overseas at any given time. Headquarters are at Scott AFB, Ill.

Highlighting AFCS's operation was the activation on July 1 of this year of two new mobile communications groups. Both groups are based in Georgia—the 4th Mobile Communications Group at Hunter AFB and the 5th Mobile Communications Group at Robins AFB. They are expected to reach full strength by October.

In addition, the existing 3d Mobile Communications Squadron at Tinker AFB, Okla., is being increased in strength and in mission capabilities and elevated to group status. Under the expansion plan, all three groups will be assigned to the TAC Communications Region (AFCS), headquartered at Langley AFB, Va.

The 1st and 2d Mobile Groups—based in the Pa-

Mobile facilities enabling the Air Force to respond quickly to all contingencies are vital to USAF operations. Right, a mobile ground-controlled approach unit is off-loaded from a C-124 Globemaster.



Maj. Gen. Kenneth P. Bergquist became Commander, AFCS, in 1962. He is a 1935 graduate of West Point and received his wings in 1936.

During World War II he served in the Pacific and afterward in staff posts in air defense and in USAF's pioneer command-and-control efforts at Hanscom Field, Mass., before assuming command of the Communications Service.



cific and in Europe respectively—are not affected by the new organizational structure. Manpower authorizations, however, have been increased. AFCS's Reserve Forces mobile communications units likewise are not involved in the reorganization. Manning of AFCS mobile units is being accomplished from available active-duty resources.

The latest move, according to General Bergquist, is in keeping with the Air Force's goal for improvement of global communications capabilities for air operations, emergency airlifts, and other contingency situations, including counterinsurgency actions.

Through its mobile organizations, AFCS supports worldwide major air and unified command operations. The AFCS mission to support these USAF needs is called Emergency Mission Support (EMS). AFCS mobile units have deployed on more than 450 occasions since AFCS was activated as a major air command on July 1, 1961. Many of their ports of call reflect the front-page stories of our time: to Okinawa and Guam to restore communications and continuity of operation following typhoons; to Iran following that nation's disastrous earthquake; to Southeast Asia to provide communications and air traffic control for counterinsurgency training; and more recently to Alaska to help reestablish communications and flight facilities following an earthquake.

AFCS mobile organizations can be transported to any part of the globe to establish basic communica-



tions, air traffic control, and air-navigational aids to support air operations anywhere that airplanes can land and take off. Mobile units are equipped with van- and trailer-mounted communications, air traffic control, and navigational-aid equipment that is readily transportable—normally by MATS—to any part of the world.

In conjunction with its EMS function, maintenance and operations personnel of AFCS last October began assisting the Air Force Systems Command and other interested military agencies in accomplishing a "systems" test of a new air-transportable air traffic control and communications system. This system, when completed, will be used by the mobile groups. It will considerably improve reaction and support capabilities of the command's EMS mission.

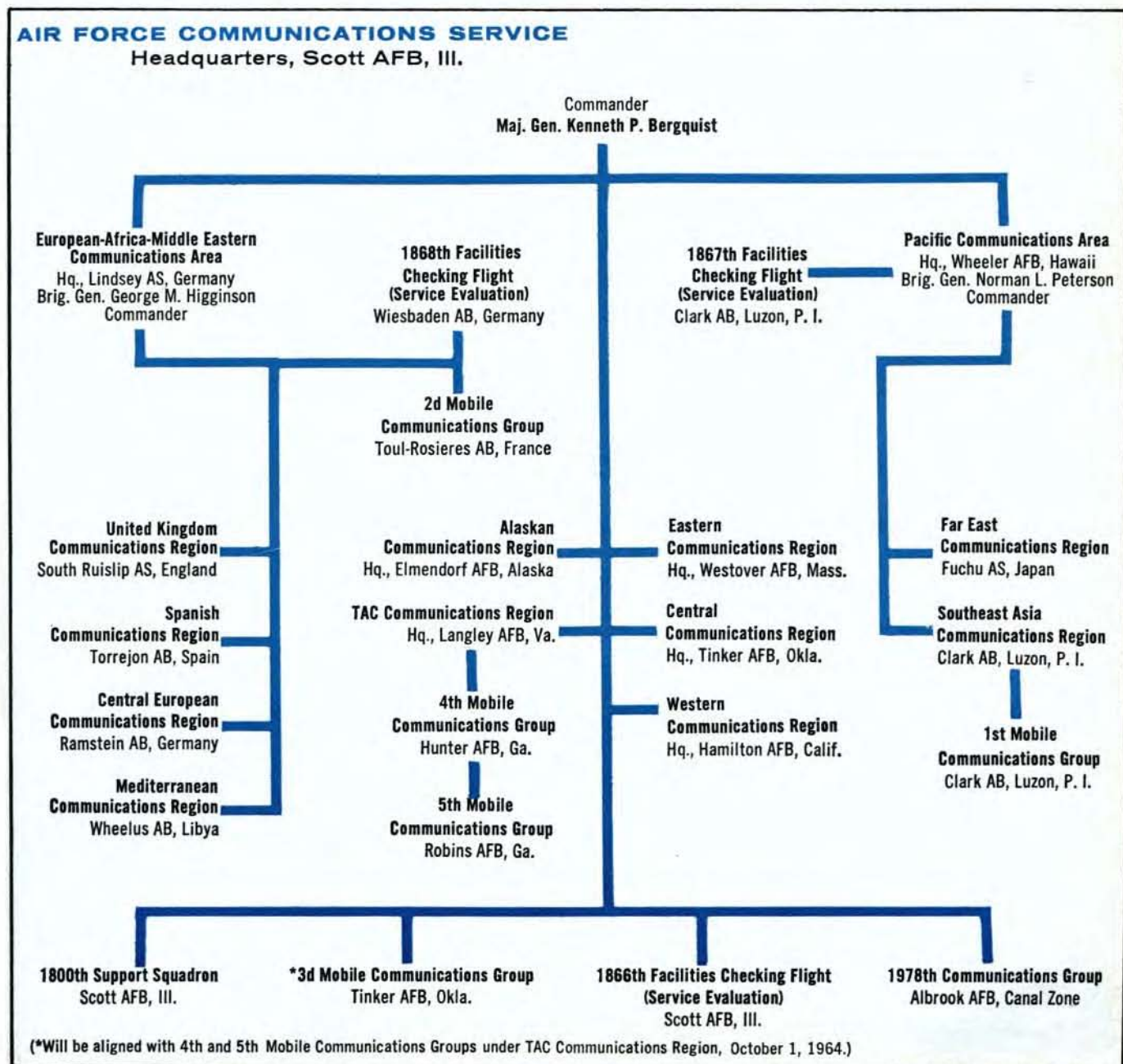
The new system will also operate in conjunction with the Air Weapons Control System for combined military contingency warfare and will tie in with the Aerospace Weather Observing and Forecasting Sup-

port System. It can be integrated into the worldwide Aerospace Communications Complex, operated by AFCS as the Air Force component of the Defense Communications System (DCS).

Emergency Mission Support is one of five distinct types of aerospace communications service offered by AFCS. Others include on-base communications, long-haul communications as components of DCS, flight facilities, and air traffic control—each a family of communications functions grouped according to systems similar in procedure.

AFCS draws primarily from two highly technical Air Force skills, informally called communicators and air traffic controllers. (Eighty percent of AFCS's total strength is made up of persons who possess highly technical skills, as against an Air Force-wide average of forty-seven percent.) Communicators operate and maintain air/ground communications, on-base and interbase wire cable, radio, and digital commu-

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tions systems, as well as television, maintenance-expediter, and fire-crash communications facilities.

Air traffic controllers operate and maintain a worldwide system of 1,500 air traffic control facilities and electronic aids to aerial navigation. Constantly performing service evaluation of these facilities is AFCS's fleet of T-33s and C-140A JetStars. The more than 5,000 air traffic controllers in AFCS average an assist in the landing or takeoff of a USAF airplane once every seventeen seconds.

AFCS's command structure is functionally aligned to be responsive to Air Force needs. Backbone of the command's worldwide operation are seven major direct-reporting subordinate headquarters, of which two are designated "areas"—comparable to numbered air forces in strength and responsibility—and five are "independent regions"—similar in size and responsibility to air divisions.

The European-Africa-Middle Eastern Communications Area, commanded by Brig. Gen. George M. Higginson from headquarters at Lindsey AS, Germany, includes subordinate United Kingdom, Central European, Mediterranean, and Spanish Regions.

The Pacific Communications Area, with headquarters at Wheeler AFB, Hawaii, is commanded by Brig. Gen. Norman L. Peterson. Included in this organization are the Far East and Southeast Asia Regions.

Subordinate regions of the two areas are defined as "dependent" regions. "Independent" regions in the command—which report directly to Hq. AFCS, are:

- TAC Communications Region at Langley AFB, Va., commanded by Col. Sam L. Huey.
- Alaskan Communications Region at Elmendorf AFB, Alaska, commanded by Col. Elmo A. Elliott.
- Eastern Communications Region at Westover AFB, Mass., commanded by Brig. Gen. Anthony L. Shtogren.
- Central Communications Region at Tinker AFB, Okla., commanded by Col. Albert H. Snider.
- Western Communications Region at Hamilton AFB, Calif., commanded by Col. David S. Woods.

Commanders of the areas and Alaskan and TAC Communications Regions, as well as commanders of most other globally dispersed AFCS units, handle dual responsibilities—the performance of commu-



This Communications Service troposcatter antenna array near Humosa, Spain, is one of a number of AFCS stations which provide multichannel voice and teletype service for Air Force operations in Western Europe, stretching from England through Spain across Mediterranean to North Africa.

tions-electronics staff functions, and the direction of communications and air traffic control operations and maintenance. At each level, AFCS commanders are primarily responsible to the commanders to whom their units provide service. This "dual-hat" role is unique within the Air Force.

Considered full-fledged members of the family are the nearly 8,000 persons assigned to thirty-seven Air National Guard and twenty-four Air Force Reserve communications units for which AFCS is the gaining command. These units are equipped with mobile communications, radio-relay communications intercept, and air traffic control facilities, and can be counted on to add their resourcefulness and dedication to the command in time of national emergencies.

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AFCS air traffic controllers operate at Air Force bases around the world. At left, a Communications Service controller, working side by side with Spanish civil aviation technician, does his stint in the tower at Torrejon AB, Spain.

The technical nature of AFCS operations requires maximum professionalism. Here, a Communications Service radar specialist performs equipment maintenance check, just part of the Air Force-wide service provided day in and day out by the command.







The Air Force Communications Service in Southeast Asia: An AFCS technician assigned to a mobile communications group runs his "manpack" radio while Thai soldiers man anti-aircraft weapons during SEATO training exercise in Thailand.

AFCS's ability to carry out its "service" role was never more effectively demonstrated than during the past year.

Highly technically qualified airmen of the command proved their capability during Operation Big Lift. The airlift of an entire Army Division in 242 troop carriers and their protective cover of 116 jet fighters was an immense operation that relied heavily on the professionalism of AFCS technicians.

At every air base and many remote installations across the North Atlantic from Maine to Germany, AFCS personnel worked their complex electronic equipment, unseen by most observers of Big Lift. Bent over their radarscopes in small mobile trailers at the end of runways, in control towers and radar-approach control centers, at radio-telephone consoles in air-to-ground stations, they worked as a team for the safety of flight of an all-weather Air Force—by regulating air traffic and landing each Big Lift aircraft in safe and orderly precision, in weather that for the most part was described as bad.

The complex Big Lift operation was unified through

the instantaneous and multiple modes of communications and navigational aids provided by AFCS personnel.

AFCS personnel played prominent roles in other major exercises during the year. These included Desert Strike, largest US joint military training exercise held during 1964, which took place over 13,000,000 acres of desert in California, Arizona, and Nevada. More than a thousand AFCS personnel supported maneuvers and operations of the exercise by providing mobile flight facilities and navigational aids to supplement existing facilities at exercise air bases and at assault strips. Other major exercises supported by AFCS include Exercise Delawar, a combined Iran-US military training event held in Iran under the auspices of the Central Treaty Organization (CENTO), and Exercise Air Boon Choo, a Southeast Treaty Organization (SEATO) exercise held in Thailand and sponsored jointly by Thailand, the United Kingdom, and the US. Australia and New Zealand also participated.

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Bringing in aircraft safely. A Communications Service technician mans a RAPCON (Radar Approach Control) center radarscope to direct incoming aircraft to landing, whatever the weather.



AFCS's Lockheed C-140A JetStars, specially configured for AFCS missions, are packed with electronic gear and are designed to flight-check navigational aids and air traffic control facilities set up for contingency operations.





Communications Service technicians on the space beat are busy checking out this ray-gun-like gadget which is part of the satellite tracking system for Tiros weather orbiter.

Other highlights of AFCS's operations during the past year includes the complete "blue-suit" operation of Air Force tropospheric-scatter communications facilities linking Spain and the United Kingdom (December 1963). These tropo links are a part of the 700,000 miles of tropospheric-scatter channels operated by AFCS as a part of the Defense Communications System.

A new magnetic tape terminal at Hq. Air Force Systems Command, Andrews AFB, Md., was tied into the AFCS-operated Automatic Digital Network (AUTODIN). The new terminal links Systems Command headquarters with the more than 400 Department of Defense tributary installations in the AUTODIN system. AUTODIN links Air Force, Department of Defense, and defense industry users into a worldwide system of high-speed interchange of vital data. In its present configuration, AUTODIN can transmit 7,000,000 punched cards, or the equivalent of 100,000,000 words daily, with an accuracy that permits no more than one erroneous character in ten million to pass undetected. The network was completed in February of 1963 and was described by General Bergquist as a "first of its kind, a unique marriage of data-processing devices and communications facilities in a computer-controlled system."

Two of three AFCS Facility Checking Flights (Service Evaluation) became operational in mid-1963—the 1867th, Clark AB, Philippines, and the 1868th, Wiesbaden, Germany. They joined the 1866th—which operates from Scott—in conducting active programs to evaluate Air Force-operated navigational-aid facilities.

Within the same organizational framework, AFCS air traffic controllers during fiscal year 1963—operating at bases around the world—were credited with "saving" seventy-four military and civilian aircraft. Of that total, sixty-one were USAF aircraft—fighters, bombers, cargo, and training aircraft—valued at more than \$57.5 million. There were 133 military and eighteen civilians on board the saved aircraft.

Saves are accredited by an Aircraft Save Review Board. Only those reported emergencies where the Board deems that assistance of the air traffic controllers was paramount to successful recovery of the air-

craft are accredited as saves. More than 300 saves have been recorded in the brief three-year history of AFCS.

AUTOVON—Automatic Voice Network—a Defense Communications Agency common-user voice-switching network, became operational in 1964. AFCS was responsible for establishing CONUS switching centers for the network.

The 1978th Communications Squadron at Albrook AFB, Canal Zone, was elevated to group status January 1, 1964, and given increased responsibilities in communications-flight facilities activities in Central and South America.

As a technical support command, AFCS operates as a tenant at all its locations. Support received by AFCS elements varies from basic housekeeping support to complex and technical equipments and services. The quality of this support directly influences the ability of AFCS to perform its job.

A myriad of interrelationships occur throughout the activities of AFCS. Diverse interests, from planning for future systems through developing, implementing, installing, operating, and maintaining systems, cause the activities of AFCS to be interwoven with the interests of all commands of the Air Force, the other departments, other federal agencies, other governments, and United States and foreign commercial enterprises. These relations vary from AFCS coordination with others to virtually total dependence on others, while others depend on AFCS.

To this base is added the command's globally dispersed organization—the most widely dispersed of all Air Force commands.

But, without a globally operated communications system, without a worldwide air traffic control and navigational-aid system integrated into a single cohesive operating organization, the vast flexibility and mobility of this country's weapons would be confined to roles of defense and attack in limited theaters.

AFCS is proud of its role in operating aerospace communications. These communications assure commanders of the capability of commanding and controlling their worldwide forces. Thus, AFCS's motto of "Providing the Reins of Command."—END



Running on-base communications means getting the job done fast and expertly. At left, an AFCS phone installation man puts the finishing touches on circuitry for a complex intercom system planned by AFCS.