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Cover salutes the quarter-century of government handling of air traffic.

From the old-style airfield and aircraft shown on the bottom of the cover to the line drawings of the modern tower, equipment and aircraft . . . years of progress.

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Inside back cover indicates the intricate equipment of the modern tower.

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Outside back cover is a picture of the ultra-modern tower recently completed at Newark, New Jersey. This picture shot by Bob Newkirk on a recent eastern trip.

LOOKING AHEAD

The Beacon this month salutes the progress made in the controlling of air traffic . . . progress made during the last quarter-century.

The "Point of View" was written by a man who has spent more than 20 years in the business of air traffic control; learned to fly back in the late twenties. Dee Worster can look back to the slow and "seldom" planes of 30 years or more ago . . . still is young enough to look ahead, possibly to the Mach Two or Three transports just around tomorrow's corner.

We haven't forgotten those men who designed, installed and maintained—still do so today and will tomorrow—the electronic gadgetry that is a necessity in this jet-space age.

The next issue will carry a complete story on the Civil Air Patrol week-long study at the FAA Training Center . . . plus the FAA instructional symposium at the National Flying Farmers' Convention in Tucson.

POINT OF VIEW



Dee Worster is an instructor in Air Traffic Management in the Federal Aviation Training Center at the Aeronautical Center. He spent 20 years in the Cleveland, Ohio Tower before coming to Oklahoma City. Dee recalls the early days of "control," if it can be called that.

In the early days of air traffic control we used everything but modern communication equipment. The simple answer—we didn't have anything but wind gauges, primitive radio and a lot of conversation. Traffic was slow and not too heavy. No real control was exercised over any aircraft, rather it was an advisory to pilots.

Originally just the pilot's name was used for identification. So . . . communication probably sounded like this:

PILOT: Hello, Dee. I'm over Elyria, How you doing?

TOWER: Hi ya, Sam. The wind is out of the south around 10 and we just had a heavy rain storm move across the field. Lotsa big mud holes on the field.

PILOT: How about that! I've been hoping to beat the rain in. When I get up north of the field you steer me so I can miss the biggest puddles.

TOWER: Okay, Sam. Looks like you're about five miles northwest.

PILOT: Yep, that's me in this bright and shiny Ford Trimotor.

TOWER: It's sure purty.

PILOT: Okay, Dee. I'm turning into the field. How about those puddles?

TOWER: Well, Sam, if you come over the field boundary between the fourth and fifth fence posts and hold her up until mid field, you'll miss most of them.

PILOT: Thanks, Dee. These new-fangled towers are sure going to be a big help to us pilots.

And those towers—plus the men that man them—were a big help. Aviation a quarter of a century ago and now has taken a jet-age stride in between. Next will be Mach Two and Three and the edge of space.

DEE WORSTER
 ATM Instructor



Picture of commercial aviation as it was thirty years ago. This is Will Rogers Terminal Building, Oklahoma City. Note the Ford Trimotor and the Lockheed Vega.

AIR TRAFFIC CONTROL 25 YEARS OLD



The old Cleveland Airport Tower back "in the early days."

Students and controller-instructors at the Federal Aviation Agency Training Center can look back a quarter of a century to the humble beginning of government and air traffic control.

In 1936 the government took over the handling of air traffic from airlines and cities. Control was just a word in those early days and traffic was sparse. The "wild blue yonder" and "free-flight" was just that. Traffic around airports was "controlled" through the use of flags, lights, sirens and even steam whistles.



View from the Cleveland Tower, showing some of the early day control equipment.

Only luck and the relative emptiness of airways in bad weather prevented mid-air collisions. "With a little bit of luck" was the theme for most pilots in bad weather and the only modus operandi for instrument flying was a successful flight.

With only about 18 men the Bureau of Air Commerce . . . the forerunner of today's Federal Aviation Agency . . . opened its system of enroute control centers at Newark, Chicago and Cleveland.

The first airport tower was opened in 1930 in Cleveland. The city operated the tower. Towers weren't part of the government's control system until 1941.

The Federal Aviation Training Center trains more than 15-hundred controllers a year . . . some of them from foreign nations.

There are now more than 17 thousand controllers operating in modern installations—a far cry from the makeshift rooms first used 25 years ago. Today the control service uses almost a half million miles of communications wiring to connect its 36 air route traffic control centers, 234 airport control towers and 412 flight service stations. It is a complex system of radar, radio and electronic navigational aids designed to keep traffic aloft moving safely and orderly.

During the first year, the three control centers handled over 30 thousand plane movements. Twenty-five years later it accommodates almost 25 million aircraft movements and provides safety for 50 million air passengers a year.

GRADE INCREASES FOR CONTROLLERS

A recent decision by the U.S. Civil Service Commission, at the request of Administrator Halaby, permits one grade boosts to many of the air traffic controllers assigned to towers and control centers.

Mentioning that the upward adjustments in grade level will become effective as soon as the necessary administrative and re-classification actions can be completed, Administrator Halaby said: "I consider this a fine start in recognizing the increasing complexity and difficulty of the duties of the controller who shares much of the responsibility for the safe transportation of over 50 million passengers a year, in addition to providing vital service to our general aviation and national defense operations."

The number of controller positions affected by the Commission decision has not been specifically determined, since each job will have to be individually analyzed.

There are more than 12 thousand controllers at 36 air route traffic control centers and 234 airport tower facilities.

Primarily, the center and tower positions which will be affected are those of certain facility chiefs, other supervisors, and those of controllers performing certain coordination and radar control functions.

Trainee and assistant controller positions at approach control and center facilities will not be upgraded.

The decision to upgrade the controller was based on the many major changes which have taken place in recent years in the nation's air traffic, making control much more complex.

MANY SPECIALISTS IN FSS IN LINE FOR GRADE RAISES

The Civil Service Commission once again has acted quickly and with considerable insight on an important FAA classification proposal. The Commission has authorized the Agency to proceed with actions which will raise the grades of many specialists in Flight Service Stations. As is the case in Centers and Towers, the Station raises may be made effective as soon as the necessary administrative action can be taken. The adjustments will be reflected later in a comprehensive revision of the Air Traffic Control Specialist classification standards.

In its report to Mr. Halaby the Commission followed the procedure applied in the evaluation of new Center and Tower activities. Grade findings are tied to functions rather than to specific positions. Military Flight Service is recognized as a new function. The PIREPS, weather briefing, and flight following programs are incorporated in the Pre-flight Assistance, and In-flight Assistance functions. An individual position will be classified at the level of the highest grade function which is a significant part of the job.

One of the results of the CSC action is the elimination of the aircraft contact and flight plan count as a basis for grade distinctions. A very beneficial effect of this change is the elimination of the threat of down-grading which so many Stations faced when their counts began to drop off. This is a bonus in the generally favorable CSC decisions.

The Commission did not incorporate in its report specific grade levels for supervisory positions. However, the need for revision of the supervisory grades was recognized, and appropriate adjustments will be made. Coordinating closely with the Commission, the Personnel Programs Division is preparing a Supervisory Evaluation Guide which will be adopted at the same time as, or shortly after, actions begin to raise the grades of the non-supervisory jobs.

CAP STUDIES AT AERO CENTER



Fifty-two Civil Air Patrol Cadets, representing 50 states, District of Columbia and Puerto Rico, took a week's symposium in all phases of Aviation at the Aeronautical Center.

A new Civil Air Patrol cadet training program, the Federal Aviation Agency Orientation Course, was held for the first time this summer at the FAA Aeronautical Center, Will Rogers Field, Oklahoma City, the week of July 23-29. This year's course was for teen-age male cadets, only, but the admittance of girl cadets is planned in 1962.

Attending were 52 honor cadets of CAP selected on the basis of one from each of the 52 CAP wings (one from each state, the District of Columbia and Puerto Rico), and five senior CAP escort officers. Housing was at nearby Tinker Air Force Base.

During the week, CAP cadets studied air traffic management, air navigation and flight standards presented by the FAA Training Center. Instructors demonstrated such systems as the VHF Omnidirectional Range, instrument landing systems, radar and tactical air navigation. The cadets were instructed in airport control towers and traffic centers; they flew navigational aids checks and received time in Link trainers.

George M. Waller, director of the Air Traffic Management Department of the FAA center, was in charge of the course and Lt. Col. Jerry A. Bunnell, USAF, CAP liaison officer for the Oklahoma Wing at Tinker AFB, was the CAP project officer.

Civil Air Patrol, with national headquarters at Ellington AFB, Houston, Texas, has more than 1,950 units throughout the nation and Puerto Rico. Its 69,500 members participate in either the CAP senior (adult) or cadet (teen-age) programs. Aerospace education, air search and ground rescue, and a widespread network communications of more than 13,800 radio stations are among its major activities.

CARI GETS NEW DIRECTOR



Doctor Stanley R. Mohler
CARI Director.

A man who is a pilot with an intense interest in the physiological aspects of today's jet-age has been named the new Director for the Civil Aeromedical Research Institute. This part of the Federal Aviation Agency, temporarily located at Norman, Oklahoma, will move into a new multi-million dollar building at the Aeronautical Center next year.

The new director is Doctor Stanley R. Mohler, who for the past four years has been medical officer of the Center for Aging Research at the National Institute of Health in Bethesda, Maryland.

Doctor Mohler was a member of the medical committee of the January, 1961, White House

Conference on Aging. He is a member of the Civil Air Surgeon's research advisory group and the FAA's advisory board for research in aging.

The new director, who is only 33 years old, says studies in aging will be part of the emphasis by CARI, although all aspects of the human factors in civil aviation will be explored at CARI. Studies will encompass health problems of pilots, crews, passengers, ground crews and control tower operators.

Doctor Mohler says the Institute will work closely with airlines, the pilots' associations, aircraft industries, the Air Force and the space agency.

Says Mohler, "The Institute has been in operation a year, but already has attracted well-known authorities in physiology, neurophysiology, bio-dynamics, psychology and crash physiology. CARI will become a world center for civil aviation medicine... Mach Two medicine, which is just around the corner."

The new CARI Director is a Texan, born in San Antonio. He received his medical degree from the University of Texas in 1956.

He was a research fellow in physiology at the University of Texas Medical branch in Galveston in 1952-53. He conducted research on blood clotting factors and did some work on high altitude physiology in collaboration with the School of Aviation Medicine at Randolph Field.

Doctor Mohler is interested in the history of aviation; has a collection of books spanning the period from the late 19th century to this time. A real "buff" in color photography, he finds time for that hobby, as well as oil painting.

Doctor Mohler succeeds Doctor Hilliard Estes, who has been appointed chief of the FAA's environmental health division in Washington.

DR. GODDARD NAMED FAA'S CIVIL AIR SURGEON FOR AN ADDITIONAL TWO YEARS

Dr. James L. Goddard will continue to serve as the Federal Aviation Agency's Civil Air Surgeon for an additional two years under an agreement made with the U.S. Public Health Service at the request of FAA Administrator N. E. Halaby. Dr. Goddard, the Agency's first Civil Air Surgeon, will head the Agency's Aviation Medicine Service (formerly Bureau of Aviation Medicine).

As Civil Air Surgeon and head of the Aviation Medicine Service, Dr. Goddard is concerned with the mental and physical fitness of airmen and air traffic controllers. He develops and recommends FAA's medical standards for airmen, controllers and others concerned with aviation safety; and conducts aviation medical research into the physiological and psychological limitations of the human body that may affect man in flight.



Doctor John R. Little, Chief of Employee Health, CARI, and Doctor Dante Pawlow of Argentina.

Civil Aeromedical Research Institute at Norman and its Employee Health Clinic at the Aeronautical Center provided an interesting and profitable tour of duty for a fellow member of the medical profession.

Dr. Dante Pawlow from Buenos Aires, Argentina, visited CARI the week of June 5. Dr. Pawlow is designated as an "Aeronautical Physician" with his government. He is director of the department having responsibility of determining policy for medical examinations for airmen.

Following a general tour of the Civil Aeromedical Research Institute, Dr. Pawlow studied with Doctors Iampietro, Snyder, Trites, Tang, Smith and Lategola the programs of Protection and Survival, Environmental Physiology and Drugs, Psychology, Neurophysiology, Pharmacology-Biochemistry and Biodynamics being carried on at CARI.

Dr. Pawlow spent the last day of his Oklahoma visit with Doctors Little and Flynn at CARI's Employee Health Clinic, located at the Aeronautical Center in Oklahoma City.

FAA SURVEYING MEDICAL FACILITIES AT AIRPORTS

A survey of civil airports throughout the country to assess existing medical and related emergency facilities and equipment has been initiated by the Federal Aviation Agency.

Undertaken in line with its responsibilities to promote civil aviation and aviation safety, the FAA survey will include large and medium traffic hub airports as well as several small hub airports in certain areas.

The survey is designed to determine whether the existing medical and related facilities are adequate to cope with potential emergencies, as well as routine requirements. The study will also enable the FAA to provide sound and constructive guidance to airport operators for planning appropriate medical and emergency facilities at the airports.

A pilot survey initiated the middle of March covered nine airports. The main study is scheduled to get underway in the near future.

Areas to be reviewed by a four-man survey team will cover available manpower and hospital facilities at the airport as well as overall medical facilities, and other health and welfare facilities for passengers, air crews and airport workers.

ADMINISTRATOR MAKES SKY DIVE MENTIONS PARACHUTISTS RULES

Federal Aviation Agency Administrator N. E. Halaby made his first "sky dive," or intentional parachute jump at Orange, Massachusetts in July at the invitation of the Massachusetts Sport Parachuting Commission.

Halaby says the growing interest in the sport make necessary rules to encourage "sky diving" and to protect the public and airways.

In 1956, he pointed out, there were only 238 known sport parachute jumps. In 1960, there were an estimated 40,000 jumps, which resulted in some casualties and numerous complaints to the FAA. The Administrator made the jump today to acquaint himself with the problem which could become acute.

"If you project these figures," Halaby said, there could be as many as a quarter of a million jumps annually by 1970.

"This can be a fine thing—an important, and certainly exhilarating new facet of national sport—or it can be a dangerous thing," Halaby said. "We must make sure that parachuting

contributes to the national interest, to physical fitness, to national defense, and not to personal injuries, nor national peril."

FAA's Administrator also pointed out that the Air Force has authorized its personnel to participate in free fall parachute jumping, and the Army is actively fostering it under controlled conditions in each case. Soaring, gliding, and parachuting all have usefulness in training Americans for "brush fire" military situations, he noted. One of the basic changes Halaby suggested today after his jump is that he would hold parachutists themselves responsible under the Civil Air Regulations which govern the Nation's airspace. As it stands now, only the pilot of the aircraft which drops the parachutist is actually responsible under the CARs.

Halaby would also make it contrary to regulations for a parachutist to jump—other than a life-saving emergency jump—over congested areas of cities, towns, settlements, over open air assemblies or through clouds or at night. The Administrator would also prohibit sport jumps in controlled airspace within five miles of an airport unless FAA gives authorization beforehand for a carefully planned and supervised program. On the other side of the rules coin, Halaby proposed that the current regulations be changed to permit the jumper to pack his own chute for test, training, exhibition or sport jumping. However, the jumper would still have to carry in addition an emergency chute packed by an FAA certificated parachute rigger, Halaby said.

"It is a dramatic pastime—great fun in the free open spaces—and I can now understand the enthusiasm the Parachute Club of America has for it," Halaby said. "I hope that parachuting can grow as a sport but it is obvious that it must grow under proper conditions.

"You can't ski across the parkways or shoot rifles in the parks, but these sports flourish in our era of diminishing space, because they are done in the right place and under the right conditions," Halaby said. "Skydiving to grow as a national sport must do the same."

BEST SELLERS IN FAA BOOKS

Three of the 21 publications to help pilots, published by the Federal Aviation Agency since 1946, have passed the million sales mark, for a dollar value beyond 800 thousand dollars.

The best sellers are "Facts of Flight," on sale since 1947, with a record of 286 thousand copies

sold; "Path of Flight," 1946, which has sold more than 485 thousand copies; and "Realm of Flight," 1946, which has sold 455 thousand copies. These copies introduced a new idea in government aviation publications; being put out as attractive, illustrated and readable booklets, printed in four colors, in place of the more typical government manuals. The new design was adopted in the hope that pilots would spend more time studying and improve flying safety.

Three other pilot aid booklets have sold more than 100 thousand copies each. They are the Pilot's Weather Handbook; the Aircraft Powerplant Handbook; and the Pilot's Radio Handbook.

A pocket-sized booklet of 100 pages called "Terrain Flying" also has proved a popular FAA publication. This sells for 40 cents and is a compilation of practical advice from "senior local pilots" to pilots flying over terrain with which they are not familiar, such as deserts, mountains, swamps and Arctic regions.

These FAA publications have turned in a total of more than a million and a half dollars to the Superintendent of Documents.

TRAINING DEVELOPMENT DIVISION SPECIALIST PRESIDES AT ATCA CONVENTION LUNCHEON



John K. King, Education Specialist with the Training Development Division, PT-910, is shown addressing a luncheon meeting of the second annual 3rd Region Air Traffic Control Association Convention at the Continental Hotel in Kansas City, Missouri, June 3rd. Listening are (left) Mr. Joe Moraski, BATM, Washington, President of ATCA, and (right) Mr. Henry Newman, Kansas City, FAA 3rd

part of its responsibilities by January 1, 1962, and be fully staffed and operating by July 1962.

Now I have heard these plans and changes referred to by many names. Some have called it a bloodless revolution; others a reorganization, returning to what I thought we should have had all along; still others a genuine shake-up or a seasonal reorganization of the Agency. I hope it is none of these. I like to think of it as one of modernizing the Agency, and pacing and gearing it to the job as it has evolved over the last several years.

A Modern Agency

By using some well-established and proven management principles of Government and industry, I think we will be enabled to provide more responsible, comprehensive and coordinated service in the field, as well as a better management of all the resources. This is a modern age, and we are working with a modern industry, and we therefore must have a modern Agency. It is much easier, more efficient, and makes more sense to resolve operating problems at their operating source, and this we must strive to do. This is not just delegating from Washington to a region; this is pushing the responsibility and the authority for decision right down to the man on the spot, as much as can be done in an Agency this large.

It might appear to you at first that this management philosophy will decrease your authority and responsibility here in Washington. Far from it, in my judgment, it will heighten these authorities and responsibilities. Instead of trying to operate the Agency from here, you will be managing the Agency from here, and that means spending more time on the policy, on the program, on the standards, and reviewing the extent to which the policies and programs and standards you have set are being followed by the men on the spot.

This will take more discrimination. It may thwart those who think we can run anything from a piece of paper at a desk here, but in the real sense, in the true sense of government by people for people, I think this will work better and will be more rewarding, if you get with it. As long as I am responsible to the President and the Nation for the performance of FAA, I must be sure that we have one FAA to run, not your FAA but the Nations FAA; not my FAA, but that of the USA. I hope it is clear to you that as an individual, I intend to run one FAA.

I will continue, I pledge you, my personal effort to improve the position of each service and its employees including technical, clerical, and administrative positions. I know well that each of you, regardless of assignment, plays an important role in the business of this Agency.

I welcome this opportunity to tell you what we are, and how we are going about building a modern Agency together. As President Kennedy said in his Inaugural Address, all this will not be finished in the first one hundred days, nor will it be finished in the first thousand, but let us begin. Let us start to build not only a government agency agile enough, strong enough to meet the challenge of today's jets, but tomorrow's supersonic transports, air buses, and the whole spectrum of general aviation program that we can help bring to this country. The President and the country are looking for a system that will make flying safer and safer, an every-day occurrence, not just for ten percent of the people, but for 80 percent of the people, in a sky made more valuable, more accessible, for the greater good and for the greatest number of our countrymen. This is our job, and we must keep in mind that FAA was not born out of suspicion of man's behavior in the marketplace, or his inability to manage fairly the resources of this country; the FAA from its beginning, as the CAA, was created to help men use their newly found wings more safely, more profitably and more properly, and we have a responsibility to encourage and promote Federal aviation.

We must make this system, and we must make the system we make work. The aviation community, the country, has every right to expect us—they will demand that we do it—and together we will do it as the airways become busier. The aviation community and the country will expect us to develop the kinds of airways, the kind of rulings of the road, that will insure safe passage; they will demand it, and that is our job. There will undoubtedly be some who will wail against the action we take in the common good; there always are. But let us keep in mind that we serve all of the aviation community, all of the people, all of the Nation, and let us build wisely, with understanding, with a sense of humor, but let us build!

Thank you very much.

THE VOICE OF OMNI



The voice of omni has a feminine quality in many areas, for the voice that identifies the VOR used by the pilot, in many cases, belongs to a secretary at the Aeronautical Center.

Helen Tully, secretary to Clark Affleck, the Chief of the Plans and Administration Division of the F and M Depot, has been the voice of the omni for some time now; has, in fact, made nearly 100 of the brief identification recordings for omni stations. These recordings, done in a small studio in the Depot area, have been taped during the last year; made on a basis of need, when a new station is installed or for a replacement.

Helen records the station identification about 10 times on tape. The best taped voice is re-recorded on film and sent to the VOR station. Film has a longer life and better tone quality than tape.

This secretary became the Voice by accident.

Tests were being made at the Center. Ten men and two women were asked to take part. When the decision came . . . it was for Helen Tully's voice.

Alice, Texas VOR is one Helen remembers the most clearly. Perhaps because an FAA pilot recalled hearing her voice when he flew over the range . . . and, then, there's the one at Dallas, or Dogwood, Missouri.

There are more than 600 VOR stations in this country. Helen, someday, may be the voice for most of them.

Helen says, "It's quite a kick and it takes me into a different field than the normal secretarial chores.

So, if you're flying and using the VOR, don't be surprised if a pretty feminine voice gives you the station identification. It'll be Helen Tully, the secretary whose voice is in the "blue yonder."



The accompanying picture shows on the right Miss Grazia Sartori of Rome, Italy being oriented to her location in the United States by June Grayson, International Liaison Assistant.

Miss Sartori was in Oklahoma City on June 14, making a brief tour of the Air Traffic Management and Flight Standards Divisions of the FAA Training Center and visiting Aero Commander. She is a foremost aviatrix of Italy and is most widely known as a racing pilot. Before entering the Powder Puff Derby in July, she is touring the United States to visit such plants as Cessna, Beechcraft, Aero Commander and Piper.

SENATOR MONRONEY GIVES OPENING ADDRESS AT EMEA SYMPOSIUM

On July 24, the EMEA (Electronic Maintenance Engineering Association) opened its first convention at Washington D. C. The EMEA is an organization of FAA electronic technicians and engineers. Senator A. S. (Mike) Monroney, the aviation-minded senator from Oklahoma who currently chairs the Aeronautical and space science committee, agreed to open the convention by delivering the initial address. Senator Monroney has in the past given encouragement to the fledgeling organization, which made it apropos that he would be the opening speaker.

The EMEA, itself, has only recently appeared on the scene. In fact, little more than a year ago it was but an idea waiting to be put to use. Today it is a smoothly operating organization of between three and four thousand members, and which, at its present rate of growth, promises to double in the coming year.

For such rapid growth to come about in any sphere of activity there must be some very compelling reasons. In the case of the EMEA it was the enormous complexity of the equipment with which the modern-day FAA technician and engineer is required to cope. The very life-blood of the present network of airways in the skies above us, consists of millions of miles of wires and electronic components imaginatively entwined into an electronic masterpiece which no one man can begin to comprehend. To keep this network going, and indeed, even, to improve it, the government is annually spending millions of dollars.

One local evidence of this effort on the government's part is the Aeronautical Center located west of Will Rogers field in Oklahoma City. It is the only training center of its kind in the world; being devoted exclusively to the training of personnel concerned with maintaining and controlling airways systems. The personnel who operate the center are drawn from every state in the union and represent all of the many phases involved in maintaining and operating a modern airways system. To aid them in their part in this undertaking the technicians and engineers, who collectively maintain and understand this network, have organized the EMEA.

Even their convention—which event, typically, is thought of as just a good time away from home—reflects their enthusiasm for their avowed purpose. It was in the form of a symposium on electronic aids to navigation. It was held in the Mayflower hotel and ran from Monday, July 24 to Wednesday, July 26.



KEEP YOUR EYE ON THAT COPILOT, HONEY.....HE'S AN OLD NAVY PILOT!

NEW CONCEPT?



If you find two airplanes in the picture above, you will win the jackpot.

Aircraft is one of the major programs at this Center, and when three or four large planes are being worked on at the same time in one hangar, space soon becomes a big problem. This problem was solved by technicians of the Aircraft Division during modification of two small TV-2 planes during the month of June. Since a corner of the hangar was the only space available in which to work on these planes, the tail sections were taken off and the ends of the planes were placed together. This not only served as a space saver, but also cut down on unnecessary footsteps required by the technicians during modification. This situation also served as a time saver which is a vital factor especially at this time of year to accomplish modifications, as well as other programs, before the end of the fiscal year. The modifications of these two planes dealt with APX-25 installation, UHF Hot Microphone installation, relocation of various control heads, and systems evaluation. The technicians who performed the modification were: Claud Dulaney, Thomas Evans, John Whiten, Louis Halbig, Billie Austin, John Donovan, Ralph Chedester, and Warren Brakebill, all employees in the Avionics Branch of the Aircraft Division.

The Grumman Gulfstream, N-702-G executive aircraft used by FAA Administrator, N. E. Halaby, has arrived at the Aviation Facilities Depot for modification of its interior equipment.

With the exception of a couch to seat three persons, the interior work to be accomplished is of a technical nature.

A United Data Corporation data recording system is being installed. This system inscribes a permanent, nearly indestructible record of pertinent data pertaining to the performance of the aircraft. In the event a ship, equipped with this unit, is involved in an accident, the recording may provide information from which the accident causes can be determined.

Other work is electronic in nature. A dual TACAN system, using late model military designed equipment, will provide reliable indication of both distance and azimuth angle from a reference ground station to the aircraft.

A beacon transponder, descendent of World War II identification equipment, will enable the aircraft to respond to a radar interrogation with a strong, positively-identified signal.

The third electronic work item calls for the replacement of the present high-frequency radiotelephone system with one of greater range and effectiveness. The new system, using single sideband suppressed carrier equipment, permits air-ground tie-in with commercial telephone lines. This will allow the Administrator to maintain contact with his office or any Regional office while he is flying the N-702-G anywhere in the United States.

The work at the Depot is being done in the Aircraft Division by the Airframe/Engines Branch and the Avionics Branch.

TOUCH AND GO WITH AF-942

Progress and the passage of time has brought about some personnel changes within the Branch which we would like to acknowledge. The departure of two men who were extremely well liked, and listed among the "originals" of this Branch; Ray DeLong and Harold Murphy.

On the welcoming side; warm greetings to our new and capable Chiefs of Section, Art Holmberg and Joe Motley. Both are already well known and highly regarded from previous associations.



GLEN—the fisherman. Fish caught at Bull Shoals, Arkansas.

EVER SEE SUCH A MESS OF FISH? Giant Blue Gill, Wall Eyed Black and Brown Bass, Kentucky Bass, etc., all caught at Bull Shoals, Arkansas. Anyone want to go fishing with Glen?



ANITA—who is Missouri's best fisherman? When questioned about the size of this blue Cat Fish Mrs. Brockman caught at Lake Ontario, Canada, the typical husband's reply was "Oh that was just an old cat fish". Still looks bigger than those Glen caught.

MEET GLEN C. BROCKMAN, NEW CHIEF OF THE PLANT MATERIEL SECTION, AF-972, PROGRAM MATERIEL BRANCH, MATERIEL DIVISION



GLEN C. BROCKMAN—the boss. Chief, Plant Material Section, AC-972.

"Missouri's Best Fisherman," Mr. Glen C. Brockman, took over his duties at the Aeronautical Center on June 1, 1961, transferring from Whiteman AFB, Warrensburg, Missouri.

If you don't believe Mr. Brockman is Missouri's best fisherman, seeing his "fish" pictures and listening to his stories will convince you. All local fishermen should contact Glen about some of his favorite fishing holes. Seems as though Glen and three or four of his Missouri buddies take off for these favorite haunts several times each year and come back loaded—with fish that is—several ice boxes full. Missouri, Arkansas, and Canada take precedent over other spots for these fishing jaunts. Glen would be interested in comparing "fishing notes" with some of the local talent and hearing about some of the good fishing spots in Oklahoma.

Mr. Brockman's background in aviation began in 1942 when he served in the Air Force, and later, from July 1947 to January 1953, when he worked for C.A.A., first with the Airports Division and then with the Facilities Maintenance Branch, Air Navigation Facilities Division, Kansas City, Missouri. He furthered his association with aviation by working as Deputy Installation Engineer at Whiteman AFB in Warrensburg, Missouri.

Mr. Brockman was reared in Kansas City, Missouri, and received his Engineering Degree from the Missouri School of Mines, Rolla, Missouri. He and his pretty wife Anita reside at

1009 S. W. 54th Street. They have one daughter, Natalie, age 18, who will be a freshman at Central Missouri State College this fall.



These four Depot employees completed Civil Defense instructor courses during the recent Civil Defense Training School in Stillwater. Left to right, they are Robert G. Kasper, Frank B. Folwell, Charles L. Miles and Robert L. Hoffer.

Four Depot representatives have returned from Stillwater where they attended a five-day course aimed at providing basic information necessary for establishment of a well-planned Civil Defense program for the state and nation.

The four, who have been certified as instructors by the Oklahoma Civil Defense Department, are Robert L. Hoffer, FM-910; Robert G. Kasper, FM-974; Frank Folwell, FM-948, and Charles L. Miles, FM-916.

Fifty people from all walks of life attended the course, the only one of its kind in this part of the nation, under direction of Tom Brett, State Civil Defense Director.

Twenty instructors stressed the urgency of developing an adequate Civil Defense program to serve a population which has thus far shown an alarming indifference to the need for civilian preparedness.

A highlight of the school was presentation by Mrs. Ira Raynor, from England, who told the group that without the mandatory Civil Defense program for two years prior to World War II, it was extremely doubtful whether England could have survived the pounding of enemy bombs.

Instructors also emphasized the importance of efficient Civil Defense organizations in times of natural disasters.

Instructors represented the Civil Defense Department, Red Cross, fire departments, the military, U.S. Weather Bureau, public schools and special civilian activities.

FAATC TRAINS 122 RADIOLOGICAL MONITORS IN FY 1961



Pictured here is the eighth class in Radiological Monitoring Techniques graduated by the Federal Aviation Agency Training Center on June 30. A total of 104 Facilities Service Field Personnel and 18 Aeronautical Center employees completed the 40-hour course in FY 1961. The Management and General Training Division directs the training. Qualified instructors from Regional Facilities and the Aeronautical Center conducted the first eight classes.

The FAA is committed to the Defense Department to support the Strategic Air Command, the Tactical Air Command, the Military Air Transport Service, and certain other aircraft operations in the event of a nuclear attack. FAA personnel trained in Radiological Monitoring Techniques would become key figures in the period following attack. The Radiological Monitor's role would be to measure the intensity of nuclear radiation present in or near FAA facilities. He would take meas-

urements with specially designed instruments, interpret these measurements, and make recommendations to management officials regarding the effect of radiation on FAA operating personnel. Certain operating personnel must remain on duty and maintain operational capability of essential FAA facilities in a post-attack period. The monitor would also recommend countermeasures to be taken for protecting personnel and facilities, decontamination procedures, and other related activities. The FAA course is designed to equip those selected as monitors to meet such responsibilities.

James E. Cartwright, Electronic Relief Technician, Anchorage, Alaska, was senior instructor for the eight classes. Other key instructors from the Regions were Troy L. Belkham, Occupational Safety Officer, Honolulu, Hawaii; William A. Langer, Systems Maintenance Sector Chief, Alexandria, Minnesota; and Jack M. Jennings, Systems Maintenance Sector Chief,

Mauldin, Missouri. Instructors Jennings, Cartwright, and Belkham are fourth, fifth, and sixth in the front row.

Credit is also due the many Aeronautical Center employees who conducted certain phases of these classes. Special credit goes to these Emergency Readiness Officers who served as consultants and instructors: W. H. Bond, Officer of the Manager, Aeronautical Center; James R. Daniels, Federal Aviation Agency Training Center; and Thomas W. Collin, Facilities and Materiel Depot.

EMERGENCY READINESS HANDBOOK FOR EMPLOYEES TO BE DISTRIBUTED SOON

In the very near future, a Handbook will be distributed to all employees covering individual actions to be taken during a national emergency. While many Civil Defense pamphlets are available covering a wide range of emergency matters, they do not cover matters peculiar to the Aeronautical Center.

Under the Federal Aviation Act of 1958, the FAA is charged with continued operation of federal airways during a national emergency. This will require the presence, for duty, of many key FAA employees. Other employees, however, will be expected to take cover during an attack and be available for recall to duty as required.

The Handbook will provide employees with suggestions and information necessary for the preparation of family Civil Defense plans. It will also encourage family discussion of considerations which are necessary to their survival in the event of an attack.



Kinda keyed up lately aren't you?

P.M.B. ELECTRONICS SHOPS RECEIVES STANDARDS



William C. Alcorn (left), Chief of P.M.B.'s Modification and Repair Group presents Standard Certificate to Ed Wilson, Laboratory Standards Group Leadman.

To provide a means for accurate electronic measurements, the Electronic Materiel Section (FM-974 of the Program Materiel Branch,) recently installed the first of its Laboratory Standards. Though others are expected in the near future, those received to date will enable P.M.B.'s Electronic Engineering Shops Unit to continue its history of highly accurate work.

Electronic equipment grows more complex with each passing day. The time when an electronic technician or engineer could adjust equipment to approximate values is gone forever; modern electronic equipment demands extreme accuracy in adjustment and measurement.

The need for standards is well understood by the technician and the engineer, but to the average layman, talk of standards may sound like so much technical jargon.

Actually this impression is far from the truth. We all use standards every day. That watch on your wrist is a standard of time—not a precision scientific instrument of course—but it is a standard for all practical purposes of telling time. Try measuring ten minutes without it and see how far off you are.

Our lives are filled with such practical standards: yardsticks, tablespoons, the odometer on your car. These are but a few of the hundreds of practical standards that each of us use every day.

While practical standards may do for everyday living, the requirements of engineering endeavors are much more demanding. The demand of the modern technician and engineer

is for accuracy—he must ask certain scientific questions.

Such a question might be: how *much* is a volt? Technically speaking it is one ampere through one ohm. But this is only a definition. How much is one ampere and one ohm—exactly? Trying to measure exact electronic quantities without accurate measurement standards is like trying to tell time without an accurate clock. True, a sundial will roughly approximate time as a simple electronic meter will roughly approximate electronic quantities. But such measurements are approximate, not scientifically accurate.



P.M.B. Electronics' Laboratory Standards Ready For Use—Equipment like this provides means for highly accurate measurements.

The need for scientific and accurate standards extends into all scientific fields of endeavor. Our entire system of measurement, distance, speed, time, quantities, is based on standards. Most of these standards, called Primary Standards, are maintained by the federal government at our National Bureau of Standards in Washington, D.C. Here is our primary source of accurate measurements of all kinds.

However it would be rather difficult to transport all our instruments to the Bureau of Standards each time calibration was desired. Therefore other highly accurate standards, called Secondary Standards, are made available

by various commercial firms to all fields of science. These Secondary Standards, accurate and delicate instruments, are calibrated at the Bureau of Standards for use in the field.



Impedance Comparator—Accurate and Versatile on the Production Line and in the Laboratory.

A typical example, to illustrate the use of this type of standard, is the Weston Saturated Cadmium Cell. This cell provides a means for accurate voltage measurement.

The use of standards extends far back into the past and is not a recent development. Historically, the Weston Standard Cadmium Cell was developed before 1891 by Dr. Edward Weston.



One of P.M.B. Electronics' Standard Inductors. Standard Resistor and Capacitor available to P.M.B.'s Electronic Technicians.

In use these cells would be maintained in a bank of at least three cells. One cell would be in operational use, one held as a reserve and the third would be sent to the Bureau of Standards for re-calibration. Use of such a standard cell enables the laboratory to accurately calibrate its voltage measurement devices.

The pictures on these pages show William C. Alcorn, Chief of P.M.B.'s Modification and Repair Group, presenting a standard certificate to Ed Wilson, Laboratory Standards Group leadman, and several close-up photographs of typical commercially available standards.

P.M.B. ELECTRONICS SELECTS QUALITY CONTROL STAFF

Quality has always been an important word around P.M.B. In order to maintain quality under a rapidly increasing work-load, selections for the Electronic Section Quality Control Group were recently made.



Dennis Dilday—P.M.B. Quality Control Supervisor.

Chosen to supervise this area of responsibility was Dennis H. Dilday. Mr. Dilday was formerly attached to the Pulse Equipment Group at P.M.B. His official capacity is Supervisory Electronic Equipment Inspection Specialist.



Homer Cones—P.M.B. Quality Control Inspector.

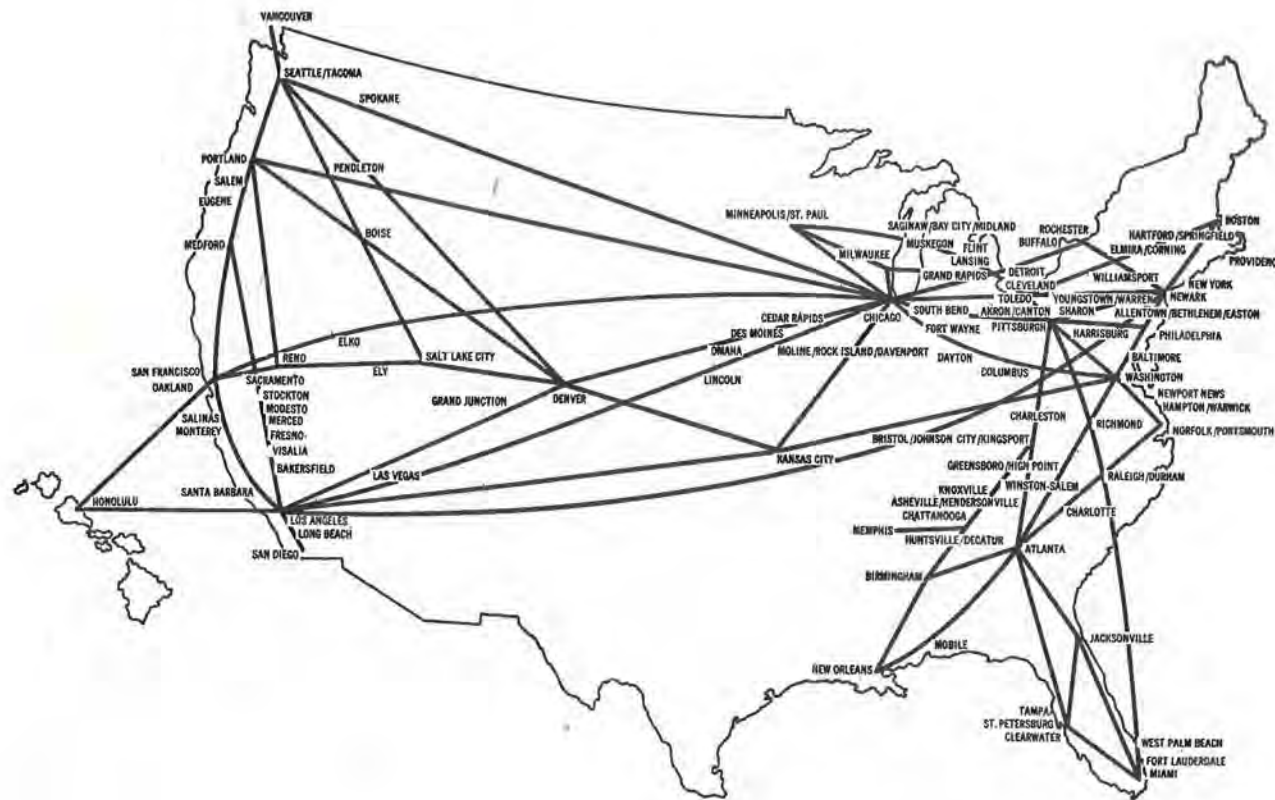
Selected as Inspection Specialists to assist Mr. Dilday were Homer F. Cones, who transferred to the Quality Control Group from P.M.B.'s Communications Equipment Group, and James Gaddie, who came to his new position from P.M.B.'s Fabrication and Installation Group.



James Gaddie—P.M.B. Quality Control Inspector.

Operation of this new Quality Control Group will assure the high standards of material processed by P.M.B.'s Electronic Groups, and will maintain the importance of the word "quality" in P.M.B.

JET GEMS



There has been considerable publicity regarding the consolidation of United and Capital Airlines which became effective during July 1961. The merger is difficult to fully comprehend until we study the route pattern (above) and consider some important factors. The consolidation of two systems makes United the biggest U. S. Airline with a network of 18,000 miles crisscrossing the continent, extending from California to Hawaii, covering the length of the Eastern Seaboard and stretching South Westward to the Gulf Coast. This network covers 114 cities in the U. S. and one each in Hawaii and Canada.

It is reported that United Airlines will use their 38 DC-8's on long haul routes coast-to-coast and to Hawaii. Their 29 720B's will be used on shorter runs such as Chicago to Washington, D. C. The first of the 20 Caravelles

will operate between Chicago, New York and similar runs East of Chicago as they are received. United crews are checking out on Caravelles in Stockholm, Sweden and Toulouse, France and ferrying the aircraft to Chicago through Prestwick, Keflavik and Goose Bay. United will start operating their 40 tail-mounted "Tri Turbine" Boeing 727's in 1963. Upon completion of United Airlines headquarters building, the top level-operations staff of approximately 350 people will move to Chicago. Routine operations, training, electronic reservations, etc., employing approximately 2,000 people will continue in Denver.

The gist of these gems is to point out the manner in which operation of the more productive jets influences extension in airline operations—and when a merger is involved—wow!



It was with mixed emotions that we bade the Holte's farewell at a dinner party held in their honor in O'Mealey's Patrician Room on the evening of July 11, 1961. The room was comfortably filled with Selmer's many friends and fellow workers. The speeches were above average quality; sparkling, short and sincere; and Selmer's response left nothing to be desired—where do these vikings get their wit anyway?

For the benefit of those who may not have heard, Selmer is returning to Washington to head up the Materiel Provisioning Branch, AF-260. During his farewell remarks, being somewhat emotionally overcome by the occasion, he intimated that he would reply to outstanding correspondence now pending at his new post of duty, momentarily forgetting that most of it was from himself.

Selmer was presented with a beautiful Lord Elgin wrist watch (30 jewels—count 'em) and a testimonial scroll—both will have to be seen to be appreciated.

Mrs. Holte was presented with a Sterling Jewel Box and daughter Linda with a Sterling Charm Bracelet.

We shall miss Selmer around these parts and will look forward to his occasional visits in his new capacity.

AERONAUTICAL CENTER TRAVELING EXHIBIT BEING PLANNED



The Aeronautical Center is planning a permanent display to be exhibited this fall at various fairs and schools throughout the country. Its purpose is to acquaint the general public with the activities and objectives of the many different functions operated by the Center. Mark Weaver, the Center's Public Affairs Officer, is in charge of the project.

The display will consist of a model airport surrounded by exhibits prepared by the various divisions of the Center. The electronic "Swami" pictured above is one of the items to be contributed by the Publications and Non-Resident Instruction Division. This illustrates, in a form interesting and comprehensible to the layman, a single application of Digital computer principles.

DIRECTED STUDY PARTITIONS BASIC ELECTRICITY COURSE

DFE-1, Basic Electricity, and DFE-21, Facility Electrical Systems, which have evolved from the original Basic Electricity Course, DS-1, will be ready for release on or about September 1961.

Students currently enrolled in DS-1, and who have progressed beyond Examination 11 will, upon completion of the course, receive a certificate for the full 21 lessons.

The student who has not completed Examination 11 prior to the release of DFE-1 will receive a DFE-1 certificate upon completion of Examination 11 and will be automatically enrolled in DFE-21.

DFE-1 will consist of nine chapters in two groups. DFE-21 will contain ten chapters in two groups.

Purpose of splitting DS-1 is to permit an intermediate study of mathematics before the student attempts the more advanced portions of the course and to cover the broad subject area in two more manageable steps.

IMPROVED VERSION OF DIRECTED STUDY'S DFF-100 COURSE NOW AVAILABLE

As a result of almost a year of intermittent work, the Directed Study Course DFF-100, Electronic Fundamentals and Engineering Mathematics, has evolved into a practically-new course, which incorporates many suggestions offered by former students.

Chapters 1, 2 and 3, the mathematics portion of the course, have been completely written and are now self-contained in three separate volumes. Formerly, these three chapters were essentially study guides, referenced to the textbook "Basic Mathematics for Science and Engineering," by Andres, Miser and Reingold. Personnel enrolling the course after 1 August 1961 will not be required to purchase this supplementary text.

Chapters 4 and 5, DC and AC Fundamentals, have been revised and expanded. Revisions to Chapters 6 and 7 are expected to be accomplished within the next twelve months.

A student enrolling in DFF-100 receives, in his initial package, Chapter 1, (Algebra) and Chapter 2, (Determinants and Logarithms). When Directed Study receives his Examination 1, based on Chapter 1, it is immediately graded and returned to him, along with Chapter 3, (Trigonometry), and a special supplement containing symbols, tables and formulas used in the course. A new chapter is returned with each graded examination until the course is complete. In this manner, the student is assured of having sufficient study material on hand at all times.

DFF-100 originates in the Publications and Non-Resident Division of the FAA Training Center. It is administered by the Chief, Navigational Aids Section.

DIRECTED STUDY OFFERS DIGITAL COMPUTER COURSE

On 1 August 1961, the Publications and Non-Resident Instruction Division will release DFD-42, a new course on Digital Computers, complete in twelve chapters.

Prepared in the Electrical Systems Section of Directed Study, DFD-42 is an advanced course, which presents all phases of digital computer technique in a general but comprehensive manner. Particular emphasis is placed on machine mathematics and computation circuitry.

The prerequisite for this course is the successful completion of DFD-41, Introduction to Computers.

UNITED FUND SOLICITATION FOR FEDERAL AGENCIES TO BEGIN AUGUST 15, 1961

The Annual United Fund drive for the Greater Oklahoma City Area will commence on August 15, 1961, within Federal agencies. The Federal Agencies Division has chose to begin its drive somewhat in advance of the October 2, 1961, date which will mark the beginning of the drive by other divisions. It is expected that this earlier consideration of United Fund giving will permit more deliberate decision by employees regarding the support which they will make to the fund. Also the success of this division will serve as an example to other participating divisions.

Perhaps it would be well that the purpose and objectives of the United Fund organization be reviewed. The United Fund organization consists of a small local staff with an administrative cost of approximately 3% of total fund receipts. This small staff monitors the programs of participating organizations to assure that they are active and are in fact meeting a major need of the community. Also they provide for an integrated national United Fund effort as well as direction for the local campaign.

Fund participants consist of some 32 local Health and Welfare agencies, some with national scope and others of local origin. Budgets of participating organizations are reviewed for validity by the United Fund Budget

Committee comprised of local citizens. Criteria for accepting a budget requirement are perhaps far more exacting than for many large civic and industrial type organizations. Final allocations of funds to participants are thus based on well documented programs but funds are provided only to the extent that the participant is unable to finance his total program from other resources available to him.

The official United Fund "fair share" objective is one hour's pay per month or one and one-half days' pay per year. Federal agencies have generally established a goal of one-half day's pay for each employee. The effect of this lesser goal has been that while federal employees usually have attained their United Fund goal, they have the lowest per capita contributions among comparable divisions. This is illustrated in the chart below:

DIVISION	PER CAPITA
Federal Agencies	\$ 8.21
Local Government and Schools	8.82
Manufacturers and Petroleum	9.47
Retail and Wholesale	10.31
Public Services	10.94
Finance (Insurance Companies etc.)	14.91

It would be nothing less than fair that federal employees review their plans for giving for the coming campaign. In reviewing our plans for contributing we should consider the use of the "pledge" method. This permits a number of small contributions for a total pledge rather than one large contribution given at one time. Divisions with the highest per capita contributions generally have a higher percentage of pledge givers. Over 50% of the total United Fund receipts are received from pledges.

Details of Project "Early Bird," the Federal Agencies United Fund Drive, will be forthcoming in the near future. You are urged to consider the pledge as a means of increasing your contribution or for lessening the impact of a single contribution.

Giving is a personal thing. However, through regular approved Federal employee solicitations, you are permitted an opportunity to make giving one deliberate act, not several, which require frequent and oftentimes instantaneous decisions. Finally, the breadth of your giving is expanded. A greater number of dedicated humanitarian organizations are reached from which a greater pride in giving may derive.

CENTER UNVEILS LANTER MEMORIAL



Sculptor Leonard McMurray and Lewis Bayne, Center Manager, inspect Plaque.

There is a bronze plaque now on the marble lobby wall of the Administration Building at the Aeronautical Center. It is a bas-relief of the man who dreamed of such a place as the Center; helped bring it into being before he died.

The plaque is of Fred M. Lanter, Director of the Aeronautical Center from 1947 until his death June 29, 1960.

Shortly after his death the Aeronautical Center Employees' Association set up a Fred M. Lanter Memorial Fund, contributions to go toward some appropriate memorial. Contributions were many and from far away places, other regions and Washington.

At the ceremony in the Center Auditorium, the present Manager, Lewis Bayne, talked of Fred Lanter, his life and his accomplishments; said, in part, "In some respects this memorial plaque is superfluous—this building in which I stand and those which surround it are and of themselves a monument to Fred Lanter. This plaque merely serves to identify the monument with its founder."

At the unveiling of the plaque were those who had worked closely with Fred Lanter, such as Stanley Draper, Director of the Oklahoma City Chamber of Commerce, two former Oklahoma City managers, Sheldon Stirling and Bill Gill, Junior; Philip Rhodes, Vice-President of the First National Bank; Ralph Ball of the architect's firm which designed much of the Aeronautical Center's buildings.

Sculptor Leonard McMurray watched as Harry Donceel, former president of the Employees' Association and Dick Wenzel, the current president, unveiled the bronze plaque.



Mr. W. M. Matthews, Aircraft Division Chief, (center) presents 20-year Service Pins to two employees of Engineering Branch. Mr. Lawrence Grigsby (left) and Mr. Ted DeWitte (right).



Mr. W. M. Matthews, Chief of the Aircraft Division, AF-930 receiving his 15 years service pin from Mr. R. W. Pulling, Manager of the Facilities & Material Depot.

SON OF VOR INSTRUCTOR RECEIVES TWO DEGREES

Kenneth H. Gerred, son of "Mike" Gerred, graduated on June 10th from the University of Maryland. At this time he had conferred upon him both a Bachelor of Science in Electrical Engineering (B.S.E.E.) and a Master of Arts degree.

Mr. Gerred obtained his degrees as a culmination of five years of effort in a combined correspondence and residence engineering program. His college work was pursued while he was employed with the Navy department and upon graduation he accepted a position at the Patuxant River Naval Air Station.

Some idea of the difficulty encountered in this accomplishment can be obtained when it

is realized that Mr. Gerred is married and has three children, the latest of which arrived just prior to his graduation. Quite naturally his father "Mike," here at the Center, is justifiably proud of his son's achievement.

PLANTS AND STRUCTURES SECTION BEGINS ADVANCED COURSE

The Plants and Structures Section of the Communications Equipment Branch has recently initiated an advanced Electro-mechanical course. The Course was organized and put together by Dean Merilatt, Howard Barnum, Walter Sims and John Stanley. Stanley was on temporary loan from the *Air/Ground Communications* Section of the Communication Equipment Branch for the duration of the project.

Since its inception here at the Center, the Electro-mechanical section offered but one basic 12 week course. This course necessarily dealt with the fundamentals of engine generating units, air conditioning systems, lighting systems and other such equipment which the technician would be expected to encounter in the field.

However the electro-mechanical technician soon began to feel the same pinch that his brother technicians in the electronics area were already aware of. Equipment that in another era was simple and straight-forward was becoming huge and complex. Each time a new demand for greater versatility or dependability was made upon the designer the result was transmitted to the technician in the form of new and novel circuitry—and in some cases entirely different equipment.

A case in point are the new light lanes. These are commonly thought of by the unsuspecting as being simply a line of light bulbs on poles. A quick trip out to one of these sites would probably surprise anybody holding this viewpoint. To interposition a personal experience here, in a recent conversation with a commercial pilot who had just made a landing in low ceiling weather, the high intensity light lane received praises formerly lavished only on the other navigation facilities. To make this self-same light lane possible requires some fairly elegant electronic devices. And this is but one of several types commonly used by the FAA.

Because of this modern need for the electro-mechanical technicians to have more diversified

talents it became necessary for the Electro-Mechanical Section, here at the Center, to develop this entirely new course to meet these demands. The full course is 18 weeks long and is divided into two parts. The first part consists of 12 weeks of advanced theory of systems units in general. Following this there are two options of three weeks each. These two options will be alternated with different classes, according to regional needs, and will be selected from the four options which the Electro-Mechanical Section is prepared to offer. These four are:

1. Structures and grounds systems.
2. Air conditioning systems.
3. Electric power generating systems.
4. Visual navigational aids systems.

The first class started on May 29 and this and subsequent classes have a normal complement of about 20 students. More options will be added at a later date, if and when the need occurs.

IT'S A LONG HIKE TO SCHOOL

The Plants and Structures Section is currently conducting a class on the 550 kilowatt diesel engine generator used by the FAA at large stations. This in itself is not unusual. Their very pulse beat is synchronized to the roar of their diesels. What is disturbing is that there is not a 550 KW engine generator available here at the Center. They are not portable. One cannot pick up the phone and ask for a unit casually such as, say, a box of paper clips might be ordered. Indeed, even if one could, several square feet are required for storage space. Even several times over several.

The dilemma was resolved by sending both the instructors and the students to the machinery. Fortunately an Air Route Traffic Control Center (ARTCC) is being built at Olathe, Kansas and one of the constituents of this assembly is a 550 KW diesel engine generator; which generator, by the way, is installed and ready for duty; which the ARTCC, by the way, is not.

At the present time Gerald F. Wakefield and Raymond E. McCormick are holding the classes on temporary additional duty—they really don't have to walk that far every morning! The classes are 3 weeks in duration, and the final scheduled class will end September 1, 1961.



Don Morris and Bill Dickey, the two section chiefs of Facilities Flight Check Data Processing Center received quite a shock upon returning from their vacations. A new organizational chart was lying on their desks. A complete reorganization of the Data Processing Center had been effected during their absence. Not only had they not been consulted about the reorganization, but it wasn't to their advantage. One was heard to remark, "It certainly doesn't pay to take off." A good laugh was had by all, and a sigh of relief from Messrs. Morris and Dickey, when it was revealed as a joke.

CENTER WINS TREASURY FLAG

For the third year running the employees at the Aeronautical Center have gone over the top in the United States Savings Bond Drive.

It takes at least 90 percent of the personnel in any industry or agency to have the honor of flying the Minuteman Treasury Flag. When all was tallied this year more than 3-thousand employees had joined the Savings Bond Payroll Plan. Total, percentage wise, for the Aeronautical Center was 90.2 percent.

The highest percentage tallied was that shown by the FAA Training Center. The Director's staff, Technical Services Division, Training Development Division and Non-Resident Instruction Division chalked up 100 percent. All others were well above the 90 percent requirement to put the Training Center at the high percentage of 95.7. The Office of the Manager and the Facilities and Material Depot both passed the 90 percent point.

Appropriate certificates will be presented to the divisions and the Flag to the Center sometime in late September.



Lt. Governor George Nigh presents Legislature's Resolution to Employee Association President Dick Wenzel. Left to right in the picture, Warren Brakebill, vice-president of the Association, Lt. Governor Nigh, Wenzel, and Association Secretary Peggy Bennett.

Oklahoma's House of Representatives paid tribute during its legislative session to the 16 organizations and 19 colleges who sponsor an annual essay contest on "Hire the Handicapped."

Among the organizations who offer government bonds as prizes for the winning essays is the FAA Aeronautical Center Employees Association.

The House of Representatives passed a resolution praising the efforts of these organizations and colleges; a resolution which said in part: "One of the most effective means of acquainting the public with the program of hiring the handicapped has been through the

annual essay contest for highschool juniors and seniors."

The resolution added that "more than four thousand students, representing 179 schools, enter this contest . . . and this has resulted in increased interest to such an extent that more employers are giving handicapped workers increased job opportunities."

The Aeronautical Center Employees Association presents a \$100 bond to one of the winners each year.

Receiving the House of Representatives' Resolution from Oklahoma Lieutenant Governor George Nigh, is Employees' Association President, Dick Wenzel.

MAXWELLS TOUR EUROPE

Ray and Lia Maxwell have just returned from a vacation trip that leaves the realm of every-day-vacationing that most of us are afforded an opportunity to take — they have visited Lia's mother and father who live in the XX District of Vienna. (Ray is with FS-910, Facility Flight Check Field Office — Intermediate).

This area was under the Russian sector during the occupation, and Lia was living there after the war, under the Russian occupation, and the memories of this period of time are not very pleasant for her.

The Maxwells departed Idlewild Airport via Pan American DC-8 on Sunday night June 11, and arrived in Frankfurt, Germany at 9:15 A.M. Monday morning. They were met at the airport by Mr. and Mrs. John Baird. John was formerly with the High Altitude Facility Flight Check Field Office (FIFO-H). They flew to Berlin with Mr. Baird in the C-47 Flight Inspection Aircraft which is stationed at Frankfurt, and made several different tours of Berlin, including the East-West Berlin Tour, which took approximately 2 hours by bus. Berlin was 80 percent destroyed during World War II, and today West Berlin is approximately 95 percent restored, while East Berlin appeared to them to be 50 percent restored. They report West Berlin is a truly beautiful city now and the people there seem to be very happy.

After three days in Berlin, they returned to Frankfurt and spent the night with the Bairds, then took the Lufthansa German Airlines Con-voir 440 to Vienna, Austria.

Vienna, Austria is now a neutral country, having been occupied by the Americans, Russians, French, and English until 1958. They spent 10 days with Mrs. Maxwell's parents and took several Vienna tours before going to Salzburg, Austria for 5 days in the famous mountain and lake vicinity of Salzburg and Bertchesgaden, Germany where Hitler built his famous Eagles' Nest. They reported this tour as being very interesting and also educational. They rented a Volkswagen for the 5 days and paid \$9.00 per day, plus 70 cents a gallon for gasoline!

They returned to Vienna by train and stayed with Lia's parents until July 13. Their flight home was by Pan American 707 Jet—1 hour to Frankfurt, 1 hour to London, and 6½ hours to New York.

They took several rolls of 8 mm movie film, and several rolls of box camera film on the trip and have loads of wonderful memories of the people in Europe—and incidentally their splendid cooking.

Ray particularly urges everyone who finds it possible to take a tour of Europe. To get acquainted with all those wonderful people and seeing their country will enable one to better understand their way of life.

INTERESTING PERSONALITIES



"Prestidigitator"

A "nimble-fingered" individual works in the Administrative Services Div., Aeronautical Center's Print Shop. He's a magician! This is 31-year-old W. L. Hardaway who started his career with the FAA January 23, 1961, as an offset press operator. He was born April 11, 1930, in Oklahoma City. He is the son of W. L. Hardaway, now deceased, and Mrs. Edith Mae Hardaway, Registered Nurse, 3705 North Linda Street, Oklahoma City. Like his namesake who was a letter pressman, printer's ink got in his blood early in life. He attended Hawthorne Grade School, Taft Junior High School, and graduated from Central High School, Oklahoma City, in 1948. For three semesters he was Chaplain of the Black Shirts Pep Club. Under the tutelage of B. H. Thomas, Printing Trade Instructor, he completed five semesters of 3-hour-a-day classes.

He worked for two years for the Oklahoma Paper Company as letter pressman where he

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earned the nickname of "Tricky." Greeted with the question "How's tricks?", he answered "pretty tricky." A two-year bout with an illness took him to Mayo Clinic, Rochester, Minnesota. This did not still his "nimble-fingers" for he performed magic tricks for the nurses anytime he could get an audience. He spent his hospitalization time at Mayo by writing letters to servicemen from his church. He kept them informed on the current news of members and friends.

He worked for Allen's Litho Printing Company as an offset press trainee where he also learned the printing photographic process. He was Manager of the Oklahoma Farmers' Union Insurance Office printing shop. Later, he worked for the Post Office in Oklahoma City.

His 10-months residence in Huntsville (Redstone Arsenal), Alabama, only sharpened his curiosity into the mysteries of rocket science. Circumstances forced his return to Oklahoma City where he worked for a wholesale grocery company.

W. L., as he is known to his friends, resides at 6901 Ashby Terrace, Cloverleaf Manor, Oklahoma City. His wife, Mary Frances, works in the IBM Key Punch Data Processing Branch of OMB at FAA. Their two sons, Terry Mark, 4½, and Robert Daniel, 3, already imitate their father's tricks. Terry shows an active interest in magic and already has two or three "tricks up his sleeve." Danny acts the "straight man" and watches his brother and father perform or hands them the tricks as they progress into their program.

When approached as to how a printer, a prestidigitator, and aviation are related W. L. stated, "all are methods of communication for a specific purpose." He stated he could not remember when he first became interested in the art of magic. He does remember being an overly-curious boy and had to know the "why" of things. His father brought home puzzles and tricks a barber friend had made for him. He "managed" to see all magic shows coming to Oklahoma City and rushed home to duplicate what he had seen. He spent hours trying to decipher the baffling ones.

Unlike some teen-agers dashing from school to congregate at hamburger drive-ins, the corner drug store, the music shop, or even a beatnik pad, he rushed to the local magic novelty shop. He started out by buying small pocket tricks. Gradually, he worked up to the larger and more complicated tricks. His finger

dexterity was perfected through the practice of puzzles which contain some little secret without which no solution is possible. Aptly-named puzzles worked by apprentices usually are the mysterious triangle, the devil's keys, the Chinese ladder, and the blocks of desperation.

A professor of physics and a surveyor made a fortune out of magic only to lose it later in aeronautical experiments. Blackstone, the lawyer, became famous as a magician. A school teacher bored with the classroom became a wizard of magic feats. One magician coined a word that is now an active verb (to houdinize), and was the greatest of all escape artists. Several women have become popular illusionists. A Mathematics Professor at Pennsylvania Military Academy went on stage as a magician.

One would be surprised as to how many different occupations the Local Magicians group have. They range from doctors to bookkeepers, and even include a couple of lady "magiceens" as they are often called.

Our English word and idea for magician found its way into Latin in the form of Magus from the Persian (now Iran) title. In Mesopotamian (now Iraq) dialect the magical priests were called "Imga," which changed to the Assyrian "Maga." The high priests were called Rab-Mag. As the word has come a long way, so has educating the people to the art of magic.

Mr. Hardaway does not always use a top hat, cape, and a cane as "props" for his performances, but he has a cane that turns into a silk scarf. He can take five double-edged razor blades and a piece of thread into his mouth and upon reproducing them, the razor blades are tied upon the thread and without any harm done to himself. He states he is not a practical joker himself, but he enjoys fooling people. When he asks for audience participation he usually "sounds" out several so that he will pick one that seems to be a good sport because the joke will be turned on him.

He has mastered his own version of an atomic bomb and the mushroom effect can clearly be seen. Instead of a satellite he has an aluminum sphere that seems to have a mind of its own and tries to defy gravity. The magicians have named it the "Zombie," because of its weird characteristics. He has a radar pencil which can locate a certain object, and it writes too.

Hardaway is a member of the Western Hills Baptist Church. He uses his magic to work for his church, and gives some object lessons

with magic. He illustrates the miracle of water changed into wine by pouring "water" from the pitcher to a glass, the liquid turning red when it reaches the glass. The admonition "go and replenish the earth" is illustrated by the production of a rabbit from a drawing. Some of the articles (props) used for church groups consist of a minister's deck of cards. Some of them have printed scriptures, but one has a picture of the Messiah, which is drawn every-time a participant is asked to pull a card from the deck.

Along these lines, another hobby is that of selling sacred records. He is the Community Representative of the American Library of Sacred Records. These consist of more than 400 songs by the world's great Christian artists on high fidelity long-play albums, family devotions, records of Bible history, the Talking Bible, Scripture Memory, and Children's Bible Stories and Songs. There are audio Bible Studies presented by such great names as Donald G. Barnhouse, Bob Jones, and others.

W. L. is available to banquets, parties, clubs, picnics, and will entertain from 15 to 45 minutes at tailored prices everyone can afford. Because of his full time job as a printer and his many interesting hobbies, he remarks he is "always going around in circles and some day may go into orbit."



The stockroom of Administrative Services Division's Office Services Section underwent "project housecleaning" during the past month. One of the results is show above with Section Chief E. G. "Pop" Holdren and Juanita Whitehead standing at the nine units of shelving containing local Aeronautical Center forms. Formerly the supply retained in the stockroom required 43 units of shelving, a reduction of 34 units being accomplished.

This resulted from screening 800 local forms by the Forms Management Staff to determine whether they (a) should be canceled or (b) transferred to the using office if exclusive-use forms instead of being stocked in the Office Services Section. The result—171 forms canceled, 597 transferred, 12 retained and 18 forms still being analyzed.

Screening of administrative supplies also is under way and a new Administrative Supplies Catalog is in process of preparation.



Screening Aeronautical Center Records by checking contents of records boxes with shelf lists and authorized disposal schedules are Administrative Services Division employees Ken Hood, Mail & Messenger Section and Asia Krause, Forms and Records Management.

A total of 165 boxes were shipped to the Federal Records Center, Fort Worth, Texas—106 being Accounting Division records, the majority of which were site audit records; 46 were from the Program Materiel Branch and 13 from the Operating Materiel Branch of the Facilities & Materiel Depot.

Retained in storage at the Center were 236 boxes of records, again mainly site audit records that will be retained until cleared by on-site audit of the General Accounting Office. These include 121 boxes of purchase orders, invitations for bids, and procurement requests of the Procurement Branch; 29 boxes of procurement requests, work orders and invoices of the Operating Materiel Branch; 15 boxes of incoming and outgoing invoices of the Program Materiel Branch; 69 boxes of Accounting Division records; and 2 boxes of purchase orders of the F&M Training Division, FAA Training Center.

FISHING IS FOR MEN

By Otta Noe

There is a canoe reposing majestically on the highest rafter in the darkest corner of our attic—out of sight; supposedly out of mind.

It was a sad looking piece of equipment the first time I saw it. One rib was cracked, the seat was broken, and there was a hole in one end. My enterprising husband bought it for \$10.00 from a "friend." The men of the family retreated to the workshop and spent countless hours patching the seat, repairing the holes and covering it from stem to stern with fiberglass. Canoes were completely foreign objects to me, and this seemed to be an especially fragile craft. I have always preferred flat bottomed row boats operated within swimming distance of land. Had I known what I know now, I would have invaded the "closed shop" and looked over this ship with rapt attention.

As soon as the fiberglass had hardened (and consequently increased the weight of the canoe by about 30 lbs.) the fellows started planning a float trip down one of Missouri's scenic and fish-laden rivers. The idea of floating down a river on a Sunday afternoon sounded romantic, but I figured the men folk of the tribe would take a dim view of a would be female outdoorsman.

Weekend was selected for the float down a stretch of the Castor River approximately 25 miles long, according to the map. It was planned to launch on Saturday morning early and arrive at the destination—a town with the unforgettable name of Zalma—by 5:00 that evening. At the last minute my brother-in-law was called out of town, and undaunted by such a mishap, my husband decided to take me in his place. It sounded like a grand holiday—floating down a lazy river, fishing as we went, soaking up a suntan, picnicking on a shady bank, etc., etc., etc. . . .

The alarm went off at 3 A.M. We packed our gear—2 tackle boxes, a minnow bucket, seine, cooler, picnic basket, grass mat (for keeping ants out of our picnic) rifle, pistol (thar's bar's in them thar hills!) three rods, paddles, suntan lotion, flash light, food and towels into the car, tied the canoe on top and set off for the river.

We loaded our gear into the canoe and shoved off just as the sun peeked up over the eastern horizon. It was cold for July, and over

our swimming suits we wore blue jeans and sweaters. A gay goodbye was waved to the folks who were to pick us up that evening at Zalma, and we were off. It looked like a glorious day for the trip.

One half minute after we shoved off our difficulties began. It took that long for my husband to discover that a canoe and his wife were incompatible. Somehow with a paddle in my hand I became completely uncoordinated. An oar I could handle reasonably well, but that paddle would not conform to my wishes, and our relationship was not to improve noticeably during the hours that followed.

We rounded the first bend in the river, and there across it lay a tree that would have served well as a footbridge. Our 100 lb. canoe plus the ton of cargo we were carrying just wouldn't float over. However, being staunch frontiersmen, we decided to go on. The water was icy cold, plus being very wet, but luckily was low enough to stand in, and with the male half of the crew pulling and the female half pushing, somehow the canoe was dragged over intact.

Beyond the tree was a pool, deep, cool and lovely. We spent some time seining for minnows, and when our bucket was sufficiently full, started off again. Around the next bend was a herd of cows, kept in their private wading pools by a fence constructed so as to completely block the stream as well as keep them at home. Again we pulled and pushed the canoe over the obstacle, taking care not to disturb the bathing beauties who were regarding us with mildly disinterested and rather superior gazes such as one might bestow on transients of undesirable character.

From that point on our float trip became a "tote" trip. Every 100 yards or so a tree blocked the stream, or the stream itself became so low that the canoe simply wouldn't float. In between these barricades the river ranged from deep, quiet pools to miniature rapids.

In the pools I managed fine. I could paddle on either side without danger of straying us too far off course. But in swift water I was at the mercy of the elements. Thank whatever angel watched over us for the foresight of the men folk in covering the canoe with fiberglass, for though my husband hollered directions calculated to keep us one piece, if I followed them

correctly, somehow I managed to run us aground on every possible rock, tree or sand bar available.

By noon we were pooped. Our canoe was full of water which we had dripped and sloshed in from our repeated dips into the river. We beached to have our picnic and empty the boat. The flies were just as hungry as we, and three times as energetic. The sandwiches were soggy, the contents of the canteen hot, and all gear in the canoe thoroughly soaked. We had had it. But there we were miles from anywhere with no choice but to repack and take off toward trail's end. Surely things would improve downstream.

We found a large pool and stopped to fish for the first and last time during the trip. To my husband's chagrin, the only fish caught was by the novice of the crew, and it was to come to a sad end later in the day. We forgot to pull him in before hauling the canoe over some rocks, and—he got squashed.

By late afternoon I was only a passenger. Somehow we had managed to drag, haul or dump the canoe over or through the trees—which I forgot to mention were usually covered with daddy long legs. There is nothing to compare with having two or three spiders drop gently on you while you are helpless holding one end of a boat up in the air. After I had been duly reprimanded for dropping my end during the first few of these encounters, I even gave up screaming when they dropped on me. Though I dreamt of spiders for many a night thereafter, at the time I was too pooped to even shiver.

The sun was setting when we noticed that several other boats were heading in toward shore. One of them called to us asking if we were going to Gypsie. "Gypsie what?", we called back. "Gypsie Bridge," was the reply. We assumed that this must be a bridge near Zalma.

Exhausted, we pulled the canoe out of the water at the bridge and began to look around for the folks. The car wasn't in sight.

"How far is it to Zalma?" we asked.

"By water or road?"

"Both."

"By water about another day's float, by road about 10 miles."

And there we were. So near and yet so far. No one offered us a ride to town, and as we had a mountain of gear as well as the canoe, we were stuck. The sun was setting, the people

had all left, our clothing was soaked through, we were sunburned from top to bottom, mosquito, spider and fly bitten and dog tired.

We built a fire and hung our clothes on a piece of fish line to dry. We still had a few sandwiches from lunch which we polished off in no time at all. I laid down and went to sleep.

About 8:00 that evening my husband decided it was time to take some drastic action. He was going to walk to Zalma. I waved him a goodbye, then clutching the pistol and flashlight in my grimy little hands, believe it or not, I slept like a baby there in the heart of the Missouri Ozarks.

Sometime in the wee hours of the morning I heard a car. The rescue squad had arrived brought by the hero of the day, my dead tired, long suffering husband who had already succumbed to the call of the night and was fast asleep in the back seat of the car.

EMPLOYEE ASSOCIATION PICNIC SLATED AT WEDGEWOOD, AUGUST 12

A hungry throng of approximately 1,500 employee association member and their families and guests are expected to take advantage of special discount prices at Wedgewood Park, Saturday, August 12, at the Employee Association annual picnic.

Picnic tickets for members and their immediate family are 75 cents; for non-members and guests, \$1.50.

A special price for riding all Wedgewood rides, with the exception of the Tornado, from 1:00 to 8:00 p.m. will be \$1. Discount prices at the swimming pool of 50 cents for adults and 25 cents for children will be in effect.

Hick'ry Pit will cater as they have in the past, serving barbecued chicken, ham, slaw, etc., from 5:30 to 8:00 p.m. You can "pitch 'til you win" by going through the line again for seconds, if you just hang on to your plate given you the first trip.

EMPLOYEES ASSOCIATION FALL DANCE AT ZEBRA ROOM, NOV. 3

Preliminary arrangements were made at the July meeting of the Employee Association board of directors to schedule the fall dance in the Zebra room, Friday night, November 3.

Advance commitments were necessary to secure the Zebra room and orchestra on the same date. Ray Davis will furnish the music.

WE CAN ELIMINATE ACCIDENTS

by
Wes Chesnut

In this age of high speed and way-out technical advances, no one stops to question the need for effective safety programs. Both Federal and State Governments have endorsed far-reaching safety procedures. We have both national and local safety programs. Millions of dollars are spent each year in an effort to halt accidents.

Yet, in the fact of this, accidents continue to happen. As our society grows more complex, as our lives become more complicated, our accident rate climbs. This complexity or complications has now reached the point where our very lives are threatened.

It is not intended herein to list a multitude of involved "do's" and "don'ts" but rather to present to the reader a new *point-of-view* concerning accidents. The time spent will be well worth the effort.

Generally speaking, everyone believes in safety. No one wishes to be involved in any kind of an accident. Yet, most people only talk about safety—very few actually do anything about it.

For example, the value of seat belts in automobiles has been proven beyond any doubt. Every day we read the words, "Victim was thrown from the car which rolled over him." So safety seat belts do save lives. Still, how many automobiles are equipped with these devices? Not one in ten!

Often it has been stated that accidents stem from a variety of causes. While this may be technically correct, it is certainly not the basic truth. Holding such a conception of accident causes indicates that one has not looked deep enough into the problem—only the surface truth has been seen.

The basic truth concerning accident causes is a simple one indeed. *All accidents stem from one cause.* While this may seem to be an astounding statement, it is the actual truth.

The one, uncomplicated and uninvolved, cause of every accident is faulty habits.

Do not confuse this very human cause with the technical cause of accidents. The fact is that faulty habits lead to technical causes. Eliminate these habits and accidents will become a thing of the past, and these habits are human and thus controllable.

Take the case of the victim who slips on a banana peel—there are two faulty habits involved here; one, the individual who is a habitual litterbug, and, two, the victim who was not watching where he was walking. Both were involved. The accident resulted from *human* causes, not from the banana peel. You cannot place blame on a banana peel.

Again, consider automobile accidents. All stem from faulty human habits—turning incorrectly, failure to signal, passing on a hill—all these and more. All are habits. All are faulty human actions.

In any accident involving a human being it will be seen that the basic cause was a faulty habit. All the various safety devices designed by man, from the signal light to the pin cushion, are designed to protect the human being from his own faulty habits, whether it be driving without looking or carelessly handling sharp pins.

If this, then, is the real truth, it most certainly behooves us to do something about these habits. While federal and state governments have made accident prevention their active concern, the problem of prevention is actually the responsibility of the individual because it is the individual who gets hurt.

The state trooper who investigates an accident may spend state time and money in his investigation, but it is the victim, the individual, who bleeds, who screams with pain, who dies. And all because of some faulty habit.

What then must we do? The answer should be clear. Habits are not inflexible—we make them, we can break them. We must break them. Our lives depend upon it.

Yet, because most of these habits are unconscious, the breaking will be difficult. First they must be found by a thorough examination of our daily lives, from turning a screwdriver to pushing the power mower. Then we must willfully break whatever faulty habits we find.

Likely we will discover that carelessness and inattention is one of our worst habits. Carelessness with a power mower can be disastrous.

It will not be an easy task to correct all these bad habits, but it will certainly be worth the effort. No one can deny that!

AIR TRAFFIC MANAGEMENT TRAINING GRADUATES

T-302-61-14

James V. Beardsley.....Washington Center
Harry R. Brinkman.....Indianapolis Center
Guido C. Cordova.....New York Center
William H. Craddock.....New York Center
Shirley L. Croushorn.....Washington Center
James B. Dawson.....Washington Center
Donald H. Dinwiddie.....Indianapolis Center
Herven P. Exum.....Washington Center
Harold W. Garrett.....Indianapolis Center
Harvey O. Gee.....Indianapolis Center

Marshall M. McNair.....Indianapolis Center
Gale A. Morris.....Indianapolis Center
Howard C. Neely, Jr.....Cleveland Center
James L. Paradis.....Cleveland Center
Ronald L. Ricketts.....Indianapolis Center
John M. Stuck.....New York Center
Jimmie D. Taylor.....Indianapolis Center
Jaques J. Wagner.....New York Center
Edward J. Yockey.....Indianapolis Center

T-302-61-15

Deaver C. Carr.....Washington Center
William D. Conklin.....Chicago Center
Donald R. Gradecki.....Chicago Center
William Green.....Norfolk Center
Richard C. Grube.....Chicago Center
George A. Lanstrum.....Washington Center
Franklin D. McInerney.....Chicago Center

George Michaels.....New York Center
Robert C. Mickelson.....Chicago Center
John P. Ogle.....Cleveland Center
William J. Plasch.....Chicago Center
Thomas J. Price.....Cleveland Center
Jerome K. Schmitt.....Chicago Center

T-302-61-16

Fred L. Barnes.....St. Louis Center
Robert N. Border.....Oakland Center
Thomas R. Esposito.....Detroit Center
John H. Green.....St. Louis Center
Clyde Haag.....Kansas City Center
Kurt C. Hennig.....Oakland Center
William L. Johnston.....Kansas City Center
Tam T. Justice.....Washington Center
Gerald F. Kleine.....St. Louis Center

John W. MacNamara.....Detroit Center
William F. McGeehan.....Oakland Center
Robert Mitchell.....Oakland Center
Gerald Musselman.....St. Louis Center
Joseph Sangiuliano.....Oakland Center
Sherman W. Smith.....Oakland Center
William L. Stout.....Kansas City Center
John G. Weber.....Detroit Center

T-302-61-17

Leonard E. Bishop.....Chicago Center
Noble G. Cantrell.....Denver Center
Floyd Carter IV.....Chicago Center
Walter W. Claxton, Jr.....Washington Center
Harry M. Davison.....Denver Center
Robert C. Greenfield.....Denver Center
Charles W. King.....Washington Center

Carl C. Kavalle.....Chicago Center
Clark G. Lowry.....Chicago Center
Marvin L. Moeller.....Denver Center
Carroll A. Pearson.....Denver Center
Stanley A. Rudd.....Chicago Center
James L. Trumble.....Washington Center

T-302-61-18A

Donald E. Bloomer.....New York Center
John M. Clawson.....Washington Center
James D. Daly.....Indianapolis Center
Anthony DiGiacomo.....New York Center
Rex A. Dixon.....Indianapolis Center
Francis C. Eastman.....Indianapolis Center
Charles E. Foster.....New York Center

Warren C. Kitchen.....Indianapolis Center
Bernard M. Levins.....Indianapolis Center
Donald J. Martensen.....Indianapolis Center
Warren A. Martin.....New York Center
Conrad L. Meeks.....Indianapolis Center
Arthur R. Mockalis.....New York Center
Dixie H. Tompkins.....Norfolk Center

T-302-61-18B

Verne L. Cady.....Oakland Center
Paul W. Cutler.....Oakland Center
Bard B. Gray.....Oakland Center
Howard P. Hulen.....Oakland Center
Harvey A. Johnson.....Oakland Center
Max D. Metz.....Indianapolis Center

Richard M. Oakes.....Indianapolis Center
Lowell H. Sanquist.....Indianapolis Center
Joseph P. Schmieder.....Indianapolis Center
Wilbur S. Springer.....Oakland Center
William J. Truempler, Jr.....Indianapolis Center
James H. Welton.....Oakland Center

T-302-61-19

Harold J. Chorney.....St. Louis Center
Allan N. Crocker.....St. Louis Center
Garth A. Goodman.....St. Louis Center
Roger D. Johnson.....Detroit Center
Robert L. Howe.....Washington Center
Jerome V. Katz.....Detroit Center
Emory R. Kopf, Jr.....Washington Center

Kenneth J. Lesinski.....St. Louis Center
Robert E. McCarthy.....Detroit Center
Leon S. Mayes.....Detroit Center
Daniel G. Piatt.....Washington Center
Karl D. Spunich.....Detroit Center
Richard L. Stuck.....Detroit Center

T-303-61-7A

George W. Acres.....Springfield CS/T
Victor G. Ball, Jr.....N. Philadelphia Tower
Frederick H. Banks.....Rochester Tower
Americo B. Carnevale.....St. Joseph CS/T
Howard M. Davis.....Sioux City CS/T
Jay H. Hanna.....Toledo CS/T

Roger L. Harper.....Waterloo CS/T
Benton Haynes.....Burlington CS/T
Daniel A. Lathey.....Mansfield CS/T
Charles R. McGrail.....Burlington CS/T
John A. Norris.....Topeka CS/T
Tedd W. Reimer.....Hutchinson CS/T

T-303-61-8A

William M. Brant.....Allentown Tower
Robert H. Detloff.....Flint CS/T
Ralph G. Downer.....Champaign CS/T
Ronald E. Driscoll.....Providence Tower

Raymond P. Korstanje.....Muskegon CS/T
Charles W. Lindall.....Evansville CS/T
Roger R. Snowberger.....Lansing Tower
Leo J. Weiss.....Peoria CS/T

T-303-61-9A

Truman D. Bradley.....St. Louis Tower
Michael W. Danielson.....Indianapolis Tower
Jimmy J. Downing.....Mansfield CS/T
David K. Firth.....Indianapolis Tower
Frank R. Hale.....St. Louis Tower

George Halladay.....Williamsport Tower
James E. Hays.....Indianapolis Tower
Nolan L. Lowery.....Indianapolis Tower
Dennis P. Mahony.....St. Louis Tower
Harvey S. Schwartz.....St. Louis Tower

T-303-61-10A

Billie C. Ashby.....Chicago Tower
Neil B. Bettenhausen.....Chicago Tower
Garry D. Clements.....Chicago Tower

Paul R. Gigous.....Chicago Tower
Richard K. Olson.....Chicago Tower

T-303-61-11A

William J. Bryant.....Columbus Tower
Charles W. DeWendt.....Kansas City Tower
Lawrence D. Goff.....Kansas City Tower
Merwin M. Hayes.....Kansas City Tower

Walter D. McCollum.....Kansas City Tower
Robert E. Patrick.....Detroit Tower
Franz M. Stenglein.....Detroit Tower
William H. Ocheltree.....Detroit Tower

T-303-61-12A

Archie L. Counts.....St. Louis Tower
Thomas R. Glaze.....St. Louis Tower
Kenneth E. Hein.....Indianapolis Tower
Amos M. Jarman.....Greenville Tower
Robert M. Krutchevski.....Indianapolis Tower

Lewis G. Lang.....Knoxville Tower
James A. Linthicum.....St. Louis Tower
Donald H. Polston.....Indianapolis Tower
Arthur N. Richardson.....Indianapolis Tower
Richard E. Stevens.....St. Louis Tower

T-304-61-9A

Gael E. Atkins.....FSS, Livingston, Montana
Wilson B. Bartlett.....FSS, Helena, Montana
Leslie T. Berg.....FSS, Cincinnati, Ohio
Clarence E. Bradley.....FSS, Fort Myers, Florida
George E. Corning.....FSS, Billings, Montana
Gerald H. Laird.....FSS, Akron, Colorado
Robert E. Leana.....FSS, Massena, New York

Charles S. Loving.....FSS, Lafayette, Louisiana
James F. McNeff.....FSS, Watertown, New York
Emil W. Olson.....FSS, Missoula, Montana
Leonard L. Sevha.....FSS, Zuni, New Mexico
John W. Vickery.....FSS, Bozeman, Montana
Wilbur H. West.....FSS, Wink, Texas
Albert O. Wickstrom.....FSS, Boise Idaho

T-304-61-9B

John R. Bassler.....FSS, Anchorage, Alaska
Harry W. Burnette.....FSS, Bethel, Alaska
Cecil L. Griffin.....R. O., Anchorage, Alaska
Arthur A. Imhof.....FSS, Anchorage, Alaska
Evan D. Jones.....FSS, Anchorage, Alaska
Thomas M. Moore.....FSS, Honolulu, Hawaii
William O. Nesbit.....FSS, Bettles, Alaska

Warren G. Runnerstrom.....FSS, Northway, Alaska
Elvin E. Smith.....Maui, CS/T, Kahului, Hawaii
Donald W. Thomas.....R. O., Anchorage, Alaska
Robert D. Thomas.....FSS, Anchorage, Alaska
Robert C. Thompson.....FSS, Anchorage, Alaska
Clifford F. Uzzell.....R. O., Anchorage, Alaska
George B. Woodbury.....FSS, Anchorage, Alaska

AIRCRAFT BRANCH - PT-955

S-EE-4(9) - Basic Jet Transport Electronics Specialist A. C. Systems & Controls

May 15 thru June 2, 1961

Littleton, Earl C.....	4	Oakland, Calif.
McCarthy, Lloyd B.....	1	Tulsa, Okla.
Sharp, Thomas J.....	2	Miami, Florida
Whitaker, Clarence L.....	4	Burbank, Calif.
Whittemore, Ronald J.....	3	Ypsilanti, Michigan

S-PP-5(5) - Commercial Jet Aircraft Powerplant

May 22 thru June 9, 1961

Dickinson, B. J.....	2	San Antonio, Tex.
Maupin, J. G.....	PT-957	Aeronautical Center
Mayhugh, B. F.....	4	Los Angeles, Calif.
Murdock, J. M.....	2	Marietta, Ga.
Ness, A. K.....	FS-140	Washington, D. C.
Taylor, C. A.....	6	Honolulu, Hawaii
Young, A. V.....	4	Los Angeles, Calif.

S-GM-100 Indoctrination Course

May 29 thru June 30, 1961

Belden, Harrison R.....	2	Bethany, Okla.
Bocchetto, Vincent, Jr.....	1	Lindenhurst, N. Y.
Carroll, Russell D.....	FS-380	Washington, D. C.
Cramer, Philip R.....	4	Spokane, Wash.
DeBois, Francis C.....	2	Miami, Fla.
DeLeo, Severus S.....	1	Baltimore, Md.
Donathan, James W., Jr.....	1	Teterboro, N. J.
Dunkin, Everett E.....	3	Fargo, N. Dakota
Farnham, E. L.....	3	Des Moines, Iowa
Goulding, William T.....	3	W. Chicago, Illinois
Henderson, Richard.....	1	Portland, Maine
Inglis, Paul.....	1	Westfield, Mass.
Rigsbee, Walter L.....	2	Miami, Fla.
Smiley, Tredgar R.....	1	Louisville, Ky.
Taylor, Charles R.....	3	Minneapolis, Minn.
Thomas, Lincoln G.....	1	Allentown, Pa.
Watson, Lee F.....	3	Lincoln, Neb.
Williams, Carrol C.....	1	Lindenhurst, N. Y.
Womack, Vincent B.....	1	Harrisburg, Pa.
Wormdahl, Homer.....	3	W. Chicago, Illinois

S-AC-100 Indoctrination Course

May 29 thru June 30, 1961

Blair, Hollis F.....	2	Miami, Fla.
DePue, George S.....	3	Minneapolis, Minn.
Dixon, Wayne N.....	3	Chicago, Illinois
Faulkner, Torrence S.....	4	Burbank, Calif.
Graefing, Harry A.....	2	Houston, Tex.
Grates, Stanley J.....	4	Burbank, Calif.
Griffin, Charles E.....	1	LaGuardia, N. Y.
Hansen, Arvid L.....	1	Tulsa, Okla.
Jenkins, Jack V.....	2	Dallas, Tex.
Kusaba, Duke S.....	3	Minneapolis, Minn.
Mesch, Harold E.....	1	Philadelphia, Pa.
Mitchell, George W.....	1	Tulsa, Okla.
Myers, Raymond W.....	1	Philadelphia, Pa.
Ranney, Donald D.....	1	Boston, Mass.
Reem, Thomas B.....	1	Tulsa, Okla.
Schminkey, Donald L.....	2	Dallas, Tex.
Skibitsky, William.....	1	Utica, N. Y.
Sullivan, James D.....	1	Tulsa, Okla.
Thompson, Roy E.....	4	Los Angeles, Calif.
Wheeler, Clifford K.....	1	Tulsa, Okla.

S-EE-5(4) - Pulse Techniques and Airborne Radar Systems

June 12 thru June 30, 1961

Binion, T. H.....	2	Ft. Worth, Tex.
Buckner, F. B.....	FS-360	Washington, D. C.
Cowles, R. G.....	1	Washington, D. C.
Crouse, M. X.....	3	Kansas City, Mo.
Harris, M. J.....	FS-480	Washington, D. C.
Kilbride, E. E.....	4	Los Angeles, Calif.
Rosler, H. J.....	3	Chicago, Illinois
Whitehurst, T. N.....	2	Atlanta, Georgia

NAME REGION STATION

AIRCRAFT BRANCH - PT-955

S-GM-100 Indoctrination Course

July 17 thru August 18, 1961

Allen, William A.....	2	Dallas, Tex.
Bogart, Raymond W.....	4	Fresno, Calif.
Carter, Stanley S.....	2	Dallas, Tex.
Chastaine, Roger G.....	4	Salt Lake City, Utah
Cowles, Byron G.....	2	Miami, Fla.
Cox, Glen P.....	3	Wichita, Kans.
Donnelly, John P.....	2	Tulsa, Okla.
Garlitz, Elwood F.....	2	New Orleans, La.
Hettich, Emil C.....	4	Seattle, Wash.
Kellogg, Bennett O.....	2	Houston, Tex.
Kyle, V. (Jim).....	1	Philadelphia, Pa.
Longfellow, Donald J.....	2	Jackson, Miss.
Loudermilk, Lindon M.....	5	Anchorage, Alaska
Mitchell, Reece H., Jr.....	1	New York, N. Y.
Mosley, Robert S.....	1	Cleveland, Ohio
Moyik, Steve A.....	2	San Antonio, Tex.
Ruckdeschel, Philip M.....	3	Detroit, Michigan
Smith, Charles Frank.....	3	St. Louis, Mo.
Smith, Walter H.....	1	Teterboro, N. J.
Tetrault, Wilfred C.....	1	Rochester, N. Y.
Wiegel, Douglas B.....	1	Norwood, Mass.
Wong, Chow S.....	1	Teterboro, N. J.

S-ACM-100 Indoctrination Course

July 17 thru August 18, 1961

Adams, William L.....	3	Minneapolis, Minn.
Blacker, Robert D.....	FS-380	Washington, D. C.
Calverley, George J.....	1	New York, N. Y.
Deeth, William E.....	1	Washington, D. C.
Elliott, John W.....	4	Burbank, Calif.
Fielder, Wythe M.....	4	San Francisco, Calif.
Gottlieb, Arnold.....	3	Chicago, Illinois
Grieve, John O.....	2	Dallas, Tex.
Grim, Paul R.....	FS-368	Washington, D. C.
Kennedy, Willie.....	3	Minneapolis, Minn.
Kinder, Jack.....	3	Kansas City, Kans.
Kresge, Floyd T.....	2	San Antonio, Tex.
Lance, Reid C.....	2	Miami, Fla.
McCrory, Alva M.....	3	Indianapolis, Ind.
Manez, Joseph E.....	FS-700	NY IDO
Martinez, Frank V.....	1	Jamaica, N. Y.
Nyman, David E.....	3	Minneapolis, Minn.
Reynolds, Naaman J.....	1	Newark, N. J.
Schwaninger, Jack H.....	FS-700	SF IDO
Weaver, H. F.....	4	San Francisco, Calif.
Winland, Donald G.....	5	Anchorage, Alaska

PARTICIPATION WIDESPREAD IN DIRECTED STUDY'S FUNDAMENTALS OF SUPERVISION COURSE

Reaching out to all segments of the Agency and to the overseas missions, Directed Study's Fundamentals of Supervision course fulfills a need for providing training in supervision and management techniques to many of FAA's eligible field personnel who, for one reason or another, are unable to attend the resident classes in this important subject.

The Fundamentals of Supervision course is administered by the Management and General

Training Branch of the Non-Resident Instruction Division. The course is offered to a limited enrollment. In the regions, the Regional Training Officers maintain a supply of application blanks and announcement information.

The course is currently undergoing revision. The fifteenth (final) lesson has been revised and should be ready for publication by 1 August 1961. All students enrolled in the course since March 1 have received the revised lesson material.

Following is a list of graduates in the course during the fourth quarter, FY-1961:

Name	Service	Region	Station
April			
Anderson, William H.	ATM	2	Savannah, Georgia
Baston, Willis H.	CAAG	OIC	CAAG, Brazil
Davies, Richard H.	ATM	3	Sioux City, Iowa
Keeney, Joseph S.	F&M	1	Norfolk, Virginia
Loving, Charles S.	ATM	2	Lafayette, Louisiana
Rainey, Robert E.	ATM	2	Tyler, Texas
Reid, Joseph W.	ATM	2	Meridian, Mississippi
Sythoff, Joseph I.	FS	1	Valley Stream, N. Y.
May			
Haynes, Robert B.	F&M	2	Graham, Tennessee
Hill, Franklin	ATM	1	Portland, Maine
Houghten, Donald	FS	4	Salt Lake City, Utah
Turnbull, Ralph P.	ATM	3	Rockford, Illinois
June			
Baker, Max M.	ATM	1	Washington, D. C.
Beil, Earl L.	ATM	1	Hollywood, Florida
Brown, Jesse R.	ATM	2	Macon, Georgia
Buckles, Robert E.	ATM	4	Fresno, California
Carroll, Carl E.	ATM	2	Lufkin, Texas
Dyke, Goldwin	CAAG	OIC	Bogota, Colombia
Guillot, Gus J.	ATM	2	Nederland, Texas
Guynes, Arvol N.	ATM	2	Hitchcock, Texas
Hoskins, Russell	F&M	4	Daggett, California
Johnson, Harry F.	ATM	3	Rochester, Minnesota
McConnel, Paul I.	ATM	2	Fayetteville, North Carolina
Reed, John H.	ATM	3	Scottsbluff, Nebraska

FACILITIES AND MATERIAL TRAINING DIVISION CLASSES

COMMUNICATIONS EQUIPMENT CLASS 180 CONVENED MAY 15, 1961 TO AUGUST 4, 1961

NAME	REG.	STATION	NAME	REG.	STATION
Anderson, Laurel D.	4	Great Falls, Mont.	Lee, Edward R.	2	Mineral Wells, Texas
Arrivas, Serafin M., Jr.	4	San Francisco, Cal.	McFadden, Alfred L., Jr.	2	Sulphur Springs, Tex.
Arthur, David C.	5	Watkins, Alaska	McQuillan, John L.	2	Pennscola, Fla.
Barney, John P.	4	Elko, Nevada	Mickey, Edward M.	1	Idlevold, N. Y.
Carlton, Mervyn W.	1	Danville, Va.	Mottage, Dwyard S.	2	Vero Beach, Fla.
Clark, Donald E.	3	Chicago Sta., Ill.	Paquette, Leland F.	3	Chanute, Kansas
Conner, Ludlow E.	2	College Sta., Tex.	Pfeffer, Joseph M.	2	Houston, Texas
Cooper, Joseph P.	1	Washington, D. C.	Porter, Willard R.	4	Los Angeles, Cal.
Cogrove, Robert J.	4	Los Angeles, Cal.	Pratt, John B.	6	Honolulu, Hawaii
De Borde, Clarence W.	4	Butte, Montana	Rolam, Wayne E.	3	Dubuque, Iowa
Darleth, Russell R.	3	Chadron, Nebr.	Schnare, James R.	3	Weir Cook, Illinois
DeSimone, Alfonso	1	Idlevold, N. Y.	Shineto, Hidekiyo	6	Honolulu, Hawaii
Dickey, Marshall E.	2	San Antonio, Tex.	Shuty, Andrew E., Jr.	1	Pittsburgh, Pa.
Groscost, Edwin M.	4	Los Angeles, Cal.	Vaughn, Cecil L.	2	Atlanta, Georgia
Hayman, Robert A.	2	Tulsa, Okla.	Wallace, John H.	2	Spartanburg, S. C.
Humphries, Mackie J.	2	Nashville, Tenn.	Ward, Joe P.	2	Shreveport, La.
Jackson, William R.	3	Chicago, Ill.	Wheeler, Joe P.	2	Ft. Worth, Texas

ELECTRO-MECHANICS CLASS 28 CONVENED MAY 15, 1961 TO JUNE 23, 1961 (ELECTRICAL PHASE)

Garratt, J. W.	2	Dallas, Texas	Stegall, Andy A.	2	New Orleans, La.
Grenmetz, Harry W.	3	Indianapolis, Ind.	Walsworth, Clyde L.	3	Wake Island, S. P.
Malone, Jesse P.	5	Anchorage, Alaska	Wolmer, Jacob G.	3	Topeka, Kansas
Mister, Arthur G.	1	Washington, D. C.	Wheeler, Floyd H.	5	Tanana, Alaska
Rinaldi, Salvatore J.	1	Worcester Arpt, Mass.			

TELETYPE CLASS 27 CONVENED MAY 15, 1961 TO JUNE 9, 1961

Arthur, John R., Jr.	2	Alexandria, La.	Manning, Henry J.	3	Annette, Alaska
Ayres, John B.	1	Bozeman, Va.	Moore, William F.	4	Olympia, Wash.
Babits, Frederick J.	3	Tyrananti, Mich.	Morrow, James L.	2	Alice, Texas
Barrington, Donald Y.	2	Charleston Wgts, S. C.	Paquino, Rudolph	3	Bojge, Iowa
Benson, James D.	4	Albuquerque, N. M.	Payne, Kenneth W.	3	Wichita, Kansas
Beno, Frank L.	4	Denver, Colo.	Payne, Robert C.	2	Alexandria, La.
Boywood, Gerald B.	4	Tune, N. M.	Rybicki, Robert C.	4	Oakland, Calif.
Carlay, Judson A.	2	Key West, Fla.	Savino, Ronald F.	1	Syracuse, N. Y.
DeLima, Abner	6	Kihet, Maui, Hawaii	Shigenaga, George K.	4	Los Angeles, Calif.
Englin, Lester L.	4	Miles City, Mont.	Sommerville, Louis J.	4	Oakland, Calif.
Foster, Ernest J.	3	Sgt Bluff, Iowa	Sputner, Vernon J.	3	Sioux Falls, S. D.
Gula, James A.	2	Wink, Texas	Sumner, Belford A.	5	Anchorage, Alaska
Hasty, Donald E.	2	Myrtle Beach, S. C.	Talley, William T.	1	Washington, D. C.
Higa, Muryoshi	4	Lebec, Calif.	Wagen, Paul J.	3	Milwaukee, Wisc.
Illig, Rainhold O.	3	Redwood Falls, Minn.	Witherspoon, Donald D.	4	Denver, Colorado
Johnson, Jimmy M.	4	Medford, Oregon	Young, Bobby J.	2	Termini, Texas
Landiak, Raymond	2	San Antonio, Tex.	Zeller, Marvin D.	3	Aberdeen, S. D.
Martinez, Anthony L.	5	Anchorage, Alaska			

TELETYPE CLASS 3 CONVENED MAY 29, 1960 TO JUNE 23, 1961

Anderson, John J.	1	Jamaica, N. Y.	Neupert, Powell E.	2	Tulsa, Oklahoma
Bedford, William J.	1	Washington, D. C.	Oliver, Paul W.	2	Birmingham, Ala.
Burbin, Carl W.	3	Kansas City, Mo.	Pearson, Charlie M.	2	New Orleans, La.
Emalin, Lester E.	2	Jacksonville, Fla.	Sagers, Vertis O.	1	Elkington, Ky.
Jordan, Charles W.	2	Ft. Worth, Texas	Thompson, Robert S.	2	Memphis, Tenn.
Kless, Robert C.	1	Jamaica, N. Y.	White, Valgama S.	4	Oakland, Calif.
McGregor, Donald B.	NO	Philco Corp, Pa.	Wyatt, Wayne S.	2	Memphis, Tenn.

APULE S/T CLASS 5 CONVENED MAY 29, 1961 TO JUNE 23, 1961

Chabouds, Leon	2	New Orleans, La.	Olivera, Donald E.	4	San Francisco, Calif.
Cori, John W.	2	Atlanta, Ga.	Pickard, Larry D.	2	Ft. Worth, Texas
Chavert, Stanley C.	4	Phoenix, Ariz.	Vogali, Elmer E.	3	Basswood, Mo.
Dover, James L.	4	Albuquerque, N.M.	Waldrep, Lloyd A.	2	San Antonio, Texas
Head, Floyd E.	2	San Antonio, Tex.	Wescott, Elmer L.	3	Kansas City, Mo.
Harris, Mack M.	4	Denver, Colo.			

APULE CLASS 4 CONVENED MAY 29, 1961 TO JULY 21, 1961

Bennigard, Jerry E.	2	Houston, Tex.	Kaffer, Roy L., Jr.	2	Okla. City, Okla.
Beyer, William J.	3	Indater, Mich.	Lanterman, James L.	2	Tulsa, Okla.
Betts, Donald L.	2	El Paso, Tex.	Leff, Abram	1	Jamaica, N. Y.
Campbell, Patrick M.	2	Jacksonville, Fla.	McCorquodale, Walter O.	2	San Antonio, Tex.
Chis, Joe T.	1	Arlington, Va.	Smith, Frank G.	2	Jacksonville, Fla.
Hilager, Donald P.	1	Cleveland, Ohio	Verren, Pat	2	Ft. Worth, Tex.
Fredericks, Karl A.	4	Los Angeles, Calif.	Wilson, Hugh D.	2	Atlanta, Ga.
Gautieri, Gene M., Jr.	3	Kansas City, Mo.	Wilson, Jessie M.	2	San Antonio, Tex.

COMMUNICATIONS EQUIPMENT CLASS 181 CONVENED MAY 29, 1961 TO AUGUST 18, 1961

Adcock, Dale E.	2	Brownsville, Ga.	Markovics, Charles J.	1	Bradley Field, Conn.
Dall, David E.	1	Washington, D. C.	Plourde, Harvey W.	4	Phoenix, Ariz.
Brunner, Harry P.	3	Sidney, Nebraska	Quillen, Leroy	2	Augusta, Georgia
Chamberlain, Glenn A.	4	Lowell, Nev.	Robman, Alvin G.	2	Centerville, Tenn.
Chickoff, Kenneth J.	3	Hazelwood, Mo.	Richards, Thomas W.	2	Greenville, Tenn.
Ericks, Herbert M.	3	Lawson, Iowa	Seiscione, Albert, Jr.	1	Washington, D. C.
Frazz, Robert J.	1	Washington, D. C.	Sealey, Robert F.	4	Los Angeles, Calif.
Halbig, Herbert F.	1	Washington, D. C.	Sestia, Hugh L.	3	Des Moines, Iowa
Hathaway, Ronald A.	2	Texarkana, Ark.	Simpson, Rex D.	2	Charleston, S. C.
Hennery, Nelson C.	2	Childress, Tex.	Snyder, Fred C.	1	Washington, D. C.
Hovard, Harold D.	4	Douglas, Ariz.	Townsend, Charles E.	3	Hazelwood, Mo.
Ivins, Dwayne E.	4	Great Falls, Mont.	Vanco, Dean M.	2	Longview, Tex.
Kubiel, John O., Jr.	1	Jamaica, N. Y.	Walsh, Richard J.	4	Burbank, Calif.
Leongar, Samuel R.	2	Alexandria, La.	Webb, Carl D.	2	Charleston, S. C.
McLeod, Samuel R.	3	Vandalia, Ill.	Wells, Elton L.	2	Little Rock, Ark.
Marshall, George	1	Columbus, Ohio	White, Jerry W.	2	Columbus, Texas
Mayer, Harvey M.	2	Alma, Ga.	Wong, Wilfred T. C.	6	Honolulu, Hawaii
Minor, Paul W.	3	Scottsbluff, Nebr.			

COMMUNICATIONS EQUIPMENT CLASS 182 CONVENED JUNE 12, 1961 TO SEPTEMBER 1, 1961

NAME	REG.	STATION	NAME	REG.	STATION
Arsenault, Roger J.	1	Boston, Mass.	Bertie, Donald L.	1	Fortland, Maine
Allred, James E.	AC	Okla. City, Okla.	Belson, O'Dell	3	Detroit, Mich.
Brown, Keith L.	4	Los Angeles, Cal.	Nichols, Charles L.	AC	Okla. City, Okla.
Crouse, Michael R.	1	Albany, N. Y.	Nielsen, Ray F.	4	San Francisco, Calif.
Doyle, David J.	AC	Okla. City, Okla.	Parra, Paul O.	2	El Paso, Texas
Forsyth, Dean A.	3	Lafayette, Ind.	Paquino, Rudolph	3	Ft. Dodge, Iowa
Freeman, Ralph	2	Miami, Fla.	Plankerton, Charles E.	2	Atlanta, Ga.
Gaspard, Malcolm J.	2	Waco, Tex.	Rawell, Ole A.	2	Montgomery, Ala.
Grafton, Sydney T.	2	Waco, Tex.	Said, Richard	AC	Okla. City, Okla.
Kamson, Harold, III	2	Atlanta, Ga.	Seebuck, Carl W.	4	Fortland, Maine
Kathcock, Theodore L.	2	El Paso, Tex.	Silva, Alfonso, R.	4	Los Angeles, Calif.
Illig, Rainhold O.	3	Redwood Falls, Mont.	Spellen, William F.	1	Albany, N. Y.
Jamund, Ernest T.	4	San Francisco, Cal.	Spivak, William L.	1	Pittsburgh, Pa.
Kennedy, Albert R.	3	Chicago, Ill.	Ward, Willie E.	2	Jacksonville, Fla.
Kephart, Jerry D.	3	St. Louis, Mo.	Walls, Herman T.	1	Boston, Mass.
Kays, Herman L.	2	Houston, Tex.	Wilson, Gary G.	2	Montgomery, Ala.
King, Donald D.	2	Wichita Falls, Tex.	Wissner, William R.	2	Montgomery, Ala.
Kushini, Horace I.	6	Honolulu, Hawaii	Zeller, Marvin D.	3	Aberdeen, S. D.

TELETYPE CLASS 29 CONVENED JUNE 12, 1961 TO JULY 7, 1961

Athay, J. E.	2	San Antonio, Tex.	Olney, John T.	2	Houston, Texas
Bailey, Derrell D.	2	Tallahassee, Fla.	Ort, John C.	1	Washington, D. C.
Bair, Arnold A.	3	Bismark, N. Dakota	Perrier, Frank J., Jr.	5	Anchorage, Alaska
Boulter, William V.	2	Charleston, S.C.	Perkins, Ambrose T.	3	Milwaukee, Wisc.
Burgess, J. T.	2	Grossboro, N.C.	Pinkley, Lloyd E.	3	St. Louis, Mo.
Cochran, Thomas M.	4	Los Angeles, Cal.	Reichman, Sol	2	Miami, Fla.
Dartin, Francis D.	3	Phillip, S. Dakota	Reusser, Martin T.	4	Merland, Wyoming
Davis, Robert G.	1	Avoca, Pa.	Schindels, Clifford E.	3	Jamestown, N. Dakota
Dickerson, Leroy G.	4	Oakland, Calif.	Schulz, Ralph E.	4	Albuquerque, N. M.
Faulk, Howard E.	2	Dochas, Ala.	Sheppard, Edgar F.	5	Anchorage, Alaska
Gofforth, Vernon E.	2	Spartanburg, S.C.	Smith, Clair S.	4	Salt Lake City, Utah
Griffin, Richard W.	4	Great Falls, Mont.	Stevens, Walter E.	3	Mayo, Illinois
Halbert, Marlin C.	3	Palmdale, Ill.	Thomsen, Irving	1	Jamaica, N. Y.
Havrilak, John	2	Orlando, Fla.	Thomas, Robert E.	4	Salt Lake City, Utah
Lahoullier, Peter	1	New Castle, Del.	Trainor, Louis C.	1	Pittsburgh, Pa.
Munroe, Winston S.	4	Focastello, Idaho	Williams, Roy V.	2	Vero Beach, Fla.
Nakamura, George T.	5	Honolulu, Hawaii	Wood, Carl W.	4	Marietta, N. Mexico

ELECTRO-MECHANICS CLASS 29 CONVENED JUNE 12, 1961 TO SEPTEMBER 1, 1961

Almshugh, Elmer L.	3	Minneapolis, Minn.	Erall, Robert J.	2	Little Rock, Ark.
Adwell, Bruce	5	Cold Bay, Alaska	Encheray, Thaddeus	1	Washington, D. C.
Bredshaw, Charles E.	1	Manassas, Ohio	Matoska, Rajiro	6	Canton Island
Glover, Fred E.	5	Big Delta, Alaska	Tidwell, Morris	2	Tyler, Texas
Hamilton, Jesse B.	2	Okla. City, Okla.	Tucker, Robert W.	2	Miami, Fla.

ADVANCED ELECTRO-MECHANICS CLASS 1 CONVENED MAY 29, 1961 TO SEPTEMBER 19, 1961

Allen, Archie W.	3	Wichita, Kan.	Lloyd, Oliver G.	3	Omaha, Nebraska
Bolan, Leroy A., Jr.	2	Okla. City, Okla.	Lockwood, Clyde F.	3	North Platte, Neb.
Clarron, Amelore J.	1	Pittsburgh, Pa.	McDonald, Walter M.	2	Nampa, Tennessee
Dunn, Johnny W.	2	Anderson, S. C.	McGowan, John G.	2	Ft. Worth, Tex.
Durante, Albert J.	2	Tulsa, Okla.	Schmuck, Arthur J.	5	Omaha, Alaska
Estep, Charles W.	3	Wichita, Kansas	Schwartz, Albert L.	3	Detroit, Mich.
Goodman, Edgar F.	2	Birmingham, Ala.	Welsh, Wesley A.	5	Coloma, Alaska
Kirkham, Wilbur G.	3	Kansas City, Mo.			

GUIDANCE CLASS 6 CONVENED MAY 15, 1961 TO AUGUST 11, 1961

Berkley, Roy D.	AC	Okla. City, Okla.	Kreiter, Ben J.	3	Kansas City, Mo.
Joyd, John A.	AC	Okla. City, Okla.	McGibben, Will A.	AC	Okla. City, Okla.
Cochran, Morris E.	AC	Okla. City, Okla.	Burford, Calvin E.	AC	Okla. City, Okla.
Doherty, Eugene L.	2	Atlanta, Ga.	Rea, Raynaldo	AC	Okla. City, Okla.
Holopple, Robert G.	NO	Washington, D. C.	Stevens, Phidige	AC	Okla. City, Okla.
Kidman, Delbert, Jr.	4	Santa Monica, Cal.	Terras, George	AC	Okla. City, Okla.
Kihar, James E.	NO	Okla. City, Okla.			

P & T CLASS 14 CONVENED MAY 29, 1961 TO OCTOBER 13, 1961

Campen, Laurence E. M.	4	Spokane, Wash.	Lynn, James L.	4	Malien, Idaho
Castello, Paul J.	1	Augusta, Maine	Lisle, David E.	1	Levellville, Kentucky
Davis, Robert W.	4	Focastello, Idaho	Patterson, Pete	2	Shreveport, La.
Felslen, Thomas J.	3	Goodland, Kan.	Richter, Robert J.	3	Lawrenceville, Mo.
Flanagan, Patrick J.	1	Wichita, Mo.	Shroyer, Ted L.	1	Hartland, W. Va.
Golkaya, Ali	OIC	Ankara, Turkey	Slata, Curtis J.	4	Aranta, Calif.
Ivarson, Harry S.	3	Wichita, S. Dakota	Spear, Leroy A.	3	Manass, Wisconsin
Kelley, Harry E.	3	LaCrosse, Wisc.			

TACAN CLASS 30 CONVENED MAY 29, 1961 TO SEPTEMBER 15, 1961

Arnold, Edward M.	2	Lafayette, La.	Bauman, Charles E.	4	Great Falls, Mont.
Arneson, James E.	2	Ft. Worth, Tex.	Bainings, Howard G.	3	Sioux City, Iowa
Bell, Clyde W.	AC	Okla. City, Okla.	Johnson, John E.	5	Anchorage, Alaska
Bithell, Floyd W.	4	Las Vegas, Nev.	Joseph, John F.	1	Lexington, Ky.
Boatright, Cress E. Jr.	1	Cincinnati, Ohio	Kramer, Henry S.	3	Marshall, Mo.
Boydston, Jack A.	4	Los Angeles, Cal.	Mosley, Robert V.	4	Belgrade, Montana
Brandt, Clinton A.	2	San Antonio, Tex.	Muckey, Richard D.	1	Pittsburgh, Pa.
Call, Robert M.	4	Carlsbad, N. M.	Muchey, John F.	1	Rochester, N. Y.
Crookshank, Robert D.	4	Los Angeles, Cal.	Murcia, Frank T.	1	Yeterboro, N. J.
Darnell, James E.	3	Chicago, Ill.	McKelvey, John W.	4	Boies, Idaho
DeLong, Kenneth E.	2	Touma, Ga.	Bagata, Tekivo	6	Kauili Maui, Hawaii
DeLong, Aaron I.	2	El Dorado, Ark.	Peggle, Clyde D.	4	Grand Junction, Colo.
Dumont, Emil J.	3	Kansas City, Mo.	Ferrisone, Charles J.	5	Charleston, S. C.
Dunaway, George B.	3	Houston, Tex.	Perry, Harris L.	4	Ft. Worth, Texas
Fidone, Sam J.	4	Miles City, Mont.	Polutta, Matthew J., Jr.	2	Philo, S. Dakota
Gehrige, Earl G.	5	Imperial, Nebraska	Porter, James T.	2	New Orleans, La.
Goodson, Robert E.	2	King Salmon, Alaska	Reasell, Marvin L.	3	San Antonio, Tex.
Gordon, Kenneth M.	3	Jackson, Miss.	Scott, Delmar R.	2	New Orleans, La.
Goss, Wayne E.	1	Watervliet, N.Y.	Scott, Eric G.		San Antonio, Tex.
Graves, Jerry E.	3	Mason City, Iowa	Shupe, Richard D.	1	Pulaski, Virginia
Hanawar, Robert E.	2	Springfield, Mo.	Thompson, Lawrence	1	Wheaton, Ohio
Hill, William T.	1	Crossville, Tenn.	Trinchey, Woodrow	4	Alexandria, La.
Huff, Roy R.	4	Worport, Wexa, Va.	Willard, Billy G.	2	Memphis, Tenn.
		Roswell, E. M.	Washke, Herman S.	4	Thopaz, Ariz.

PRE-VOX CLASS 205 CONVENED MAY 15, 1961 TO JUNE 12, 1961

NAME	REG.	STATION	NAME	REG.	STATION
Ary, James E.	2	Amarillo, Texas	Johnson, John D.	2	Albany, Georgia
Bosch, Frank J.	1	Pittsburgh, Pa.	Leabo, Loel F.	4	San Rafael, Calif.
Boulton, Richard H.	3	Hawthorn, Mo.	Levens, Bobby H.	2	La Grange, Ga.
Brannan, Alfrey J.	2	Pt. Worth, Tex.	Moriarty, Brendan M.	4	Eugene, Oregon
Contag, Werner H.	OIC	Quito/Ecuador S.A.	Organat, Gene L.	3	Calumet, Mich.
Domingue, Kenneth H.	1	Washington, D.C.	Overby, Charles C.	2	Nashville, Tenn.
Doss, Henry B.	5	Anchorage, Alaska	Petty, Allen E.	2	New Orleans, La.
Ehlbert, Clarence M.	4	Thermal, Calif.	Quinnan, Thomas F.	1	Jamaica, N. Y.
Errickson, Maurice W.	4	Denver, Colo.	Schenk, Charles W.	3	Elko, Nevada
Farley, John T.	1	Jamaica, N. Y.	Schwantes, Varlyn J.	3	Rockford, Ill.
Farrara, George F.	4	Lovelock, Nev.	Senol, Mublis	OIC	Ankara, Turkey
Franks, Thomas A.	1	Pittsburgh, Pa.	Stern, Jay D.	4	Albuquerque, N. M.
Green, Leland A.	2	Waltham, N. C.	Strangboener, Gilbert	3	Omaha, Nebraska
Griffin, Paul	2	Memphis, Tenn.	Twadell, Thomas E.	4	Los Angeles, Calif.
Guzovoz, Ali Kresu	OIC	Ankara, Turkey	Tyler, George F.	1	Columbus, Ohio
Hussey, George H.	4	Los Angeles, Cal.	Whittingham, Thomas M.	1	Glenn Falls, N. Y.

VOX CLASS 206 CONVENED MAY 29, 1961 TO JUNE 23, 1961

Armstrong, Conner E.	2	Greenwood, Miss.	Macht, Kenneth K.	1	London, Kentucky
Arnau, James R.	2	Tyler, Tex.	Metcalfe, Joe R.	4	Las Vegas, Nevada
Aulan, Artugur M.	OIC	Turkey	Mortier, Willie B.	2	San Angelo, Texas
Bamford, Glyn W.	4	Billings, Mont.	Pea, Jesse (HOM), Jr.	4	Long Beach, Calif.
Caricchio, Vincent F.	1	Washington, D. C.	Sava, Leon S.	1	Bluefield, W. Va.
Cooper, Bill B.	2	Atlanta, Ga.	Samuels, Theodore	1	Salisbury, Maryland
Dougherty, William D.	4	Oakland, Calif.	Sargent, E. W.	AC	Oklahoma City, Okla.
Fudchenko, Ronald I.	1	Camcord, N. H.	Scholar, Robert J.	3	Rocky, Indiana
Fenster, Marvin E.	5	Cape Yakutat, Alaska	Scott, Gordon W.	4	Seattle, Wash.
Forster, James G.	4	Farmington, N. M.	Shaddox, Dale C.	4	Denver, Colo.
Gibbons, Richard L.	3	Evansville, Ind.	Starkweather, Donald S.	3	Lansing, Michigan
Gonzalez, Anselmo, Jr.	2	Tampa, Florida	Stephenson, William A.	2	El Paso, Tex.
Grothman, Alvin E.	2	Aliso, Texas	Stubbenhofer, Thomas E.	1	Jafferson, Ohio
Hartman, Robert W.	3	Savoy, Ill.	Swift, Stephen T.	1	Atlantic City, N. J.
Jones, William M.	2	College Sta., Tex.	Thompson, Thomas G.	1	Worfolk, Va.
Kennedy, Frank E.	4	Sheridan, Wyo.	Tipton, Walter H.	4	Helena, Montana
Large, James E.	4	Casper, Wyo.	White, Robert T.	1	Newark, N. J.
Lynch, Cornelius J.	4	Las Vegas, N. M.			

PRE-VOX CLASS 207 CONVENED MAY 15, 1961 TO JUNE 5, 1961

Adams, Leonard A.	3	Springfield, Ill.	Johnson, James R.	1	Jamaica, N. Y.
Anderson, John D., Jr.	2	Pt. Worth, Tex.	Marsden, Elwood E.	4	Ellensburg, Wash.
Casper, James, Jr.	2	Jacksonville, Fla.	Massenotte, Robert J.	1	Boston, Mass.
Cline, James E. D.	4	Thermal, Calif.	Nochholz, Glen E.	3	Des Moines, Iowa
Duquette, Wilfred A.	1	Old Town, Maine	Turner, Benjamin S.	2	Shreveport, La.
Gordon, Donald B.	3	Springfield, Mo.	Walker, Bruce M.	4	Dallas, Oregon
Holland, Jerry L.	2	Beaumont, Tex.			

VOX CLASS 207 CONVENED JUNE 12, 1961 TO JULY 7, 1961

Anderson, John D., Jr.	2	Pt. Worth, Tex.	Kish, Vincent L.	1	Morgantown, W. Va.
Barbour, Gordon E.	1	Roma, N. Y.	Leabo, Loel F.	4	San Rafael, Calif.
Bentley, Bennett O.	4	Denver, Colo.	LeBlanc, Camille J., Jr.	1	Bedford, Mass.
Bowman, Merlin	1	Reading, Pa.	Medellin, Hernando	OIC	Columbia
Casper, James, Jr.	2	Jacksonville, Fla.	Messanotte, Robert J.	1	Boston, Mass.
Cassidy, Howard F.	1	Denville, Va.	Reynolds, Richard E.	1	Buffalo, N. Y.
Cheest, Clyde L.	4	Casper, Wyoming	Rochholz, Glen E.	3	Des Moines, Iowa
Cline, James E. D.	4	Thermal, Calif.	Ross, Roger A.	1	Cleveland, Ohio
Dukes, Walter P.	2	Columbus, Ga.	Rybicki, Robert C.	4	Oakland, Calif.
Franks, Thomas A.	1	Pittsburgh, Pa.	Sigmund, Louis G.	1	Allentown, Pa.
Gordon, Charles E.	6	Honolulu, Hawaii	Skousan, Wayne S.	4	Phoenix, Ariz.
Gordon, Donald B.	3	Springfield, Mo.	Sumner, Balford A.	5	Anchorage, Alaska
Holland, Jerry L.	2	Memphis, Tenn.	Thornton, Ashton K.	4	Salt Lake City, Utah
Hussey, George H.	4	Beaumont, Tex.	Turner, Benjamin S.	2	Shreveport, La.
Jackson, Clyde H., Jr.	4	Los Angeles, Cal.	Vasquez, Vincent	2	Laredo, Texas
Johnson, James R.	1	Olympia, Wash.	Vergat, Charles	1	Norfolk, Va.
Jones, Jerry C.	3	Jamaica, N. Y.	Walker, Bruce M.	4	Dallas, Oregon
		W. Lafayette, Ind.			

PRE-VOX CLASS 208 CONVENED MAY 29, 1961 TO JUNE 23, 1961

Bennett, William E.	1	Washington, D. C.	Kreh, Ronald W.	1	Windsor Locks, Conn.
Brown, Millard R.	1	Louisville, Ky.	Kuets, Kenneth W.	3	W. Lafayette, Ind.
Calvert, Samuel E.	1	Paduach, Ky.	Malta, Luperio U.	OIC	Brazil
Cordeiro, Manuel De A.	OIC	Brazil	Marshall, Marden W.	1	East Boston, Mass.
Fry, Donald W.	2	Armore, Okla.	Murray, Bernard J.	1	Nantucket, Mass.
Gaudet, Joseph A.	2	Charleston, S. C.	Schooler, James W.	3	Builer, Mo.
Glasser, Emil F.	1	Manfield, Ohio	Thomas, Robert F.	2	Montgomery, Ala.
Hunt, James R.	1	Boston, Mass.	Vargas, Ivo Coats De	OIC	Brazil
Jefferis, Don O.	4	Reno, Nevada			

ESTABLISHMENT CLASS 21 CONVENED MAY 29, 1961 TO JUNE 23, 1961

Berger, Vernon S.	4	Los Angeles, Cal.	Hinkel, Harland F.	3	Kansas City, Mo.
Beugot, Cecil	2	Pt. Worth, Tex.	Liss, James J., Jr.	3	Kansas City, Mo.
Dardari, Fayek M.	OIC	Damascus, UAR	Swinehart, Donald E.	1	Jamaica, N. Y.
Gault, William C.	2	Pt. Worth, Tex.			

PRE-VOX CLASS 209 CONVENED JUNE 12, 1961 TO JULY 7, 1961

Bahr, Gerald L.	4	Bonwell, N. M.	Mauzy, Alfred E.	4	Klamath Falls, Ore.
Baker, David L.	1	Akron, Ohio	Mottage, Joseph L.	1	Philadelphia, Pa.
Camascano, Jose F.	OIC	Brazil	Orlicki, Edmund L.	4	Fairchild AFB, Wash.
Davis, Robert H.	1	Matavan, N. J.	Simmons, Mathias J.	3	Omaha, Nebraska
Hays, Bertran G.	3	St. Joseph, Mo.	Stanley, Harvey E.	2	Sulphur Springs, Tex.
Hreha, Michael J.	1	Binghamton, N. Y.	Kuets, Kenneth E.	3	W. Lafayette, Ind.
Joyce, Paul W.	1	Swanton, Ohio	Poster, James G.	4	Framington, N. M.
Lars, Mario S.	OIC	Brazil			

TIS CLASS 201 CONVENED MAY 15, 1961 TO JUNE 9, 1961

NAME	REG.	STATION	NAME	REG.	STATION
Auer, George	4	Stockton, Calif.	Johnson, Robert A.	3	Chicago, Illinois
Beane, Wesley G.	1	Millinocket, Me.	King, Norman S.	2	Amarillo, Texas
Benson, Warren	1	Jamaica, N. Y.	Knight, Kenneth E.	4	Fendleton, Ore.
Ching, Herbert T. C.	3	Kansas City, Mo.	Rosmond, William T.	2	El Paso, Texas
Cowan, James E.	2	Ablene, Tex.	Sandford, Jack E.	2	Corpus Christi, Tex.
Dearth, Charles J.	2	Brownsville, Tex.	Tom, Donald	4	Hayward, Calif.
Dolan, William R.	2	Mobile, Ala.	Villazire, John P.	6	Honolulu, Hawaii
Ervin, Harold	5	Fairbanks, Alaska	Willis, John	1	Vandell, Ohio
Flores, Richard Y.	4	Albuquerque, N.M.	Wicks, Francis E.	5	Anchorage, Alaska
Fontacilla, Harold K.	4	Los Angeles, Cal.	Wright, Robert	1	Philadelphia, Pa.

TIS CLASS 202 CONVENED MAY 29, 1961 TO JUNE 23, 1961

Akbas, Huseyin	OIC	Turkey	Malik, Abdullah K.	OIC	Pakistan
Bernard, Charles L.	4	Eugene, Ore.	Okool, Fereidoun D.	OIC	Iran
Bayar, Ahmet	OIC	Turkey	Penelli, James J.	2	Raleigh-Durham, N. C.
Cantrell, Steve W.	2	Charlotte, N. C.	Peterson, Carl C.	1	Cleveland, Ohio
King, Raymond G.	4	Los Angeles, Cal.	Pontiff, Harold J.	2	Tampa, Florida
Kopka, Raymond	1	Syracuse, N. Y.	Sprull, Edward J.	1	Sandston, Virginia
LaGroene, Billy D.	2	Shreveport, La.	Trowbridge, Carl G.	1	Watervliet, N. Y.
Lee, Soe Kyou	OIC	Korea	Walker, Charles H.	2	Houston, Texas

TRANSISTOR ELECTRONICS CLASS 3 CONVENED JUNE 5, 1961 TO JULY 7, 1961

Akers, Royce G.	3	Ypsilanti, Mich.	James, James K.	4	Albuquerque, N. M.
Baker, Richard T.	4	Klamath Falls, Ore.	Johnson, Carl B.	AC	Oklahoma City, Okla.
Bender, L. E., Jr.	6	Honolulu, Hawaii	Leavell, Donald E.	4	Roswell, N. M.
Clover, Vernon L.	2	El Paso, Tex.	Lovelsace, Hylen V.	1	Louisville, Ky.
Conner, Donald G.	2	Charleston Hgts., S.C.	Maghee, Carl U.	AC	Oklahoma City, Okla.
Dillard, Jack G.	2	Pt. Worth, Tex.	Moore, Charles B.	AC	Oklahoma City, Okla.
Donaldson, Ural L.	2	Midwest City, Okla.	Peters, William C., Jr.	AC	Oklahoma City, Okla.
Durand, Duane G.	5	Anchorage, Alaska	Ramakis, Raymond E.	WO	Washington, D. C.
Ewing, Thomas F.	1	Hoolton, Maine	Torguson, Arnold W.	3	Indianapolis, Ind.
Grisson, William C.	2	Birmingham, Ala.	Walker, Gholston F.	2	Pt. Worth, Texas

ROS CLASS 157 AMPLETRON CONVENED MAY 15, 1961 TO MAY 19, 1961

Baird, George G.	4	Salt Lake City, Utah	Martel, George F.	1	Suitland, Maryland
Baty, John F.	2	Charleston, S. C.	McKroy, Colin	4	Los Angeles, Calif.
Frey, William R.	1	London, Ohio	Pena, Charles	2	San Antonio, Tex.
Frye, Willard A.	3	Inkster, Mich.	Ruggiero, Anthony J.	4	East Boston, Mass.
Hellwig, Raymond B.	3	Baselwood, Mo.	Seewerker, Paul	3	Inkster, Mich.
Hughes, Royce L.	2	El Paso, Tex.	Skelsa, Gerald L.	4	Denver, Colo.
Jenkins, Gerald D.	2	Amarillo, Tex.	Van Horns, Alan K.	4	Mather AFB, Calif.
Jensen, Rodney E.	4	Salt Lake City, Utah	Warden, Roland R.	3	Wichita, Kansas
Lee, Jackson G.	2	Jacksonville, Fla.			

ROS CLASS 157 FPS-20 CONVENED MAY 15, 1961 TO MAY 26, 1961

Barreira, Sixto A.	5	Anchorage, Alaska	Larsen, Herbert M.	2	Texarkana, Ark.
Carpenter, Douglas L.	1	Pittsburgh, Pa.	Marshall, Thomas W.	1	Pittsburgh, Pa.
Cree, Gavin G.	2	Tuscaloosa, Ala.	Messart, William J.	1	Rosnoke, Va.
Huss, Joseph F.	3	Anchorage, Alaska	Rutledge, Harvey L.	4	El Toro MCAS, Calif.
Johnson, John E.	5	Anchorage, Alaska	Ryness, Walter E.	5	Anchorage, Alaska
Kiser, Walter L.	2	Texarkana, Ark.	Waldron, Wallace I.	5	Fairbanks, Alaska
Kusma, Leonard D.	1	Pittsburgh, Pa.	Weimer, Robert E.	4	Albuquerque, N. M.
Lack, Lewis E.	4	Klamath Falls, Ore.			

ROS CLASS 158 PAR-2 CONVENED MAY 22, 1961 TO JUNE 2, 1961

Blackett, Ralph W.	4	Seattle, Wash.	Miley, Ronald E.	3	Ypsilanti, Mich.
Chesley, Russell E.	1	Washington, D. C.	Mortensen, Ronald J.	3	Omaha, Nebraska
Franklin, Billy W.	2	Dallas, Texas	Smith, Harry H.	4	Los Angeles, Calif.
Garnier, Thurman P.	2	Houston, Tex.	Toland, Leslie B.	2	Dallas, Texas
Ravkinson, George G.	4	Seattle, Wash.	Welch, Leonard K.	3	Lincoln, Nebraska
Wazlett, Marion E.	2	Houston, Tex.	Zoelner, Vernon A.	3	Indianapolis, Ind.
Russong, Warner M.	4	Portland, Ore.			

RNG REPEATERS CLASS 24 CONVENED MAY 22, 1961 TO JUNE 9, 1961

Bell, George D.	4	Daggett, Calif.	McDonald, James J.	1	Jamestown, N. Y.
Brownlie, George D., Jr.	2	Miami, Fla.	Monasmith, Harvey S.	3	Wichita, Kansas
Cambler, James S.	4	San Jose, Calif.	Moreland, Robert F.	4	Portland, Oregon
Carlis, Nicholas J.	1	Jamaica, N. Y.	Mathman, Charles A.	6	Paso Robles, Calif.
Deadrack, Eugene L.	3	Ypsilanti, Mich.	Powers, William D.	4	Portland, Oregon
Dickens, Warren R.	1	Gordonsville, Va.	Prather, Clyde H.	2	Memphis, Tennessee
Faust, Edwin C.	3	South Bend, Ind.	Reulet, Remy J.	2	Gulfport, Miss.
Goforth, Vernon E.	2	Spartanburg, S. C.	Shaffer, James K.	4	Medford, Oregon
Jones, Harry A.	3	Hutchinson, Kans.	Strange, Cecil V., Jr.	2	Houston, Texas
McAnally, David T.	2	Meibourne, Fla.	Warren, James F.	4	Eugene, Oregon

ROS CLASS 158 ASR-1 CONVENED MAY 22, 1961 TO JUNE 9, 1961

Allen, James H.	2	Tallahassee, Fla.	Hightower, Giles W.	2	Pt. Worth, Tex.
Bauerle, William H.	2	San Antonio, Tex.	Johnson, David U., Jr.	3	Chicago, Ill.
Benson, William G.	4	Great Falls, Mont.	Martinez, Ramon J.	4	Salt Lake City, Utah
Davis, Richard E.	4	Klamath Falls, Ore.	Mayfield, John W.	4	Salt Lake City, Utah
Ercog, Harold E.	4	Los Angeles, Cal.	Ohata, Harold B.	6	Honolulu, Hawaii
Golombeski, Joseph M.	4	Fresno, Calif.	Olexa, Charles A.	1	Pittsburgh, Pa.
Graves, Doyle D.	2	Pt. Worth, Tex.	Patterson, James T.	2	Memphis, Tenn.
Gray, Stanley F.	4	Oakland, Calif.	Seward, Floyd W.	4	Dallas, Oregon
Gregory, Joe W.	4	San Diego, Calif.	Williams, Sonia V.	5	Anchorage, Alaska
Harrison, Lawrence E.	2	Atlanta, Ga.			

ROS CLASS 158 ASR-4 CONVENED MAY 22, 1961 TO JUNE 16, 1961

Blackett, Robert M.	3	Wichita, Kans.	Peterson, Charles J.	4	Moffett NAS, Calif.
Burkert, Lewis E., Jr.	1	Baltimore, Md.	Rothman, Charles S.	1	Flushing, N. Y.
Cannon, Meredith W.	1	Norfolk, Va.	Ruggiero, Anthony J.	1	East Boston, Mass.
Chino, William W.	4	Oakland, Cal.	Sayman, Donald D.	1	Jamaica, N. Y.
Dumas, Allen E.	2	Dallas, Tex.	Stuhff, Fred	4	Las Vegas, Nevada
Engel, Donald R.	4	Moffett NAS, Cal.	Switzer, Marvin F.	1	Rosnoke, Va.
Fisher, Wesley R.	2	Houston, Texas	Thompson, Bobby G.	2	Atlanta, Ga.
Forrester, Michael J.	5	Fairbanks, Alaska	Torchia, Carl T.	2	Pt. Worth, Tex.
Gaines, Richard L.	2	Memphis, Tenn.	Tulloch, Donald E.	1	Charleston, W. Va.
Hassan, Sami Ail	OIC	Cairo, Egypt	Uzman, Donald E.	3	Pt. Wayne, Ind.
Harrington, Doyle G.	2	Myrtle Beach, S.C.	Weil, William T.	2	Little Rock, Ark.
Lamper, James J.	5	Anchorage, Alaska	Winslett, James R.	2	Robins AFB, Ga.
Manning, Howard C.	2	Knoxville, Tenn.	Wiseley, Lester M., Jr.	2	Pt. Worth, Tex.
Marion, Anthony R.	5	Unalakleet, Alaska	Yes, Charles S. Y.	6	Honolulu, Hawaii

ROS CLASS 158 RML T/R CONVENED MAY 22, 1961 TO JUNE 16, 1961

Baird, George G.	4	Salt Lake City, Utah	LeBlanc, Loyd J.	2	San Antonio, Tex.
Blackwell, John H.	2	Dauphin Island, Ala.	Lee, Jackson G.	2	Jacksonville, Fla.
Copeland, Robert B.	2	Valdosta, Ga.	McComick, Charles T.	2	Memphis, Tenn.
Deschenes, Rene M.	4	Los Angeles, Cal.	Morgan, Wilse G.	4	Seattle, Wash.
Dhabolt, Edward D.	5	Fairbanks, Alaska	Marphy, William A.	1	Charleston, W. Va.
Eaty, John F.	2	Charleston, S.C.	Neeste, Louis T.	2	New Orleans, La.
Frey, William R.	1	London, Ohio	Perney, William A.	3	LaGrange, Ind.
Hughes, Royce L.	2	El Paso, Tex.	Pena, Charles	2	San Antonio, Tex.
Jenkins, Gerald D.	2	Amarillo, Tex.	Singletary, Walter E.	1	Suitland, Maryland
Jensen, Rodney E.	4	Salt Lake City, Utah	Warden, Roland R.	3	Wichita, Kansas
Komar, Michael	WO	Washington, D. C.	Wolf, James T.	3	Indianapolis, Ind.

ROS CLASS 158 AMPLITRON CONVENED JUNE 12, 1961 TO JUNE 16, 1961

Allen, James H.	2	Tallahassee, Fla.	Harrison, Lawrence E.	2	Atlanta, Georgia
Bauerle, William H.	2	San Antonio, Tex.	Highower, Giles W.	2	Pt. Worth, Tex.
Benson, William G.	4	Great Falls, Mont.	Johnson, David U., Jr.	3	Chicago, Illinois
Carlis, Nicholas J.	1	Jamaica, N. Y.	Krech, Clarence B.	4	Minneapolis, Minn.
Davis, Richard E.	4	Klamath Falls, Ore.	Martinez, Ramon J.	4	Salt Lake City, Utah
Ercog, Harold E.	4	Los Angeles, Cal.	Mayfield, John W.	4	Salt Lake City, Utah
Golombeski, Joseph M.	4	Fresno, Calif.	Olexa, Charles A.	1	Pittsburgh, Pa.
Graves, Doyle D.	2	Pt. Worth, Tex.	Patterson, James T.	2	Memphis, Tennessee
Gray, Stanley F.	4	Oakland, Calif.	Seward, Floyd W.	4	Dallas, Oregon
Gregory, Joe W.	4	San Diego, Calif.			

BADAR CLASS 162 CONVENED JUNE 26, 1961 TO SEPTEMBER 8, 1961

NAME	REG.	STATION	NAME	REG.	STATION
Allen, Bob E.	2	Houston, Texas	Isaacs, Donald W.	4	Long Beach, Calif.
Amel, Frank J.	3	Kansas City, Mo.	Johnson, Gerald F.	4	Denver, Colo.
Beam, Paul A.	4	Edwards, Calif.	Kenoyer, William B.	4	Bellows, Oregon
Beam, Arthur W.	4	Oakland, Calif.	Loeiger, Donald G.	1	Cleveland, Ohio
Bouchard, Maryan H.	1	AtlanticCity, N.J.	Lower, Claydon A.	1	Oberlin, Ohio
Bowser, Robert H.	3	NorthPlatte, Neb.	Lower, Donald E.	2	Charlottesville, N. C.
Brookus, Gavin L.	2	Charleston, S.C.	McCorduck, John E.	4	El Toro MCAS, Calif.
Buchanan, Hugh R.	2	Greenville, S. C.	McGrath, Rody F.	1	Windsor Locks, Conn.
Cain, David W.	4	LosAngeles, Calif.	Moore, Bennie E.	2	Montgomery, Ala.
Carpetter, Lowell E.	4	Bolae, Idaho	Oliver, Terry K.	2	Terminai, Texas
Chavers, Jerry L.	4	SaltLakeCity, Utah	Prosser, Thomas R.	4	Dallas, Oregon
Chowdhury, Mayeen U.	OIC	Pakistan	Rhoads, Wayne C.	2	Ft. Worth, Texas
Collins, Harvey D.	2	Greensboro, N.C.	Ryan, Martin E., Sr.	4	Edwards, California
Deeren, Robert D.	2	Memphis, Tenn.	Sansone, Frederic L.	4	Edwards, California
DeLong, David P.	2	Charleston, S.C.	Semegen, John	1	Jamaica, N. Y.
Dennis, Leonard E.	4	SanFrancisco, Calif.	Soule, Anthony J.	3	Ynkster, Mich.
Dietz, Albert C.	5	Anchorage, Alaska	Stanfield, Dean R.	4	Los Angeles, Calif.
Donato, Harry H.	2	Oakland, Calif.	Stead, Herbert A.	1	Washington, D. C.
Fontaine, William E.	2	Jacksonville, Fla.	Steele, Warren P.	1	Washington, D. C.
Forbes, Neil B.	4	SaltLakeCity, Utah	Strobel, Burton	1	Washington, D. C.
Fordham, Robert	4	Santa Monica, Cal.	Taylor, Clayton A.	1	Washington, D. C.
Francis, Marcus R.	1	Jamaica, N. Y.	Terhune, Paul G.	4	Los Angeles, Calif.
Greenfield, William W.	2	Abilene, Texas	Tobey, William J.	4	FairchildAFB, Wash.
Gregory, William O., Jr.	1	Flushing, N. Y.	Toms, Raleigh I.	2	Greenville, S. C.
Grunseth, Dale R.	4	Tucson, Ariz.	Turley, Clarence F., Jr.	4	Albuquerque, N. M.
Harper, James A.	2	Raleigh, N. C.	Willis, Willie R.	1	Washington, D. C.
Higgins, James E.	5	Anchorage, Alaska	Yakum, Robert L.	4	Portland, Oregon

VOR CLASS 208 CONVENED JUNE 26, 1961 TO JULY 18, 1961

Bacci, John A.	1	Hillsgrove, R. I.	Jeffers, Don O.	4	Reno, Nevada
Beugnot, Cecil	2	Ft. Worth, Texas	Kroh, Ronald W.	1	Windsor Locks, Conn.
Calvert, Samuel R.	1	Paduach, Kentucky	Lindsey, William L.	4	Albuquerque, N.M.
Cian, Edward	4	March AFB, Calif.	Malta, Luperio U.	OIC	Brazil
Cordeiro, Manuel De A.	OIC	Brazil	Marshall, Narden W.	1	East Boston, Mass.
Crane, Richard R.	4	Bellingham, Wash.	Meyer, John F.	4	Denver, Colo.
Daril, Raymond E.	2	Pine Bluff, Ark.	Murray, Bernard J.	1	Mantucket, Mass.
Dvorsky, Louis A.	WO	Washington, D. C.	Potter, William J., Jr.	1	Glens Falls, N. Y.
Fifer, Donald F.	4	Salinas, Calif.	Richards, Gene A.	3	Pierre, S. D.
Fry, Donald W.	2	Ardmore, Okla.	Schooler, James W.	3	Butler, Missouri
Gaudet, Joseph A.	2	Charleston, S.C.	Seward, Charles W.	4	Los Angeles, Calif.
Gault, William C.	2	Ft. Worth, Texas	Tentou, Henry	2	Lafayette, La.
Glaesser, Emil F.	1	Mansfield, Ohio	Thomas, Robert F.	2	Montgomery, Ala.
Gutierrez, Samuel R.	4	Santa Fe, N.M.	Vargas, Ivo Costa De	OIC	Brazil
Helms, James L.	2	Waco, Texas	Welch, Joseph N., Jr.	1	Baltimore, Maryland
Hunt, James R.	1	Boston, Mass.			

ESTABLISHMENT CLASS 22 CONVENED JUNE 26, 1961 TO JULY 21, 1961

Kavallaro, Richard J.	1	Jamaica, N. Y.	Shuler, David W.	1	Jamaica, N. Y.
Khouzam, Horas Chafik	OIC	Damascus	Smith, Roger E.	3	Kansas City, Mo.
Mansfield, Samuel L.	2	Memphis, Tenn.	Wilbur, Stephen F.	4	Miles, Calif.
Saylor, J. O.	2	Ft. Worth, Tex.			

PRE-VOR CLASS 210 CONVENED JUNE 26, 1961 TO JULY 21, 1961

Baker, David G.	1	Toledo, Ohio	Hand, Thomas L.	4	Los Angeles, Calif.
Brown, Millard R.	1	Louisville, Ky.	Kaptonak, Donald E.	3	Joliet, Illinois
Coleman, Calvin	1	New York, N. Y.	Laperriere, Richard G.	1	East Boston, Mass.
Covey, Stewart M.	1	Windsor Locks, Conn.	Maples, Eugene L.	2	Kingfisher, Okla.
Dougherty, William B.	1	Philadelphia, Pa.	Manello, Nicholas	1	Philadelphia, Pa.
Eldred, Stuart C.	3	Springfield, Ill.	Naples, Donald A.	1	Pittsburgh, Pa.
Elhart, James W.	1	Norfolk, Va.	Shealy, Fred J.	2	W. Columbia, S. C.
Freampton, Edward	2	Simons Island, Ga.			

ILS CLASS 204 CONVENED JUNE 26, 1961 TO JULY 21, 1961

Blanchini, Albert	1	Millville, N. J.	Onstad, John B.	3	Kansas City, Mo.
Cooper, Claire M.	4	Albuquerque, N.M.	Oliver, Lowell A.	1	Vandalia, Ohio
Costello, John E.	2	W. Columbia, S.C.	Onez, Anthony	1	Niagara Falls, N. Y.
Devar, Dale B.	3	Detroit, Mich.	Pribble, Russell J.	1	Borfole, Va.
Hart, David E.	3	Farmington, Mo.	Rood, Alonzo L.	4	Albuquerque, N. M.
Henderson, Charles M.	2	Alcoa, Tenn.	Sapochak, Ronald	1	New Cumberland, Pa.
Ingerson, John L.	3	Omaha, Nebr.	Slater, Russell H.	1	Washington, D. C.
Krebs, Richard E.	4	Los Angeles, Calif.	Sprasser, Charles E.	3	Topeka, Kansas
Mason, Robert E.	5	Anchorage, Alaska	Stones, Billy G.	2	Montgomery, Ala.
Mirko, Matij	4	Goleta, Calif.	Takehara, Toshio	6	Honolulu, Hawaii
Nicoletti, Philip	4	LosAngeles, Cal.	Wilson, Raymond L.	3	Pawnee City, Nebr.

ILS CLASS 205 CONVENED JULY 10, 1961 TO AUGUST 4, 1961

Ary, James R.	2	Amartillo, Texas	Petty, Allen E.	2	New Orleans, La.
Bochek, Frank J.	1	Pittsburgh, Pa.	Quinnan, Thomas F.	1	Jamaica, N. Y.
Bouillon, Richard A.	3	Hazelwood, Mo.	Schwantes, Verlyn J.	3	Rockford, Ill.
Branam, Alfrey J.	2	Ft. Worth, Tex.	Senol, Muhlis	OIC	Turkey
Contag, Werner R.	OIC	Quito/Ecuador, S.A.	Spedafino, Michele	1	Flushing, N. Y.
Erickson, Maurice W.	4	Denver, Colo.	Stranghoener, Gilbert	3	Omaha, Nebraska
Green, Leland A.	2	Raleigh, N.C.	Stiger, Harold L.	2	Wichita Falls, Tex.
Guevenox, Ali E.	OIC	Turkey	Tvedell, Thomas R.	4	Los Angeles, Calif.
Farley, John T.	1	Jamaica, N. Y.	Tyler, George F.	1	Columbus, Ohio
Moriarty, Brandon M.	4	Eugene, Ore.			

PRE-VOR CLASS 211 CONVENED JULY 10, 1961 TO AUGUST 4, 1961

Bethke, William J.	2	Fort Myers, Fla.	Morse, Eugene R.	1	Jamaica, N. Y.
Coble, Samuel D.	1	CampSprings, Md.	Robinson, Richard E.	3	Scottsbluff, Nebr.
Dean, Henry T.	1	Syracuse, N. Y.	Silva, Esiquio L.	2	San Antonio, Texas
Ciery, Gerald J.	3	Sidney, Nebr.	Thimmons, Ronald W.	1	Camp Springs, Md.
Gilmartin, Roy E.	1	Jamaica, N. Y.	Todd, Clair R., Jr.	1	Pittsburgh, Pa.
Helton, Junior L.	AC	Okla. City, Okla.	Vanston, Joseph P.	1	Jamaica, N. Y.
Jensen, Einar J.	3	SargentBluff, Iowa	Wells, William G.	2	Savannah, Ga.
Maupin, Bruce E.	2	Jackson, Miss.			

VOR CLASS 209 CONVENED JULY 10, 1961 TO AUGUST 4, 1961

NAME	REG.	STATION	NAME	REG.	STATION
Anderson, Don L.	2	Gage, Okla.	Kettlewell, David V.	4	Ukiah, Calif.
Bahr, Gerald L.	4	Rowell, N.M.	Kuntz, Kenneth W.	3	Lafayette, Ind.
Baker, David L.	1	Akron, Ohio	Lara, Mario A.	OIC	Brazil
Bartholomew, David F.	5	Anchorage, Alaska	Moury, Alfred E.	4	Klamath Falls, Ore.
Brundney, Stanley P.	2	El Paso, Tex.	Monk, John T., Jr.	2	Anderson, S. C.
Cansanaco, Jose F.	OIC	Brazil	Nickerson, Selden H.	2	Orlando, Fla.
Carrson, Billy J.	3	Kansas City, Mo.	Nottage, Joseph L.	1	Philadelphia, Pa.
Davis, Robert H.	1	Matawan, N. J.	Orlicki, Edmund L.	4	Fairchild AFB, Wash.
Durand, Duane C.	5	Anchorage, Alaska	Payne, Robert C.	2	Alexandria, La.
Eastburn, Dale R.	2	Pensacola, Fla.	Purifoy, Franklin D.	2	Ft. Worth, Texas
Fuentes, Richard H.	6	Honolulu, Hawaii	Simmons, Mathias J.	3	Omaha, Nebraska
Good, Luther S.	1	Reading, Pa.	Sparks, Peter R.	1	Hillsgrove, R. I.
Hrcha, Michael J.	1	Binghamton, N.Y.	Spoon, Howard P.	4	San Francisco, Calif.
Hays, Bertran G.	3	St. Joseph, Mo.	Stallings, Drew N.	4	Hayward, Calif.
Irwin, Jack E.	2	Alexandria, La.	Stanley, Harvey B.	2	Sulphur Springs, Tex.
Johnson, James R.	1	Jamaica, N. Y.	Thornton, Ashton K.	4	Salt Lake City, Utah
Joyce, Paul W.	1	Swanton, Ohio	Tyler, John C.	4	Prescott, Arizona

MULTI-CHANNEL RECORDERS CLASS 23 CONVENED JULY 10, 1961 TO JULY 21, 1961

Adams, Carey P.	1	Newport News, Va.	Halley, Edward O.	2	Jackson, Miss.
Brown, Don H.	2	Tallahassee, Fla.	Parker, Frank J., Jr.	5	Anchorage, Alaska
Dearing, Alfred R.	2	Tallahassee, Fla.	Pierce, Jimmy W.	2	New Orleans, La.
Foster, Walter R.	1	Idlevild, N. Y.	Reiff, Duaine A.	3	Kansas City, Mo.
Harold, Carlyle M.	2	Raleigh, N. C.	Riggs, Anson C.	2	Abilene, Texas
Ivey, Joseph P.	2	San Antonio, Tex.	Sheppard, Edgar P.	5	Anchorage, Alaska
Johnson, Arthur W.	1	Harrisburg, Pa.	Stevens, Walter E.	3	Savoy, Illinois
Munroe, Philip A.	1	Idlevild, N. Y.	Zingg, Alfred H., Jr.	2	Columbia, S. C.
Nakamura, George T.	6	Honolulu, Hawaii			

SYMBOLIC LOGIC CLASS 4 CONVENED JUNE 26, 1961 TO JULY 21, 1961

Camp, Felix W.	2	Birmingham, Ala.	Moe, Albert E., Jr.	4	San Francisco, Calif.
Gallagos, Nick S.	4	Albuquerque, N.M.	Saunders, Donald V.	1	Jamaica, N. Y.
Hastings, Donald D.	2	Tulsa, Okla.	Suarez, Harry W.	2	New Orleans, La.
Hill, Aaron R.	2	El Paso, Texas	Tabaka, Leo J.	3	St. Louis, Mo.
Morris, Bobby R.	2	Miami, Fla.	Waters, Billy	3	Kansas City, Mo.
Mobra, Daniel J.	2	Houston, Texas	Wood, Kenneth A.	2	Jacksonville, Fla.

TELETYPE CLASS 30 CONVENED JUNE 26, 1961 TO JULY 21, 1961

Balke, Charles G.	2	El Paso, Tex.	McHale, James	1	New Cumberland, Pa.
Brewer, Herbert J.	2	Hampton, Ga.	Marlott, Robert J., Jr.	1	Pittsburgh, Pa.
Callo, Nicky	6	Honolulu, Hawaii	Marra, Mack M.	4	Denver, Colo.
Caya, Paul E., Jr.	1	Windsor Locks, Conn.	Moecker, John G.	3	Scottsbluff, Nebr.
Christensen, Jerry M.	5	Fairbanks, Alaska	Newman, James R.	2	Memphis, Tenn.
Coolley, William W.	3	Huron, S. Dakota	Oliver, Paul W.	2	Birmingham, Ala.
Crook, Benjamin F.	4	Seligman, Ariz.	Pope, Sylvester	1	Pittsburgh, Pa.
Dardari, Payek M.	OIC	Damascus, Syria	Quinn, John F.	4	Cedar City, Utah
Dudley, John G.	4	McChordAFB, Wash.	Roberts, Harry C.	4	Willcox, Ariz.
Falco, Samuel L.	1	Teterboro, N. J.	Rosdhal, Edwin	2	Greenville, S. C.
Forster, Ernest R.	2	Terminai, Texas	Slater, Ernest C.	3	Hill City, Kansas
Galbraith, Gary B.	4	Ft. Worth, Tex.	Tucker, Frank M.	3	Quincy, Illinois
Gonsales, Raymond L.	4	Wendover, Utah	Warin, Marcel L.	3	Wichita, Kansas
Gordon, Sharrif W.	4	Blythe, Calif.	Warkover, Billy G.	2	Huntsville, Ala.
Henslee, C. Ray	4	Syracuse, N. Y.	Wilkinson, Walter F.	1	Elkins, W. Va.
Kopka, Raymond C.	1	Syracuse, N. Y.	Williamson, Gary E.	3	North Platte, Nebr.
Landis, David M.	4	TruthorConse. H.M.	Wilson, Gordon R.	3	Kansas City, Mo.
Loewe, Frank V.	5	Annette, Alaska	Young, David J.	2	Ft. Worth, Texas
McCaghren, Ruben E.	2	Jackson, Tenn.			

COMMUNICATIONS EQUIPMENT CLASS 183 CONVENED JUNE 26, 1961 TO SEPTEMBER 15, 1961

Babits, Frederick J.	3	Ypsilanti, Mich.	Henry, Wayne M.	2	Amarillo, Texas
Bennett, Deral M.	2	Atlanta, Ga.	Lamb, Lewis A.	4	El Toro, Calif.
Blagg, Glen E.	3	Rockford, Ill.	Maki, Richard I.	5	Anchorage, Alaska
Brundage, Henry H., Jr.	3	Minneapolis, Minn.	Mateer, Charles R.	2	Memphis, Tenn.
Chesler, Leon F.	5	Anchorage, Alaska	Meyers, Richard D.	4	March AFB, Calif.
Cornwell, Leonard F.	4	Long Beach, Cal.	Mitchell, Ray J., Jr.	2	Memphis, Tenn.
Crosby, Jerry W.	2	Ft. Worth, Tex.	Oleas, Ellis A.	4	Dallas, Oregon
D'Amato, Frederick H.	1	Houlton, Maine	Pelcher, William S.	1	Massena, N. Y.
Davidson, Donald R.	4	Imperial, Cal.	Fullen, Willis E.	4	Dallas, Oregon
DeGruchy, David W.	1	Baltimore, Md.	Riley, James G.	2	Meridian, Miss.
Ferguson, Andrew H.	1	Baltimore, Md.	Robinson, John L.	4	Burley, Idaho
Filkin, Vance W.	3	Pierre, S. D.	Ross, George W.	2	Jacksonville, Fla.
Funes, Oscar D.	OIC	Honduras	Savoy, Curley	2	Baton Rouge, La.
Garner, Delbert L.	3	North Platte, Neb.	Sullivan, Anthony P.	1	Burlington, Vt.
Gayden, Robert F.	6	Honolulu, Hawaii	Swing, Donald F.	2	Charlotte, N. C.
Gibson, Elliot L.	1	New York, N. Y.	Vase, John I.	1	Boston, Mass.
Groves, James L.	2	August, Ga.	Wagner, William D.	3	Savoy, Ill.
Poulsen, Carlos B.	OIC	Chile	Yoham, Eugene A.	2	Miami, Fla.



