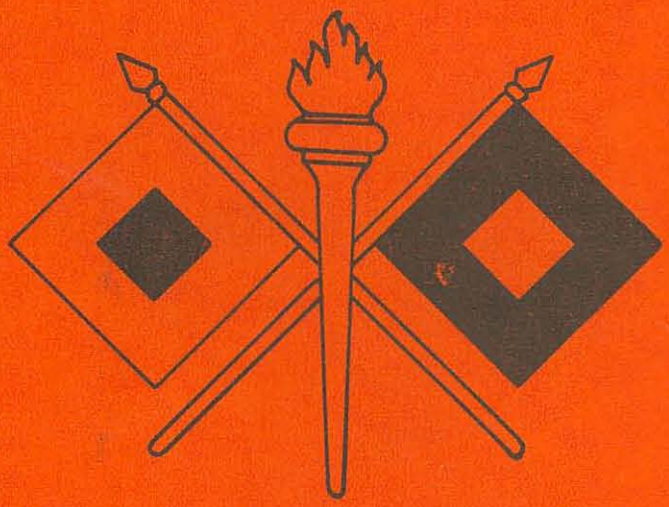
RESTRICTED

WAR DEPARTMENT

OFFICE OF THE CHIEF SIGNAL OFFICER

INFORMATION LETTER



NO. 10

WASHINGTON, D. C.
SEPTEMBER 1, 1942

WAR DEPARTMENT
HEADQUARTERS, SERVICES OF SUPPLY
OFFICE OF THE CHIEF SIGNAL OFFICER
SPECIAL ACTIVITIES BRANCH
WASHINGTON, D. C.

September 1, 1942

SIGNAL CORPS TECHNICAL INFORMATION LETTER NO. 10

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THE SIGNAL CORPS TECHNICAL INFORMATION LETTER -

1. The Signal Corps Technical Information Letter (SCTIL) is issued monthly in this form. Its purpose is to keep officers in charge of field activities informed of matters of interest, such as new developments in Signal Corps equipment, changes in methods, progress in procurement of major Signal Corps items of equipment, etc.

2. The letter is compiled largely from information regularly available in the Office of the Chief Signal Officer. However, all Signal Corps agencies are invited to submit items of general interest. Such items should reach the Special Activities Branch, Office of the Chief Signal Officer, not later than the 20th of each month for inclusion in the letter of the first of the succeeding month.

3. Distribution of the letter will be made to army, corps, and division signal officers; commanding officers of signal companies and battalions; service command and department signal officers; post, camp, depot and Procurement District signal officers; the signal officers of bases and task forces; the signal officers of the Armored Force; signal officers on the staffs of major headquarters of the Army Air Forces and Army Ground Forces.

4. Requisitions for new types of equipment will not be submitted on the basis of information contained in this letter.

5. Restricted -- A document will be classified and marked "Restricted" when the information it contains is for official use only or of such nature that its disclosure should be limited for reasons of administrative privacy or should be denied the general public. The "Restricted" mark will be placed on a document only by authority of a commissioned officer.

6. An unrestricted Signal Corps Information Letter in printed form is being issued by the Special Activities Branch this month with a wider distribution. To avoid confusion, the restricted letter, previously issued as "The Signal Corps Information Letter (Restricted)", will henceforth be called "The Signal Corps Technical Information Letter."

I

PROCUREMENT

Army-Navy Communications Production Expediting Agency:

In order to coordinate all critical communications production for both Army and Navy, a special Radio and Radar Committee of the Army and Navy Munitions Board recently recommended that a joint Army-Navy Communications Production Expediting Agency be established. Accordingly, on August 13, 1942, the following directive was issued to The Chief Signal Officer of the Army, from Headquarters, Services of Supply, at which time such reorganization as was necessary to comply therewith was perfected:

"1. The recommendations of the special Radio and Radar Committee of the Army and Navy Munitions Board as stated in paragraph 5 of the Report dated July 21, 1942, was approved.

"2. In accordance with the recommendations, it is directed that:

a. The agency, now identified as the Signal Corps production expediting service, be redesignated the Army-Navy Communications Production Expediting Agency.

b. The Army-Navy Communications Production Expediting Agency be authorized to function for both services under such joint instructions as may be necessary.

c. The senior officer of the Army-Navy Communications Production Expediting Agency be designated by the Army, and that he be responsible for the service in accordance with such joint instructions as are issued.

d. Such officers of appropriate rank as may be designated by the Navy Department together with such civilian personnel of the Navy Department as may be necessary will be stationed in the central and regional offices of the Army-Navy Communications Production Expediting Agency. It is the intent that the existing Army personnel be utilized to the maxi-

mum extent in meeting the expediting problem of the Services.

"3. In carrying out the functions of the expediting agency, it is understood that:

a. The officer in charge of the Army-Navy Communications Producting Expedition Agency will report to the Director of the Signal Supply Service, Office of the Chief Signal Officer, and his senior assistant (who will be a Navy officer) will report to the head of the Radio and Sound Branch, Bureau of Ships.

b. The Director of the Signal Supply Service and the head of the Radio and Sound Branch are authorized to issue joint instructions from time to time."

Priorities:

Considerable difficulty was anticipated in the production of Signal Corps equipment not rated in the AA-1 preference rating category in the Signal Corps Priorities catalogue. The Priorities Subsection determined that a major portion of this anticipated difficulty was due to the assignment of AA-1 preference ratings by the Navy Department on communication equipment to be produced throughout the year 1943.

A conference was held August 8, 1942, with representatives of Navy Department, Army-Navy Munitions Board and Signal Corps relative to the subject matter. It was decided that all Army and Navy radio and special equipment to be delivered prior to March 31, 1943, will bear an AA-1 priority. Those to be delivered after March 31, 1943, will bear an AA-2 or lower priority, except Navy shipborne radio, etc., which will bear an AA-1 priority for equipment to be delivered prior to June 30, 1943 in accordance with present priority regulations.

A precedence list of Navy and Signal Corps communications equipment is being prepared and will be used as a guide in the production of this equipment. It is believed that this list will eliminate to a great extent the present production difficulties due to priorities.

II

FACILITIES AND MATERIALS

Alnico Grade V Magnet Alloy:

The function of electro-magnets in communications equipments being fabricated for the war effort is becoming increasingly supplemented by the uses and applications of permanent magnets for the deflection of electronic streams.

Permanent magnets are manufactured in several alloys -- the better known of these to the trade being Chrome, Cobalt, and Alnico. Of these the Alnico and particularly the Alnico Grade V is among the later developments and, due to certain advantages, Alnico V is coming into increasingly greater use.

The problem of raw materials has become exceedingly critical, especially so in the case of Nickel, Cobalt, and Copper. This has been one of the main factors leading to the increased use of Alnico V Magnet Alloy. Further, it may be roughly estimated that by the use of Alnico V, approximately the same flux density may be obtained with an estimated half the weight of material used in any other type of Magnet Alloy. Aside from the prime consideration of raw material savings, it is readily seen that such action would be welcomed on the part of the arms and services in equipments where weight consideration is one of the first problems in mind. By the use of Alnico V there is a considerable saving in Nickel and Aluminum over other alloys, but a large increase in the use of Cobalt. This last factor may be considered one of the retarding problems in the greater use of Alnico V.

There are at the present time six companies engaged in the manufacture of this material, two of them more or less on an experimental basis. The fundamental difference in the manufacture of Alnico V and other grades of Alnico is that Alnico V is heat-treated or, more correctly stated, cooled, in a magnetic field. This cooling treatment consists of placing the material in a magnetic field at a temperature of around 2200° and cooling it down slowly to 1100° in the field. As this heat-treating equipment has heretofore been manufactured primarily on an experimental basis rather than for production equipment, it is not readily available. Further, the amount of strategic raw materials needed for the fabrication of heat-treating units is such that

the additional equipment needed will not be speedily forthcoming.

The company holding the basic patent for Alnico V estimates that requirements will be substantially increased in 1943 for Alnico V and has recommended to the Signal Corps that steps be taken to insure adequate facilities for the increased expected load.

The Facilities and Materials Branch has undertaken a detailed study of the industry with particular regard to Alnico V facilities, and at the present time a personal survey is being made by engineers of that branch of the major companies in the field. One facility has already applied for an expansion of its plant and it is expected that possibly one or two more will expand their plants under certificates of necessity as increasing demand for this material becomes more evident.

Wire W-110-B:

Wire W-110-B, the approved standard issue of field wire, twisted pair for the United States Army, has presented, and continues to present, one of the most serious problems in connection with the Signal Corps Procurement Program. Its World War I counterpart, Wire W-40, also was considered to be one of the greatest problems faced by the emergency procurement agencies of that period.

While Wire W-110-B appears to be similar to commercial items, it has no identical commercial counterpart. Many of the manufacturing processes are similar and are performed on machines identical to those used for the commercial product, yet the fabrication of this wire requires certain definite knowledge which is peculiar to it and is not required in the production of similar commercial items. In order to fabricate this wire, high carbon steel rods must be drawn down to .013" wire; copper rods must be drawn down to .013" wire. These wires must be coated, then either stranded or bunched and rubber insulated, vulcanized, and tested; after which the rubber covered wires must be braided, saturated and twinned. The finished twisted pair conductors are then wound on special reels.

The original specification for W-110-B was established May 11, 1931, and with each recurring study and confronting problem these specifications were amended. Today production is based on Specification 71-478-D which was established May 5, 1941, and amended February 18, 1942. Further revisions, intended to reduce critical materials and to facilitate production, are at present under consideration.

On March 27, 1940, twelve wire and cable companies were awarded educational orders calling for each to deliver a specified quantity of Field Wire W-110-B within a specified time together with a detailed Production Analysis of the complete manufacturing operation. The object in placing these orders was to relieve Field Wire procurement difficulties in a possible war emergency by training several reliable facilities in the fabrication of this item. The facilities to whom the educational orders were awarded were chosen with due consideration of geographical location and ability to deliver on any future order at a specified time.

The increased productive capacity of the wire industry for Wire W-110-B resulting from educational orders proved to be invaluable when large quantities of field wire were suddenly required by our war program. Even the vastly increased capacity obtained from the educational order program, however, was not sufficient to meet the full needs of all of the United Nations' war effort, and early in 1942 a Government financed program for the expansion of wire plants was initiated to provide an adequate supply of communication wire for all military forces fighting the Axix. A total of 25 wire plants are currently producing finished W-110-B Wire.

One troublesome design and procurement problem involving Wire W-110-B has been to establish the type of conductor stranding which would be satisfactory from the functional standpoint and at the same time be capable of procurement in the required quantities. Field and laboratory tests indicated that a concentric conductor strand produced on high speed stranding machines was decidedly superior to the unstranded parallel lay conductors; however, the applicable specifications permitted both types of conductors because of initial stranding machine shortages. The conductor stranding problem was studied by all interested branches of the Signal Corps and Field tests were made. All the facts were submitted to the Army Communications and Equipment Coordination Board, and resulted in the following recommendation:

That future procurement and present deliveries of Wire W-110-B be suitably identified, by tag or otherwise, as to the kind of stranding lay used in its manufacture.

Where practicable, only concentric lay Wire, W-110-B, be issued to U. S. Troops for overseas operations.

That as soon as practicable, from a production standpoint, specifications be changed to require only concentric lay wire.

In June, 1942 the Chief Signal Officer directed that appropriate action be taken to effectuate the Board's recommendation. In anticipation of the above decision, stranding machines in quantities needed to produce all W-110-B Field Wire with concentric lay strand had been included in wire plant expansions initiated early in 1942, and by the end of the current year it is expected that procurement of any parallel lay wire will be unnecessary.

The production of field wire has increased tremendously since January 1, 1942. The deliveries in May were approximately 52% greater than those in January, and it is anticipated that the August deliveries will be 90% above the January figure. Further production increases are in sight.

The bottleneck in production at present is shifting from plant capacity deficiency to raw material deficiency (copper, steel, tin, and rubber). The most serious problem at present is obtaining an adequate supply of galvanized hard carbon steel wire for the conductor foundation, due to large requirements of this material for aircraft control cables and the substitution of galvanized steel for aluminum in Navy cables. A pronounced improvement is expected in this situation before the end of this year when several steel wire facilities now being expanded will be coming into production. Expansion of additional steel wire suppliers is under consideration to insure a future supply of galvanized steel wire capacity for W-110-B. In order to lessen the dependency on galvanized steel for Field Wire conductors, copper covered steel is being investigated and shows promise of being a satisfactory material for the application. It is anticipated that the use of copper covered steel will supplement present galvanized wire supply.

The Wire W-110-B procurement situation in general remains critical and difficult because of the copper, tin, steel, and rubber shortages. The amount of rubber in the insulating compound is being cut to the minimum possible, consistent with adequate performance; however no satisfactory and readily available substitute for crude rubber for use in field communication wire insulating compounds is apparent at this time. Some specification changes and reduction in production speeds will be necessary to obtain maximum rubber conservation.

Conservation of tin has been accomplished by specifying a low tin content alloy for copper conductor coating and some temporary loss in production was experienced while the manufacturers overcame the production difficulties involved in application of the new coating. The alloy coating also changed the physical properties of the copper wire to an extent that stranding problems were presented but these are being steadily overcome.

III

GENERAL DEVELOPMENT

Radio Station Shelter:

Experience with large mobile radio stations, such as the SCR-197 and SCR-299, indicates that their bulk presents a serious transportation problem when such equipment must be shipped with a task force. The components of the 197 are permanently mounted in the truck, the SCR-299's components are detachable but some little time is required for removal. This also presents a further problem should the truck itself become disabled.

To circumvent such disadvantages, a slip-in body or "dog-house", has been designed for use with the standard QMC 2½ ton, 6x6 cargo truck and assigned the nomenclature "Shelter HO-17 ( ) (Mobile). This may be used to house the SCR-299 when the standard 2½ ton, 6x6, cargo truck is substituted for the 1½ ton 4x4, panel body truck. It is also likely it will be used to house Radio Set SCR-597, the new Corps and Division mobile radio developed to replace the SCR-197 and SCR-299, and is being considered as a shelter to house other types of equipment.

The principal advantage of this slip-in shelter is that it can be applied to a standard 2½ ton cargo truck without modifications to the truck.

Shelter HO-17 is provided with hooks so it can be raised or lowered into position and it is equipped with skids on which it can be slid or rolled into position.

Battery Development:

The use of dry cell batteries is extensive for powering field communication equipment where portability, compactness and weight are prime concerns. Normally produced for use in temperate zones, their behavior is less satisfactory in extremely cold or hot climates. In cold, arctic regions, a battery's internal resistance increases rapidly and, with other factors, renders batteries largely useless. In hot, humid, tropical regions, local chemical action within the battery's cells causes more rapid deterioration, even when the battery is not in use. Investigations undertaken at the Signal Corps General Development Laboratories are bearing fruit in terms of improvement when batteries are exposed to both these extreme conditions.

Fluorescent Signalling Panel:

In response to a request from Army Ground Forces, the Signal Corps General Development Laboratories have developed a new identification and signalling panel set, white on one side and fluorescent red on the other. This fluorescent coloring is essentially a light-transformer which converts a large percentage of visible and some invisible radiation to a single visible color -- in this case red. Thus, what would normally be a bright red becomes an almost dazzling shade because of light-transformation action. This new fluorescent coloring doubles the visibility range of older type signal panel. An aeroplane, from which the older panels blended into the landscape at 5000 feet, can see this new type clearly from 10,000 feet. Procurement data will be ready shortly, while factory representatives have indicated that delivery can be started approximately four weeks from the date of contract.

IV

TECHNICAL COMMITTEE

Recommendations to CG, SOS:

The Signal Corps Technical Committee has made the following recommendations to the Commanding General, Services of Supply:

1. That Military Characteristics be adopted as follows:

Message Stick MC-379:

Consists of a spring clip clothes pin fastened by means of a light wire to a wooden dowel, 36 inches in length. It is to be used to transfer written messages between a vehicle in motion and personnel on the ground or in another vehicle.

Maintenance Equipment ME-21-( ) (Contactor Unit):

Consists of a kit of special tools and test equipment for the repair and adjustment of Contactor Unit BC-608-( ). This equipment will be used by Signal Corps personnel of the Aviation Service Group or Aviation Depot.

Test Equipment IE-17-A:

This equipment is used for testing and adjusting Radio Set SCR-536. It consists of necessary test stand, test case, associated cables, dummy receiving antenna with all necessary meters.

2. That items be standardized as follows:

Message Stick MC-379:

As above described.

Maintenance Equipment ME-21-( ) (Contactor Unit):

As above described.

Test Equipment IE-17-A:

As above described.

Mobile Meteorological Station SCM-1:

Consists of trailer with meteorological and communication equipment and supplies for use by field weather units in collecting, evaluating and disseminating meteorological data needed in connection with air operations and general forecasting. A mobile meteorological station will function at newly constructed air field until a stationary meteorological station is put in operation. The mobile unit will then be available for another newly established air field.

Camera PH-430:

A 16 mm motion picture camera known as the Cine-Kodak "Special" manufactured by the Eastman Kodak Co., Rochester, New York, complete with lens, adapters, tripod and carrying case. It will be used as a general purpose moving picture camera either hand held or on a tripod by the assignment groups of a photographic company.

3. That items as follows be classified as substitute standard:

Projector Equipment PH-398:

An item of commercial manufacture supplied with complete accessories for sound motion picture projection. The projector complete with amplifier is mounted in a carrying case and is fully portable. The projectors are equipped to carry double perforated film for picture projections and single perforated film for sound motion picture projection.

Projector Equipment PH-402:

Same description as for Projector Equipment PH-398 above.

4. That items as follows be reclassified from Standard to Limited Standard:

Projector Equipment PH-131:

A commercial 16 mm film sound projector. It is fully portable in that the projector complete with the amplifier, is mounted in one sound proof carrying case. A second carrying case is used to house the 12-inch dynamic speaker used for sound reproduction. The projector is equipped to carry double track film for picture projection without sound motion picture projection. This projector also employs stop and reverse motion of the film. This action is taken as it will require from 8 to 12 months to complete delivery on additional orders of this equipment.

5. That items as follows be reclassified from Standard to Obsolete:

Hood PH-118:

This item is a light shield made of fabricated leather and is attached to the camera lens by a spring clasp. It is used with Camera PH-195-A but not a part of either. This action is taken as the item is no longer manufactured.

Camera PH-303 (Title, 35-mm):

This item is a title 35-mm motion picture camera complete with motor, lights, mountings, easels, etc. This action is taken as the only basis of issue for the item is to Photo Lab. GHQ. The item has not been procured for issue in accordance with Tables of Basic Allowances or Tables of Allowances, and Camera PH-274 (Motion Picture) is considered a suitable substitute for this item.

Camera PH-372 (Motion Picture):

This item is a double system moving picture sound recording camera of the newsreel type. It is complete with lens, magazines, amplifiers, microphones, power supply and accessories. This action is taken for the same reason as indicated for Camera PH-303 above.

Approvals by CG, SOS:

The Commanding General, Services of Supply, approved recommended actions as follows:

1. That Military Characteristics be adopted for items as follows:

Cable Stub CC-356-( ):

This item consists of at least 12 feet of Cable WC-548 (Spiral Four) equipped with four-pole universal locking type moulded terminal at one end and at least twelve inches of four insulated conductors extending beyond the cable at the other end. It is used for terminating spiral-four Cable CC-358-( ) for connection to terminal or test equipment.

Sound Ranging Set GR-8-( ):

A sound ranging recording equipment which will perform essentially the same functions as the control station equipment or Sound Ranging Set GR-3-C. The design of the control station equipment is to be developed for extreme mobility. For maximum mobility,

this item will be constructed as a dustproof unit or in a case equipped with carrying handles. The approximate weight is to be about 100 pounds, if practicable, and to be capable of being carried by two men. Recordings are to be made by this equipment in the field and are to be produced for immediate inspection and study under field conditions.

Reproducer MC-364 (Transcription):

A reproducing equipment including speech amplifier, all components and accessories mounted or carried in one case and weighing less than 40 pounds. It has a dual speed twelve-inch turn table. This equipment may be used with Projector PH-222. The item is for use with film strip projectors, code aptitude test equipment and as a small public address equipment. It has undistorted output sufficient to cover an auditorium or room arranged to accommodate an audience or class of approximately 250 students.

Maintenance Equipment ME-21-( ) (Contactor Equipment):

As above described.

2. That items be Standardized as follows:

Cable Stub CC-357-( ):

As above described.

Telephone Central Office Set TC-12:

This set is a group of items previously standardized. It includes a 20-line switchboard (BD-91), converter, batteries, headset, and ground rod.

Public Address Set PA-6-( ):

A squadron announcing system consisting of reproducers, amplifiers, signal generator, and a portable power supply. It may be used to replace a telephone system in case the latter is out of commission. The reproducers will also operate as microphones, transmitting signals from the reproducers back to the control station which operates the entire system. The system is to be used by the Army Air Forces for squadron personnel calling. Attention signals or speech can be transmitted to anyone of twelve reproducers (8 outdoor and 4 indoor) or any combination thereof or all of the reproducers simultaneously. The system is suitable for either portable or fixed operation.

Signal Lamp Equipment SE-11:

A small portable Signal Lamp Equipment with medium ranges for visual code signalling. The equipment weighing about six pounds, consists of Signal Lamp M-227, open type sight, a light tripod, gun stock, spare bulbs, goggles, remote control key, and 15 feet of remote control wire complete in weather proof carrying case.

Reproducer MC-364-( ) (Transcription):

As above described.

Maintenance Equipment ME-21-( ) (Contactor Equipment):

As above described.

3. That items as follows be classified from Standard to Limited Standard:

Telephone Set TP-4:

This telephone set was approved as standard by The Adjutant General, February 13, 1939, on recommendations of the Signal Corps Technical Committee, November 14, 1938. It was designed for control of antiaircraft defense and was used solely by the Coast Artillery Corps. This action is taken as military need for the device no longer exists.

4. That items as follows be reclassified from Standard to Obsolete:

Hood PH-118:

As above described.

V

AC and EC Board

Recent Changes:

Colonel Harold G. Holt, Armored Force, reported for duty with the AC & EC Board as replacement for Colonel Withers, who will leave soon to take command of an Armored Regiment.

Colonel David E. Washburn reported as an additional Signal Corps member of the Board.

Colonel Robinson Elsdale, Military Adviser to the Controller of Physical Research and Signal Development, Ministry of Supply, has recently arrived from England, and is working with members of the AC and EC Board. His mission is to make a study of the activities in the research and development branch of the Signal Corps, and to exchange views in an endeavor to further coordination and standardization on the design and development of signal equipment for use by the ground forces. It is expected that Colonel Elsdale will spend about a week on this study.

VI

EQUIPMENT COORDINATION

Shelter HO-17 (Mobile):

The Signal Corps Board and the Armored Force Board have been recently authorized to service test models of slip-in bodies to be known as Shelter HO-17 (Mobile). The body is a wood frame with weather-proof plywood surface on exterior and interior. It is designed for use with standard 2½-ton cargo trucks, or half-track trucks of the same size, for housing and shelter of equipments and operating personnel. It can be transported in a truck, transferred to another truck, or operated on the ground. The item was developed with a view to substituting the shelter for housing equipments which have been previously provided with vehicles. (See General Development section.)

Plotting Equipment ME-32-( ):

Plotting Equipment ME-32-( ) has been recently standardized and added to the parts list for radio direction finder equipment TC-8. The equipment consists of a Plotting Board MC-299 and two protractors.

Meteorological Station Set SCM-10:

The Meteorological Station Set SCM-10 was developed recently for use by the Field Artillery. Service test has been conducted by the Field Artillery on this equipment. The item consists of a set of equipment to be used in determining meteorological corrections for field artillery fire and is installed in a van body on a standard 2½-ton truck chassis.

Lighted Drop Message Bag:

Military characteristics have been recently written and the Signal Corps General Development Laboratory is developing a lighted message bag which will consist of a standard bag equipped with a lighting device. When a message is dropped from an airplane during night operations, it can be seen by an observer on the ground during the entire period of descent as well as after reaching the ground.

Power Unit PE-53:

Action has been completed to remove the power unit PE-53 from Tables of Basic Allowances in an effort to reduce the number of types of Signal Corps equipment. Further action will be taken to reclassify this item to obsolete.

Radio Sets SCR-612, SCR-613 and SCR-614:

The military characteristics for Radio Sets SCR-612, SCR-613 and SCR-614 as reported in the May Information Letter are in the process of revision. The tentative revision will require that each of the three sets be supplied with a separate external power unit. The external power unit shall be so designed as to be interchangeable with, and electrically common to all three of the radio receivers.

Poll on Vehicles and Equipment:

In view of the large number of armored vehicles, tanks and gun motor carriages that the Ordnance is procuring, it has been necessary for the Radio Section to conduct a poll to determine (1) which vehicles would be used by the various arms and services and (2) the radio and interphone requirements of those using arms. This poll has been completed and a chart prepared and submitted to the General Development Branch and to the Signal Corps Liaison Officer of the Ordnance Department so that the mock-ups of the various vehicles may proceed at the earliest possible date.

Radio Set SCR-597 -( ):

The revised military characteristics of Radio Set SCR-597-( ) have been submitted for approval by the Signal Corps Technical Committee. These revisions were initiated by a request from the Chief of the Army Air Forces requesting that all components and interwiring be readily removable from vehicles in a manner to permit their transportation by cargo aircraft, boat, or other vehicle, and to facilitate reassembling in vehicles or buildings at their destination. Other revisions of the subject set, initiated at the same time by the Signal Corps, include changes in mode of installation, power requirements, and the type of receivers to be used.

Aural Signal Lamps:

Signal Corps Board Case No. 506 (Aural Signal Lamps) was presented to the Signal Corps Board for study and recommendations for military uses, and recommendations as to the best type of

equipment to meet these requirements. Simultaneously, a request was submitted to the Signal Corps Technical Committee for the adoption of military characteristics for Aural Signal Lamp SE-10-( ).

World Wide Power Supply:

An investigation is being conducted jointly between the Radio Section and the Telephone and Telegraph Section of the Equipment Coordination Branch, General Development Branch, Corps of Engineers, and British representatives in an effort to establish a basic decision on the range of frequencies and voltages to be provided for in all Signal Corps equipment. Frequencies of A.C. power throughout the world range from 27 to 70 cycles with supply voltages from 100 to 240 volts, nominally, and are subject to variations of regulation and system distribution. It appears that more than 95 per cent of the power encountered throughout the world would satisfactorily operate communication equipment designed to function on nominal voltages of 115 and 230 volts and frequencies of 50 - 60 cycles, plus or minus 15 per cent. It is believed that all Signal Corps equipment could be designed to facilitate operation on these nominal voltages and frequencies. If this can be accomplished the result will be a great saving in strategic materials, simplicity of design, reduction in initial cost, and a saving in weight and reduction in size.

Ultra-High Frequency Radio:

Proposed military characteristics for an Ultra-high Frequency Radio Receiver covering the frequency range 150 mc's to 600 mc's were prepared by Radio Section, Equipment Coordination Branch. This set is to be used as a part of the Mobile Direction Finder Central, the Mobile Radio Intercept Central, and also as a field set. The basic design of this set is to be similar to that of Radio Sets SCR-612-( ), SCR-613, and SCR-614-( ) and shall use the same power unit employed by these three sets.

Teletypewriter Chart - Standardization of Teletypewriters:

A chart, subject "Signal Corps Teletypewriter Equipment - Table of Features", has been prepared and circulated for comment. After demonstration and discussion of the different features provided by teletypewriter equipment, it has been proposed that all tactical needs can be met with only two basic types:

(1) The page-printing type which is already standardized as EE-98 and EE-97, the latter including Power Unit PE-77.

(2) A typing reperforator with keyboard and transmitter-distributor set.

This equipment is capable of performing all functions and will provide increased flexibility, simplify operation, and make substantial savings in weight and strategic materials, as compared with equipment previously specified.

Military Characteristics for "TC" at Army Headquarters:

Action has been taken to process for adoption military characteristics for a "TC" for Army Headquarters. If adopted, this will provide for certain improvements in the telephone switchboard, distributing frame, and power plant, and will include a "test board" as a component part of this "TC".

Two-Wire Operation of Carrier Telephone Equipment CF-1:

It has been determined that there is a need for the operation of Carrier Telephone Terminal CF-1 over a single pair open wire line, which feature is provided in similar British equipment. Military characteristics have been prepared and development work is under way.

Plow for Burying Wire or Cable:

Military Characteristics for a wire and cable burying plow have been adopted and development of the plow is in process.

VII

WAR PLANS

Reorganize Three Divisions:

The following divisions are redesignated and will be reorganized on the dates indicated:

Unit	Redesignated as	Date of Redesignation
90th Infantry Div.	90th Motorized Div.	September 15, 1942
95th Infantry Div.	95th Motorized Div.	December 1, 1942
80th Infantry Div.	80th Motorized Div.	December 15, 1942

Activate Signal Units:

On August 24, 1942, the Chief Signal Officer ordered the 243d Signal Operation Company into the active military service of the United States, effective September 10, 1942. This unit will be affiliated with the New York Telephone Company and stationed at Camp Livingston, Louisiana. Organization will be in accordance with T/O 11-97 with an authorized strength of 9 officers, 1 warrant officer and 287 enlisted men.

The 55th Signal Battalion, affiliated with the Bell Telephone Company of Pennsylvania, was ordered into the active military service of the United States on August 22, 1942, at Camp Polk, Louisiana. Concurrently with the affiliation of this unit, the 55th Signal Battalion is redesignated as the 3d Signal Battalion. This unit will be organized under T/O 11-85 as a signal battalion to serve an armored corps.

On August 13, 1942, the 68th and 69th Signal Battalions were constituted and will be ordered into the active military service at the direction of the Chief Signal Officer about December 15, 1942.

The 182nd Signal Repair Company, now at Fort Dupont, Delaware, will be activated and personnel and equipment thereof transferred to the 187th Signal Repair Company, a new unit affiliated with the Bell Telephone Company of Pennsylvania, which will be ordered into active service by the Chief Signal Officer at Fort Dupont, Delaware, in accordance with T/O 11-127. The 187th Signal Repair Company will be attached to the VI Army Corps upon activation.

The Chief Signal Officer will take the necessary action to negotiate and arrange affiliation of the 834th Signal Photographic Detachment, Special Services, with the Research Council of the Academy of Motion Picture Arts and Sciences. The Chief Signal Officer will order this unit into active service with an authorized strength of seven (7) officers and thirty-two (32) enlisted men when housing is available.

Construction Companies Established:

Orders have been issued by Headquarters, Army Ground Forces, to bring the battalions listed below to T/O strength, including basics, by activating the second construction company (Company C):

Unit	Station	Activating Agency
Co C, 51st Sig.Bn.	Camp Blanding, Fla.	Second Army
Co C, 57th Sig.Bn.	Camp Edwards, Mass.	VI Corps
Co C, 62d Sig.Bn.	Camp Claiborne, La.	IV Corps
Co C, 99th Sig.Bn.	Camp Roberts, Cal.	VII Corps

Cadres for the new companies, strength and composition to be determined by the activating authorities, will be furnished from the existing construction company in each battalion affected.

Orders were issued on August 18, 1942, to reorganize Company C, 58th Signal Battalion as a signal construction company at Camp Roberts, California, in accordance with T/O 11-27. The 253d Signal Construction Company will furnish a cadre of 18 enlisted men for this reorganization. Company C, 58th Signal Battalion, will be attached to the VII Corps after reorganization.

VIII

MILITARY TRAINING

Civilian Vocational Schools:

Units having qualified men whom they desire to send to civilian vocational schools should submit their requests for quotas through channels to the Chief Signal Officer. Total enrollment of enlisted men in civilian vocational schools as of August 31, 1942, was approximately 8,900, including 1,600 from other Arms and Services.

IX

FORT MONMOUTH

The Eastern Signal Corps School:

All departments of the Eastern Signal Corps School were operating at capacity quotas during August. Several changes have been made at Fort Monmouth in the organizational set-up in order to meet requirements of the latest training directives.

The Aircraft Warning Department completed its removal from Fort Monmouth August 15, and is now located at its new center, Camp Murphy, Hobe Sound, Florida. The number of students, commissioned, enlisted and civilian, at Fort Monmouth was gradually decreased during the past several months, as Camp Murphy grew, in order to make the change-over with the least possible delay.

Additional organizations of the Replacement Training Center were moved to the new Camp Charles Wood, a short distance from the main post, and the vacated buildings were taken over by the Officer Candidate Department in order to accommodate the enlarged quota of men who are being received at the school. In addition, 56 new concrete block buildings are being completed for use as classrooms.

The seventh officer candidate graduating class, largest in the history of the school, received commissions as second lieutenants on August 13. Short addresses were given by Brig. Gen. G. L. Van Deusen, Commandant, and Col. W. O. Reeder, Assistant Commandant, and diplomas were presented to 953 graduates.

General Van Deusen said, "You are being commissioned at a most critical hour in our nation's history. The war has not gone well for the United Nations up to the present time. Serious reverses have been suffered in the Western Pacific -- the Japs have overrun Burma, Malaya, and a greater part of the East Indies. Our forces in the Philippines have been compelled to capitulate. The Germans are still rolling in Russia.

"Training of our land forces has been accelerated in order that they may take their places in the active theaters of operations along with the air forces and the Navy. Your tasks will not be easy."

Colonel Reeder told the class, "Your course has been fairly difficult in some respects and you have responded by putting forth your best efforts.

"The events of the next 60 or 90 days may be nearly final in determining our future -- whether we are going to live as a lone democracy among three hostile countries or win decisively.

"In assuming command of a group of men the question of whether they die foolishly and needlessly will depend on how you discharge your responsibilities. As an officer you have been freed from worry over minor details in order that you will be able to concentrate on the important duties you will have to discharge as an officer. Your job is to look after your men and nothing must come before that."

A class of 1,000 officer candidates reported August 17, and groups of the same size will report approximately every two weeks thereafter. Graduation exercises will be held twice a month starting November 16. On August 17 there were 1,995 intermediate students and 1,417 senior students in the Officer Candidate Department.

Field Exercise Added:

Simulating the signal system for a division in an attack as established by a division signal company, a 16-hour field exercise has been added to the curriculum of the Officer Candidate Department. The main types of signal operations, message center and messengers, radio, wire operation, and wire construction, are set up in the field by 350 senior students under the guidance of 25 officers. The group is out on the problem from 5 a.m. one day to noon of the following day.

Command posts for the rear echelon, division headquarters (including division artillery) and the three combat teams are set up in order to show the functioning of signal agencies between establishments. The candidates at each command post change duties several times during the problem in order to familiarize themselves with all of the operations. The field exercise is proving a valuable training expedient and the officers in charge are planning to lengthen the problem.

Cadres Furnished:

Thirteen cadres for division signal companies, comprising 92 officer students, were graduated August 22, from the Officers' Department, division signal company officers' cadre course. Additional officers are being added to comply with new tables of organization which now provide for radio intelligence officers and motor officers. Overstrength officers for division signal companies now in the field are included with this cadre group. The company officers, in a majority of cases, are coming

from the Officer Candidate School.

Regular Army Officers in New Class

A class of approximately 180 officer students reported August 17 for the company officers' course. Included in this number were 122 Electronics Training Group students who are taking the common subcourses. Specialist course training started August 24 for a class which consisted mainly of recent Officer Candidate School graduates.

Diplomas were presented August 29 to 15 members of the advanced officers' course. The new class, which will start September 7, will include a number of Regular Army Officers. There will be approximately 350 officers completing the company officers' course on September 7. The July-October class includes 57 Electronics Training Group students and 24 Aircraft Warning Department students who will complete their common subcourses on September 1. The remaining 239 members of the group are scheduled to complete their work on October 13.

Three officers of the School recently visited the Bell Laboratories in New York City to inspect new airborne equipment. Three noncommissioned instructors completed the 6-week Bell Laboratory course this month on radio set SCR-508.

In an effort to supplement other training expedients, the Enlisted Men's Department has adopted an established schedule for showing training films at least once each week in all courses offered in the department.

The VHF course and the air corps communications equipment maintenance men's course, newest in the department, are now taking in a fixed number of students each week. All members of the class are graduates of the radio repair course.

Replacement Training Center:

A new type training manual, new in Army educational methods, was written, edited, and distributed at the Signal Corps Replacement Training Center last month.

The manual, designed for trainees of the basic school, presents vital information on 14 courses in an attractive, interesting manner. Features of the new 62-page manual include blank spaces for student notes and impressions, and spritely illustrative cartoons drawn by a former Walt Disney artist. The language throughout is informal and conversational. Trainees now can easily be identified by the bright orange-covered manual which,

like Mary's little lamb, always accompanies them to school.

On the rifle range, the fact that every soldier in our army must be a deadly marksman is impressed on the trainees. Supplanting the previous practice firing of 25 rounds, the new program calls for the firing of the complete "C" course by each trainee. Firing is both slow and rapid, from all common positions. To date, more than half the trainees have qualified as marksmen.

Preparation for training in the use of the carbine has started. All trainees will become familiar with the care and use of the weapon that is to be standard equipment for all Signal Corps men.

Cadre Course for Kohler Instructors:

To meet the need for additional instructors due to the cadre requirements for newly organized Camp Kohler, a special instructor training course has been instituted at Camp Edison. The goal of the course is the training of 250 instructors in the shortest possible time. Most of the men have never taught before, but the streamlined course lays heavy emphasis on the practical aspects of instruction, with the last of the three weeks being spent in supervised practice teaching. Results of the course have so far more than surpassed expectations, and, as a result, the course will later be given as a refresher to men already functioning as instructors.

Representatives of the War and Navy Departments and the National Research Council, interested in the selection and training program of the Replacement Training Center, held a conference at Fort Monmouth on August 13. Members of the committee toured the Replacement Training Center, observing the actual classification and training of the men. Particular interest was evidenced in the program for the training of radio operators, in which the phonetic equivalent is pronounced at the same time the signal is given, which was developed with the considerable aid of one of their own members, Dr. Fred S. Keller. In an exchange of views, the visitors expressed their extreme satisfaction with the organization and functioning of the training program at the Signal Corps Replacement Training Center.

X

CAMP CROWDER

Pigeon Breeding and Training Center:

The Pigeon Breeding and Training Center, Camp Crowder, Missouri, was activated on August 1, 1942, the personnel being transferred here from Fort Monmouth, New Jersey.

This activity replaces, with the exception of a small detachment left at Fort Monmouth, the Pigeon Breeding and Training Center that has been in existence at Fort Monmouth for the past twenty-five years.

Captain C. A. Poutre, commanding the Pigeon Breeding and Training Center, has already started the enlisted cadre on an extensive training program.

MILITARY PERSONNEL

Casualties:

The following casualties have been reported since July 20, 1942:

1st Lt. Felber Joseph Walch - Killed in airplane crash in Alaska.

1st Lt. Joseph F. Showers - Died at Headquarters, Medical Department Station, Camp Polk, Louisiana

Capt. Abraham Robert Heller - Drowned at Coiba Island

2d Lt. Richard Lee Herpich - Died of Appendicitis operation, Station Hospital, Hamilton Field, California

Promotions:

The following promotions have occurred among Signal Corps personnel during the period from July 24, 1942 to August 13, 1942, inclusive:

Brig.Gen.(Temp)to Col.(Perm):

Ingles, Harry C.

Col. (Temp) to Col. (Perm):

Lewis, Cedric W.
Murphy, William H. (Casualty)
Sadtler, Otis K.

Lt. Col. (Temp) to Col.(Temp):

Cole, Walter Gage
Collins, Samuel Pickens
Jervey, William Wesson
Lyman, Reginald Pond
Mickelsen, Arthur Emil
Miller, Harrod George
Minckler, Rex Walter
Paddock, Howard Samuel
Raynsford, Robert Wayne
Seabourne, Josiah Gay
Wooley, George Francis Jr.

Major (Temp) to Lt.Col.(Temp):

Andrus, Julian M.
Best, John Lindley
Calidonna, Dominick Joseph
Davidson, William Blossom
Davis, John Martin
Dobbins, Walter Eugene Jr.
Herlihy, William Joseph
Kaufmann, Irwin Leo

Maj.(Temp) to Lt. Col.(Temp):

Kent, George Richard
Linn, William Dennis
Meserve, George Donald
O'Leary, John Ambrose
Pickens, Robert Sylvester
Schnoor, Henry Louis
Sloane, Paul H.
Stiehl, Ralph P.
Ware, Fletcher Kirkland
Ware, Joseph H. Jr.
Williams, Lee R.
Zacher, Edwin Fred

Captain (Temp) to Maj.(Temp):

Adams, Bennett Routh Jr.
Barnard, LeRoy Hanson
Bodine, Donald Read
Brooke, Royal George
Brown, Harold McDonald
Burke, Alvin L.
Burnham, Mark Henry
Byrne, Thomas Francis
Conrath, Robert Elmer
Cramer, Howard A.
Cranston, George Echerlbary
Cusick, Joseph Francis
Cuthbertson, Harry Buchanan
Davenport, James Franklin Jr.
DeVore, Howard Ross
Dodge, Robert Irving, Jr.
Duckwitz, William Miller
Dunkles, Carl Otis
Flashman, James D.
Franzen, Roy Oscar
Frederick, Leland Miesse
Gaeckle, William Henry
Ginnaty, John Robert
Hall, Wilmer Eugene
Helmer, Alf Svante Hahre
Heskitt, Marcus William
Jordan, John R.
Joseph, John Albert
Lamar, Ralph Emerson
Leonard, Clarence Edward
Lindquist, Carl Lawrence
Lough, Frederick Charles

Capt.(Temp) to Major (Temp):

Malnight, John Donald
McLarry, Weldon Gray
Moore, Lowrey Robert
Murray, Joseph Francis
Nunez, Robert F.
Orner, Ralph Jonas
Risser, Andrew Allen
Schwendemann, Edward Thomas
Selwyn, George Valdemar
Steele, Clayton Sorenson
Stump, Robin Dale
Swann, Edmond J.
Taylor, Hubert L.
Thomas, Jesse Fuller
Watson, George Stanley
Westphal, George Anthony
Wiggins, Gilbert Newton
Woodruff, Marion Whitefield

1st Lt.(Temp) to Capt.(Temp):

Akin, Leroy
Alford, James N.
Allcorn, Luther Herbert Jr.
Allen, Alva John
Allen, Delmar F.
Anderson, Lawrence B.
Angeny, Ferdinand Granville
Appleton, Louis B., Jr.
Archibald, Herbert Rolfe
Bagnall, George Ormiston
Balliette, George Herbert
Bellville, Charles Herbert
Bickel, Fay Delbert
Bitts, Max Krause
Blaustein, Julian C.
Bohn, John Thomas
Booth, George Henry
Boyd, Jesse Bernell
Brady, Vincent Ambrose
Buerger, Otto Martin
Clapp, Virgil Leon
Clark, Allan Huffman
Cordero, Cesar Luis
Davis, Claude Witherspoon
Dees, Allen DeWitt
Denzer, Joseph Andrew

1st Lt.(T) to Capt.(Temp):

Dibble, Edward Fitzgerald
Downing, Garnet Homer
Falk, Milton
Ferris, Bernhardt Lee
Fineran, Edward Vincent
Fite, Randolph Victor
Fuller, Arthur Charles
Gaddis, Luman Lynn
Galusha, Morris Edgar
Glassenberg, Leonard Harold
Goldstein, Mandel Nathaniel
Gorry, Regis Augustus
Green, Byron John
Harper, Samuel Barrett
Hazelip, Warner Salsman
Hill, Arthur Culiver
Hill, Tolbert Junior
Hineman, Marquis Warren
Honer, Carl N.
Howard, John Thomas
Howarth, Russell Stevenson
Hufford, George Vernon
Hughes, Joe Boyd
Hull, John William
Johnson, James M.
Johnson, Luther Elman
Kimes, Russell A
Kodama, Sidney Phillip
Krohn, Norris Frederick
Kruse, Louis Francis Jr.
Kurth, Edward Harry
Lawrence, Paul Miner
Lester, Charles James
Lewis, Gomer
Linard, Chauncey Cooper
Linder, Howard L.
Lischer, Ludwig Frederick
Longley, James Alfred Jr.
Lord, Francis Alfred
MacLaughlin, Matthew G.
Marquis, Richard S.
Martin, Roy Lee
Mayer, Francis Lambert
Maywald, Frederick J. Jr.
McTernan, William R.
Mears, John Savier
Medbery, Edward W.
Millet, Ralph T.

1st Lt.(T) to Capt.(Temp):

Morehouse, Ned Rodney
Munro, Perry Arthur
Newell, Frank W.
Novarino, Victor Charles
Oakley, Alonzo Wesley Jr.
Osgood, Glenn P.
Peck, James Henry
Pecsok, Joseph Allen
Peter, Edward Cummings
Ponzer, John L.
Poutre, Clifford Algy
Quigley, James Fenlon
Randolph, Burr Harland
Raynor, Kenneth Cox
Reeves, Louis P.
Riley, Thomas W., Jr.
Rippey, George E.
Robinson, Austin Wirt, Jr.
Rohr, Urban E.
Rowley, Ralph M.
Rudd, Albert A.
Runds, Oliver Francis
Runyon, John William, Jr.
Sampers, Henry Cornelius
Scholl, Robert A.
Shults, Cameron Wesley Jr.
Smith, George Gould
Smith, Myron Patterson
Spaht, Homer Dale
Sparr, Albert Edward
Stehr, Melvin William
Stewart, Marvin Terrill
Strother, James F.
Stuart, Henry Joseph
Sullivan, Aaron Humphrey Jr.
Sutton, Milton G.
Tanner, Royal Kendrick
Thompson, Burton W.
Tindall, Robert F.
Tresham, Edw. V.
Turner, Forrest D.
Twomey, Charles Franklin
Waldron, Lloyd Jordan
Warren, James Alexander
Watras, Peter Edward
Weston, Gifford Lovelace
Wheeler, Eldon Lloyd

1st Lt.(Temp) to Capt.(Temp):

Wittnus, Waldemar Albert
Zillig, Chester

2nd Lt.(Temp) to 1st Lt.(Temp):

Ames, John Trowbridge
Andress, Edwin Albert
Armbrecht, John Henry
Atkins, Ernest Graves
Austen, A. Alan
Baker, Bonner Zora
Banan, Frederick Bertrand Jr.
Barcy, Julius George
Bassett, Eugene W.
Baumann, John Voelkel
Bell, Ovid Hall
Bergstrom, Raymond Oscar
Beronio, Peter Aloysius
Best, Edwin William
Blecha, Arthur Elmer
Bloom, Carl John
Bock, Harry H.
Boese, William Carl
Bowles, Henry M.
Breen, William Hancock Jr.
Brodkin, Herbert Harrison
Brooks, Everett Shepherd
Brown, Harold Harvey
Burgess, Albert Frierson Jr.
Burk, Howard William
Burt, Hersey Fred
Cameron, Carl Clinton
Camire, Edward
Cammack, Owen Floyd
Campbell, John Donald
Campbell, Ralph Edward
Chandler, Charles Horace
Chapman, Henry J.
Chewning, Fred
Clark, James L.
Cogswell, Raymond Herbert
Cole, Herbert Edward
Compton, Michael
Cook, Griffith Earl Jr.
Coolidge, Lyle C.
Coulson, William
Cox, John Joseph

2nd Lt.(T) to 1st Lt.(T):

Craig, William Garrott
Cunningham, Philip Clark
Cure, William James
Cushman, Stewart Little
Dales, Philip F.
Daniel, Vincent Eldridge
Davis, Guillet Gervaise, Jr.
Deane, William B.
Dixon, Tyler
Dobbs, Cecil H.
Doherty, Stephen Swayze
Donaldson, Jo. William
Doughtie, Howard Jennings
Drennan, Donald Homer
Eaton, Lindsey Elmer
Ezell, Kincheloe Davis
Farvour, Franklin Burwell
Fensler, William Edward
Ford, George J.
Fox, Richard J.
Frazier, Benj. W., Jr.
Fristoe, Harry White Jr.
Fullerton, Robert Eugene
Furman, Robert Eugene
Furry, Emmert
Gamble, James Carr
Gardner, Henry Bunting
Gautier, Augustus Hugh
Gingrande, Arthur
Goetz, Louis Paul
Goffstein, Solen Morrell
Goldman, Albert William
Gooley, Chas. E.
Gunter, Howard Capps
Haley, Thomas Francis
Hamlett, Ernest H. Jr.
Hammond, George Scott
Harbin, Harold Glenn
Harris, George Harold
Harris, James Stallings
Hawley, Charles C.
Heitmueller, Rudolf
Herschede, Mark Paul
Hewitt, Lawrence Purser
Hickey, Clarence A.
Hill, William Harris
Hinkson, Harold A.

2nd Lt.(T) to 1st Lt.(T):

Hofmann, George A.
Hovick, Robert Louis
Howard, David Albert Jr.
Hoyt, William Lanz
Hudson, James Tidwell
Huffacker, John
Hufsmith, Frederic William Jr.
Hult, John Luther
Hunt, George Orren Jr.
Hunt, Merwin C.
Ivey, Francis D.
Jensen, Geo. N.
Jensen, James William
Johnson, Finis G.
Johnson, William J.
Jones, David Willard Jr.
Kandell, Edward M.
Kearney, Henry Leonard
Keefe, Rono
Kellers, Frank
Kelley, Harold Warren
Kellogg, Louis Henry
Kennamer, Julian Churchill
Kennedy, Douglas Richards
Kerber, John R.
Kime, Joseph Martin
Kiser, Eugene Pickens
Klein, George Francis
Knauff, Francis Theodore
Knockel, Louis Charles
Kolb, Theodore Allan
Koons, Wilbur Frock
Krickhan, William Feige Jr.
Krueger, Russell Carl
LaFond, Russell
Lafrenz, William Arthur
Lange, Frederick
Leddy, Joseph Francis Jr.
Ledterman, Ernest P.
Lepore, Frank Carl
Lewis Chas. Burton
Litzelman, Karl
Lloyd, John Janney Jr.
Lovelace, James Leonard
Ludwig, Charles Stanley
Lydiard, Robert Edward
Lyon, William Dwight

2nd Lt.(T) to 1st Lt.(T):

Maioriana, Frank R.
Manley, Edward John
Marriott, Wesley Gorton
Marsden, Robert Dearborn
Mary, Austen Joseph
Mathis, Blaine
Matzko, Michael August
McCoun, Bruce Townsend
McDonald, Jack W.
McGrath, Thomas F. Jr.
McJury, Ralph
McKithan, Robert J.
McNab, John Vanburger
Meier, Morton L.
Melone, Drury
Miller, Archie Boyd
Miller, Frank William
Miller, William Preisel
Miller, William Stephenson
Minardi, James Anthony
Minary, John Sloan
Minehart, Thos. E.
Montgomery, Robt. E.
Moore, Chas. F.
Morgan, Jack C.
Mosley, Henry David
Mossman, Donald Petithory Jr.
Naughton, Geo. M.
Neer, Harold E.
Nerf, Richard Bernard
Newton, Lyndal Ward
Nichols, Robert Barry
Norris, John L.
North, Edmund Hall
Ogburn, Reuben W.
Ohlson, Leonard Joseph
Owen, Willard Leon Jr.
Page, Victor Stephen
Paolozzi, Thomas
Petri, John
Pfeiffer, Frank Joseph
Pierce, Norman Otto Jr.
Pinkerton, James Reid
Phillips, Robert S.
Polsley, John Raymond
Potter, Harold Colby
Potts, Amos Peaslee, Jr.

2nd Lt.(T) to 1st Lt.(T):

Povendo, Nicholas Anton
Raphael, Louis N.
Rauch, Frederick Louis
Ray, Robert James
Redd, Thomas Lester Jr.
Rierson, Glenn D.
Roberts, William N.
Rose, Irvin Hugh
Rucker, James John
Ryan, William Milton
Sadusky, Alfred A.
Saunders, Harry O.
Schantz, Paul E.
Schenk, Clinton Darling, Jr.
Schneider, Ralph Waldo
Scott, Marvin R. Jr.
Scott, William H.
Sell, Frederick R.
Seeley, Chas. E.
Shanley, Patrick Joseph
Sheldon, Geo. E.
Sherrard, Henry Rudling
Shuder, Russell M.
Simpson, Charles Emerson
Smart, Lee Elliott
Smetana, Joseph John
Smith, Earle Herbert
Snow, Nelson M., Jr.
Souder, LeRoy Theophilus
Spencer, Thomas H.
Sperry, Ralph Anson
Springston, Clifford Dennis
Stanwix, Hay Allen T.
Steinberg, Merrill A.
Stephenson, Gene R.
Still, John
Stingel, Donald Eugene
Stinson, Forrest Allen
Stives, John Henry
Stocker, Eugene Elmer
Storm, Samuel J.
Stradling, Richard Endly
Stuart, George Johnston Jr.
Stuckey, Robert Clifton Jr.
Syme, Preston Trigg
Tatum, Dave H.
Terhune, Nelson Anthony

2nd Lt.(T) to 1st Lt.(T):

Tibbetts, Robt. W.
Tilbury, James Russell
Tindall, Howard Duane
Tippett, Edward Wendell
Toner, Harold Eugene
Trescott, Robert W.
Tweedle, Roy Harold
Usher, Edward Miller
Van Note, Harry T. Jr.
Vassello, Toney
Vaughn, James T.
Warner, Jack Milton
Warner, Lennard Wagner Jr.
Whalen, Stanley Morris
Wheeler, George C.
Wheeler, Joseph Preston
Whitmore, Wayne Eugene
Wilding, John Davis
Williamson, Arba Griffith Jr.
Witt, Emory King
Wood, Roland M.
Woollett, Ralph Storer
Young, William James