

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

TM 11-296

RADIO SET

AN/PRC-6



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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

This technical manual contains information for the operation, organizational maintenance, and storage of Radio Set AN/PRC-6. For instructions on the repair, alinement, testing, and theory of this equipment, see TM 11-4069.

2. Forms and Records

The following forms will be used for reporting unsatisfactory conditions of Army matériel and equipment.

a. DD Form 6, Report of Damaged or Improper

Shipment, will be filled out and forwarded as prescribed in SR 745-45-5.

b. DA AGO Form 468, Unsatisfactory Equipment Report, will be filled out and forwarded to the Office of the Chief Signal Officer as prescribed in SR 700-45-5.

c. DA AGO Form 11-238 (Operator First Echelon Maintenance Check List for Signal Corps Equipment) and DA AGO Form 11-239 (Second & Third Echelon Maintenance Check List for Signal Corps Equipment) will be prepared in accordance with instructions on the back of the forms.

d. Use other forms and records as authorized.

Section II. DESCRIPTION AND DATA

3. Purpose and Use

a. Radio Set AN/PRC-6 (fig. 1) is a miniature, low-power, battery-operated radio receiver and transmitter designed for communication over short distances. Highly portable, it is intended primarily as a handy-talkie for foot combat troops; no skill is required to operate it.

b. The set is self-contained; all operating components necessary for reception and transmission are contained in a two-piece cast-magnesium case. The set may be held in either hand when operating. The microphone and the earphone are fastened to the inside of the case so that the set resembles a hand telephone. An adjustable strap is attached to the case of Radio Set AN/PRC-6 for carrying and for additional support in the operating position. The total weight of the equipment including the battery is approximately 6½ pounds.

c. Provisions are made for the set to accommodate a loop antenna for homing purposes and a handset which can be used when the operator does not wish to hold the equipment or does not want

to use the microphone and earphone contained in the set.

4. System Application

a. Radio Set AN/PRC-6, which consists of Radio Receiver-Transmitter RT-196/PRC-6 and other operating components, is designed primarily for use in short-range communication between the Infantry branch and the Armored and Artillery branches. For this reason, the frequency band has been chosen to overlap the frequency bands of certain communications equipments used by the Armored and the Artillery branches. Figure 3 illustrates the frequency coverage of this equipment in relation to the coverage of other Army equipments.

b. Figure 4 is a simplified block diagram of the equipment. As shown in this figure, the transmitter and receiver use the same antenna. No antenna change-over switch is used in this equipment. Therefore, the antenna is always connected to both the receiver and the transmitter.

During transmission, the receiver provides side-tone, so that the operator can hear his own voice when transmitting. When it is not feasible or desirable to use the earphone and the microphone

contained in the case, Handset H-33C/PT is connected to the equipment. Place the EXT.-OFF-INT. switch in the EXT. position when Handset H-33C/PT is used.

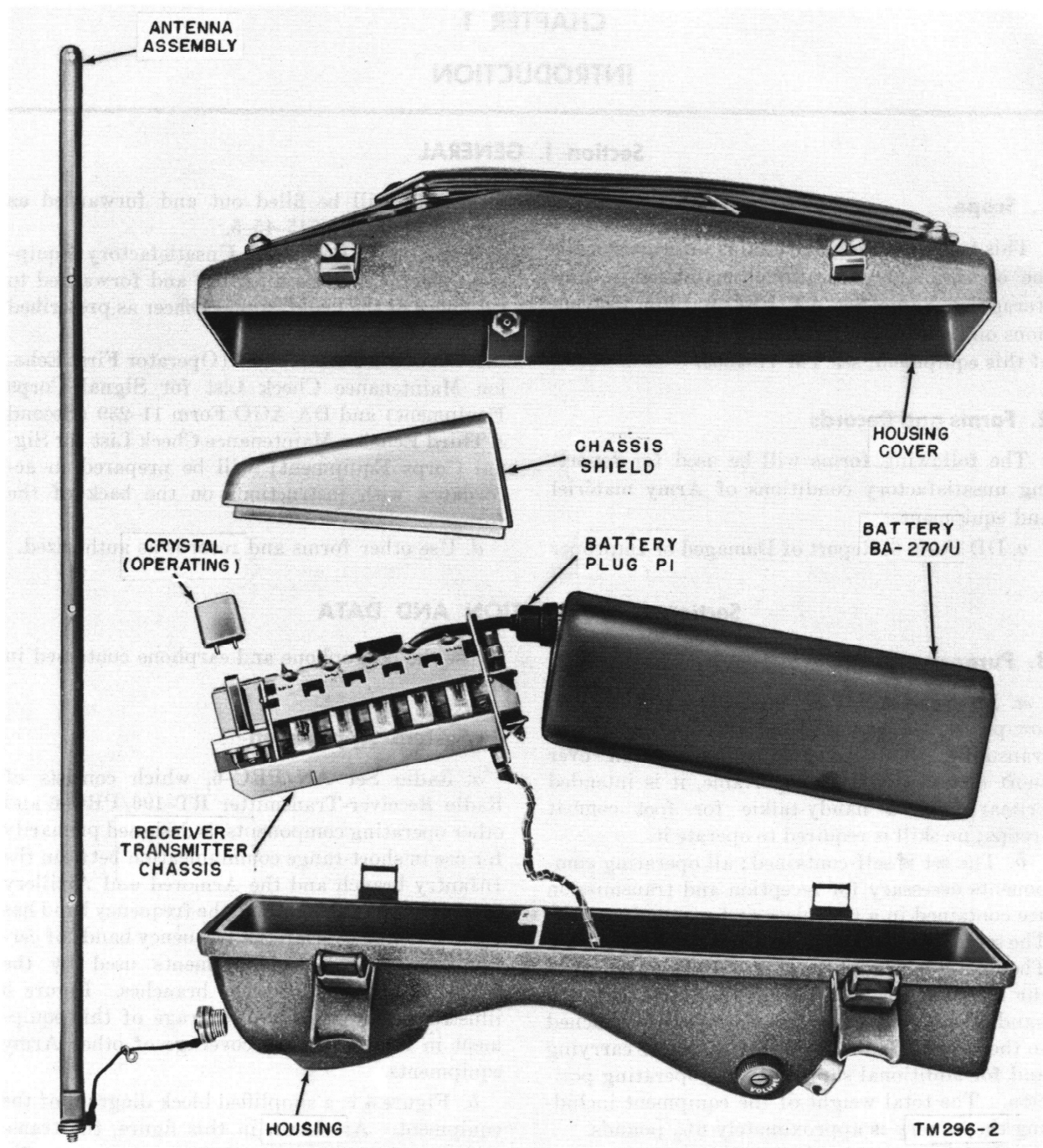
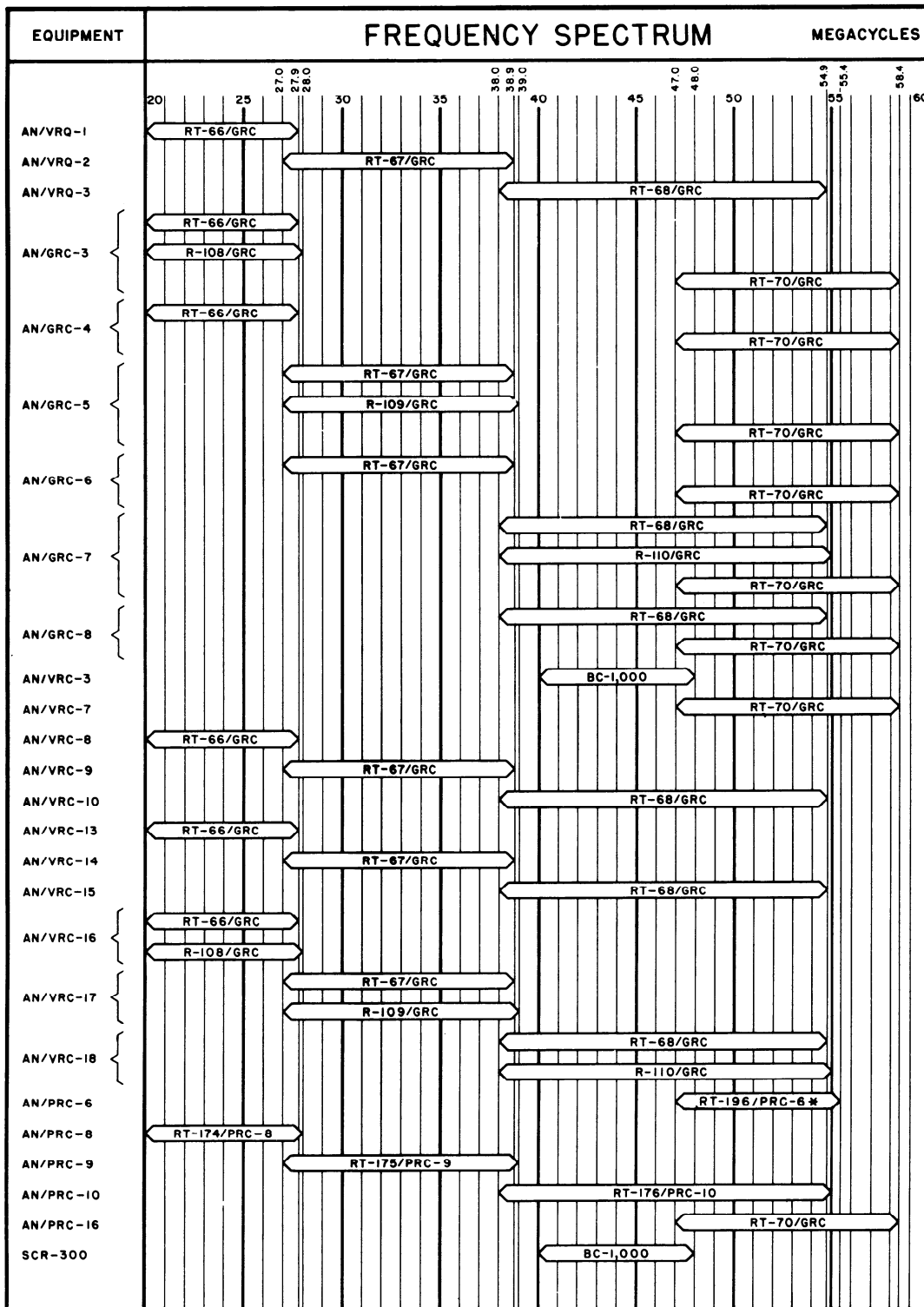


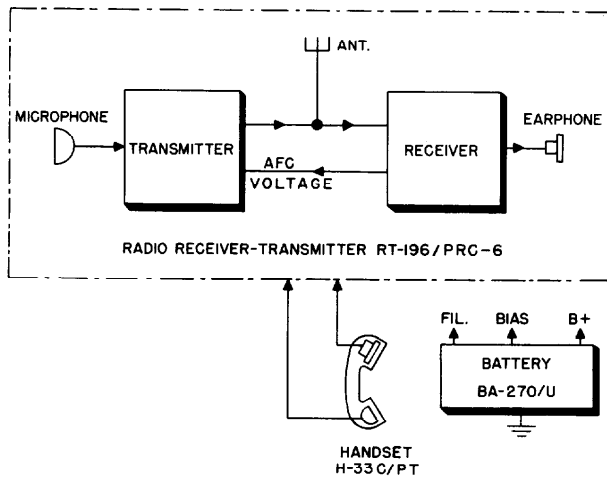
Figure 2. Radio Set AN/PRC-6, operating components.



* ONE FIXED FREQUENCY DEPENDING UPON CRYSTAL USED.

TM 296-3

Figure 3. Frequency spectrum chart.



TM 296-4

Figure 4. Radio Set AN/PRC-6, simplified block diagram.

5. Technical Characteristics

a. TRANSMITTER (PART OF RADIO RECEIVER-TRANSMITTER RT-196/PRC-6).

Frequency range on preset 47 to 55.4 mc channel. (megacycles) (43 channels).

Transmitter type----- Master oscillator power amplifier.

Type of signal transmitted--- Voice.

Distance range----- 1 mile.

Type of modulation----- Frequency.

Number of tubes----- 4 (+ 9 in receiver which supplies afc (automatic frequency control) voltage).

Power input :

1.5 volts----- 1,000 ma (milliamperes) (1.5 watts, filaments).

45 volts----- 14 ma (0.63 watt, plate and screen).

90 volts----- 28 ma (2.52 watts, plate and screen).

R-f (radio-frequency) power output. 25 watt.

Antenna, whip type----- 24 inches long.

Power supply----- Battery BA-270/U.

b. RECEIVER (PART OF RADIO RECEIVER-TRANSMITTER RT-196/PRC-6).

Frequency range on preset 47 to 55.4 mc (43 channel).

(Transmitter and receiver are tuned to the same channel.)

Receiver type----- Superheterodyne.

Type of signal received----- F-m (frequency-modulated) voice.

Number of tubes----- 9.

I. f. (intermediate frequency) - 4.3 mc.

Method of tuning----- One channel preset to crystal.

Power input :

1.5 volts----- 440 ma (0.66 watt, filament).

45 volts----- 13 ma (0.59 watt, plate and screen).

Power supply----- Battery BA-270/U.

Antenna----- Uses same antenna as transmitter.

Note. The weight of the complete unit including the battery, is approximately 6½ pounds.

6. Packaging Data

a. Radio Set AN/PRC-6 is packaged for both domestic and export shipment. When packaged for domestic shipment, the receiver-transmitter and the handset are wrapped separately in cushioning and then placed in a regular, slotted-type, corrugated carton. The package is approximately 15½ inches long by 10¼ inches wide by 5½ inches deep. The total weight without the battery is about 6 pounds. (The battery is not shipped with the equipment.)

b. When packaged for export shipment, the equipment is packed for domestic shipment, then placed within a waterproof, greaseproof, vapor-proof barrier, placed in another carton, and then sealed in a barrier bag. The package is approximately 16½ inches long by 11¼ inches wide by

6½ inches deep. The total weight, including packing materials, is about 7 pounds.

Note. Items may be packaged in a manner different from that described depending on the supply channel.

c. The following list indicates the contents of the package for domestic or export shipment. See the packing list attached to each case for the exact contents.

| Case dimensions (in.) | Contents |
|--|--|
| 15½" x 10¼" x 5½"----- (domestic) or 16½" x 11¼" x 6½"----- (export) | 1 Radio Receiver-Transmitter RT-196/PRC-6. 1 Handset H-33C/PT. 1 Complete set of tubes for running spares. 2 Instruction books. |

7. Table of Components (fig. 2)

| Component | Required No. | Height (in.) | Depth (in.) | Length (in.) | Volume (cu.in.) | Unit weight (lb.) |
|---|--------------|--------------|-------------|--------------|-----------------|-------------------|
| Radio Set AN/PRC-6----- Radio Receiver-Transmitter RT-196/ PRC-6----- | 1 | | | | | |
| Crystal Unit CR-23/U----- | 1 | 14¾ | 4¾ | 4¼ | 280 | 3½ |
| Battery BA-270/U (must be requisitioned)----- | 1 | 1½ | 2¾ | 1½ | ¼ | ½ |
| Handset H-33C/PT----- | 1 | 7½ | 2¾ | 2¾ | 53½ | 2½ |
| Complete set of tubes----- | 1 | 1½ | 8¾ | 3¼ | 41 | ¾ |
| Technical manual----- | 2 | 2¾ | 4¾ | 8¾ | 99 | ¾ |
| | | 11 | ¾ | 8½ | | ¼ |

Note. This list is for general information only. See appropriate supply publications for information pertaining to spare parts.

8. Description of Radio Receiver-Transmitter RT-196/PRC-6

a. Radio Receiver-Transmitter RT-196/PRC-6 (fig. 14) is a 13-tube combination receiver-transmitter designed for the reception and transmission of f-m signals over a range of 47 to 55.4 mc. Each equipment is adjusted to operate on only one of 43 channels at any one time. The channels are separated by 200-kc (kilocycle) intervals. The equipment is directly crystal-controlled during reception and indirectly controlled during transmission. Crystal changes and the required channel-setting adjustments should be made only by per-

sonnel who possess Channel Alinement Indicator ID-292/PRC-6 and are familiar with the necessary procedures. See paragraphs 40 and 41.

b. All electrical components except the battery, microphone, earphone, switches, antenna, volume control, and interconnecting wires are mounted on a metal chassis assembly. All tubes are arranged along the sides of the chassis assembly except V13 (3B4), which is located near the center.

The chassis assembly is connected to the components in the case by a short multiwire cable and a removable terminal strip, and is connected also to the battery by means of a short battery cable. The cable is terminated in a plug which mates with the receptacle in the battery.

c. The housing that incloses all the electronic components of the equipment except the antenna is a two-piece magnesium casting. The interior of it is divided into two compartments—one for the chassis and one for the battery. Two projections from the housing contain the earphone and microphone units. These projections are so spaced and of such length that when the unit is held with the earphone against the ear of the operator, the microphone or mouthpiece is in the proper position for talking.

d. All the operating controls are mounted on the case. Consult paragraphs 18, 19, and 39 for detailed information on the operation of the controls.

e. Mounted on the inside of the divided case is a calibration chart which lists the settings of the seven counters for each of the channels in which this equipment may be operated. The visible portion of each counter consists of a shaft with a screw driver slot in its top and a miniature dial which reads two digits. Rotation of the shaft varies the reading of the counter dial and simultaneously adjusts the operating frequency of one of the circuit elements of the equipment. There are seven counters; each must be readjusted whenever the channel frequency is varied. Use the calibration chart mounted on the inside of the case to ascertain the counter setting for any desired channel. The counter settings given in the chart are accurate to within 5 percent.

Caution: Consult TM 11-4069 before attempting to change the channel frequency.

f. The antenna used with this equipment is fabricated from several layers of very flexible steel tape. When the equipment is not in use, the antenna is wrapped around the case and secured.

The latches on the case are designed to hold the antenna in this position. When the equipment is in use, the antenna is screwed into a terminal on the top of the case. The antenna is secured to the case by a nylon lanyard to avoid losing it.

g. Provisions are made for the set to accommodate a homing antenna. This item is not necessary for operating the equipment and is used only to increase the efficiency and utility of

the equipment. Consult paragraphs 42 and 43 for further information on the uses of this item.

h. The diaphragms placed over the microphone and earphone prevent the moisture in the breath from freezing and plugging the microphone holes, and also keep dust, mud, and sand out of the microphone and earphone. The flanges provided around the earphone and microphone hold these diaphragms in place

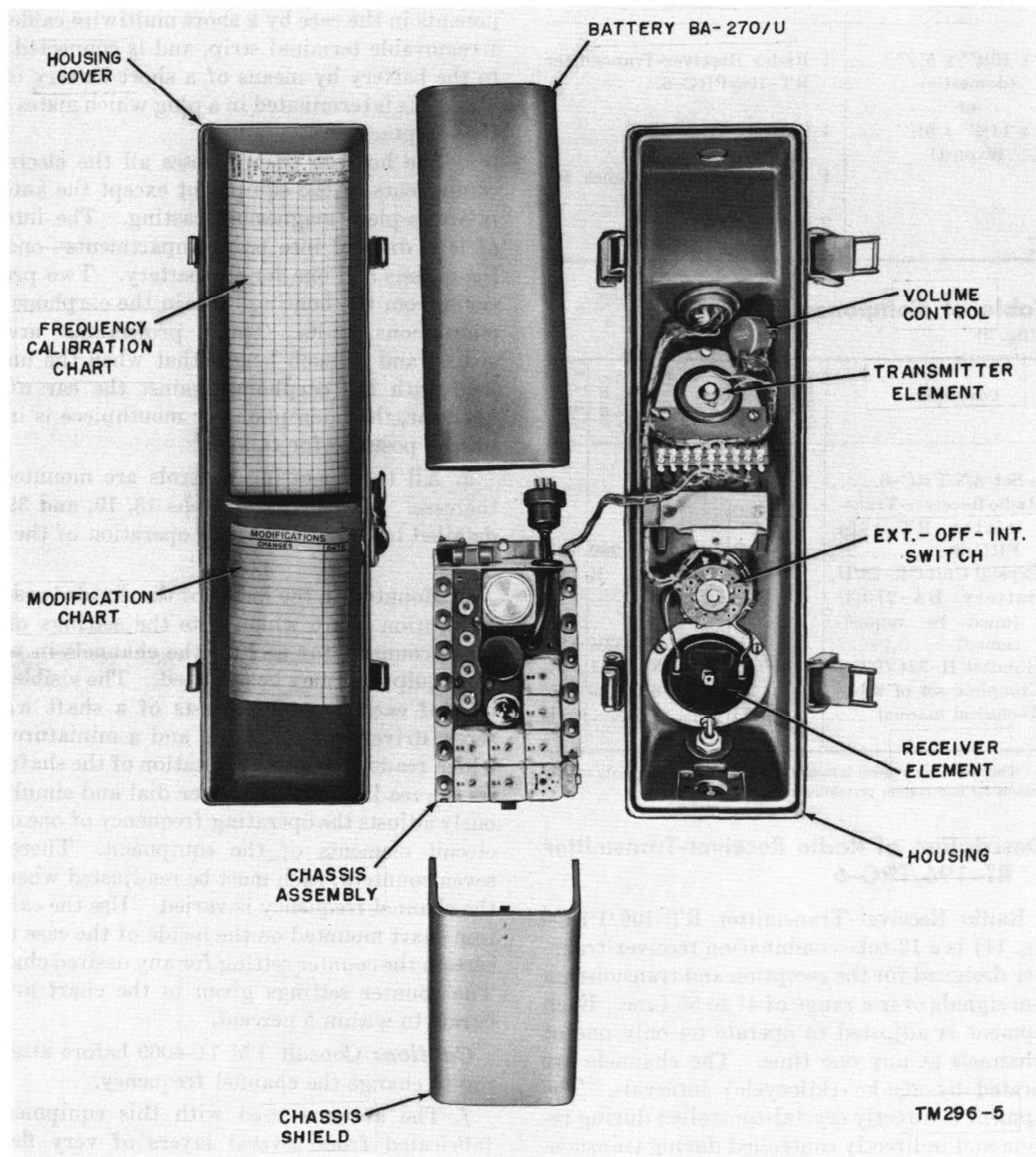


Figure 5. Radio Set AN/PRC-6.

i. A rubber gasket, which is compressed when the two halves of the case are put together, makes the interior of the equipment waterproof. The microphone, earphone, connectors, switches, and controls are of waterproof construction.

j. Crystal Unit CR-23/U determines the operating frequency of the equipment. One crystal is supplied with each equipment, and the equipment is preset to the channel frequency corresponding to the crystal. The channel frequency to be used with this supplied crystal is 51 mc. Actually, the frequency of each crystal is 4.3 mc below the channel frequency. Crystals should be replaced only by authorized repairmen who have Channel Alinement Indicator ID-292/PRC-6.

9. Description of Handset H-33C/PT

Handset H-33C/PT consists of a molded plastic case containing an earphone, a microphone, a PUSH TO TALK switch, and a 5-foot cable with a plug on the end which mates with a receptacle in the case of Radio Set AN/PRC-6. The earphone and microphone contained in the handset are exact replicas of the earphone and microphone contained in the case. The earphone is a conventional electromagnetic type of earphone, the microphone a single-button carbon microphone. Information on Handset H-33/PT may be found in TM 11-5038.

10. Description of Battery BA-270/U

Battery BA-270/U consists of three batteries in one container sharing a common plug. The three batteries supply +1.5 volts, -4.5 volts, +45 volts, and +90 volts. The dimensions of the battery are such that it fits snugly into the lower compartment of the case. Under normal conditions, receiving 10 times as often as transmitting, the life of the battery is approximately 20 operating hours.

Caution: Keep the EXT.-OFF-INT. switch in the OFF position when not operating to prolong the battery life.

11. Running Spares

A complete set of tubes (13) is supplied with the equipment as running spares. The following is a list of the set of tubes supplied.

- 5678—six supplied.
- 5672—three supplied.
- 5676—two supplied.
- 2G21—one supplied.
- 3B4—one supplied.

12. Additional Equipment Required

Radio Set AN/PRC-6 is supplied less Battery BA-270/U. Before the equipment can be used, the battery must be procured and installed (par. 15).

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. SERVICE ON RECEIPT OF RADIO SET AN/PRC-6

13. Siting

Because of the frequencies used, transmission and reception with Radio Set AN/PRC-6 are most successful over line-of-sight paths.* For this reason, equipments that must communicate with each other should be placed in locations free of intervening obstacles such as hills, reinforced concrete structures, steel buildings, bridges, or other obstructions. These obstacles are opaque to the signals transmitted by this equipment and thus make communication difficult or impossible. Also avoid locating equipment near telephone and power lines. The best sites are high locations which command an unimpeded view of the surrounding terrain. Figure 6 illustrates typical good and bad locations for the operation of Radio Set AN/PRC-6. In general, the location is good if the area of the equipment with which you desire to communicate can be seen. However, this is not an absolute requirement for good transmission and reception.

14. Uncrating, Unpacking, and Checking New Equipment

Note. For used or reconditioned equipment, refer to paragraph 17.

a. GENERAL. Equipment may be shipped in oversea packing cases or in domestic packing cases. When new equipment is received, select a location where the equipment may be unpacked without exposure to the elements. The instructions in *b* below apply to equipment shipped in export packing cases, and the instructions in *e* below to equipment in domestic packing cases.

Caution: Be careful in uncrating, unpacking, and handling the equipment; it may be damaged.

b. STEP-BY-STEP INSTRUCTIONS FOR UNCRATING AND UNPACKING EXPORT SHIPMENTS.

- (1) Cut and fold back the metal straps.

- (2) Remove the nails with a nail puller. Remove the top and one side of the packing case. Do not attempt to pry off the top and sides since the equipment may become damaged.
- (3) Remove the waterproof barrier. Paper-covered boxes should be exposed. Each one contains a complete equipment.
- (4) To completely unpack a single unit, remove the waterproof paper around one of the packages. Open one cardboard box. Remove the padding and the excelsior around the inner box. Remove the inner box.
- (5) Open the inner box. Remove the padding around the set.
- (6) Inspect the equipment for possible damage incurred during shipment.

c. CHECKING. Check the contents against the master packing list.

d. SPARES. Give spares to the responsible repairman.

e. UNPACKING DOMESTIC PACKING CASES. Radio Set AN/PRC-6 may be received in domestic packing cases. Open the carton and take out the equipment. Check the contents of the packing case against the master packing list. Give the box of spare tubes to the responsible repairman.

Note. Save the original packing cases and containers for both export and domestic shipments. They can be used again when the equipment is repacked for storage or shipment.

15. Installation of Battery BA-270/U

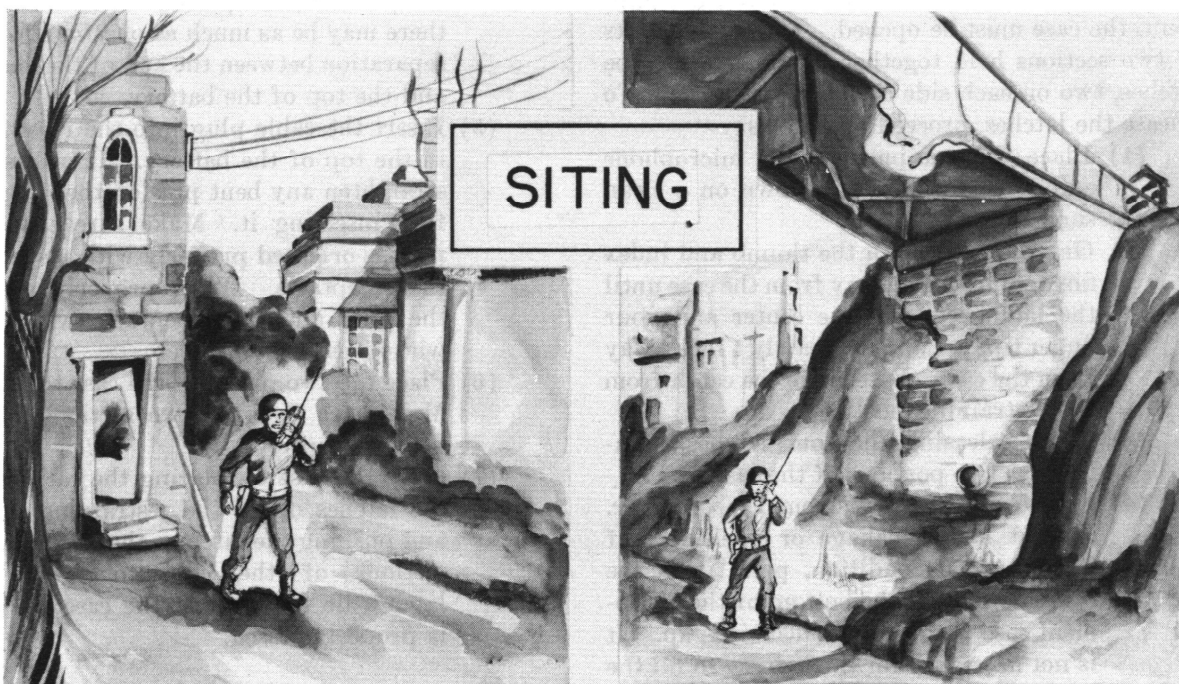
a. Radio Set AN/PRC-6 is shipped without Battery BA-270/U. This battery must be procured through normal supply channels and installed before the equipment can be used. Battery BA-270/U is designed physically and electrically for use with this equipment. *Only Battery BA-270/U should be used.*

b. In order to connect the battery to the equipment, the case must be opened. The case consists of two sections held together by four lever-type latches, two on each side of the case (fig. 7). To release the latches, proceed as follows:

- (1) Place the equipment with microphone and earphone side face down on a clean surface.
- (2) Grasp a latch with the thumb and index finger and pull it away from the case until the latch bends in the center and your finger tips are approximately 1 inch away from the case. Disengage the catch from the restraining hook.
- (3) After releasing the four latches, separate the two portions of the case.
- (4) Unpack the battery from its container. Inspect it for leakage or swelling. If it is in good condition, place it in the compartment at the bottom of the equipment case with the rounded sides up. It is not necessary for the battery to fill the

compartment completely. In some cases, there may be as much as one-fourth-inch separation between the end of the chassis and the top of the battery.

- (5) Insert the cable plug into the receptacle in the top of the battery. If necessary, straighten any bent pins on the plug before inserting it. Make sure that the plug is oriented properly with respect to the receptacle. When properly aligned, the plug and the receptacle will mate without excessive force.
- (6) Place the two pieces of the case together. Make sure that the two sections fit together properly.
- (7) Close the case by placing the catches on the latches under the restraining hooks and pushing the latch so that it pulls the sections of the case together. The latches lie flat against the case when it is properly closed.



BAD NEAR BUILDINGS, TREES, HIGH TENSION LINES, STEEL CONSTRUCTION



GOOD HILLS OR RISES - OPEN COUNTRY

Figure 6. Siting Radio Set AN/PRC-6.

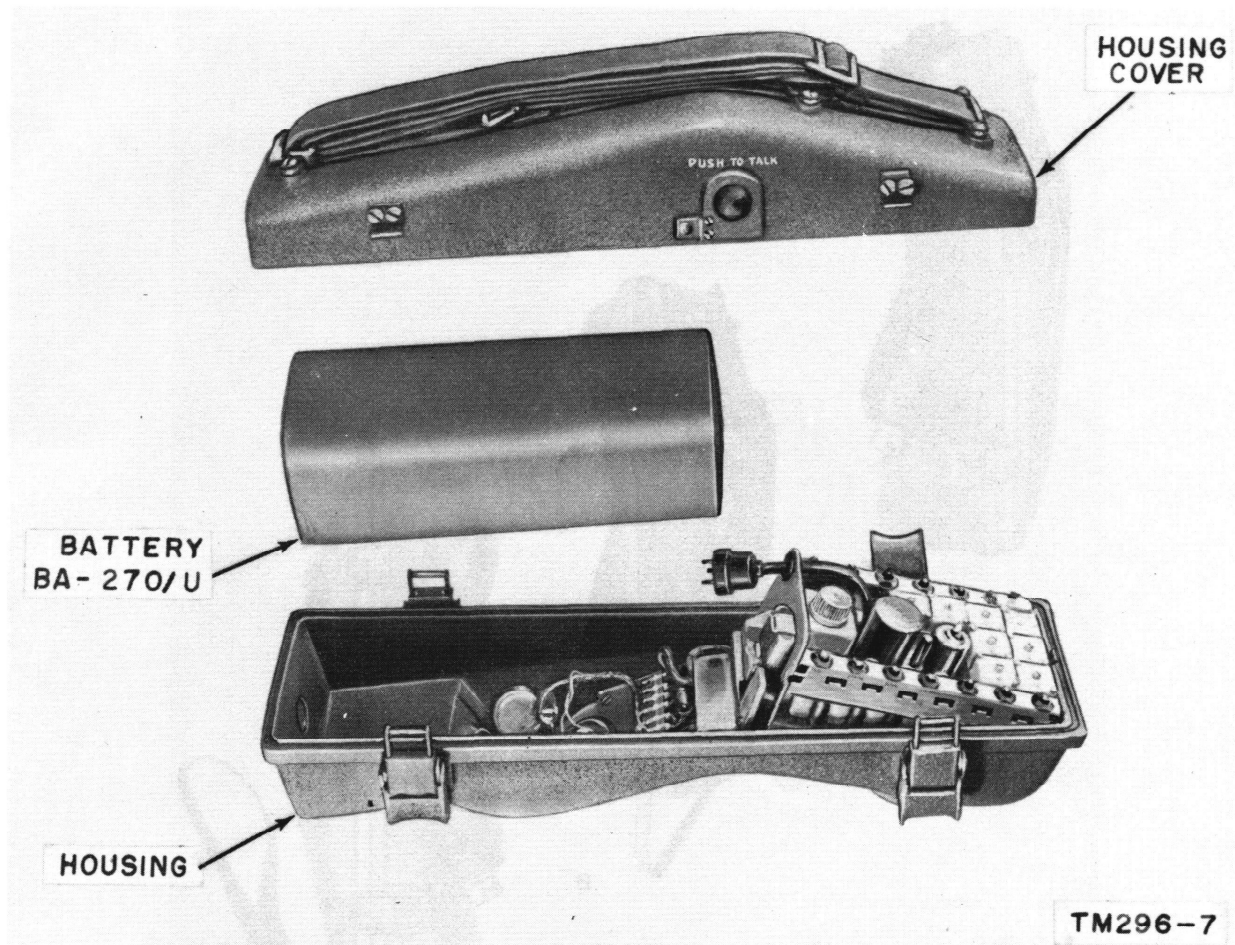


Figure 7. Installation of Battery BA-270/U.

16. Installation of Antenna

a. Before the antenna can be installed, it must be removed from its stored position (A of fig. 8).

b. First, disengage the end of the antenna by pulling the portion wrapped around the bottom end away from the case. B of figure 8 illustrates this step.

c. When the end of the antenna is free and protrudes from the end of the case (C of fig. 8), pull

the whole antenna out from under the last two latches. *Do not* unfasten the lanyard. The antenna is flexible enough to permit it to be removed while it is still secured to the case.

d. Screw the antenna into the threaded bushing in the center of the plastic antenna insulator. Make sure that the antenna is securely seated, but do not screw it so tightly that it can not be removed without the aid of pliers.



Figure 8. Installation of antenna.

17. Service on Receipt of Used or Reconditioned Equipment

a. Follow the instructions in paragraph 14 for uncrating, unpacking, and checking the equipment.

b. Check the used or reconditioned equipment for tags or other indications of changes in the

wiring in the equipment. If any changes in wiring have been made, note the changes in this manual, especially on the schematic diagram.

c. Check the operating controls for ease of rotation.

d. Perform the installation procedures given in paragraphs 15 and 16.

Section II. CONTROLS

18. General

Haphazard operation or improper setting of the controls can cause damage to electronic equipment. For this reason, it is important to know the function of every control. The actual operation of the equipment is discussed in section III.

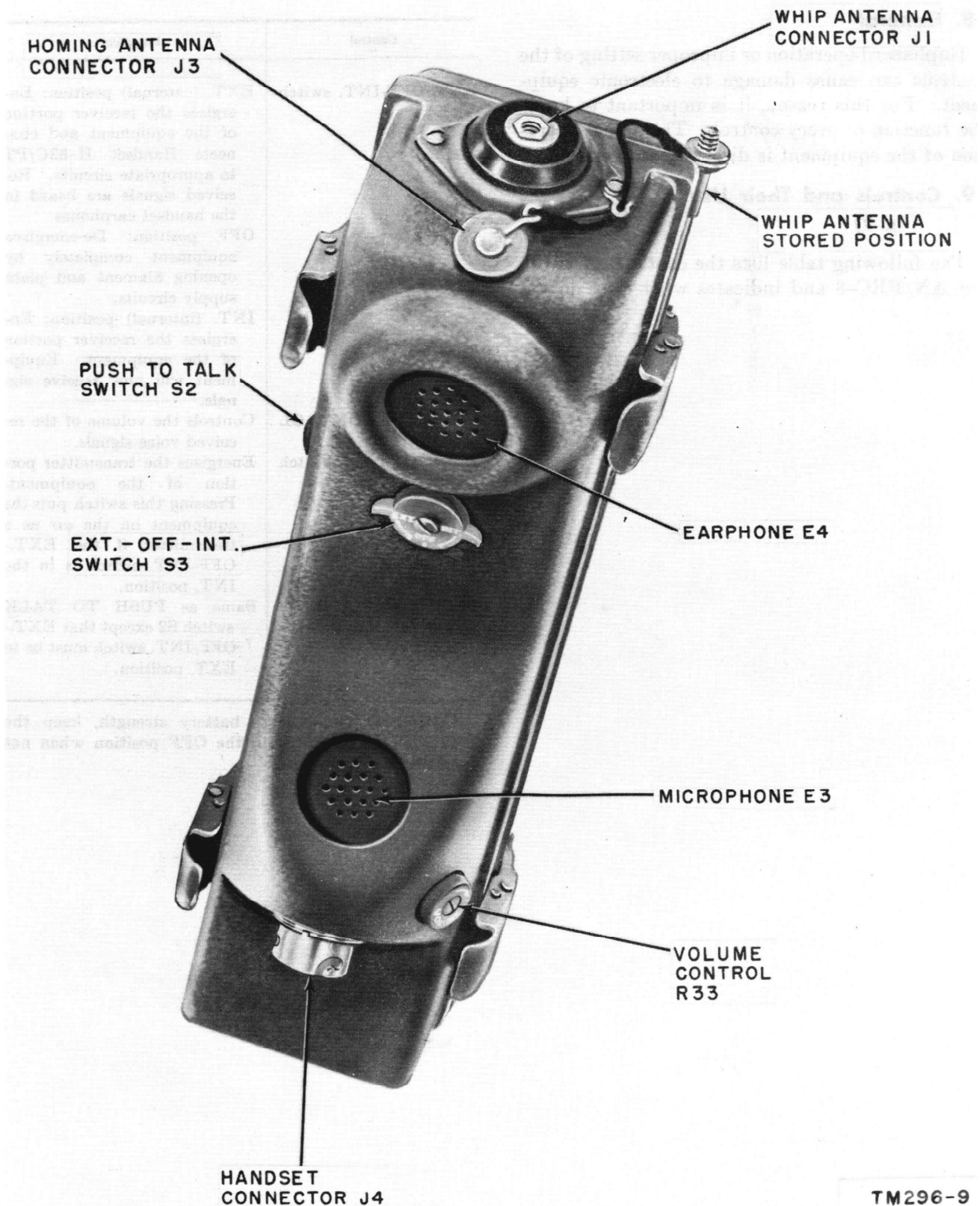
19. Controls and Their Use

(fig. 9)

The following table lists the controls of Radio Set AN/PRC-6 and indicates what they do:

| Control | Function |
|---|---|
| EXT.-OFF-INT. switch (S3). | EXT. (external) position: Energizes the receiver portion of the equipment and connects Handset H-33C/PT to appropriate circuits. Received signals are heard in the handset earphones. OFF position: De-energizes equipment completely by opening filament and plate supply circuits. INT. (internal) position: Energizes the receiver portion of the equipment. Equipment will now receive signals. |
| VOLUME CONTROL (R33). | Controls the volume of the received voice signals. |
| PUSH TO TALK switch (S2). | Energizes the transmitter portion of the equipment. Pressing this switch puts the equipment on the <i>air</i> as a transmitter if the EXT.-OFF-INT. switch is in the INT. position. |
| PUSH TO TALK switch (part of Handset H-33C/PT). | Same as PUSH TO TALK switch S2 except that EXT.-OFF-INT. switch must be in EXT. position. |

Caution: To conserve battery strength, keep the EXT.-OFF-INT. switch in the OFF position when not operating the equipment.



TM296-9

Figure 9. Radio Set AN/PRC-6, controls.

Section III. OPERATION UNDER USUAL CONDITIONS

20. General Operational Rules and Procedures

a. When using this equipment, keep the antenna as nearly vertical as possible. Signals which are clear with the antenna in the vertical position might be completely lost if the antenna were horizontal. Occasionally, when the equipment is being used to communicate with aircraft, better performance results when the antenna is at an angle to the vertical or even completely horizontal.

b. Use the sling attached to the case to avoid fatigue while carrying or holding the equipment. Paragraph 21 describes the use of the sling.

c. The antenna of this equipment is conspicuous and will bring attention to the operator. Whenever possible, avoid locations that silhouette the antenna against the sky. Use the camouflage techniques described in paragraph 22. But use them with *caution*. Using the wrong kind of camouflage can make the equipment worthless as far as communications are concerned.

d. Intermittent operation results in a longer battery operating life. The shorter the operating period, the more readily the battery recuperates. If prolonged operation of the equipment is necessary, shut off the equipment for short intervals whenever the opportunity arises (such as when moving from one position to another).

e. Procedures to use under unusual conditions are given in section IV.

21. Using the Sling

a. The sling attached to the case of Radio Set AN/PRC-6 consists of two straps that function independently of each other. In the description of their use which follows, they are called the inner strap and the outer strap (fig. 10).

b. The inner strap is provided to aid the operator in holding the equipment in the normal operating position. To use it, slip the hand between the inner strap and the case as illustrated in figure 11. The inner strap is adjustable to allow for different hand sizes and to permit the use of gloves. Do not tighten it so that the circulation of blood is cut off. Be especially careful in cold weather since fingers get colder sooner if the circulation of blood is reduced.

c. The outer strap is provided to allow the operator to carry the set slung over his shoulder. Figure 12 illustrates how the set is carried on the operator's shoulder with the aid of the sling.

d. The outer strap is designed so that all slack can be taken up when it is necessary to carry the equipment on the shoulder. To take up the slack, the outer strap is made into two loops by pulling another loop through the adjustable slide and inserting it into the split slide in the center of the outer strap. Figure 13 illustrates this operation.



Figure 10. Radio Set AN/PRC-6, sling.

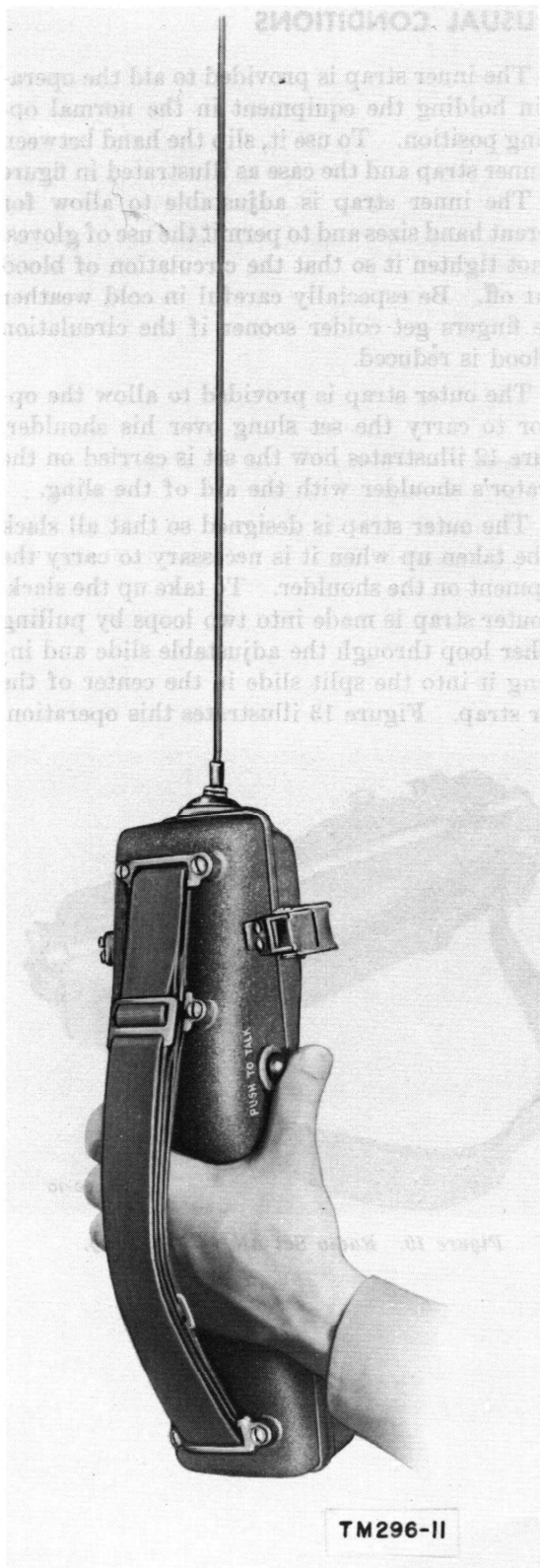


Figure 11. Use of sling to support Radio Set AN/PRC-6 in operating position.

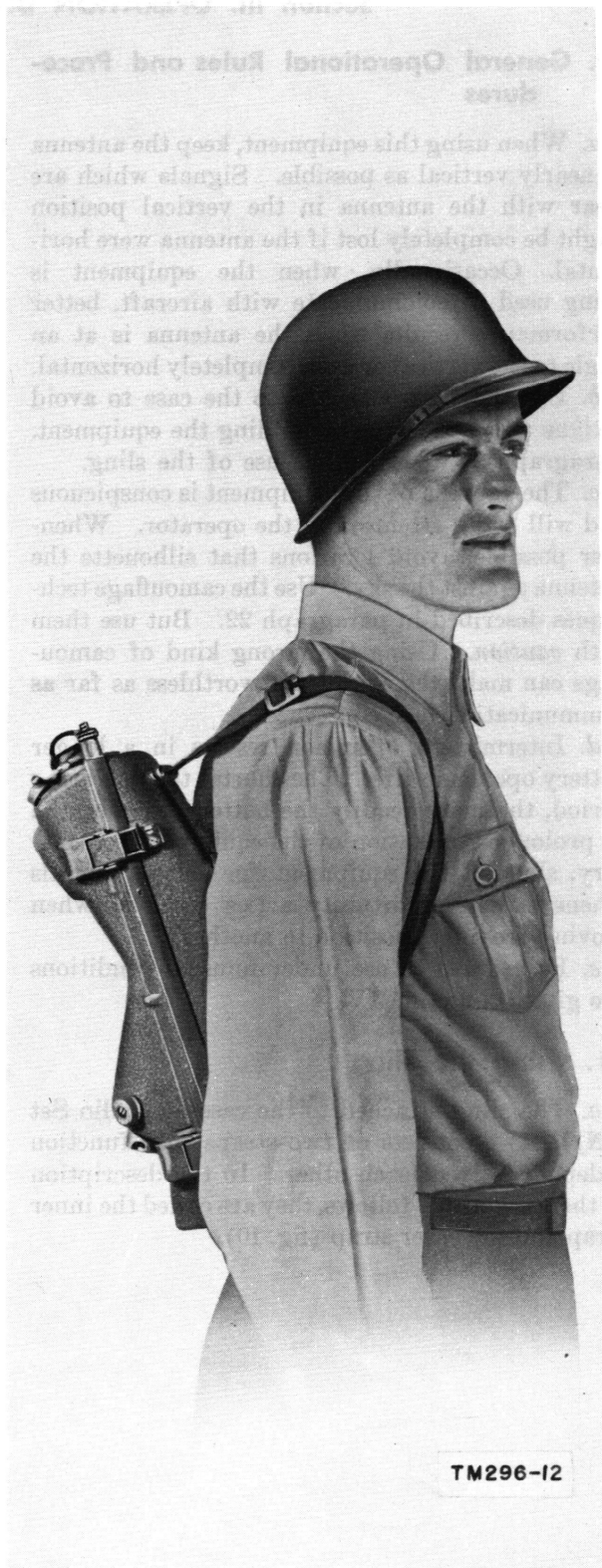


Figure 12. Use of sling to carry Radio Set AN/PRC-6.



Figure 13. Taking slack out of outer strap.

22. Camouflage

Knowledge of how to camouflage the equipment is as important as knowing how to operate it. A poorly concealed set draws enemy fire regardless of how well the operator is hidden or covered.

a. No simple camouflage method is effective when the operator, the radio set, or the antenna is silhouetted against an unbroken skyline. Although elevated sites are excellent from a technical standpoint, they must be avoided unless the tactical situation permits such locations.

b. If the weather is not excessively windy and the operator does not have to keep moving, the entire radio set may be camouflaged by draping any light camouflaged-painted material over the radio set and the operator. *Do not* use this method in rainy weather.

23. Receiving

Using the equipment as a receiver or listening station is very simple.

a. Place the EXT.-OFF-INT. switch in the INT. position (fig. 9). A hissing or rushing sound (called background noise) should be heard in the earphone indicating that the equipment is now functioning as a receiver. If the sound is not

heard, turn the VOLUME control fully clockwise. If the background noise is still not audible, turn in the equipment for repair.

b. If the operator desires to use Handset H-33C/PT (par. 9) instead of the internal earphone, the handset plug must be mated with the appropriate receptacle on the case. The receptacle is located just below the microphone projection (fig. 9). Couple the handset plug to the radio receptacle. *Do not use force.* The three guide pins are not equally spaced and fit the grooves properly in only one position.

c. After plugging the handset in, turn the EXT.-OFF-INT. switch to the EXT. position. A hissing or rushing sound should be heard in the handset earphone indicating that the equipment is functioning as a receiver. If the sound is not heard, turn the VOLUME control fully clockwise. If the sound still is not heard, turn the equipment in for repairs.

Note. Never leave the EXT.-OFF-INT. switch in the INT. or EXT. position unless the equipment is actually in use. Battery power is consumed whenever the switch is not in the OFF position.

d. When the VOLUME is turned up (clockwise) the sound of one station calling another can be heard with the earphone several inches from the ear. When necessary, the operator can support the set near his ear with the sling and thus leave both of his hands free.

24. Transmitting

a. To transmit, depress the PUSH TO TALK switch on the side of the case and talk into the microphone. Speak distinctly and in a normal tone.

Caution: Do not start talking until the hissing sound has disappeared.

b. *Do not* keep the PUSH TO TALK switch depressed when not transmitting. When the transmitter is on, you can *not* hear the other station. In addition, more battery power is consumed when the equipment is being used as a transmitter.

c. The operator should speak clearly and should be careful that the PUSH TO TALK switch is depressed before starting to speak and is released immediately after completion of the conversation. In the beginning, the operator may experience some difficulty in synchronizing the operation of the switch with the beginning and the end of his speech. There is a natural tendency to hold the switch down when through speaking

and to forget to press the switch before starting to speak. A little practice will eliminate this difficulty. Pause for a few seconds after pressing the PUSH TO TALK switch.

25. Netting

a. For two-way conversation, two sets adjusted to operate on the same frequency are required. Sets operating on different frequencies cannot communicate with each other. There is no limitation to the number of sets that can be operated together in the same net other than the distance limitation over which these sets are effective. When there are many sets on the same net, avoid confusion by strict adherence to the common sense procedure of listening to make sure that no one else

is on the air before pressing the PUSH TO TALK switch.

b. Radio Set AN/PRC-6 can be used for voice communication with other f-m radio sets adjusted to the same frequency (fig. 3).

26. Stopping Procedure

a. To stop the equipment, place the EXT.-OFF-INT. switch in the OFF position.

b. If the equipment is not going to be used for some time, the battery should be removed first, and then the antenna should be unscrewed from the antenna terminal and placed in its stored position (wrapped around the case (A of fig. 8)). This is done by slipping the end under the bottom latch on the side of the case with the PUSH TO TALK switch, and securing it under the clip located next to the switch.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

27. General

The operation of Radio Set AN/PRC-6 may be difficult in regions where extremes of climate and weather prevail. In the following paragraphs, instructions are given on procedures for minimizing the effect of these unusual operating conditions.

28. Operation in Arctic Climates

Subzero temperatures and climatic conditions associated with cold weather affect the efficient operation of the equipment. Instructions and precautions for operation under such adverse conditions follow:

a. Handle the equipment carefully.

b. Dry batteries of the type used in this equipment are especially susceptible to cold. If the equipment is to be maintained in normal working order, *keep it warm*. Carry it inside your outer garments whenever possible. If this is not feasible, remove the battery from the equipment and carry it in your pocket when the equipment is not actually in use. To remove the battery, open the case of the equipment. Procedures for opening the case are given in paragraph 15. When the case is open, disengage the battery by gently pulling the battery plug from the top of the battery and lifting the battery out.

c. The plug at the bottom of the equipment is removed when a special arctic battery is to be inserted.

d. Frost caused by freezing of the moisture in the breath will form in the small holes over the microphone. To prevent this from occurring, a diaphragm is provided which is placed over the microphone. A flange section is cut into the case over the microphone to accommodate it. Do not remove the diaphragm in cold weather.

e. To prevent the edges of the ears from freezing to the equipment, insert the set in a stocking, or cover the ears with a woolen earguard.

29. Operation in Tropical Climates

When the equipment is used in tropical climates where moisture conditions are acute, keep the equipment dry. Do not leave it on the ground. Whenever the situation permits, open the case and expose the interior of the set to the sun. Sunlight dries the interior and also tends to kill fungus growths that attack electronic equipment in tropical climates.

30. Operation in Desert Climates

The main problem which arises with equipment operation in desert areas is the sand, dust, and dirt which impede the action of switches and controls if they enter the moving parts. When not using the equipment, keep it wrapped in a piece of cloth or paper. Do not lay it directly on the ground if it can be avoided. The waterproof construction of the equipment prevents dust and dirt from entering the interior.

CHAPTER 3

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. PREVENTIVE MAINTENANCE SERVICES

31. Definition of Preventive Maintenance

Preventive maintenance is work performed on equipment (usually when the equipment is not in use) to keep it in good working order so that break-downs and needless interruptions in service will be kept to a minimum. Preventive maintenance differs from trouble shooting and repair since its object is to prevent certain troubles from occurring. See AR 750-5. For corrective maintenance procedures, refer to the repair manual.

32. General Preventive Maintenance Techniques

- a.* Use No. 0000 sandpaper to remove corrosion.
- b.* Use a clean, dry, lint-free cloth or dry brush for cleaning.
 - (1) If necessary, except for electrical contacts, moisten the cloth or brush with Solvent, dry-cleaning (SD); then wipe the parts dry with a cloth.
 - (2) Clean electrical contacts with a cloth moistened with carbon tetrachloride; then wipe them dry with a dry cloth.

c. If available, dry compressed air may be used at a line pressure not exceeding 30 pounds per square inch to remove dust from inaccessible places; be careful, however, or mechanical damage from the air blast may result.

d. For further information on preventive maintenance techniques, refer to TB SIG 178.

33. Performing Preventive Maintenance

The preventive maintenance techniques that can be applied to Radio Set AN/PRC-6 are limited. Because the equipment is easily damaged by inexperienced probing, do not tinker with the interior of the equipment. At weekly intervals, inspect the interior of the set to check:

a. The condition of the wiring. If the wiring is damaged or if fungus growths are evident, turn in the equipment for repairs.

b. The condition of the battery. If the battery is bulging or leaking chemicals, remove it immediately and replace it with a new one. If chemicals leaking from the battery have corroded wires or the chassis, notify the repairman.

Section II. LUBRICATION AND WEATHERPROOFING

34. Lubrication

Radio Set AN/PRC-6 requires no lubrication.

35. Weatherproofing

a. GENERAL. Signal Corps equipment, when operated under severe climatic conditions such as prevail in tropical, arctic, and desert regions, requires special treatment and maintenance. Fungus growth, insects, dust, corrosion, salt spray, excessive moisture, and extreme temperature are harmful to most materials.

b. TROPICAL MAINTENANCE. A special moistureproofing and fungiproofing treatment has been

devised, which, if properly applied, provides a reasonable degree of protection. This treatment is explained in TB SIG 13 and TB SIG 72.

c. WINTER MAINTENANCE. Special precautions which are necessary to prevent poor performance or total operational failure of equipment in extremely low temperatures are explained in TB SIG 66 and TB SIG 219.

d. DESERT MAINTENANCE. Special precautions which are necessary to prevent equipment failure in areas subject to extremely high temperatures, low humidity, and excessive sand and dust are explained in TB SIG 75.

Section III. TROUBLE SHOOTING AT ORGANIZATIONAL MAINTENANCE LEVEL

Note. Trouble shooting performed by field maintenance personnel is covered in TM 11-4069.

36. General

The trouble shooting and repair work that can be performed at the organizational maintenance level (operators and repairmen) is necessarily limited in scope by the tools, test equipment, and replaceable parts issued and by the existing tactical situation. Accordingly, trouble shooting is based on the performance of the equipment and the use of the senses in determining troubles.

37. Visual Inspection

a. Some troubles that may occur to the equipment can be discovered with a simple visual inspection of the interior. To perform this inspection, open the case.

b. When the case is opened, check to determine that the cable plug is firmly seated in the receptacle in the top of the battery. Inspect the battery and make sure that no chemicals are leaking from it and that the case is not cracked. If the battery feels soft or spongy, replace it immediately.

c. Remove the thin aluminum shield over the chassis by pulling it upward. Check to determine that the wire jumper (fig. 14) connecting pins 1 and 7 of the test jack at the extreme top left-hand corner of the chassis is in place. If the jumper is missing, look for it in the interior of the case. The jumper consists of a short piece of wire shaped in the form of a **U**. Each leg of the **U** is approximately ¼-inch long. When the jumper is found, spread the legs slightly and reinsert it into pins 1 and 7. Replace the aluminum chassis shield.

d. Check to see that all wires coming from the chassis are intact and that the connections to the terminal strips are not broken.

e. Remove the tube guards and note the condition of the tubes. If any tube is suspected of being faulty, replace it. In inserting the new tube, make sure that the red dot on the base of the tube and the red dot on the tube socket are as close to each other as possible.

f. When the equipment fails, make a note of how the equipment performed immediately before failure. This information is very valuable to the repairman.

38. Block Diagram and Complete Schematic Diagram

a. Figure 15 is a detailed block diagram of Radio Set AN/PRC-6. In the block diagram, the signal direction is shown by arrows; all tubes are used during transmission. The same antenna is used for both transmission and reception.

b. During reception, the incoming signal is applied to and amplified by r-f amplifiers V1 and V2. The amplified r-f signal is applied to mixer V3. Mixer V3 also receives the output of crystal oscillator V9. Crystal oscillator V9 generates a signal with a frequency 4.3 mc below the channel frequency. The mixer beats the r-f signal with the output of the crystal oscillator. Beating the two signals results in a frequency of 4.3 mc. The 4.3-mc signal is fed to the output circuit of the mixer and applied to the first i-f amplifier. The i-f signal is amplified by i-f amplifiers V4, V5, and V6. The output of the last i-f amplifier is fed to limiter V7. The limiter insures that a constant amplitude signal is fed to the discriminator circuit. The discriminator circuit converts the f-m i-f signal into an audio signal. During transmission, the discriminator circuit also functions to generate an afc voltage that automatically corrects the transmitter frequency should there be transmitter oscillator frequency drift. The audio output of the discriminator circuit is applied to audio amplifier V8, amplified, and then applied to the earphone.

c. In the transmit condition, modulator V10 is excited by the audio signal from the microphone. The audio signal causes the modulator to frequency modulate the output of oscillator V11 which oscillates at one-half the channel frequency. The modulated output is doubled in frequency by doubler V12, applied to power amplifier V13, and then applied to the antenna. The transmitter output is also applied to the receiver. This transmitter signal passes through the receiver stages and is applied to the discriminator circuit in the same manner as a received signal. The discriminator circuit generates a voltage whenever the frequency of the i-f signal deviates from 4.3 mc. This afc voltage is applied to the modulator which corrects the frequency of oscillator V11. The afc

circuit, in effect, makes the transmitter crystal-controlled by keeping its frequency 4.3 mc above the crystal frequency. Whenever the frequency

deviates, the discriminator receives an input frequency other than 4.3 mc and an afc voltage is generated to correct the input 4.3 mc.

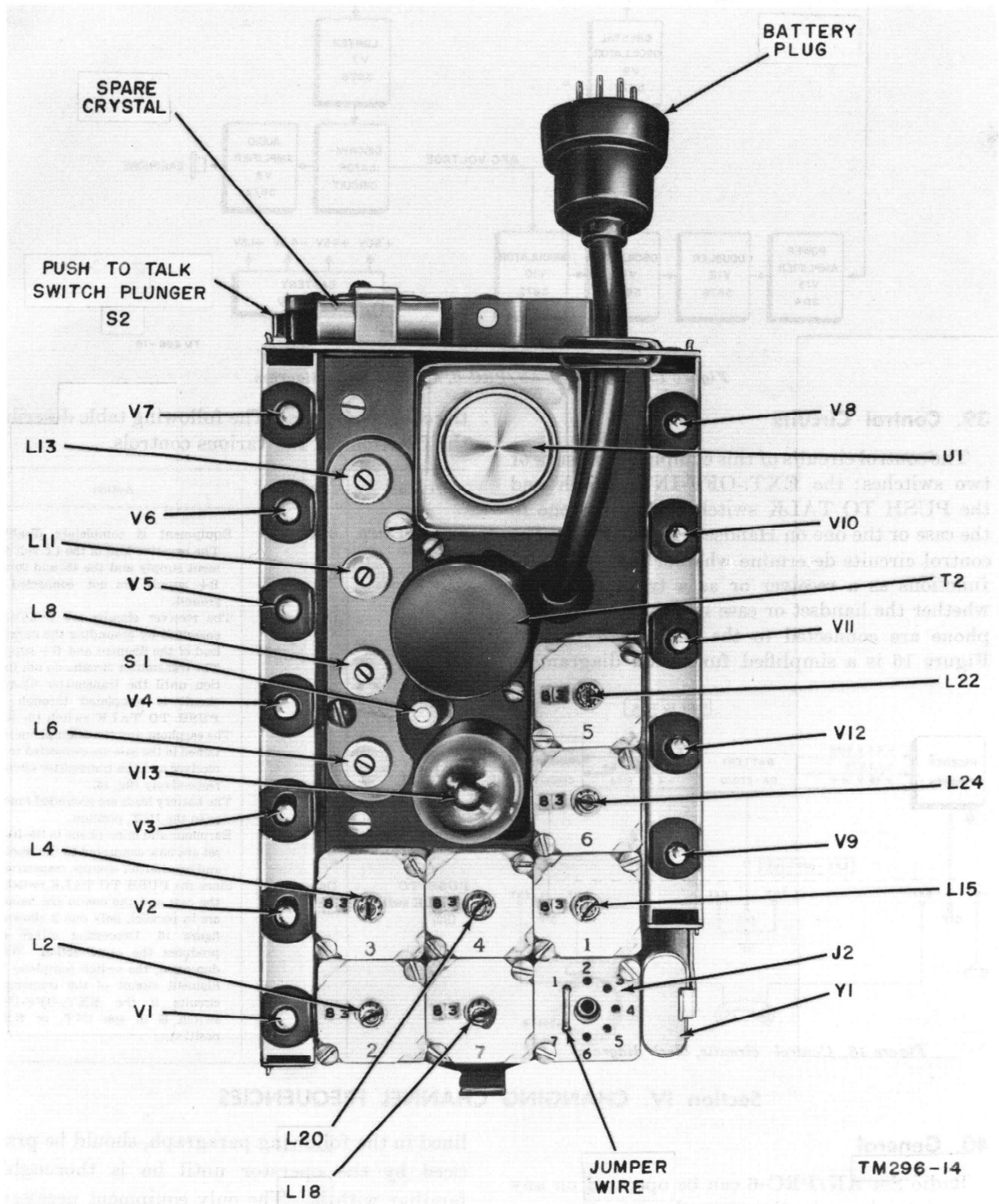


Figure 14. Radio Receiver-Transmitter RT-196/PRC-6, chassis.

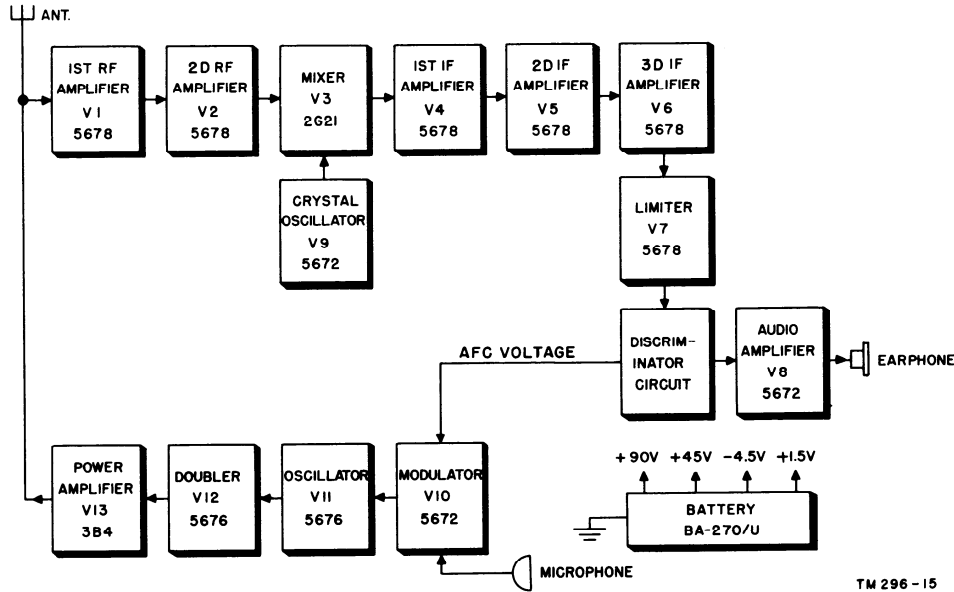


Figure 15. Radio Set AN/PRC-6, detailed block diagram.

39. Control Circuits

The control circuits of this equipment consists of two switches: the EXT.-OFF-INT. switch and the PUSH TO TALK switch (either the one in the case or the one on Handset H-33C/PT). The control circuits determine whether the equipment functions as a receiver or as a transmitter and whether the handset or case microphone and earphone are connected to the circuits of the set. Figure 16 is a simplified functional diagram of

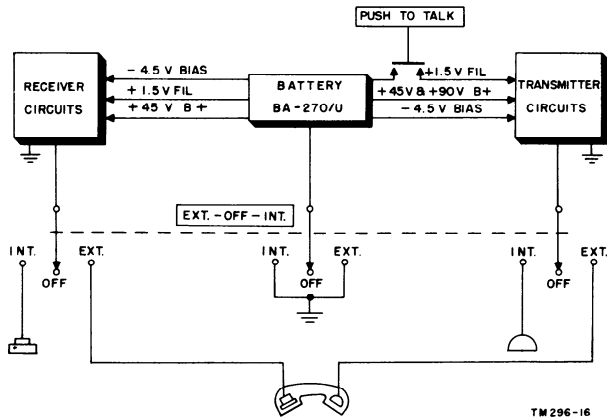


Figure 16. Control circuits, block diagram.

the control circuits. The following table describes the functions of the various controls.

| Control | Position | Action |
|--------------------------|-----------|---|
| EXT.-OFF-INT. switch S3 | OFF | Equipment is completely disabled. The negative lead of the 1.5 volt filament supply and the 45- and 90-volt B+ supply are not connected to ground. |
| | INT. | The receiver circuits are completely energized by grounding the negative lead of the filament and B+ supply. The transmitter circuits do not function until the transmitter filament circuit is completed through the PUSH TO TALK switch (fig. 16). The earphone and the microphone contained in the case are connected to the receiver and the transmitter circuits, respectively (fig. 16). |
| | EXT. | The battery leads are grounded exactly as in the INT. position. Earphone and microphone in the handset are now connected to the receiver and transmitter circuits, respectively. Since the PUSH TO TALK switch in the case and the one in the handset are in parallel, only one is shown in figure 16. Depressing either one produces the same action. When depressed, the switch completes the filament circuit of the transmitter circuits if the EXT.-OFF-INT. switch is in the INT. or EXT. position. |
| PUSH TO TALK switch (S2) | Depressed | |

Section IV. CHANGING CHANNEL FREQUENCIES

40. General

Radio Set AN/PRC-6 can be operated on any one of 43 channels, therefore the operator must be able to tune the equipment to the different channel frequencies. The procedure, which is out-

lined in the following paragraph, should be practiced by the operator until he is thoroughly familiar with it. The only equipment necessary is Channel Alinement Indicator ID-292/PRC-6, which must be requisitioned.

41. Procedure

a. Read all instructions carefully before attempting to change channels in Radio Receiver-Transmitter RT-196/PRC-6.

b. Battery BA-270/U and Channel Alinement Indicator ID-292/PRC-6 are required for changing channels in Radio Receiver-Transmitter RT-196/PRC-6.

c. Remove the housing cover and the chassis shield. Install Battery BA-270/U and the new crystal and then set all counters to the numbers indicated to the right of the assigned crystal frequency in the first column of the chart.

Note. The second column of the frequency calibration chart shows the crystal frequency corresponding to the assigned frequency. The crystals are marked with the crystal frequency on the surface opposite the pins and with the corresponding operating frequency on one side surface.

d. Remove the jumper wire from pins 1 and 7 of test socket J2 and insert the power plug of Channel Alinement Indicator ID-292/PRC-6.

e. Disconnect the whip antenna.

f. Set the selector switch on Channel Alinement Indicator ID-292/PRC-6 to FIL position. Place Radio Receiver-Transmitter RT-196/PRC-6 in operation by setting the power switch to the INT position. Read the condition of the filament supply on the scale marked A. If the meter pointer falls below the orange portion of the scale, replace Battery BA-270/U.

g. Set selector switch of Channel Alinement Indicator ID-292/PRC-6 to the B+ position. Read the condition of the B+ supply on meter scale B. If the meter pointer falls below the orange portion of the scale, replace Battery BA-270/U.

h. Open filament switch S1 in the receiver-transmitter chassis. Set selector switch on the indicator to CAL position and calibrate by varying the screw driver adjusted calibration control located at the center of the selector switch knob on the indicator until the meter pointer coincides with the red calibration line on the meter dial. Close the filament switch.

i. Set selector switch on Channel Alinement Indicator ID-292/PRC-6 to INJ position, adjust counter 1 for maximum, and note the meter reading. Turn counter 1 in a counterclockwise direction until approximately 80 percent of the maximum reading is obtained.

j. Set the selector switch on the indicator channel to LIM position. Adjust counters 3, 2, and 4, in that order, for maximum meter reading.

Note. The meter reading will increase progressively as counters 3, 2, and 4 are adjusted.

k. Open filament switch S1 and press the PUSH TO TALK switch on the receiver-transmitter, and with the selector switch on the indicator in the LIM position, adjust counter 5 until a maximum meter reading is obtained.

l. Set the selector switch on indicator, to the DISC position. Press the PUSH TO TALK switch, slowly turn counter 5, and observe the discriminator voltage shown by the meter. The discriminator voltage should rise to a maximum peak, returning somewhere near the red line with continued rotation of counter 5 in one direction. Continuous rotation of counter 5 in the opposite direction from the original setting should cause the discriminator voltage to decrease to a minimum value and rise again to somewhere near the red line. Counter 5 is properly adjusted when the discriminator voltage reading coincides with the red line on the indicator and is between the maximum and minimum peaks previously mentioned. A further check for proper adjustment may be made by rotating counter 5 clockwise and counterclockwise very slightly, which should cause the meter pointer to vary above and below the red line.

m. Set the selector switch on the indicator to the P. A. G. position. Press the PUSH TO TALK switch and adjust counter 6 for maximum meter reading.

n. Set the selector switch on the indicator to P. A. P. position. Press the PUSH TO TALK switch and adjust counter 4 for minimum meter reading.

o. Connect the whip antenna to the receiver-transmitter. Press the PUSH TO TALK switch and with the selector switch on the indicator in the P. A. P. position, adjust counter 7 for maximum meter reading.

p. Disconnect Channel Alinement Indicator ID-292/PRC-6 from Radio Receiver-Transmitter RT-196/PRC-6, replace the jumper between pins 1 and 7, and close alinement switch S1. Replace the chassis shield and the housing cover.

q. As a final check after the radio set has been closed, press the PUSH TO TALK switch and speak into the microphone. Sidetone will be clear and undistorted if the radio set has been properly alined. Turn off the power switch after the alinement and test have been completed.

CHAPTER 4

AUXILIARY EQUIPMENT

42. Antenna AT-249/GRD

Radio Set AN/PRC-6 when operated as a receiver-transmitter does not require any auxiliary equipment. However, when Radio Set AN/PRC-6 is used for homing purposes, it is necessary to install Antenna AT-249/GRD (fig. 17). This antenna must be requisitioned when necessary as it is not supplied with this equipment. Refer to paragraph 43 for the installation and operation of Antenna AT-249/GRD.

43. Antenna AT-249/GRD, Installation and Operation

a. INSTALLATION. To install the loop antenna, unscrew the cap over the coaxial jack and plug in the loop antenna. Insert the loop antenna shorting cap in whip antenna connector J1. Make sure that the cap is screwed down tightly. The whip antenna is not used simultaneously with the loop antenna. It should be left wrapped around the case.

b. OPERATION. To determine the source of the transmitted signal, follow the procedure below.

- (1) Throw the toggle switch to the **NORMAL** position.
- (2) Set the **TUNING** knob to the operating frequency.
- (3) Rotate the antenna about a vertical axis until a maximum signal is received. This will occur when either edge is toward the transmitting source.

- (4) Retune the antenna with the **TUNING** knob for greater response.
- (5) Rotate the antenna until the signal falls off sharply or disappears. This should occur at two positions which are one-half revolution apart. A line drawn through the center of the loop and perpendicular to the plane of the antenna will be in line with the transmitting source.
- (6) Place the toggle switch in the **SENSE** position.
- (7) Rotate the antenna about a vertical axis until it is in a position 90° clockwise from the position of minimum signal, and note the signal level.
- (8) Rotate the antenna about a vertical axis until it is 90° counterclockwise from the position of minimum signal.
- (9) Note the difference in the signal level in both positions.
- (10) Orient the antenna to the position of greater signal response. The arrow on the antenna frame will point in the direction of the transmitting station.
- (11) Place the toggle switch in the **NORMAL** position, and rotate the antenna to the position of minimum signal level. Proceed toward the transmitting station along a path in which the signal level remains constant.
- (12) Use the **ATTEN.** control in areas of strong signal response where it is difficult to determine positions on minimum signal response.

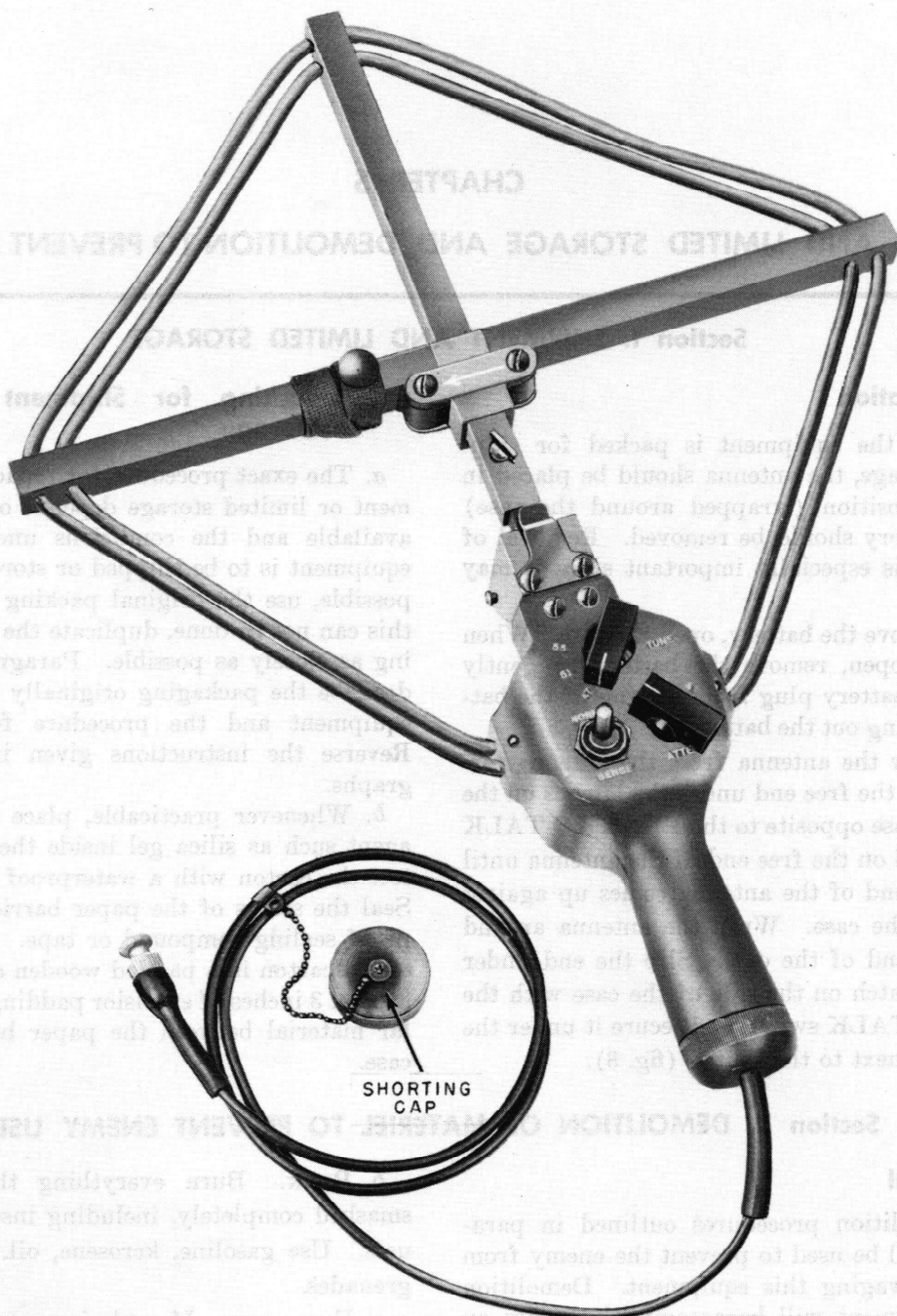


Figure 17. Antenna AT-249/GRD.

CHAPTER 5

SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE

Section I. SHIPMENT AND LIMITED STORAGE

44. Preparation

a. Before the equipment is packed for shipment or storage, the antenna should be placed in its stored position (wrapped around the case) and the battery should be removed. Removal of the battery is especially important since it may leak.

b. To remove the battery, open the case. When the case is open, remove the battery by gently pulling the battery plug from the top of the battery and lifting out the battery.

c. Unscrew the antenna from the antenna terminal. Slip the free end under the latches on the side of the case opposite to the PUSH TO TALK switch. Pull on the free end of the antenna until the captive end of the antenna comes up against the end of the case. Wrap the antenna around the bottom end of the case. Slip the end under the bottom latch on the side of the case with the PUSH TO TALK switch and secure it under the clip located next to the switch (fig. 8).

45. Repacking for Shipment or Limited Storage

a. The exact procedure for repacking for shipment or limited storage depends on the material available and the conditions under which the equipment is to be shipped or stored. Whenever possible, use the original packing materials. If this can not be done, duplicate the original packing as closely as possible. Paragraphs 6 and 14 describe the packaging originally used with this equipment and the procedure for unpacking. Reverse the instructions given in those paragraphs.

b. Whenever practicable, place a dehydrating agent such as silica gel inside the carton. Protect the carton with a waterproof paper barrier. Seal the seams of the paper barrier with waterproof sealing compound or tape. Pack the protected carton in a padded wooden case, providing at least 3 inches of excelsior padding or some similar material between the paper barrier and the case.

Section II. DEMOLITION OF MATERIEL TO PREVENT ENEMY USE

46. General

The demolition procedures outlined in paragraph 47 will be used to prevent the enemy from using or salvaging this equipment. Demolition of the equipment will be accomplished only on order of the commanding officer.

47. Methods of Destruction

a. **SMASH.** Smash crystals, tubes, main chassis, and handset, using heavy tools. If none of these are available, use one piece of the case as a hammer.

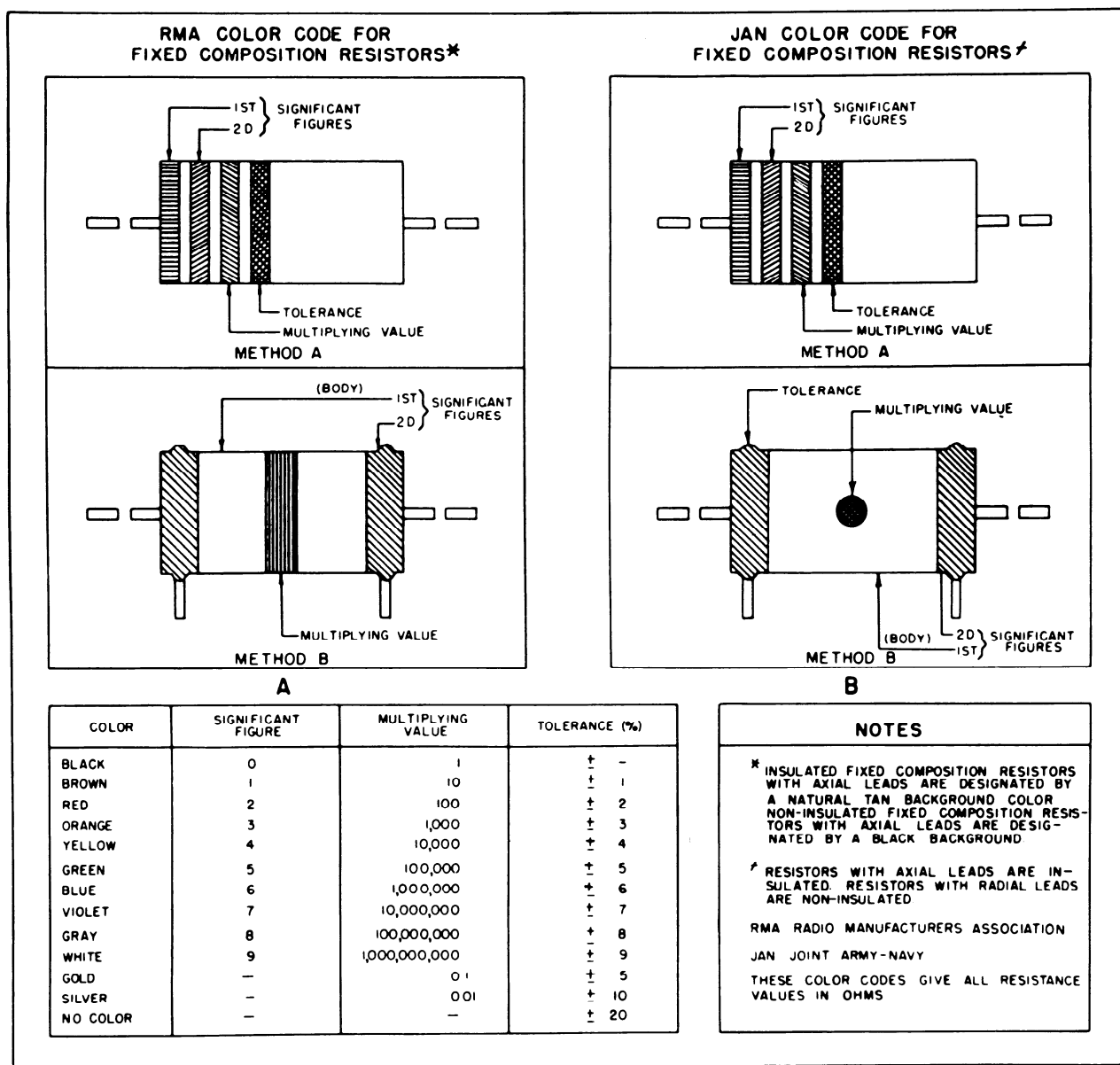
b. **BURN.** Burn everything that cannot be smashed completely, including instructions manuals. Use gasoline, kerosene, oil, or incendiary grenades.

c. **EXPLOSIVES.** If explosives are necessary, use firearms or grenades.

d. **DISPOSAL.** Bury or scatter the destroyed parts in slit trenches, fox holes, or other holes, or throw them into streams.

e. **DESTROY EVERYTHING.**

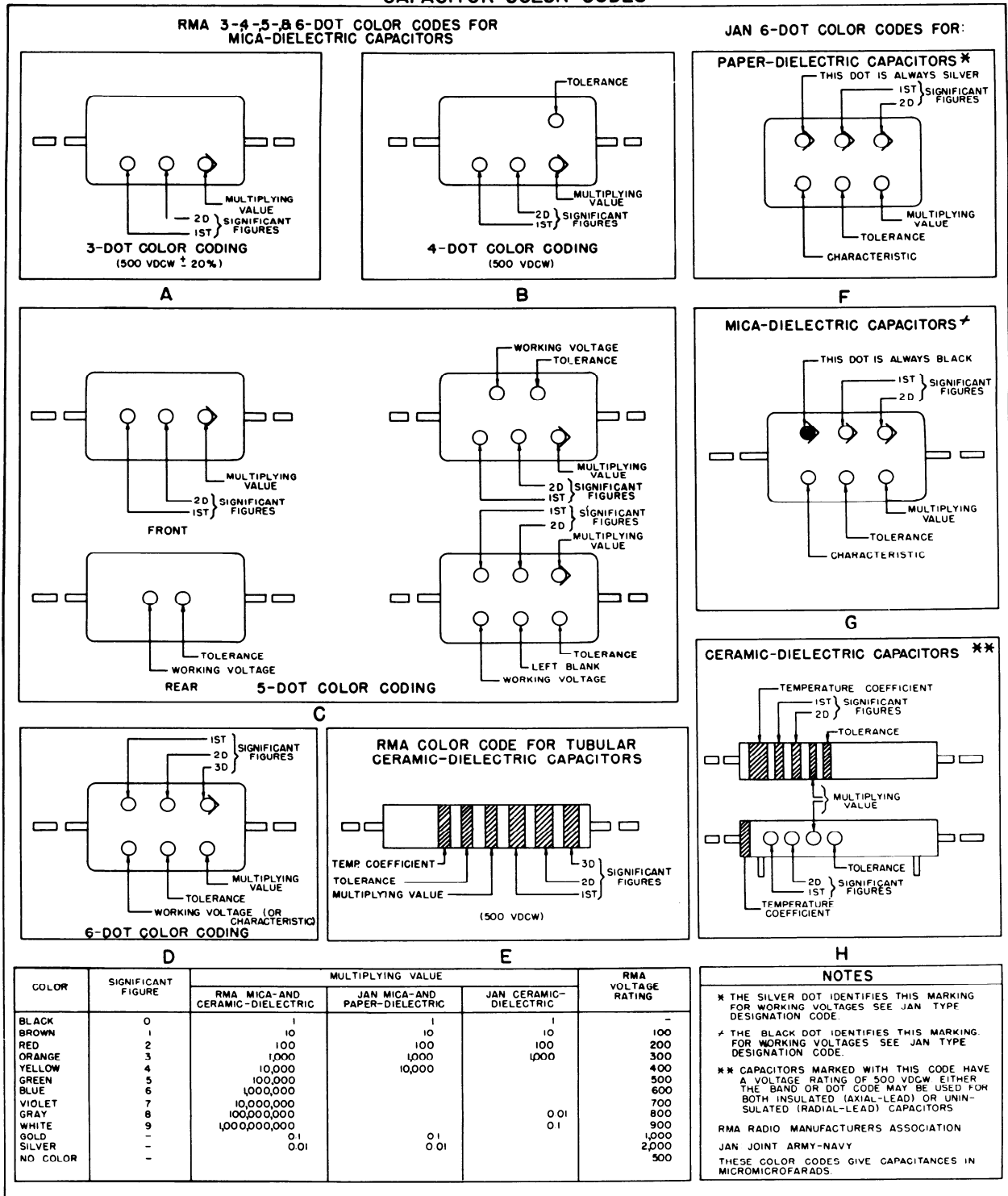
RESISTOR COLOR CODES



TL 32454S

Figure 18. Resistor color code.

CAPACITOR COLOR CODES



TL 324535

Figure 19. Capacitor color code.

APPENDIX I

REFERENCES

Note. For availability of items listed, check SR 310-20-3 and SR 310-20-4. Check Department of the Army Supply Catalog SIG 1 for Corps supply catalogs.

1. Army Regulations

- AR 380-5 Safeguarding Military Information.
AR 750-5 Maintenance of Supplies and Equipment. (Maintenance Responsibilities and Shop Operation).

2. Supply Publications

- SIG 1 Introduction and Index.
SIG 3 List of Items for Troop Issue.
SB 11-6 Dry Battery Supply Data.
SB 11-47 Preparation and Submission of Requisitions for Signal Corps Supplies.
SB 11-76 Signal Corps Kit and Materials for Moisture- and Fungi-Resistant Treatment.

3. Painting, Preserving, and Lubrication

- TB SIG 13 Moistureproofing and Fungiproofing Signal Corps Equipment.
TM 9-2851 Painting Instructions for Field Use.

4. Camouflage

- FM 5-20 Camouflage, Basic Principles.

5. Decontamination

- TM 3-220 Decontamination.

6. Demolition

- FM 5-25 Explosives and Demolitions.

7. Other Publications

- FM 24-18 Field Radio Techniques.
FM 72-20 Jungle Warfare.
SR 310-20-3 Index of Training Publications (Field Manuals, Training Circulars, Firing Tables and Charts, Army Training Programs, Mobilization Training Programs, Graphic Training Aids, Joint Army-Navy-Air Force Publications, and Combined Communications Board Publications).
SR 310-20-4 Index of Technical Manuals, Technical Regulations, Technical Bulletins, Supply Bulletins, Lubrication Orders, Modification Work Orders, Tables of Organization and Equipment, Reduction Tables, Tables of Allowances, Tables of Organization, and Tables of Equipment.
SR 700-45-5 Unsatisfactory Equipment Report (Reports Control Symbol CSGLD-247).
SR 745-45-5 Report of Damaged or Improper Shipment (Reports Control Symbol CSGLD-66).
TB SIG 4 Methods for Improving the Effectiveness of Jungle Radio Communication.

TB SIG 54 Working Through Jamming with Frequency Modulated Radio Sets.

TB SIG 66 Winter Maintenance of Signal Equipment.

TB SIG 72 Tropical Maintenance of Ground Signal Equipment.

TB SIG 75 Desert Maintenance of Ground Signal Equipment.

TB SIG 123 Preventive Maintenance Practices for Ground Signal Equipment.

TB SIG 178 Preventive Maintenance Guide for Radio Communication Equipment.

TB SIG 219 Operation of Signal Equipment at Low Temperatures.

TB SIG 223 Field Expedients for Wire and Radio.

TM 11-314 Antennas and Antenna Systems.

TM 11-453 Shop Work.

TM 11-455 Radio Fundamentals.

TM 11-466 Radar Electronic Fundamentals.

TM 11-476 Radio Direction Finding.

TM 11-483 Suppression of Radio Noises.

TM 11-486 Electrical Communication Systems Engineering.

TM 11-490 Electrical Fundamentals.

TM 11-499 (Preliminary), Radio Propagation Handbook.

TM 11-661 Electrical Fundamentals (Direct Current).

TM 11-4000 Trouble Shooting and Repair of Radio Equipment.

8. Abbreviations

afc----- automatic frequency control
 f-m----- frequency-modulated
 i-f----- intermediate-frequency
 kc----- kilocycle
 ma----- milliampere
 mc----- megacycle
 r-f----- radio-frequency

9. Glossary

For explanation of terms used in this manual, refer to TM 11-455.

APPENDIX II

IDENTIFICATION TABLE OF PARTS

1. Requisitioning Parts

The fact that a part is listed in this table is not sufficient basis for requisitioning the item. Requisitions must cite a specific T/O & E, T/A, SIG 7 & 8, list of allowances of expendable material, or other authorized supply basis. The Department of the Army Supply Catalog applicable to the equipment covered in this manual is SIG 7 & 8-AN/PRC-6. For an index of available supply catalogs in the Signal portion of the Department of the Army Supply Catalog, see the latest issue of SIG 1.

2. Identification Table of Parts for Radio Set AN/PRC-6

| Ref symbol | Name of part and description | Function of part | Signal Corps stock No. |
|--|--|--|------------------------|
| | RADIO SET: Army-Navy Radio Set AN/PRC-6; 25 w output; 47 to 55.4 mc. | | 2S3503-6 |
| | RECEIVER-TRANSMITTER: Army-Navy Radio Receiver-Transmitter RT-196/PRC-6; p/o Radio Set AN/PRC-6; 25 w output; 47 to 55.4 mc. | | 2C5130-196 |
| | HANDSET: Army-Navy Handset H-33C/PT; batt powered; carbon type. | Auxiliary microphone and earphone. | 2B620-33 |
| E5 | ANTENNA: whip type; 47 to 55.4 mc. | Transmits and receives r-f signals. | 2A288A-113 |
| Y1 | CRYSTAL UNIT: Army-Navy Crystal Unit CR-23/U; quartz; 46.7 mc nom freq. | Crystal oscillator. | *2X224-46.7 |
| V1, V2, V4, V5, V6, V7, V3 | TUBE, electron: JAN type 5678. | V1: First r-f amplifier. V2: Second r-f amplifier. V4: First i-f amplifier. V5: Second i-f amplifier. V6: Third i-f amplifier. V7: Limiter. | 2J5678 |
| V8, V9, V10 | TUBE, electron: JAN type 2G21. | Mixer. | 2J2G21 |
| | TUBE, electron: JAN type 5672. | V8: Audio amplifier. V9: Crystal oscillator. V10: F-m modulator. | 2J5672 |
| V11, V12 | TUBE, electron: JAN type 5676. | V11: Transmitter oscillator. V12: Doubler. | 2J5676 |
| V13 | TUBE, electron: JAN type 3B4. | Power amplifier. | 2J3B4 |
| | KNOB: aluminum alloy. | EXT.-OFF-INT. switch. | 2Z5822-503 |
| | BATTERY: Army-Navy Battery BA-270/U; dry type; 3 sect; output 1.5 v, 4.5 v, 45 v, and 90 v. | Power source for equipment. | 3A275-270 |

*To requisition crystals of other frequencies, change 46.7 in stock No. to read desired frequency in mc.

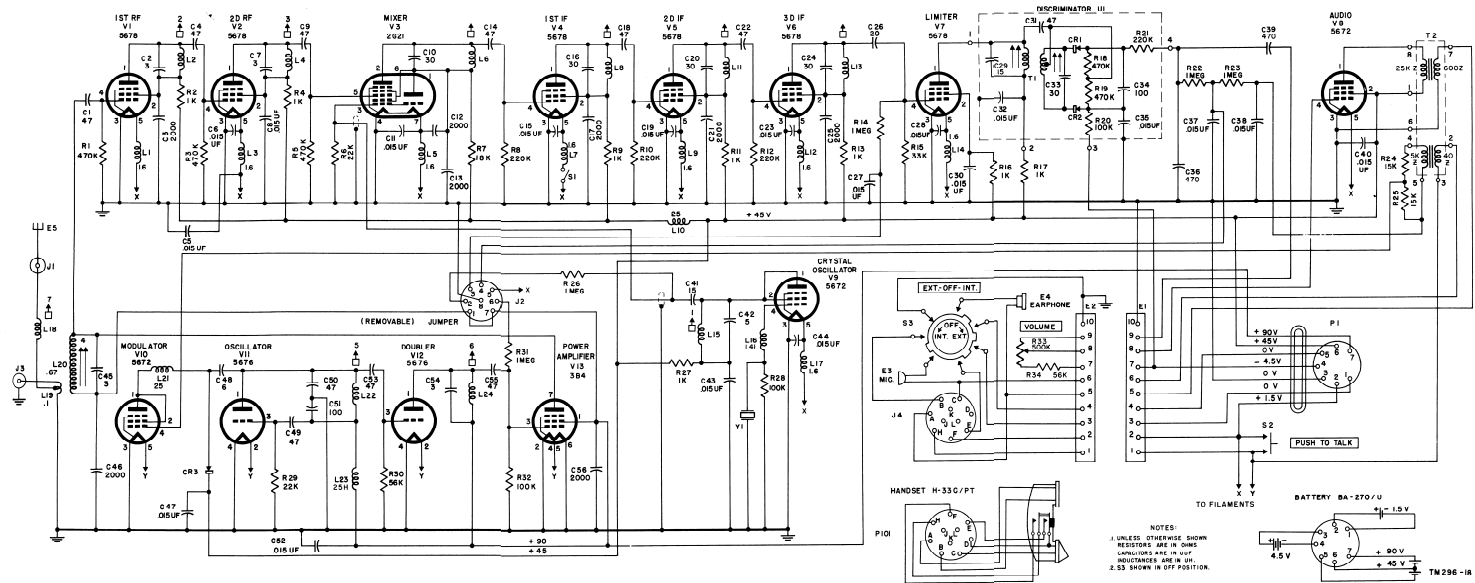


Figure 20. Radio Set AN/PRC-6, schematic diagram.

NOTES:
 1. UNLESS OTHERWISE SHOWN
 RESISTORS ARE IN OHMS
 CAPACITORS ARE IN UF
 INDUCTANCES ARE IN UH.
 2. S3 SHOWN IN OFF POSITION.