RESTRICTED

TM 11-245

WAR DEPARTMENT

TECHNICAL MANUAL

RADIO SET SCR-511-A
RADIO SET SCR-511-B
RADIO SET SCR-511-(*)

(AND POWER SUPPLY UNIT PE-157-(*)

30 July, 1943

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Washington, 25, D. C., 30 July, 1943

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TECHNICAL MANUAL
No. 11-245

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Washington, 25, D. C., 30 July, 1943

RADIO SET SCR-511-A, SCR-511-B and SCR-511-(*) (and Power Supply Unit PE-157-(*)

TABLE OF CONTENTS

This Technical Manual supercedes TM 11-245 dated 11-26-42.

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ILLUSTRATIONS

ILLUSTRATIONS (Continued)

SAFETY NOTICE

THERE IS NO DANGER OF AN ELECTRICAL SHOCK AT ANY POINT OF THIS SET WHEN IT IS IN OPERATION. WHEN THE CHASSIS IS OUT OF THE CASE AND CONNECTED TO THE BATTERY OR POWER SUPPPLY, BE CAREFUL, AS HIGH VOLTAGES OF 67 AND 135 VOLTS ARE PRESENT AT MANY POINTS ON THE BOTTOM OF THE CHASSIS.

NOTICE

Radio Sets SCR-511-A and SCR-511-B, because of their similarity are referred to in this Technical Manual by the symbol (*) in place of the suffix letter.

DESTRUCTION NOTICE

WHY To prevent the enemy from using or salvaging this equipment for his benefit.

WHEN When ordered by your commander, or when you are in immediate danger of capture.

HOW
1. Smash—Use sledges, axes, hand-axes, pick-axes, hammers, crowbars, heavy tools, etc.
2. Cut—Use axes, hand-axes, machete, etc.
3. Burn—Use gasoline, kerosene, oil, flame-throwers, incendiary grenades, etc.
4. Explosives—Use firearms, grenades, TNT, etc.
5. Disposal—Bury in slit trenches, fox holes, other holes. Throw in streams. Scatter.
6. USE ANYTHING AVAILABLE FOR DESTRUCTION OF THIS EQUIPMENT.

WHAT
1. Smash—
   a. Radio Receiver and Transmitter BC-745-(*) housing, coils, transformers, and tubes.
   b. Chest Unit T-39-(*) housing, speaker, transformer, jack, and Battery BA-49.
   c. Tuning Units BC-746-(*) housing, coils, capacitors, and crystals.
   d. Battery BB-54-(*).
   e. Case CS-131-(*).
   f. Power Supply Unit PE-157-(*) housing, vibrators, coils, transformers, and relays.
2. Cut—
   a. Cut all wiring in unit to make it impossible to be rewired.
   b. Cut up Cord CD 3 and CD-571-(*).
3. Bend and/or Break—
   a. Antenna of Radio Receiver & Transmitter BC-745-(*).
   b. Mounting FT-338-(*).
4. Burn—
   a. Technical Manual TM 11-245.
   b. All wiring in unit and cords.
5. Bury or Scatter—Any or all of the above pieces after breaking. DESTROY EVERYTHING!

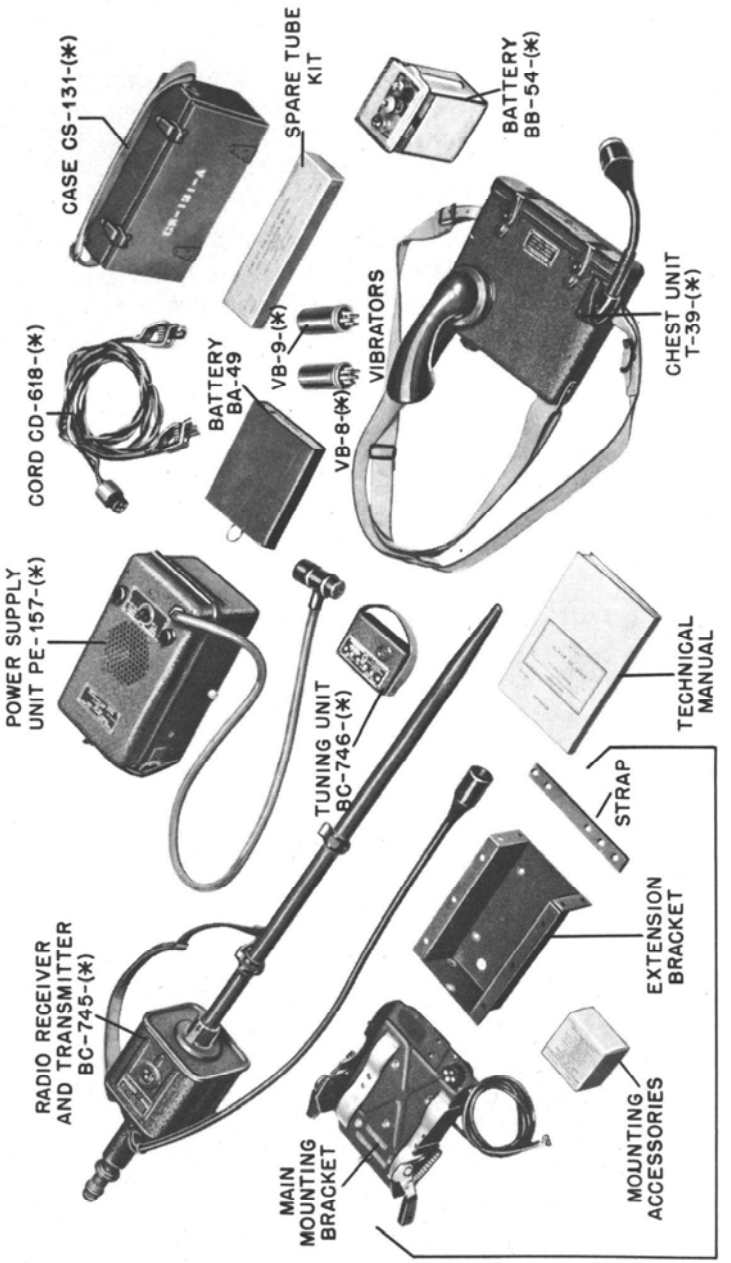


Figure 1. Radio Set SCR-511-(*), Components

SECTION I—DESCRIPTION

1. General.

a. Radio Set SCR-511-(*) is a low power, portable, amplitude modulated radio-telephone receiver and transmitter, powered by dry or storage batteries. Radio Set SCR-511-(*) consists of Radio Receiver and Transmitter BC-745-(*) and Chest Unit T-39-(*) and Tuning Unit BC-746-(*).

b. Radio Set SCR-511-(*), in addition, includes Power Supply Unit PE-157-(*). Interconnecting these units permit the operation of Radio Receiver and Transmitter BC-745-(*) with Chest Unit T-39-(*), or Power Supply Unit PE-157-(*), or both.

Note: Wherever in this Manual the symbol (*) follows an "SCR" or component number it indicates that the information is applicable to all models covered by this Manual.

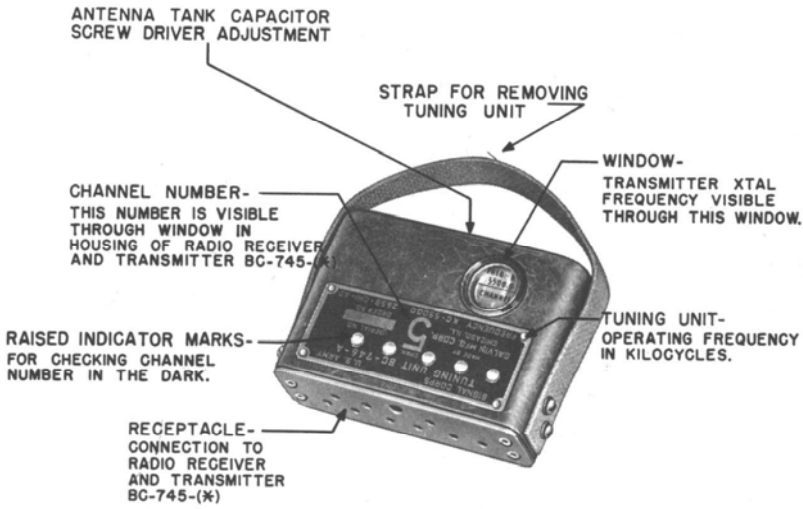


Figure 2. Tuning Unit BC-746-(*)

2. RADIO SET SCR-511-(*), COMPONENTS WITH WEIGHTS AND DIMENSIONS (See Figure 1 for illustrations)

Quantity	Signal Corps Stock No.	Name of Component	Dimensions (Inches)					Unit Weight (In Lbs.)
			Height	Width	Depth	Length	Diam.	
1		Battery BA-49-(*)	6 7/16	5 5/16	1 3/8			2.5
1		Battery BB-54-(*)	5 17/32	3 27/32	3			4.75
1		Case CS-131-(*) (for storing Spare Tube Kit Spare Vibrators, and Cord CD-618-(*))	3 1/2	5 3/4		10 3/4		2.25
1		Chest Unit T-39-(*)	8 1/4	10 1/4	5			3.7
1		Cord CD-618-(*)				99		.84
1		Mounting FT-338-(*)						5.77
		Consisting of:						
		Main Mounting Bracket	9 5/8	8 3/8	6 1/4			3.00
		Extension Bracket	8 1/2	5 3/8	2 9/16			2.25
		Strap, Main Mounting Bracket		1		7	3/32 thick	.17
		Mounting Accessories (Bolts, Lockwashers and Nuts)						.35
1		Power Supply Unit PE-157-(*)	11 9/16	8 3/8	5 5/8			16.13
1		Radio Receiver and Transmitter BC-745-(*)	45 5/8 (ant. telescoped) 127.5 (ant. extended)	5 1/2	5 1/2			9.3

2. RADIO SET SCR-511-(*), COMPONENTS WITH WEIGHTS AND DIMENSIONS. (See Figure 1 for illustrations)—Continued

Quantity	Signal Corps Stock No.	Name of Component	Dimensions (Inches)					Unit Weight (In Lbs.)
			Height	Width	Depth	Length	Diam.	
1		Strap ST-43 (Attached to Radio Receiver and Transmitter BC-745-(*))		⅞		36½		.1
2		Strap ST-44 (Attached to Chest Unit T-39-(*))		1¼		59½		.1
2		Technical Manual TM 11-245 (For Radio Set SCR-511-(*) and Power Supply Unit PE-157-(*))	8½	5½				
1		Tube Set GK-199 Consisting of: 1 RMA 1S5/VT172 4 RMA 1T4/VT173 6 RMA 3S4/VT174						
1		Vibrator VB-8-(*)	3⅜				1½	.26
1		Vibrator VB-9-(*)	3⅜				1½	.26
		Tuning Unit BC-746-(*) (Includes antenna coils, tank coils, and crystals) for operation on each of the following frequencies: 2670 kc., 3010 kc., 3035 kc., 3155 kc., 3245 kc., 3345 kc., 3402.5 kc., 3410 kc., 3475 kc., 3525 kc., 3655 kc., 3665 kc., 3725 kc., 3735 kc., 3825 kc., 3865 kc., 3995 kc., 4105 kc., 4435 kc., 4780 kc., 4845 kc., 5030 kc., 5305 kc., 5550 kc., 5870 kc., 5880 kc., 5900 kc.	2¾	4¼	1¼			.5

3. Range.

The operating range of Radio Set SCR-511-(*) is about 5 miles under favorable conditions.

4. Frequency Coverage.

Tuning Units BC-746-(*) are pre-tuned plug-in devices and contain appropriate transmitter and receiver crystals and plug-in coils. These units permit quick change-over between any two frequency channels in the 2 to 6 megacycle band.

5. Power Source.

Radio Receiver and Transmitter BC-745-(*) receives its power either from Battery BA-49 in Chest Unit T-39-(*) or Power Supply Unit PE-157-(*) (Figures 3 and 4).

6. Power Requirements, Using Battery BA-49 or Battery BB-54-(*).

Receiver:

1.5 volts filament at .355 amperes.
67.5 volts plate at 20 milliamperes.

Transmitter:

1.5 volts filament at .490 amperes.
105-125 volts plate at 50 milliamperes.

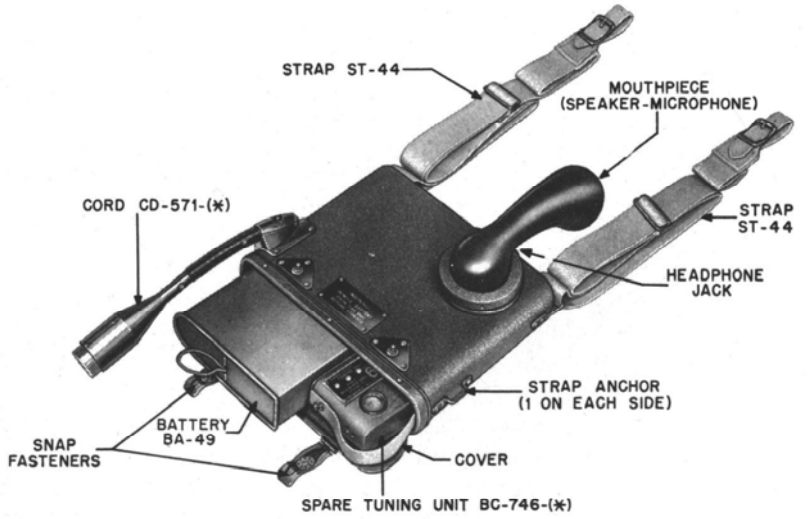


Figure 3. Chest Unit T-39-(*), Open View

7. Weights Assembled.

Radio Set SCR-511-(*), less Power Supply Unit PE-157-(*) and Mounting FT-338-(*), weighs 16 pounds. Radio Set SCR-511-(*) with Power Supply Unit PE-157-(*), less Mounting FT-338-(*) weighs 35.74 pounds.

8. Description of Main Components.

a. Chest Unit T-39-(*).

Chest Unit T-39-(*) is a waterproof unit which contains Battery BA-49, waterproof speaker-microphone, headphone jack and spare Tuning Unit BC-746-(*). A soft rubber mouthpiece serves as a horn for the dynamic speaker-microphone. Spare Tuning Unit BC-746-(*) and Battery BA-49 can be reached after the snap fasteners are released and the hinged bottom of the chest unit is opened. The complete unit is supported on the chest by adjustable shoulder Straps ST-44. (Figure 3)

b. Case CS-131-(*).

Case CS-131-(*) is a wooden case containing spare vibrators VB-8-(*) and VB-9-(*), Cord CD-618-(*), and spare tube set. An adjustable strap is fastened to the box for carrying. (Figure 1)

c. Cord CD-571-(*).

Cord CD-571-(*) is a seven conductor, shielded, rubber-covered cable fitted with a waterproof separable-plug connector. Part of this cord is permanently attached to Chest Unit T-39-(*) and the other part to Radio Receiver and Transmitter BC-745-(*). The plug is assembled by placing the flat side of the guide pin in line with the flat side of the guide receptacle. This aligns the pins which will not enter in any other position. The two halves of the plugs are then pushed together, or connected to cord CD_3 of the power supply unit. (Figures 6, 7, 8, and 9)

d. Radio Receiver and Transmitter BC-745-(*).

The five-inch square chassis base and electrical components are mounted near the top of a three-foot long hollow metal staff. This staff houses the three-section ninety-inch telescoping antenna, and serves as a shaft support for Radio Receiver and Transmitter BC-745-(*). The bottom of the chassis housing may be quickly removed for changing tuning units by rotating a locking-collar on a bayonet type twist lock. A tube retainer plate with tube springs and tube shields, can be removed to reach the tubes. Most of the resistors and capacitors are wax encased in containers which mount on the tube

sockets and are sealed against moisture and vibration. A thumb-ring located above the handle grip serves as a *press-to-talk* switch and is mounted on the top of the housing. It is linked to a spring-loaded, seven-pole, double-throw, transmit-receive switch. The entire unit is water and moisture proof. (Figure 1)

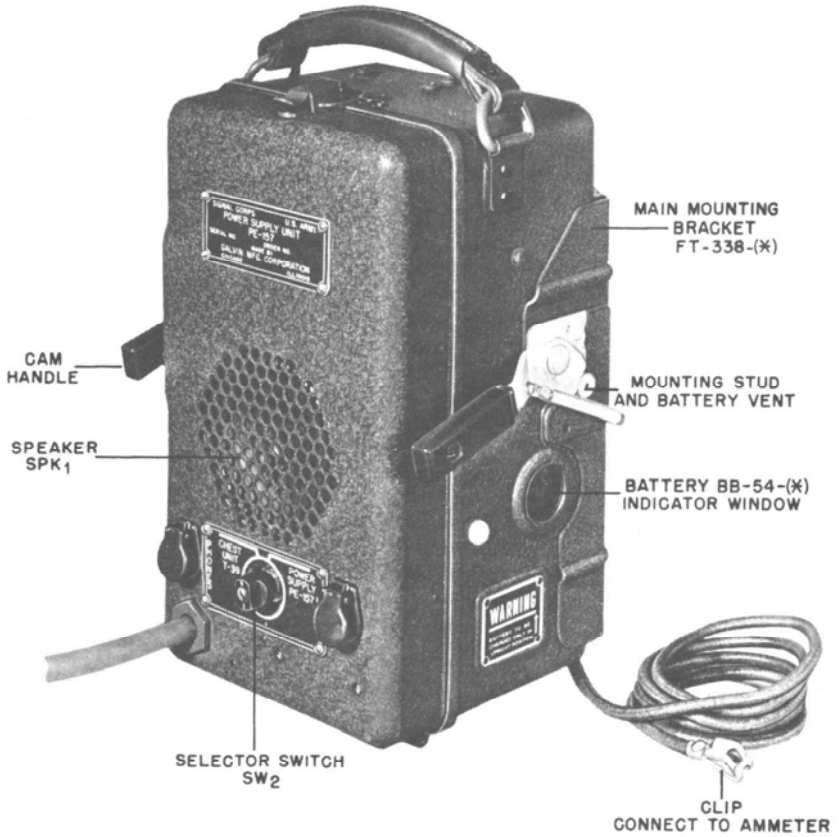


Figure 4. Power Supply Unit PE-157-(*), Shown in Main Mounting Bracket

e. Tuning Unit BC-746-(*).

Tuning Unit BC-746-(*) is a plug-in unit which contains the receiver and transmitter crystals, the antenna coil, the antenna tank variable air capacitor, and the core-tuned receiver r-f coil (Figures 15 and 15A). The complete unit is housed in a moisture-proof fibre case, which plugs into Radio Receiver and Transmitter BC-745-(*) (Figure 5). A spare Tuning Unit BC-746-(*) is carried in Chest Unit T-39-(*). (Figure 3)

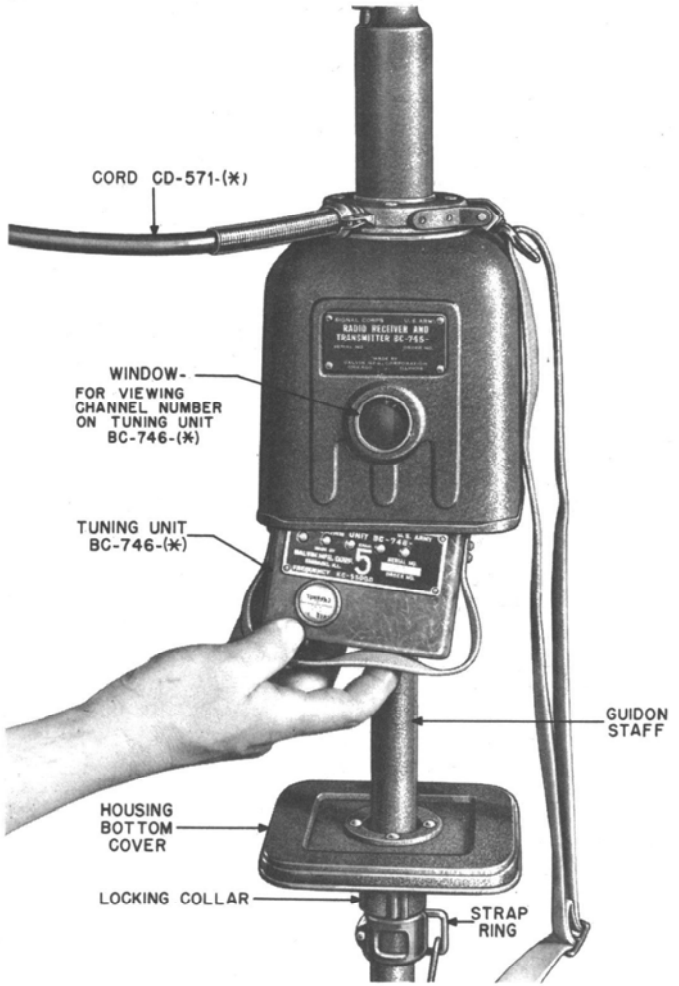


Figure 5. Radio Receiver and Transmitter BC-745-(*), Channel Changing

f. Power Supply Unit PE-157-(*).

Power Supply Unit PE-157-(*) is a storage battery operated A and B supply, designed for operation with Radio Set SCR-511-(*). It eliminates the use of Battery BA-49 of Chest Unit T-39-(*). Power Supply Unit PE-157-(*) consists of a two-volt storage Battery BB-54-(*), vibrator type plate supply, dry disc rectifiers, and vibrator

Figure 6. Radio Set SCR-511-(*), In Operation, Using Microphone and Power Supply Speaker

type battery charger (for charging the two-volt Battery BB-54-(*)). Speaker, headphone jack, and microphone jack are provided in Power Supply Unit PE-157-(*); making possible the operation of Radio Set SCR-511-(*) with or without Chest Unit T-39-(*). (Figures 6, 7, 8, and 9)

Figure 7. Radio Set SCR-511-(*), In Operation, Using Headphones and Microphone

g. Battery BB-54-(*).

The battery is a single two-volt lead cell, contained in a spill-proof plastic case. Despite its spill-proof feature, the battery should always be mounted or carried in a *vertical* position. The degree of battery charge can be determined by observing the charge indicator balls,

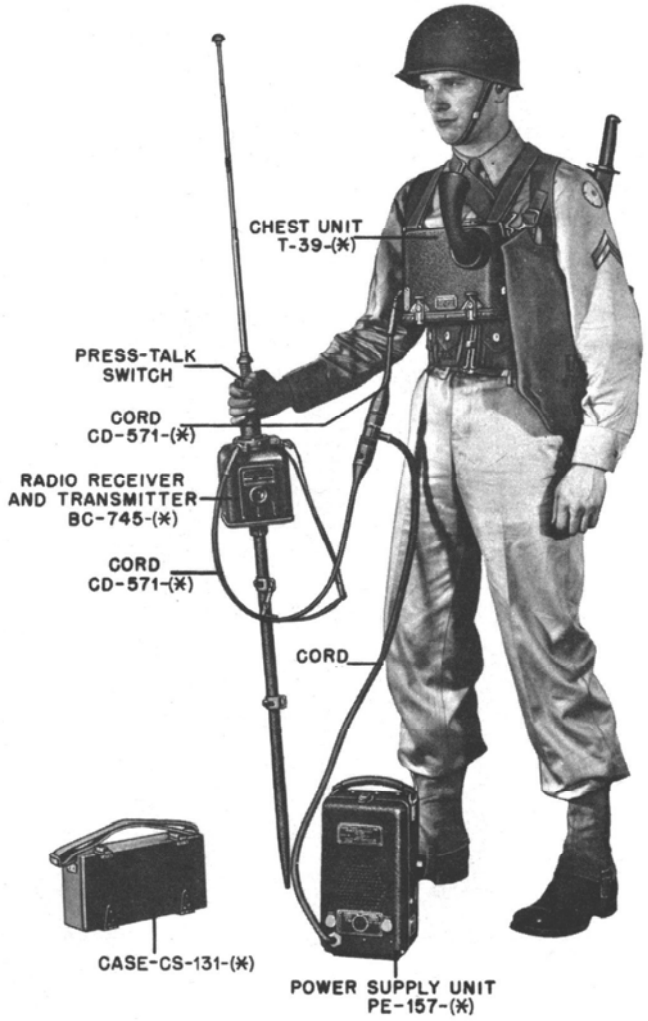


Figure 8. Radio Set SCR-511-(*), In Operation, Using Chest Unit T-39-(*) and Power Supply Unit PE-157-(*)

visible through the window in the side of the housing. If the battery is fully charged, the three indicator balls will be floating at the surface of the liquid in the battery. When the battery discharges, these colored indicator balls will sink in the following order:

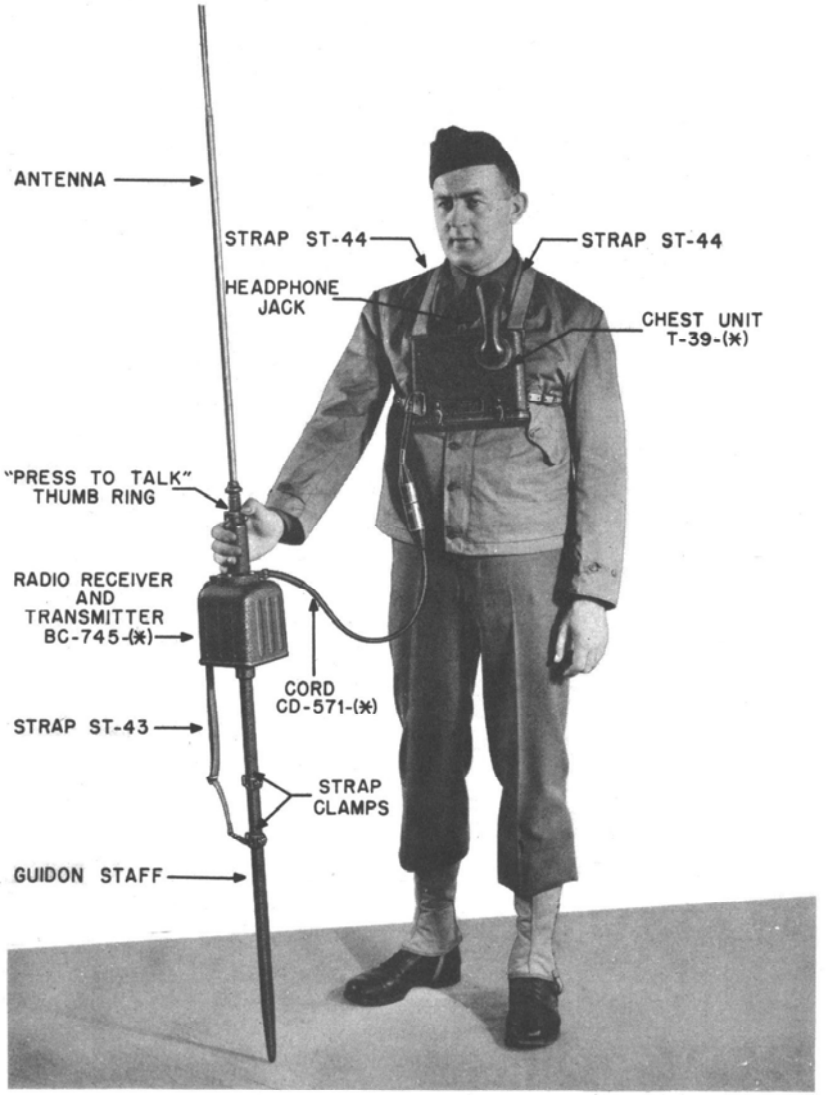


Figure 9. Radio Set SCR-511-(*), In Operation, Using Chest Unit T-39-(*)

(1) Green ball sinks when approximately 10% of the battery capacity has been discharged.

(2) White ball sinks when 50% capacity has been discharged.

(3) Red ball sinks when battery is 90% discharged.

On charge the balls rise or float in reverse sequence. (Figure 10) Fumes emitted from the battery during charging periods are carried to the outside by means of a vent hose which is attached to the battery air vent.

CAUTION: Be sure that the air vent hose is attached to the battery air vent before closing the cover; otherwise, sulphuric acid fumes may penetrate into the power supply parts and do damage.

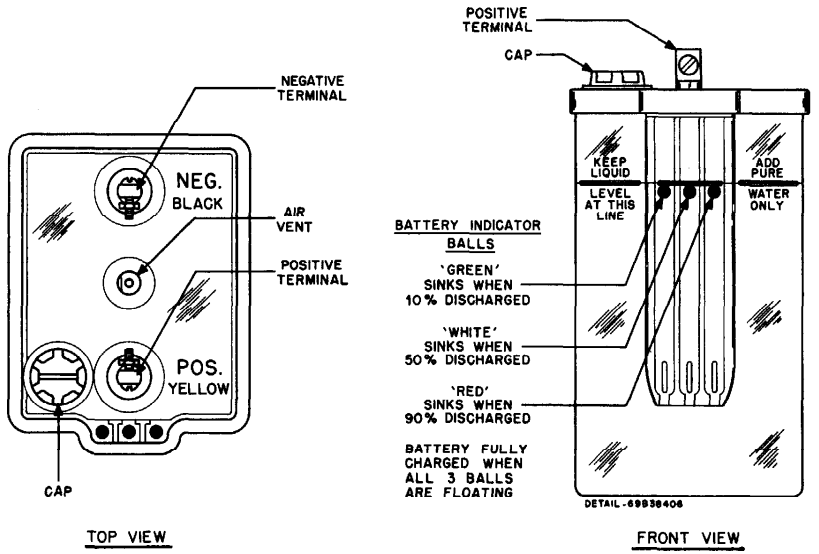


Figure 10. Battery BB-54-(*), Instruction Detail

h. Mounting FT-338-(*).

Mounting FT-338-(*) is used to hold Power Supply Unit PE-157-(*) in a position in a vehicle. This mounting consists of a main mounting bracket; an extension or auxiliary bracket, a strap to provide additional support, and all necessary hardware. (Figure 1)

(1) *Main Mounting Bracket FT-338.(*).*

The main mounting may be bolted to the instrument panel, to the bulkhead of a vehicle, or to some other suitable support. Power Supply Unit PE-157-(*) is held in Mounting FT-338-(*) by means of two cam levers which engage two studs on the housing. This type of mounting provides for easy installation or removal of the power supply from the vehicle. A receptacle attached to Mounting FT-338-(*)

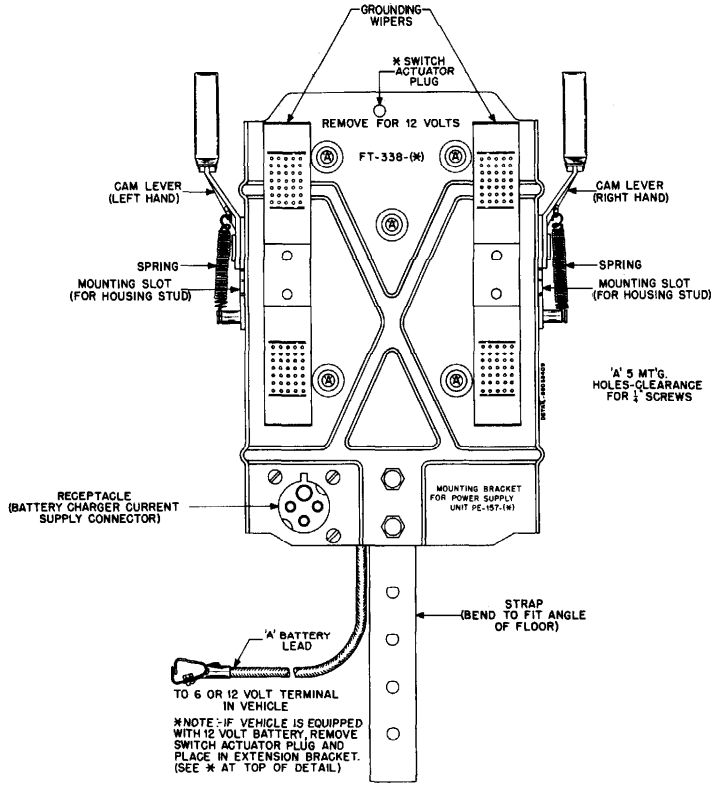


Figure 11. Main Mounting Bracket FT-338-(*), Front View

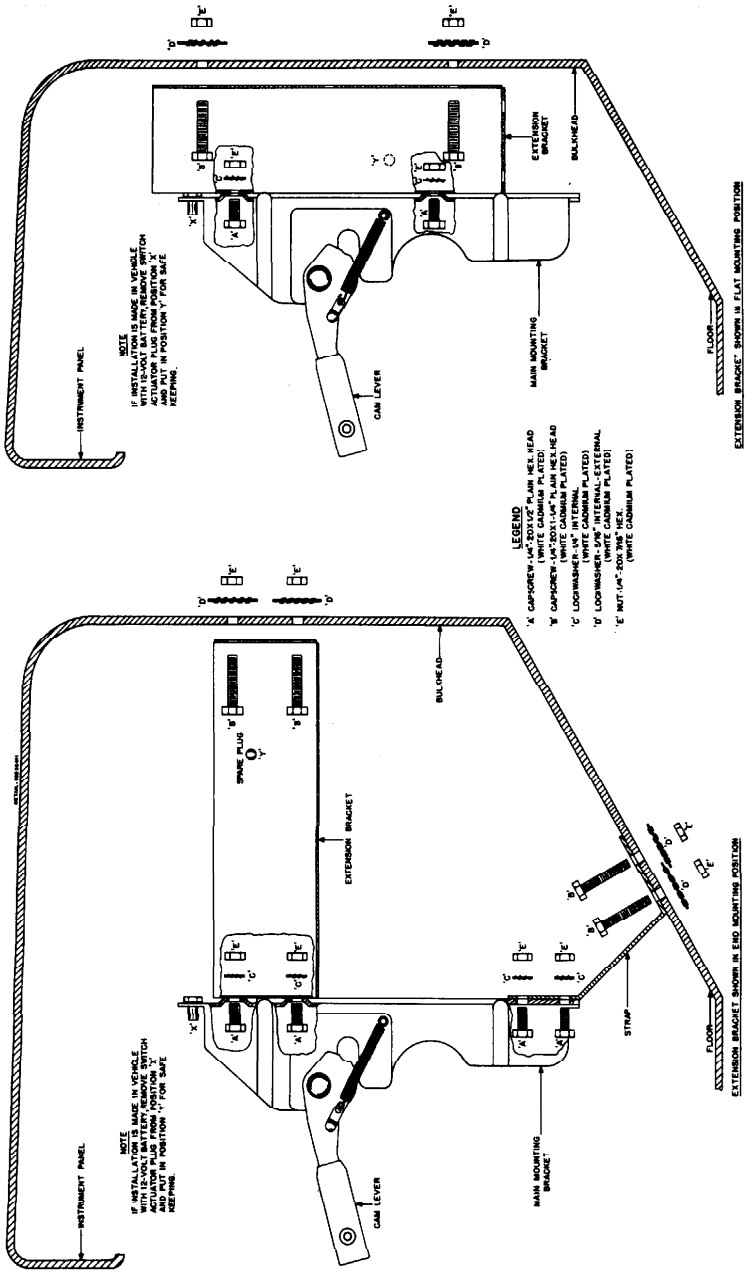


Figure 12. Mounting FT-338-(*), Installation Detail

is connected to the vehicle battery by means of a flexible lead and clip. The four-prong plug on the Power Supply Unit PE-157-(*) housing fits into the receptacle on Mounting FT-338-(*), and connects to the dry disc charger. When Power Supply Unit PE-157-(*) is installed on Mounting FT-338-(*) in a vehicle, the two-volt storage Battery BB-54-(*) will be continually charging. (Figures 4 and 11)

(2) *Extension Bracket.*

The extension bracket is provided for installations where there is insufficient clearance in a vehicle, or where it is desired to space the power supply away from the bulkhead. This auxiliary mounting may be placed sideways or on end depending upon which position is more adaptable to the particular installation. (Figure 12)

(3) *Strap.*

A strap is used to provide additional support where it may be required. Figure 12 illustrates the method of using the strap.

i. Cord CD-618-(*).

Cord CD-618-(*) is a two-conductor cable used to connect the battery charger circuit to a six or twelve volt vehicular battery, for the purpose of charging Battery BB-54-(*) when Power Supply Unit PE-157-(*) is in portable operation. The cord is equipped with a pair of battery clips on one end and a four-prong receptacle on the other. So that the two-volt battery may be charged from either a six or twelve volt vehicular battery, a plug is provided and attached to Cord CD-618-(*) by means of a chain for actuating the six-twelve volt change-over switch. (Figure 21). Figure 21 shows Power Supply Unit PE-157-(*) connected to a six volt vehicular battery with switch actuator in position. *The plug is not inserted when a twelve volt vehicular battery is used.*

NOTE: The two volt battery may also be charged from a 105-130 volt a-c line as described in Paragraph 28*c*. (Figure 22).

WARNING: Remove key or plug for charging from 12 volt service.

j. Vibrator VB-8-(*).

Vibrator VB-8-(*) is a two-volt, synchronous, 7-prong vibrator providing plate (or B+) power for Radio Set SCR-511-(*).

k. Vibrator VB-9-(*).

Vibrator VB-9-(*) is a ten-volt, non-synchronous vibrator used in the battery charging circuit. It permits the two-volt battery to be charged from a six or twelve volt storage battery.

l. Selector Switch of Power Supply Unit PE-157-(*).

A selector switch (SW_2) on the front panel of the housing makes possible the operation of Power Supply Unit PE-157-(*) and Radio Set SCR-511-(*) with or without Chest Unit T-39-(*).

(1) *When Chest Unit T-39-(*) is used Selector Switch (SW_2) must be at CHEST UNIT.* In this position, the speaker, microphone, and headphones of Chest Unit T-39-(*) are used.

(2) *When operating Power Supply Unit PE-157-(*) and Radio Set SCR-511-(*) without Chest Unit T-39-(*), the selector switch must be in POWER SUPPLY position.* In this position the speaker, microphone and headphones of Power Supply Unit PE-157-(*) are used.

m. Cord CD_3.

Cord CD_3 is a ten conductor, shielded rubber covered cable terminating in a double connector, SO_2 and PL_2 for connecting Power Supply Unit PE-157-(*) to Radio Set SCR-511-(*).

n. Maintenance Parts Kit.

Maintenance Parts Kit consists of two vibrators, one VB-8-(*), one VB-9-(*) and Cord CD-618-(*). Cord CD-618-(*) is used for charging the Battery BB-54-(*) from a six or twelve volt storage battery. These maintenance parts are stored in a wooden case (CS-131-(*)) carried on the shoulder by means of a shoulder strap. The spare tube kit for Radio Set SCR-511-(*) may also be stored in the maintenance box.

o. Headset and Microphone.

Headset HS-30-(*) and Microphone T-17 are used with Power Supply Unit PE-157-(*) to operate Radio Receiver and Transmitter BC-745-(*) when the Chest Unit T-39-(*) is omitted.

SECTION II—INSTALLATION AND OPERATION

9. Initial Procedure.

Unpack the equipment *carefully* to prevent damage or loss of components. Check the equipment against List of Components, (Paragraph 2).

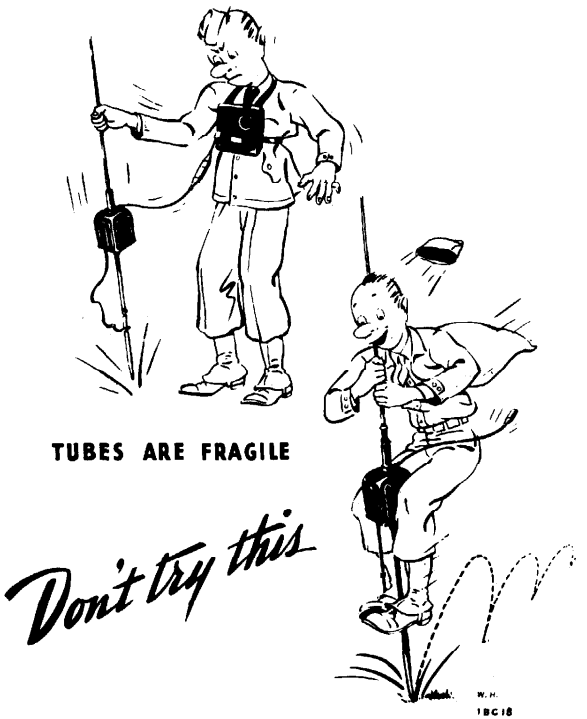
10. Installation

a. Radio Receiver and Transmitter BC-745-(*).

Slide the bottom cover down the guidon staff so that Tuning Unit BC-746-(*) may be installed in Radio Receiver and Transmitter BC-745-(*). (Figure 5) Rotate the locking collar under the bottom cover to the left and at the same time push up on the collar. Then slide the bottom cover down on the staff. Select the proper tuning unit and insert it in position (Figure 5). Be sure that it is firmly seated in its socket. Lift the bottom cover back into position squarely with the housing. Rotate the locking collar to the right until it locks.

Hold Radio Receiver and Transmitter BC-745-(*) upright either with its staff resting on the ground, placed in a metal or leather socket, or slung by thongs through the rings of the shaft and handle, or thrust into loose earth or sand.

CAUTION: DON'T DRIVE STAFF INTO THE GROUND.



b. Chest Unit. T-39-(*).

Release the snap fasteners on the front of the case, and open the hinged bottom. Insert Battery BA-49 with its bakelite contact plate up and its curved end conforming to the shape of the housing, as shown in Figure 3. *FORCE*—DO NOT SLAM *it firmly into place.* Place a spare Tuning Unit BC-746-(*) for an auxiliary channel into the housing below the speaker-microphone. Close the bottom of the housing and fasten it with the snap fasteners. Throw the adjustable Straps ST-44 over the shoulders, cross them in back, and fasten them to the strap anchors of the chest unit. This will support the unit on the chest.

c. Power Supply Unit PE-157-(*).

Power Supply Unit PE-157-(*) is shipped with Vibrators VB-8-(*) and VB-9-(*) plugged into their respective sockets. The two volt storage battery is shipped dry charged, with electrolyte in a separate glass container. The battery and electrolyte are packed in one carton. Complete instructions for placing battery in service are attached to the battery. Instructions will also be found in Paragraph 13 *c* (1).

After placing the battery in service, as outlined in the instructions, open the Power Supply Unit PE-157-(*) housing by releasing the housing catch clip. Remove the retainer plate by unscrewing the thumb screw, and lifting the plate out of locked position.

Place Power Supply Unit PE-157-(*) on its right side.

Connect the positive (+) battery lead to the positive terminal of the battery.

The positive (+) lead is color coded yellow. NOTE: *Using a screwdriver to connect the battery leads will cause accidental shorting of the battery, unless the positive (+) lead is connected first.* Insert lead lug between the terminal nut and the battery post, from the side away from filler cap.

Connect the negative (—) or black colored battery lead to the negative terminal of the battery. The lead lug is inserted between the terminal nut and the battery post with the lug away from filler cap.

Push the top end of the battery partly into the battery compartment. Connect the rubber vent hose to the battery air vent. Push hole near the end of the vent hose over the battery air vent. With

your fingers, work the vent hose on to the battery air vent, until it is fully seated.

Make sure the battery filler cap is screwed in tightly.

Push the battery all the way into the battery compartment, making sure that the battery leads do not slide under the battery. IF THIS PRECAUTION IS NOT TAKEN THE BATTERY WILL NOT FIT INTO ITS COMPARTMENT PROPERLY.

Install the battery retainer plate to keep the battery in position. This plate has a tongue which fits into the slot of a bracket located on the power supply, and a thumb screw holds it to the side of the housing.

WARNING: Don't slam the housing cover shut. Air inside the housing cannot escape when the cover is slammed and enough pressure will be built up to ruin the speaker. Don't do it.

11. Vehicular Installation of Power Supply Unit PE-157-(*)

a. Mounting FT-338-(*).

Select a location where Power Supply Unit PE-157-(*) will be accessible, and where it is close enough to permit Cord CD-517-(*) of Radio Set SCR-511-(*) to reach. The location chosen should permit an all-around clearance of at least one inch between the housing and the vehicle. Two methods of mounting Power Supply Unit PE-157-(*) are shown in Figure 12.

Figure 12 also illustrates the method of bolting the main bracket to the extension bracket, and shows how the strap is bolted to the main bracket. Bend the strap to fit the shape of the floor board or support to which it is mounted.

Use the main mounting or the extension bracket as a template for drilling mounting holes in the vehicle.

When Mounting FT-338-(*) is installed in a vehicle using twelve-volt vehicular battery, *remove the switch actuator plug from the mounting and place it for safe keeping, in the hole provided for it on the extension bracket.*

(1) *Instrument Panel Mounting:*

Bolt the main mounting bracket to the instrument panel, using the bolts, lockwashers and nuts provided. (Figure 12)

(2) *Bulkhead Mounting:*

Bolt the main mounting to the extension bracket, using bolts, lockwashers and nuts provided for this purpose. Mount the assembly on the bulkhead and bolt it securely. (See Figure 6)

Connect the main bracket lead to the ammeter or other suitable switch terminal. A clip is provided on the end of the lead for this purpose. Tools are not required; simply compress the clip and slip the slot over the terminal to which connection is to be made.

(3) *Mounting Power Supply Unit PE-157-(*).*

Place Power Supply Unit PE-157-(*) in the main mounting being careful to line the plug and power supply squarely with the receptacle on the mounting. Draw the two cam levers down over the two studs mounted on the housing.

b. Cord CD3.

Cord CD3 of Power Supply Unit PE-157-(*) is connected to Cord CD-571-(*) of Radio Set SCR-511-(*). The socket (SO2) of cord CD3 is connected to plug (PL3) of Cord CD-571-(*). When using chest unit with Power Suply Unit PE-157-(*), connect plug (PL2) of cord CD3 to socket (SO3) of Cord CD-571-(*).

12. Portable Installation of Power Supply Unit PE-157-(*).

Place Power Supply Unit PE-157-(*) upright on ground or on a stationary support. Hold Radio Receiver and Transmitter BC-745-(*) upright, either with its staff resting on ground, placed in a metal or leather socket, or slung by thongs through the rings of the shaft and handle, or thrust into loose earth or sand.

CAUTION: DON'T DRIVE STAFF INTO THE GROUND.

Connect Cord CD-571-(*) of Radio Set SCR-511-(*) to cord CD3 of Power Supply Unit PE-157-(*). Socket (SO2) of cord CD3 is used. To use Chest Unit T-39-(*) connect socket (SO3) of chest unit to plug (PL2) of cord CD3. Throw the adjustable Straps ST-44 over the shoulders, cross them in back and fasten them to the strap anchors of the chest unit. This will support the unit on the chest.

13. Preparation for Use.

a. Radio Receiver and Transmitter BC-745-(*) is set up as explained in Paragraph (10 *a.*)

b. Battery BA-49 is installed in Chest Unit T-39-(*).

CAUTION: IF THE INSTRUMENT IS TO BE STORED, REMOVE THE BATTERY FROM THE CHEST UNIT. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE CHEST UNIT WHEN THE BATTERY SWELLS AS IT AGES.

c. Preparation of Battery BB-54-(*).

Make certain that the electrolyte has been added to Battery BB-54-(*) as outlined in instructions which accompany the battery. These instructions are also outlined below:

(1) *How to Fill Battery BB-54-(*) with Electrolyte:*

Remove filler cap from the battery.

Insert funnel in filler cap opening in battery.

Using funnel, pour electrolyte *slowly* into battery. Fill until level of electrolyte is at the liquid level line on the side of the battery.

WARNING: Do not inhale fumes from electrolyte.

Remove funnel.

Place filler cap on battery and tighten securely.

Allow the battery to stand at least 3 hours and not longer than 16 hours before charging.

If the electrolyte is then below the level line, add more electrolyte until the level is again at the level line.

(2) *Charging the Battery:*

Charge the battery until all three indicator balls float which will take approximately 20 hours at 2½ amperes. (See Paragraph 28)

CAUTION: While the battery is charging, the electrolyte level will rise. At no time must this level be higher than the level line. Otherwise electrolyte will be forced out the vent tube.

If the liquid is below the level line, add pure water and charge.

(3) *Emergency Installations:*

In emergencies when the battery must be used immediately, it may be placed in service after completing instructions given under Paragraph 10 *c*, providing it will be fully charged within 48 hours after filling.

(4) *Maintenance:*

Keep the liquid up to level line by adding pure water. Recharge as soon as possible after discharge, to prevent damage to plates. When not in use, recharge when the white ball sinks.

d. Check to determine that the cable leads are properly connected to the two-volt storage battery. The yellow color coded lead must be connected to the positive (+) terminal of the battery and the black coded lead to the negative terminal of the battery. (See Paragraph 10 *c.*)

e. Check the condition of Battery BB-54-(*) by observing the charge indicator balls visible through the opening in the side of the housing of Power Supply Unit PE-157-(*) (See Paragraph 8 *g*)

f. Check cord connections to be sure all are secure.

g. When using Chest Unit T-39-(*), adjust the speaker microphone mouthpiece to the position shown in Figure 9.

h. When using Power Supply Unit PE-157-(*) to operate Radio Set SCR-511-(*), Battery BA-49 in Chest Unit T-39-(*) is not in use.

14. Portable Operation with Power Supply Unit PE-157-(*).

Place Power Supply Unit PE-157-(*) in an upright position, on the ground, or on a stationary support.

a. To Turn Radio Set SCR-511-(*) On.

Extend the antenna of Radio Set SCR-511-(*) to its full length. The power switch is thrown on when the antenna is fully extended. This automatically turns on the Power Supply Unit PE-157-(*).

b. Operation with Chest Unit T-39-(*).

With Chest Unit T-39-(*) connected, the speaker-microphone of the chest unit is used. Headphones may be used by plugging them into the headphone jack on top of Chest Unit T-39-(*). (Figure 8) The speaker-microphone will then serve as a microphone only. *The selector switch of Power Supply Unit PE-157-(*) must be at CHEST UNIT position.*

c. Operation without Chest Unit T-39-(*).

The selector switch of Power Supply Unit PE-157-(*) must be at POWER SUPPLY. The speaker, or phones, and the microphone of Power Supply Unit PE-157-(*) are used. (Figures 6 and 7)

d. Operation without Power Supply Unit PE-157-(*).

In this operation, Battery BA-49, microphone, speaker and headphones of Chest Unit T-39-(*) are used. (Figure 9)

e. To Receive or Transmit.

Radio Set SCR-511-(*) is ready to *receive* when turned on. To transmit, press and hold the press-talk thumb ring down. Releasing the thumb ring switches the circuit back to receive. (See Figures 6 and 7.)

f. To Turn Power Supply Unit PE-157(*) Off.

Telescope the antenna of Radio Set SCR-511-(*) completely or push the lowest section of the antenna back into the housing about 3 inches. The power switch is operated by the bottom section of the antenna.

15. Vehicular Operation of Radio Set SCR-511-(*) with Power Supply Unit PE-157-(*).

In vehicular service, Radio Set SCR-511-(*) is operated in the manner described under Portable Operation, except that the vehicular battery operates the battery charger in Power Supply Unit PE-157-(*), and charges the two-volt battery.

CAUTION: Do not permit Power Supply Unit PE-157-(*) to be left in a vehicle for a period of more than 3 or 4 days without being used, as the two-volt battery will be overcharged. When it is necessary to leave Power Supply Unit PE-157-(*) in a vehicle for a longer period of time, remove it from the main mounting bracket, so that Battery BB-54-(*) will not be overcharged, or remove the lead from the ammeter.

NOTE: *Unless this is done, the two-volt battery will be overcharged and the vehicular battery will be discharged.* Overcharging the two-volt battery will not result in serious injury, but will cause it to gas considerably, and require the addition of pure water at more frequent intervals.

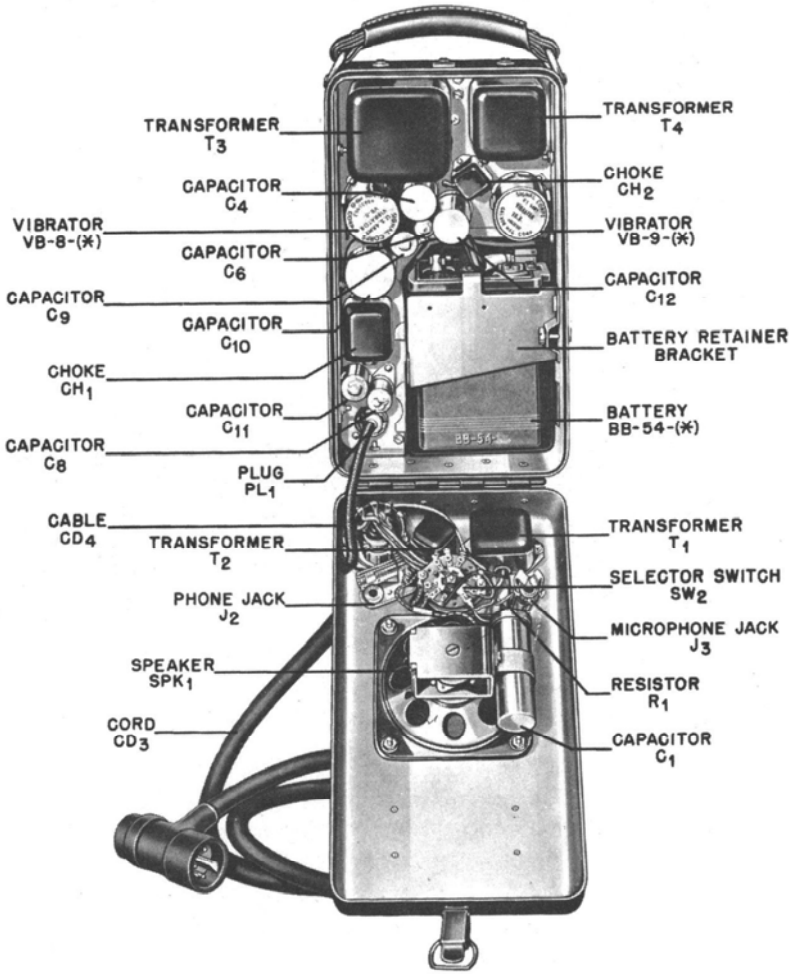


Figure 13. Power Supply Unit PE-157-(*), Interior View

16. Normal Operating Characteristics.

a. Receiver.

Normal operation of the receiver will usually be indicated by a rushing noise in the speaker or headphones. Touching the antenna with a metal object should produce a click. The amount of background noise will depend on the amount of static and interference present.

b. Transmitter.

The audio portion of the transmitter can be checked by plugging a pair of headphones into the jack on top of the chest unit and listening to your own voice in the headphones when you speak into the mouthpiece. The r-f section of the transmitter can be checked by a one-tenth watt neon bulb which will glow when the bulb is held in the fingers and one lead is touched to the antenna when transmitting or by using Resonance Indicator for Radio Set SCR-511-(*) (Galvin Part No. 30A3873) connected to antenna and ground. The brilliance should increase slightly when speaking into the microphone.

To find out whether or not the transmitter is working, make the following simple test: Place another Radio Set SCR-511-(*), or any other type of receiver (equipped with a speaker and tuned to the exact frequency of the transmitter you desire to test), within three to five feet of the set to be tested. Press the push-to-talk switch. If the transmitter is working, a howl will be set up between the transmitter and receiver.

SECTION III—FUNCTIONING OF PARTS.

NOTE: Functioning of parts refers to Radio Receiver and Transmitter BC-745-(*). BC-745-A functions in the same way but some part reference numbers may be different. (See Pages 153-155)

17. Transmitter.

In the transmit position, only 6 tubes are used. (Functional diagrams, Figures 39 and 39A.) The transmitter delivers approximately three-quarters of a watt through a "pi" matching section into the antenna radiation resistance from a pair of plate-modulated Tubes VT-174 (V_8 and V_9) operated in parallel. The r-f, P-A tubes (V_8 and V_9) are driven by a single Tube VT-174 (V_7) operating as a crystal-controlled Pierce oscillator. The dynamic speaker-microphone (SPK_1) drives the grid of microphone amplifier Tube VT-172 (V_4)

through transformer T_3. The microphone amplifier Tube VT-172 (V_4) drives a pair of modulator Tubes VT-174 (V_5 and V_6) push-pull, through a center-tapped choke (T_4). The secondary of the push-pull output transformer (T_5) modulates the final r-f amplifier stage which consists of two Tubes VT-174 (V_8 and V_9) operated in parallel.

In the transmit position the plate supply voltage on all stages is 135 volts. This high voltage is obtained by connecting the two 67½ volt section batteries of Battery BA-49 in series by means of contacts 11 and 12 on the change-over (press-to-talk) switch (SW_1), unless Power Supply Unit PE-157-(*) is used. (See Paragraph 21).

Bias for the modulator stage (V_5 and V_6) is derived from the oscillator (V_7) grid voltage through the voltage-divider and resistors (R_{18} and R_{19}) respectively.

With headphones plugged into Jack J_1 of Chest Unit T-39-(*) side tone from the transmitter will be heard in the phones. The speaker-microphone (SPK_1) operates normally.

The filaments of unused tubes (V_1, V_2, and V_3) are switched off through switch SW_1.

18. Receiver.

Using Chest Unit T-39-(*) in the receive position, seven tubes are used in a superheterodyne circuit having a separate crystal-controlled oscillator, a stage of radio frequency amplification, and a push-pull audio power amplifier stage. (Functional diagrams, Figures 38 and 38A)

The antenna is series tuned by capacitor C_{29}. The signal voltage developed across C_{29} is applied through contacts 18 and 19 of switch SW1 and capacitor C_1 to the control grid of the r-f amplifier Tube VT-173 (V_1). This signal is amplified in V_1 and then applied to the control grid of the receiver modulator or mixer Tube VT-173 (V_2). In V_2, the mixer tube, the incoming signal is mixed with the oscillator signal generated in Tube VT-174 (V_7). Control grid injection of the oscillator voltage is used.

A Pierce crystal-controlled oscillator circuit is used for maximum receiver stability. The oscillator (V_7) operates on one-half filament.

The mixing of the oscillator and signal voltages in V_2 produces a beat-frequency of 455 kc. The beat-frequency, or i-f signal, is coupled

to Tube VT-173 (V_3), the i-f amplifier through i-f transformer T_1. The signal is amplified in Tube V_3 and applied through transformer T_2 to the diode section of Tube VT-172 (V_4). Due to the detection process, the modulated i-f signal is demodulated and an audio voltage is impressed across R_{13}. All i-f and r-f stages have full a.v.c.

The signal is then applied to the grid of the triode section of Tube VT-172 (V_4), the a-f amplifier. Tube VT-172 (V_4), the a-f amplifier, drives a pair of power amplifier Tubes VT-174 (V_5 and V_6) in class "A prime" push-pull through a center-tapped choke T_4. One-half ot each filament of V_5 and V_6 is switched off through contacts 5 and 6 switch SW_1, when the set is in *receive*. The signal is further amplified through V_5 and V_6 and applied through output transformer T5 to the speaker-microphone (SPK_1).

Bias for the power amplifier stage (V_5 and V_6) is derived from the oscillator (V_7) grid voltage through the voltage-divider resistors (R_{17} and R_{18}).

Headphone operation is available through jack J_1 in Chest Unit T-39-(*). Insertion of the phone plug cuts off the loud speaker through SW_3 in *receive*, but leaves it connected as a microphone in *transmit*.

The plate supply is 67½ volts. The r-f and audio section are on separate B batteries in *receive*, unless Power Supply Unit PE-157-(*) is used. (See Paragraph 21).

19. Chest Unit T-39-(*).

Chest Unit T-39-(*) (Figure 14), connects to the Radio Receiver and Transmitter BC-745-(*) through Cord CD-571-(*). This unit supplies A and B power to the receiver and transmitter from the internal Battery BA-49. A speaker-microphone (SPK_1) contained in this unit serves as a dynamic microphone when set is in *transmit* and a speaker when in *receive*. A headphone jack J_1 enables the operator to use the headphones when desired. The switch SW_3, which is part of jack J_1, automatically switches the receiver output from speaker to headphones when headphones are plugged in. The headphone transformer T_6 is of the auto-transformer type and serves to match high impedance headphones to the low impedance output winding on transformer T_5. Resistor R_{30} limits the audio input to the headphones. Headphone or speaker volume is not adjustable.

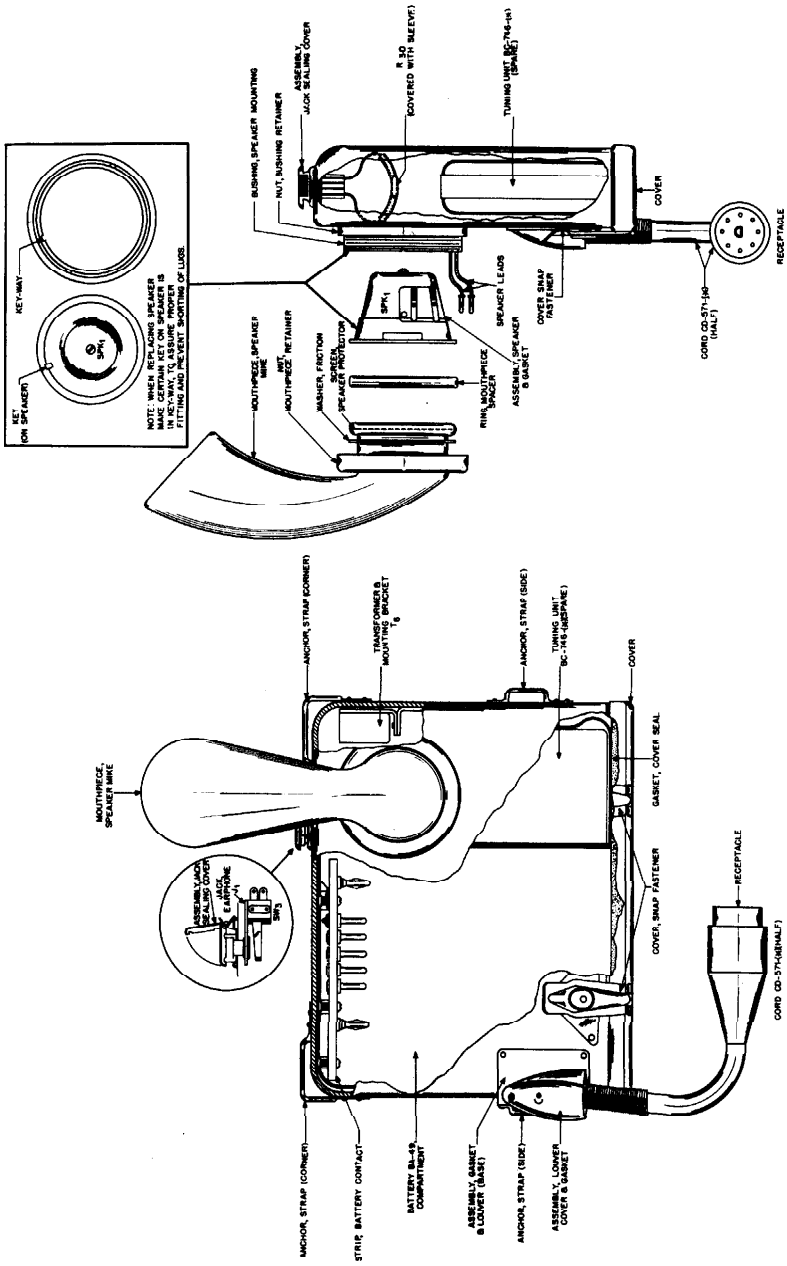


Figure 14. Chest Unit T-39-(*), Assembly Instruction Detail

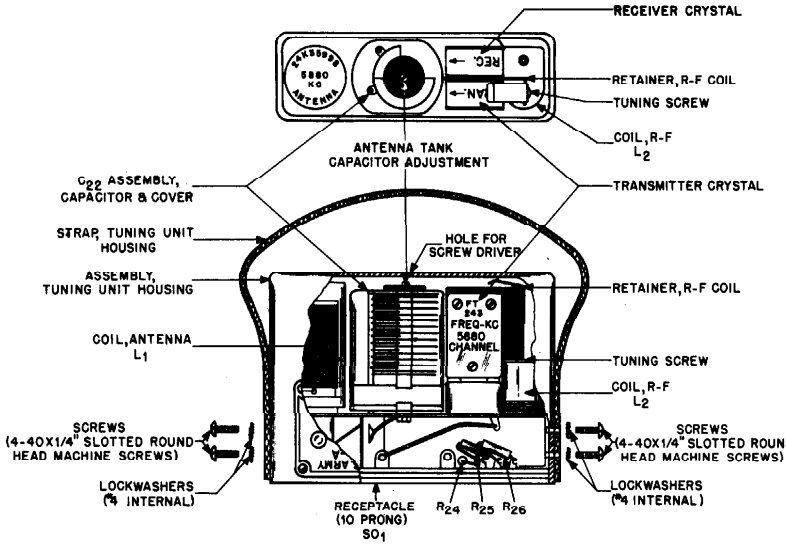


Figure 15. Tuning Unit BC-746-(A), Instruction Detail

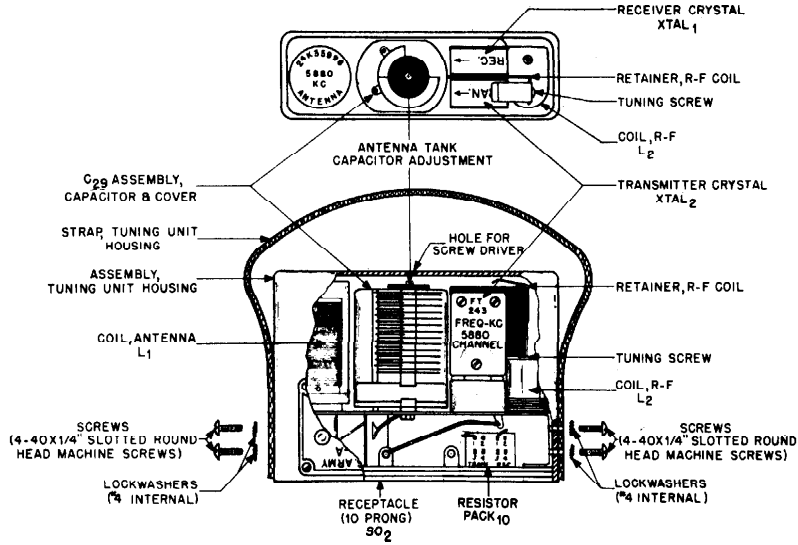


Figure 15A. Tuning Unit BC-746-(*), Instruction Detail

20. Tuning Unit BC-746-(*).

Tuning Unit BC-746-(*). (Figure 5), connects to Radio Receiver and Transmitter BC-745-(*) through receptacle SO_1. It plugs into plug P_1, which is mounted on the chassis of Radio Receiver and Transmitter BC-746-(*). The use of tuning units adjusted to different frequencies permits rapid change-over from one frequency to another. See Paragraphs 24 *d* and 25 for function of parts contained in Tuning Unit BC-746-(*) (Figures 15 and 15A)

21. Power Supply Unit PE-157-(*).

a. Power Supply Unit PE-157-(*) Operated from a Two-Volt Storage Battery BB-54-(*).

Power Supply Unit PE-157-(*) is turned on by the power switch actuated by extending the antenna of Radio Set SCR-511-(*) which actuates the On-Off Relay (RY_1) in the power supply. This turns on the filament supply to Receiver and Transmitter BC-745-(*) allowing the filament current to flow through relay (RY_1) in the power supply.

When Power Supply Unit PE-157-(*) is on, the voltage from Battery BB-54-(*) is applied through the relay (RY_1) to Vibrator VB-8-(*) which applies voltage to one side and then to the other of the primary winding of the power transformer (T_3). The a-c voltage from the secondary of the power transformer (T_3) is applied to a second set of contacts in vibrator VB-8-(*) which rectifies the a-c voltage. This rectified voltage is then applied to the filter circuit.

(1) *Receive-Transmit Relay.*

Receive-transmit relay (RY_2) is used to obtain proper B voltage in receive and transmit position. This relay is excited by the B voltage of Power Supply Unit PE-157-(*).

(a) *Receive Position.*

In receive position, relay coil is at ground potential. Two sets of relay contacts select taps in power transformer (T_3) secondary which supplies B voltage to Receiver BC-745-(*) of Radio Set SCR-511-(*).

(b) *Transmit position.*

In transmit position the relay coil is actuated by B voltage contacts selecting other taps in power transformer (T_1) secondary, raising the B voltage. This high voltage is supplied to Radio Trans-

mitter BC-745-(*) of Radio Set SCR-511-(*). A third set of contacts then adds the filament reactor coil (CH_2) across one-half of the On-Off relay (RY_1) which keeps filament voltage uniform.

(c) *Filter Circuit.*

The filter circuit consists of: filter choke (RFC_2), filter resistor (R_9), and capacitor (C_{10}), thereby furnishing a smooth d-c high voltage for plate and screen circuits of Radio Set SCR-511-(*). A suitable filter choke (RFC_1) to prevent vibrator hash from feeding back into Battery BB-54-(*), and subsequently to Radio Set SCR-511-(*), is connected in series, through On-Off relay (RY_1), with positive (+) lead to the battery. Capacitor (C_2) also forms part of this filter. A filter (CH_2) connected in the filament circuit is used to raise the filament voltage in transmit position and filter excess hum.

b. Battery Charging Circuit.

A circuit is employed in Power Supply Unit PE-157-(*) for the purpose of charging Battery BB-54-(*) from one external vehicular battery of six or twelve volts. Switch (SW_1) must be in proper position for the particular voltage used in charging. This switch is actuated by plug on charging Cord CD-618-(*) or plug on Mounting FT-338-(*). The voltage used for charging is applied to the primary winding of the charging transformer (T_4). Vibrator VB-9-(*) in the primary circuit of the transformer alternately supplies voltage first to one side and the other of the primary producing an a-c voltage in the secondary winding of the same transformer. (See Figure 34.) This a-c voltage is rectified by the selenium discs in the secondary circuit and then applied to Battery BB-54-(*). Filter choke (RFC_4) filters the rectified voltage from the selenium rectifiers. Filter choke (RFC_3) prevents hash from feeding back into the charging battery. Capacitors (C_3 and C_8) by-pass any r-f produced by the vibrator VB-9-(*).

SECTION IV—MAINTENANCE

22. Servicing.

CAUTION: Servicing should never be attempted except by thoroughly competent and authorized personnel, adequately trained.

To service Radio Receiver and Transmitter BC-745-(*), it is necessary to slide the bottom cover down the guidon staff. This is done by rotating the locking collar under the bottom cover to the left, and

at the same time pushing up on the collar. The bottom is then released and may be slid down on the guidon staff. (Figure 5).

a. To Replace a Tube.

Drop the bottom cover of Radio Receiver and Transmitter BC-745-(*), and remove the tube retainer plate by grasping the ears on the two slide fasteners, pulling back until the ends of the fasteners clear the heads of the studs. Pull the plate off the studs. The tubes can then be reached, and may be removed from their sockets. (See Figure 16.)

b. To replace Tuning Unit BC-746-(*).

Remove the bottom cover and pull straight down on the webbed loop. Place the new tuning unit in position, as shown in Figure 5, and push it firmly into its socket.

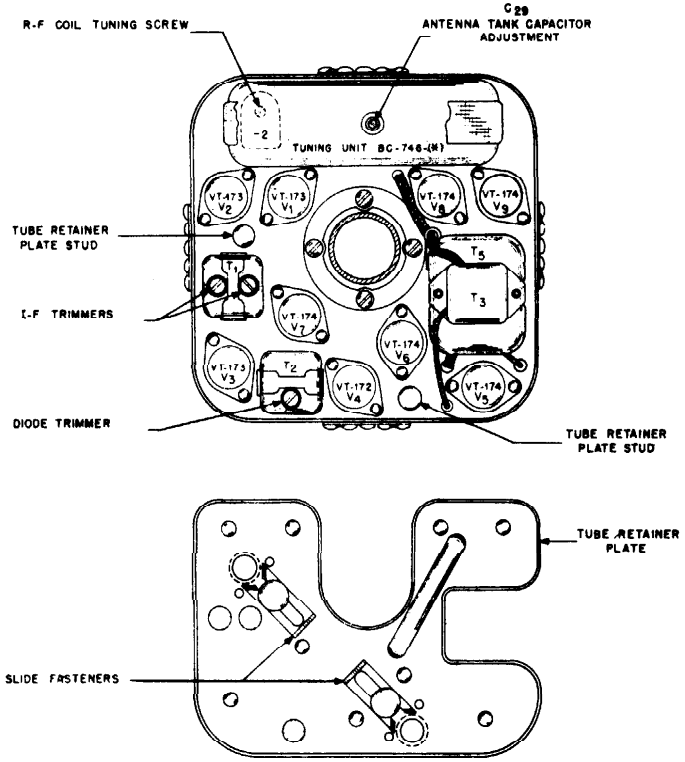


Figure 16. Radio Receiver and Transmitter BC-745-(*), Chassis Bottom View

c. To Replace Speaker-Microphone. (Figure 14)

Unscrew the speaker-microphone mouthpiece retainer nut and pull out the rubber mouthpiece. Remove the bakelite mouthpiece spacer ring. Push the speaker-microphone out of the mounting bushing from the inside, and disconnect the terminal pins. Connect the terminal pins to the receptacles on the replacement speaker-microphone, matching the color of the lead to the color of the receptacle. Place the speaker-microphone in its mounting bushing with its positioning tab matching the mounting bushing notch. BE CAREFUL DURING THIS PROCEDURE NOT TO DAMAGE THE SPEAKER-MICROPHONE CONE. Replace the bakelite mouthpiece spacer ring. Place the rubber mouthpiece with its bakelite friction washer and mouthpiece retainer nut on the speaker-microphone bushing. Position rubber mouthpiece and clamp securely with mouthpiece retainer nut.

d. To Replace Battery BA-49.

Unfasten the snap fasteners of Chest Unit T-39-(*) and open the bottom cover. Pull the old battery out by the ring. Insert a new Battery BA-49 in position (Figure 3) with the curved end conforming to the shape of the housing, and with the bakelite contact plate up. *Force*—DO NOT SLAM—*it firmly into place.* Close the bottom cover and fasten with the snap fasteners.

NOTE: *To replace any of the following items, it will be necessary to remove the housing of Radio Receiver and Transmitter BC-745-(*) as follows:*

Remove the four screws holding the connector ring to the housing.

Lift the ring out of its receptacle, and slide it up over the antenna (Figure 17).

Remove the waterproof rubber gasket in the same manner.

Lift the housing up over the antenna.

Rotate the locking collar under the bottom cover to the left. Then slide the bottom cover down the guidon staff.

Remove the tube retainer plate by grasping the ears on the two slide fasteners and pulling them back until the ends of the fasteners clear the heads of the studs.

NOTE: *It is recommended that all tubes be removed from their sockets. This will prevent accidental breakage or damage to sockets.*

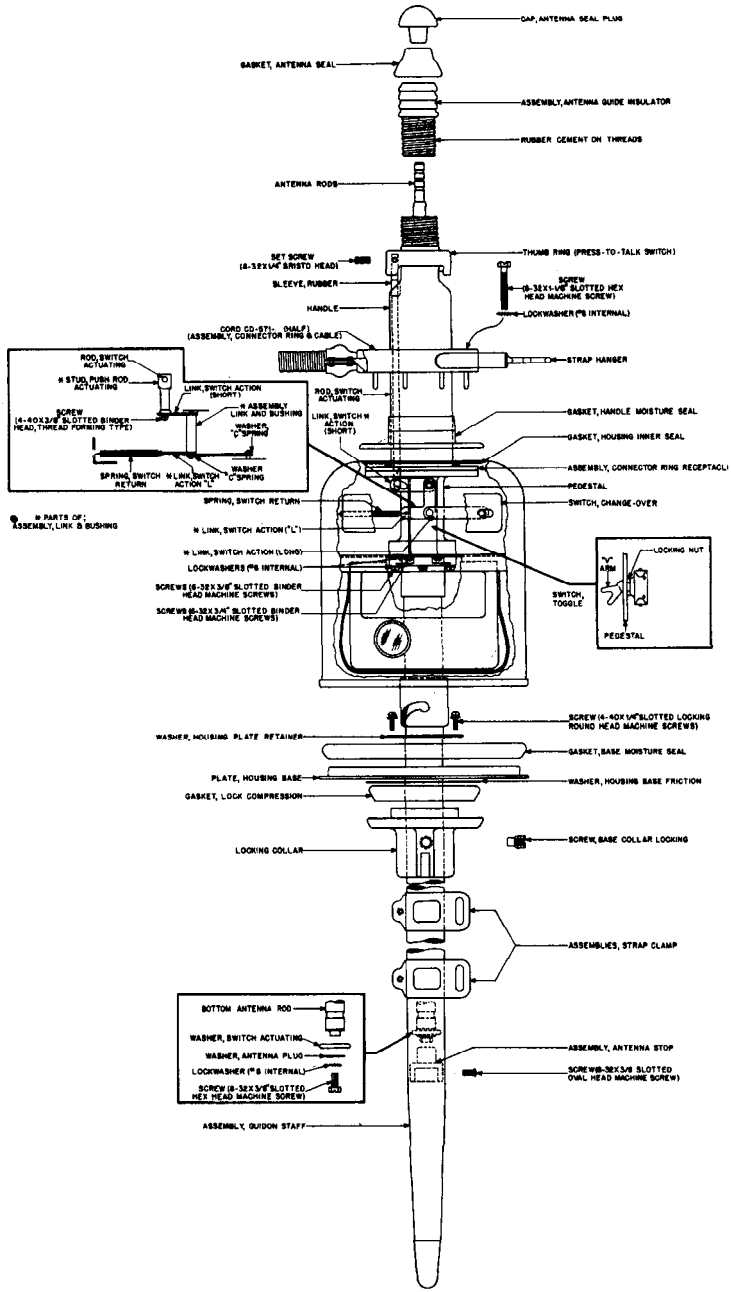


Figure 17. Radio Receiver and Transmitter BC-745-(*), Assembly Instruction Detail

e. I-F Transformer T_1.

(1) Unsolder the leads.

(2) Remove the mounting bracket screw and the U bracket from underneath the transformer (Figure 16).

(3) Lift the transformer from the chassis base.

(4) Mount the new transformer in position on the base, feeding the leads through the holes in the chassis base.

(5) Place the mounting strap over the transformer and feed through the slots in the chassis base.

(6) Place the U bracket and screw in position and tighten sufficiently to hold the transformer firmly to the chassis base.

(7) Connect and solder the leads to the proper terminals.

f. Diode Transformer T_2.

This is done in the same manner as transformer T_1. Follow the procedure outlined in Paragraph 22 *e*.

g. Microphone Transformer T_3.

(1) Unsolder the transformer leads (Figure 16).

(2) Loosen and remove the screw holding the mounting straps. This rests on the housing of transformer T_4. NOTE: Put the threaded U bracket and screw aside.

(3) Remove the transformer from Radio Receiver and Transmitter BC-745-(*).

(4) Place the new transformer and strap assembly in position on top of T_5 feeding the straps through the slots in the chassis base. Place the U bracket in position, put the screw into the threaded hole in the U bracket and tighten sufficiently to hold the transformers securely.

(5) Connect and solder the leads to the proper terminals.

h. Input Choke T_4.

(1) Remove the screw and U bracket from the mounting straps attached to transformer T_4 (Figure 16).

(2) Unsolder the leads and remove the choke.

(3) Place the new choke in position; connect and solder the leads.

(4) Place the mounting straps in position and place the U bracket over the straps.

(5) Thread the screw through the straps and bracket, tightening sufficiently to hold the transformers firmly in position.

i. Transformer T_5.

(1) Unsolder the leads of transformer T_5 (Figure 16).

(2) Remove the screw and U bracket from the mounting straps attached to transformer T_3.

(3) Lift Transformer T_3 from transformer T_5. It will not be necessary to unsolder any of the leads from T_3.

(4) Remove transformer T_5.

(5) Place the new transformer in position, feeding the leads through the proper holes in the chassis base.

(6) Feed the mounting strap through the slot in the chassis base and place T_3 on top of T_5.

(7) Solder the leads to the proper terminals.

(8) Place the U bracket, screw in position and tighten sufficiently to hold the transformer firmly in place.

j. Change-over Switch.

The *press-to-talk* thumb-ring operates the change-over switch which makes the necessary circuit changes to convert the set from a receiver to a transmitter.

The change-over switch has seven sections. Each sections has its name stamped on the celluloid switch-protecting insulating strip covering the change-over switch. For simplicity, each terminal is numbered (shown on the functional and schematic diagrams Figures 38, 38A, 39, 39A, 40, 40A and 40B).

(1) Unsolder all the leads.

(2) Remove the C spring washer from the switch actuating stud and take off the switch action link (long). (Figure 17)

(3) Remove the four screws and lockwashers holding the change-over switch and switch-protecting insulator strip to the mounting brackets.

(4) Place new change-over switch in position and replace switch-protecting insulating strip.

(5) Replace the four screws and lockwashers.

(6) Wire and solder all leads to their proper terminals.

k. Cord CD-571-(*).

a. To replace the male section of the Cord CD-571-(*), attached to Radio Receiver and Transmitter BC-745-(*).

(1) Remove the four screws and lockwashers holding the connector ring to the housing. Lift the ring out of its receptacle. Do not remove moisture-seal gasket of the handle.

(2) Place the new cord in position as shown in Figure 17, being careful that the ring is in the proper position. Be guided by the embossed line on the moisture-seal gasket of the handle, the ring, and slot in the top of the housing. They should all line up. Push the ring down firmly, place the four screws and lockwashers in position and tighten.

b. To replace the female section of Cord CD-571-(*) attached to Chest Unit T-39-(*).

(1) Remove Battery BA-49 from chest unit.

(2) Remove the speaker-microphone from Chest Unit T-39-(*), disconnecting the two speaker leads which fit into the receptacle pins on the speaker-microphone unit.

(3) Remove three screws holding louver cover and gasket, thus freeing cord set.

(4) Remove screw holding the headphone matching transformer.

(5) Remove the internal battery compartment and battery terminal strip by removing headphone jack from bottom of chest unit and single screw holding battery compartment to outer case.

(6) Separate the battery terminal strip from the battery compartment by removing the three screws holding the terminal strips to the battery compartment.

(7) Insert new Cord Set CD-571-(*) through louver hole, reconnect wiring of new cord set in similar manner on terminal strip. Make sure that vise-like teeth of louver cover is tightened on the rubber covered cord.

(8) Reassemble in reverse order.

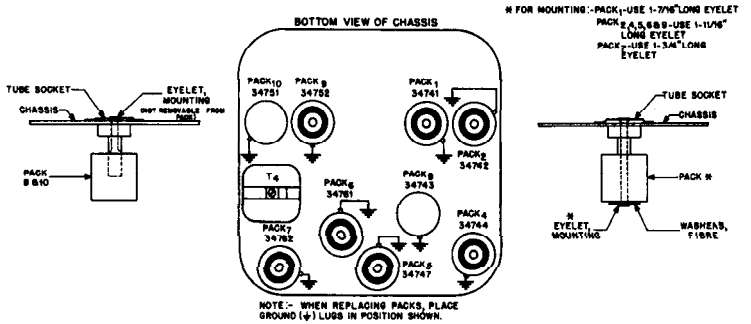


Figure 18. Radio Receiver and Transmitter BC-745-A, Pack Replacement Instruction Detail.

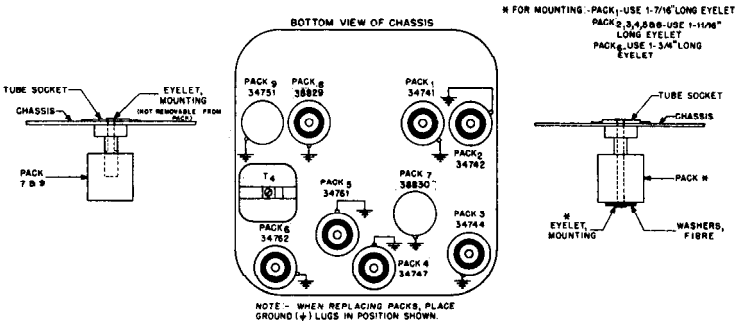


Figure 18A. Radio Receiver and Transmitter BC-745-(*), Pack Replacement Instruction Detail

l. Antenna.

(1) Remove the antenna seal-plug-cap from the top of the antenna. This cap is cemented to the antenna and be careful when removing, not to damage the cap. (Figure 17)

(2) Remove the bottom cover of Radio Receiver and Transmitter BC-745-(*). (See Paragraph 10 *a*).

(3) Remove the four screws and lockwashers at the upper end of the guidon staff assembly which holds this assembly to the chassis base.

(4) Remove the guidon staff assembly.

(5) Remove the screw, lockwasher, flat washer, and bakelite washer from bottom of the antenna. (Figure 17)

(6) Extend the antenna to its full length and carefully pull it out of the set.

(7) Feed the new antenna assembly in through the bottom of the chassis.

(8) Replace the guidon staff assembly, being careful that the cutout in the staff clears the power switch.

(9) Put the four mounting screws and lockwasher in position and tighten.

(10) Apply a small amount of rubber cement to the tip of the antenna and allow to dry until cement becomes sticky.

(11) Push the rubber antenna seal-plug-cap on the antenna, and wipe off the excess cement. Allow time for the cement to dry before trying to pull the antenna out by the cap.

m. Packs and Tube Sockets.

The packs are mounted on the center eyelets of the tube sockets. Seven of the packs are mounted by means of eyelets which run the entire length of the pack. These eyelets are riveted over on the tube side of the tube socket. The other two packs are mounted by means of eyelets which are permanently fastened to the packs (Figures 18 and 18A). When replacing sockets, at all times drill out the mounting eyelet which supports the pack. If the pack has a removable eyelet, it will be necessary to replace the entire pack along with the tube socket. When replacing packs only, it is not necessary to replace the tube socket.

(1) *Tube Socket Replacement.*

(a) Unsolder all long wires leading to the pack *at the pack.* Cut all bare wires midway between pack and socket.

(b) Drill out the pack mounting eyelet from the tube side of the tube socket.

(c) The pack can now be lifted off the center eyelet of the socket.

(d) Unsolder the wires leading to the tube socket.

(e) Drill out the eyelets holding the tube socket to the chassis.

(f) Put the new tube socket in position and the eyelet in place. Make sure the new tube socket is positioned the same way as the old one.

(g) Secure mechanically and solder the wire leads back to the socket.

(h) Secure mechanically and solder the ¾" pieces of light tinned bare copper wire (#22) on socket lugs which go to the pack.

(i) Place the pack over the center eyelet of the tube socket. The pack should be positioned so that the lugs on the pack come over the proper lugs on the tube socket. (See Figures 18 and 18A for correct pack positioning; the pack ground lug should be placed as shown in this illustration.)

(j) Refer to Figures 18 and 18A for correct use of mounting eyelet and washers.

CAUTION: WHEN RIVETING THE EYELET OVER, BE CAREFUL NOT TO DAMAGE THE PACK OR TUBE SOCKET.

(2) *Pack Replacement.*

(a) Unsolder all long wires leading to the pack *at the pack.* Cut all bare wires midway between pack and socket.

(b) Drill out the pack mounting eyelet from the tube sides of the tube socket. Be careful not to damage the tube socket.

(c) The pack will now lift off the center eyelet of the tube socket.

(d) Unsolder short pieces of wire left on the socket.

(e) Secure mechanically and solder the ¾" pieces of light tinned bare copper wire (#22) on socket lugs which go to the pack.

(f) Place the pack over the center eyelet of the tube socket. The pack should be positioned so that the lugs on the pack come over the proper lugs on the tube socket. (See Figures 18 and 18A for correct pack positioning; the pack ground lug should be placed as shown in this illustration.)

(g) Refer to Figures 18 and 18A for correct use of mounting eyelet and washers.

(h) Rivet the mounting eyelet over on the tube side of the tube socket.

CAUTION: When riveting the eyelets over, be careful not to damage the pack or tube socket.

23. Antenna Alignment.

NOTE: THIS ADJUSTMENT IS TO BE MADE ONLY BY AN AUTHORIZED REPAIRMAN.

Unless Tuning Unit BC-746-(*) has been damaged or tampered with, adjustment will not be necessary. Only if adjustment is considered absolutely necessary, should the following procedure be used.

Place the set in operation, preferably outdoors or in a high room free from overhead obstructions and well clear of all metal objects, such as roof or framework. Extend the antenna to its FULL height. Release the bottom cover of Radio Receiver and Transmitter BC-745-(*) as instructed in Paragraph 10 *a*.

It is preferable to make this alignment with another set operating on the same frequency or channel at a distance of from 2 to 3 miles. If no other radio set is available, local noise may be used for this adjustment but this will not result in optimum performance. In either case, it is necessary simply to turn the antenna tank capacitor adjustment (See Figures 15 and 15A) until maximum signal or maximum noise is heard, depending upon which method of test is being used. The adjustment is made while the set is operating as a transmitter. This is also the correct adjustment for the set operating as a receiver.

The r-f coil is pre-set and should not be tampered with except at a Signal Corps repair shop equipped to handle Tuning Unit BC-

746-(*). Normally, no i-f adjustments should be necessary. Proper adjustment of the i-f system can be made only at a Signal Corps repair shop equipped with an accurately calibrated signal generator. (See Paragraph 24.)

24. Complete Alignment Procedure.

NOTE: THESE ADJUSTMENTS ARE TO BE MADE ONLY BY AN AUTHORIZED REPAIRMAN.

a. Equipment.

(1) A signal generator covering a range of 2 to 6 megacycles. The signal generator should have an adjustable output.

(2) An output meter terminating with a Plug PL-55. (Use the output meter from Test Set 1-56-(*).

(3) *Signal Generator Setting.* Before attempting to align this set, the signal generator must be tuned to the exact frequency of the transmitter.

(a) The best way to determine this setting, is to set the signal generator to the carrier frequency of the unit being aligned and to pick up the signal on an operating Radio Set SCR-511-(*).

(b) Turn the signal generator modulation off and place a second Radio Set SCR-511-(*) in operation (transmitting). (All Radio Sets SCR-511-(*) used must operate on the same frequency as the set being aligned.)

(c) Tune generator until a beat-note is heard between the signal generator and the transmitter. Adjust the signal generator for zero beat.

(d) Turn the transmitter off and turn signal generator modulation on.

(e) The output of the signal generator is now set to the exact frequency of the transmitter.

(f) Keep the input to the unit being aligned as low as possible for greater accuracy.

(4) *Output Meter.* The output meter is connected to the voice coil through a Plug PL-55, inserted into the jack (J_1) on top of Chest Unit T-39-(*).

b. I-F Alignment.

(1) Set the signal generator to exact carrier frequency as described in Paragraph 24 *a*. Connect output meter as described in Paragraph 24 *a*.

(2) Apply signal to antenna through a 0.1 μf capacitor.

(3) Adjust trimmers C_8, C_9 and C_{12} in transformers T_1 and T_2 for maximum reading on output meter. (See Figure 16 for trimmer location.)

c. R-F Alignment.

(1) Remove the fibre housing from Tuning Unit BC-746-(*) and plug it into the Radio Receiver and Transmitter BC-745-(*).

(2) Set the signal generator to exact carrier frequency as described in Paragraph 24 *a*. Connect output meter as described in Paragraph 24 *a*.

(3) Apply signal to the antenna through a 0.1 μf capacitor.

(4) Adjust the signal generator input to give about 1.5 volts output on output meter.

(5) Rotate the r-f coil (L_2) tuning screw for maximum response while pressing upward on tuning screw. (See Figures 15 and 15A for L_2 tuning screw adjustment location.)

d. Antenna Alignment.

(1) Set the signal generator to exact carrier frequency as described in Paragraph 24 *a* (3).

(2) Connect output meter as described in Paragraph 24 *a* (4).

(3) Use a piece of hook-up wire about three feet long on the signal generator for a radiator (antenna).

(4) Place the set where the antenna will be well clear of all objects preferably out of doors or in a large high room without overhead wiring. Extend antenna to its full height. Since antenna capacity is part of the tuned circuit, any abnormal capacities existing during alignment will result in de-tuning and impaired performance in the field.

(5) With the set in transmit position, adjust the antenna tuning capacitor for maximum response. (See Figures 15 and 15A for location of capacitor.)

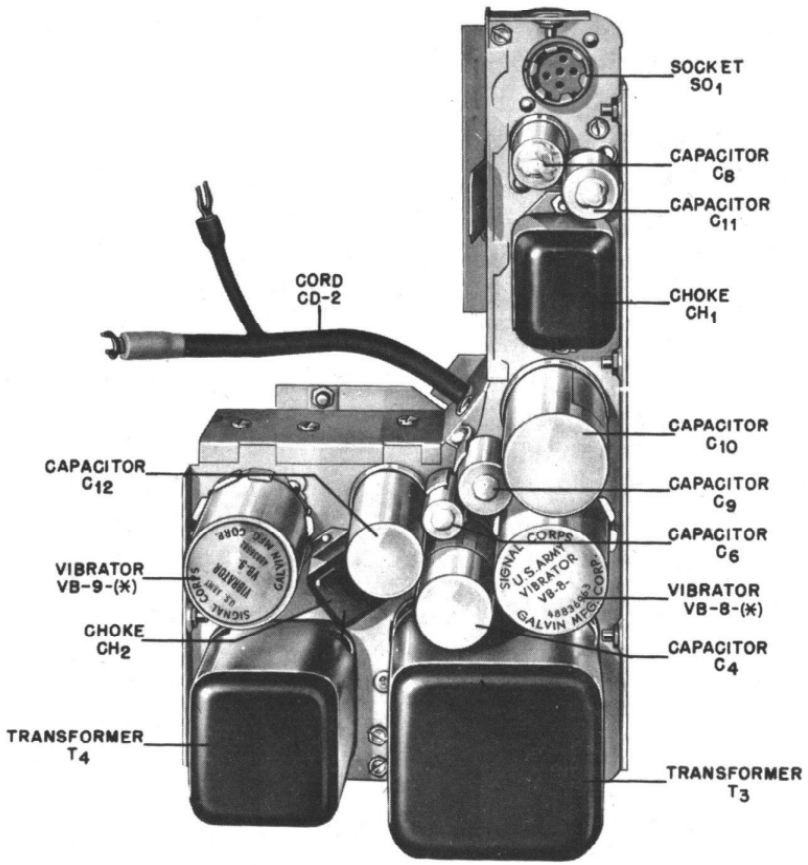


Figure 19. Power Supply Unit PE-157-(*), Chassis Top View

This antenna alignment should be adequate for the receive position as well.

25. Minimum and Normal Performance Characteristics.

a. Receiver Characteristics.

(1) Standard output 0.5 volts across voice coil or 3.0 volts in headphone jack. (Voice coil impedance is approximately 3 ohms.)

(2) Input—30% modulated at 400 cycles per second.

(3) Intermediate frequency—455 kc.; oscillator on high side.

(4) "B" supply voltage—60 volts. "A" supply voltage—1.4 volts.

(5) Maximum 400 cycle power output: 145 milliwatts.
Voice Coil: .66 volts
Jack: 3.4 volts

(6) I-F sensitivity, i-f grid:
15,000 to 25,000 microvolts.

(7) I-F sensitivity, modulator grid:
100 to 140 microvolts.

(8) R-F sensitivity, r-f grid:
50 to 120 microvolts.

(9) R-F sensitivity, antenna coil:
1 to 3 microvolts.

b. Transmitter Characteristics.

(1) Maximum power output of modulator:
50-75 volts audio or 1.00 watt at 1000 cycles.

(2) Maximum r-f current in antenna:
100-200 milliamperes r-f.

26. Inspection of Power Supply Unit PE-157-(*).

When Power Supply Unit PE-157-(*) fails to operate, make an examination to determine that the vibrators are in their respective sockets and operating. Operation can be noted manually by touching vibrators with fingers. CAUTION: *Touch the Vibrator only.* Check the condition of the two volt storage battery by observing the charge indicator balls visible through the window in the power supply housing.

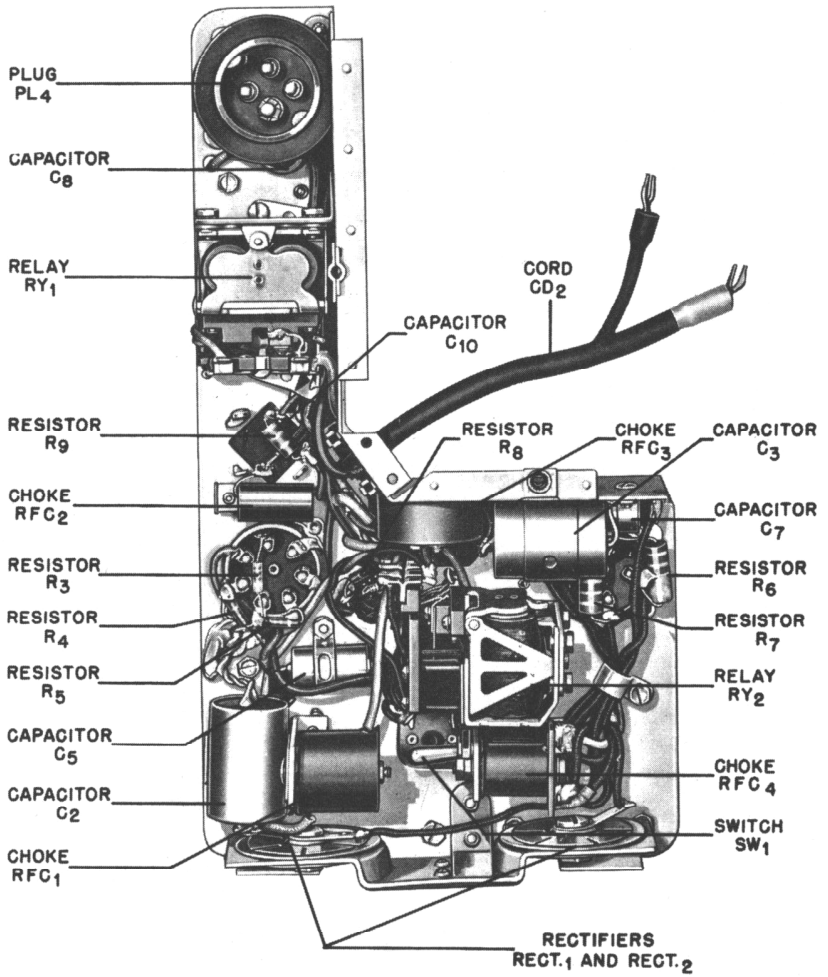


Figure 20. Power Supply Unit PE-157-(*), Chassis Bottom View

27. Battery BB-54-(*) Maintenance.

Add pure water at sufficient intervals to maintain the level of the electrolyte at the indicator line molded on the front of the battery case. *Do not overfill. Overfilling will result in electrolyte spurting out through the vent tube.* Remove with an absorbent tissue or cloth, any water that might accidently be spilled when filling.

28. Charging Battery BB-54-(*).

Charge the battery from a six or twelve-volt vehicular battery when the white indicator ball has sunk to the bottom of its channel. Stop the charge when all three indicating balls are floating. (See Paragraph 8 *g*.)

a. Battery BB-54-(*) may be charged by mounting Power Supply Unit PE-157-(*) in a vehicle equipped with Mounting FT-338-(*). (See Paragraph 8 *h* (1).) Check the vehicular storage battery to determine whether it is six-volt (three cell) or twelve-volt (six cell).

b. Battery BB-54-(*) may be charged from a six-volt (three cell) or twelve-volt (six cell) vehicle battery. Cord CD-618-(*) connects the battery charger to the battery. (Figure 21) A plug is attached to the cord for actuating the six-twelve volt switch in Power Supply Unit PE-157-(*). Figure 21 shows the plug in position when charging from a six-volt battery.

Insert the plug in the housing and turn to lock-in position. The plug is not used with a twelve-volt (six cell) battery.

c. Battery BB-54-(*) may be charged from a 105-130 volt a-c source by the use of a step-down transformer, as shown in Figure 22. The secondary leads from this transformer are connected to terminals two and three on the battery-charger current supply connector. The output from this transformer must be 6.5 volts at 2.5 amperes and must have good regulation.

29. Vibrator Replacement.

Vibrators VB-8-(*) and VB-9-(*) are designed to operate for more than 500 hours. Being of the plug-in type, vibrator replacement presents no problem. Vibrator VB-8-(*) (two volt for power supply) has seven prongs, and Vibrator VB-9-(*) (ten volt for battery charger) has four prongs, thus climinating any possibility of plugging them into the wrong receptacles.

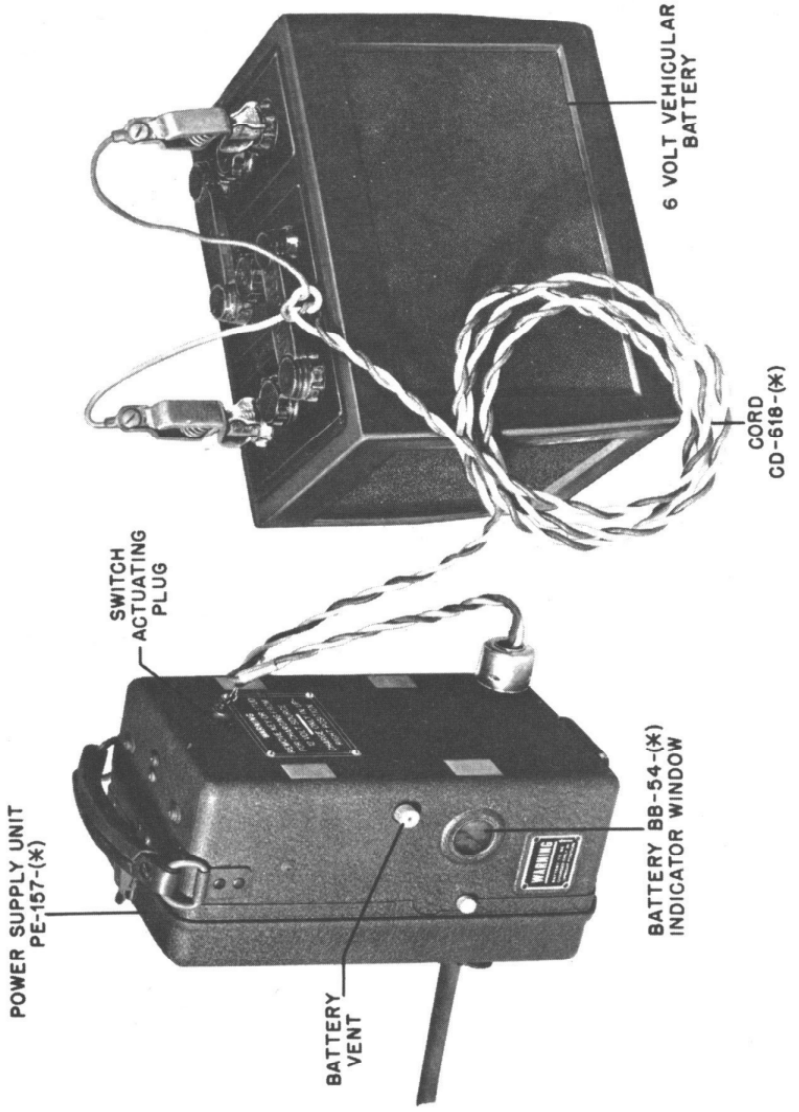


Figure 21. Method of Charging Power Supply Battery BB-54-(*), Using Cord CD-618-(*) and External 6 Volt Vehicular Battery

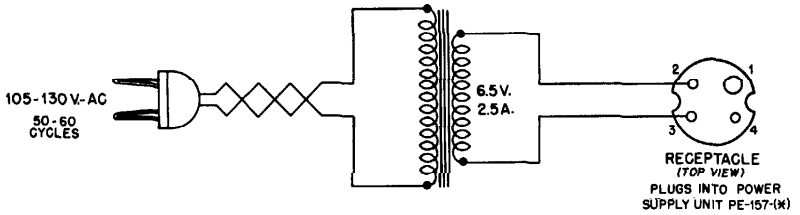


Figure 22. A-C Charger for Charging Battery BB-54-(*) from an A-C Power Soruce, Schematic Diagram

30. Repair and Replacement of Parts of Power Supply Unit PE-157-(*).

It is necessary to open the housing of Power Supply Unit PE-157-(*) and remove the power supply chassis from the housing to check or replace various component parts. First remove Battery BB-54-(*). (Paragraph 10 *c.*) Remove the 11 screws on the housing bottom, ends and sides. Then lift out the power supply chassis. *The rubber battery cushion remains in the housing. Be careful when removing chassis.* NOTE: *The power supply chassis fits very tightly into the housing and some force will be required to remove it.*

If the vibrators and battery are found to be operating properly and power supply still does not operate check the following:

a. Shorted turns in transformer (T_3).

b. Open buffer capacitor (C_5).

c. Shorted selenium rectifiers ($RECT_1$ and $RECT_2$).

d. Open primary buffer resistors (R_4 and R_5).

e. Shorted or open driving coil dropping resistor (R_3).

f. Shorts in B Power Supply Unit PE-157-(*).

(1) Shorted electrolytic capacitor (C_{10}).

(2) Shorted power transformer (T_3).

(3) Shorted vibrator (VB-8-(*)).

g. Shorts in Power Supply Unit PE-157-(*).

(1) Shorted vibrators due to contacts freezing (VB-8-(*) and VB-9-(*)).

(2) Shorted cable.

(3) Shorted On-Off relay (RY_1).

h. Loss of voltage from Power Supply Unit PE-157-(*).

(1) Worn contacts on vibrator (VB-9-(*)).

(2) Electrolytic capacitor (C_{10}) open.

(3) Resistor (R_{11}) open.

i. Loss of charging rate.

(1) Defective vibrator (VB-9-(*)).

(2) Defective selenium rectifier.

(3) Defective transformer (T_4).

(4) Defective buffer capacitor (C_7).

31. Normal Voltage and Resistance Readings.

The tube, tube socket, and change-over switch diagrams, showing voltages and resistance to ground and charts giving readings under average operational conditions, are furnished for the information and guidance of servicing personnel. (Figures 23 to 27A)

SECTION V—SUPPLEMENTARY DATA

32. Parts Location Details.

Figures 23 to 40B and including all models have been prepared to assist in location and replacement of mechanical and electrical parts. The reference number ties in with the reference numbers in the Tabular List of Replaceable Parts. (Paragraph 33).

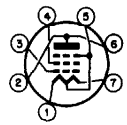
NOTE: *Reference numbers in Tabular List of Replaceable Parts apply to Radio Sets SCR-511-B and SCR-511-(*) figures only. See pages 153-155 for comparable reference numbers for Radio Set SCR-511-A.*

VT-172 BOTTOM VIEW

PIN	ELEMENT
1 -	FILAMENT
2 -	NONE
3 -	DIODE PLATE
4 -	SCREEN GRID
5 -	PLATE
6 -	GRID
7 -	FILAMENT +

VT-173 BOTTOM VIEW

PIN	ELEMENT
1 -	FILAMENT-INT. SHIELD
2 -	PLATE
3 -	SCREEN GRID
4 -	NONE
5 -	SUPPRESSOR
6 -	GRID
7 -	FILAMENT +



VT-174 BOTTOM VIEW

PIN	ELEMENT
1 -	FILAMENT +
2 -	PLATE
3 -	GRID
4 -	SCREEN GRID
5 -	FILAMENT −
6 -	PLATE
7 -	FILAMENT +

Figure 23. Tube Base Connections

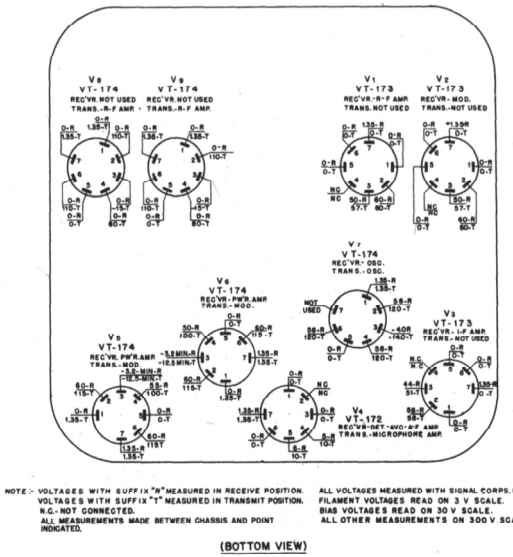


Figure 24. Radio Receiver and Transmitter BC-745-A, Tube Socket Voltage Diagram

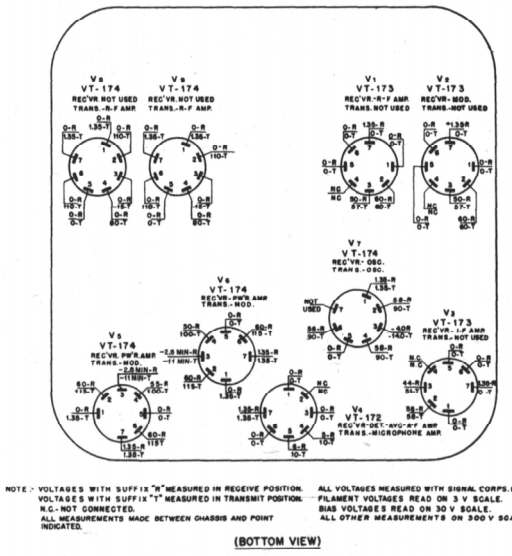
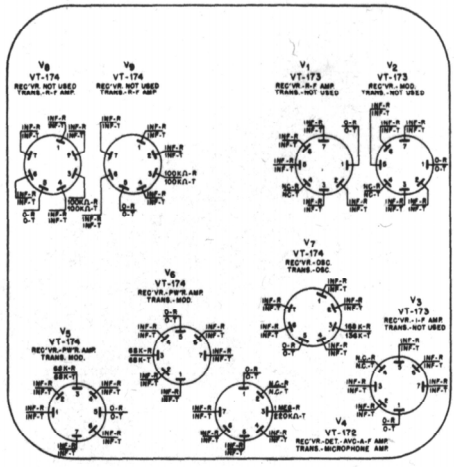


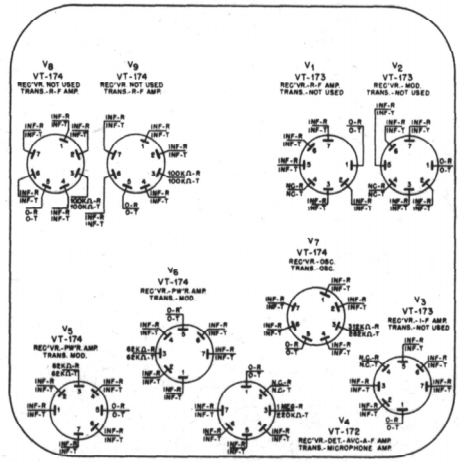
Figure 24A. Radio Receiver and Transmitter BC-745-(*), Tube Socket Voltage Diagram



NOTE - RESISTANCES WITH THE SUFFIX 'R' MEASURED IN RECEIVE POSITION.
RESISTANCES WITH THE SUFFIX 'T' MEASURED IN TRANSMIT POSITION.
N.C.-NO CONNECTION.
INF-NO READING OBTAINED.
ALL MEASUREMENTS MADE WITH TUNING UNIT BC-746-A, TUBES AND BATTERIES REMOVED.
ALL MEASUREMENTS OBTAINED WITH SIGNAL CORPS. METER I-56-A.
ALL MEASUREMENTS MADE BETWEEN CHASSIS AND POINTS INDICATED.

(BOTTOM VIEW)

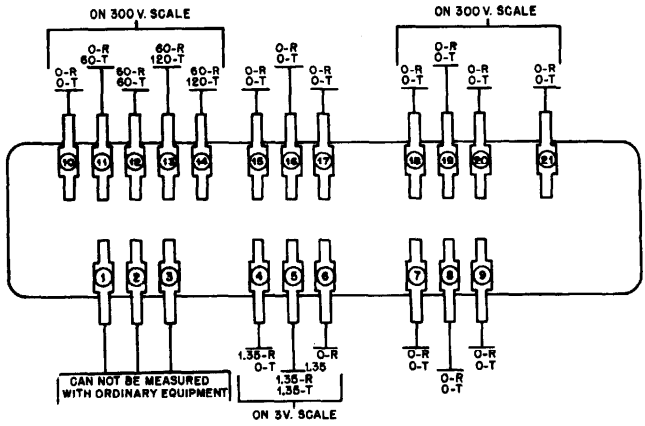
Figure 25. Radio Receiver and Transmitter BC-745-A, Tube Socket Resistance Diagram



NOTE - RESISTANCES WITH THE SUFFIX 'R' MEASURED IN RECEIVE POSITION.
RESISTANCES WITH THE SUFFIX 'T' MEASURED IN TRANSMIT POSITION.
N.C.-NO CONNECTION.
INF-NO READING OBTAINED.
ALL MEASUREMENTS MADE WITH TUNING UNIT BC-746-(*), TUBES AND BATTERIES REMOVED.
ALL MEASUREMENTS OBTAINED WITH SIGNAL CORPS. METER I-56-A.
ALL MEASUREMENTS MADE BETWEEN CHASSIS AND POINTS INDICATED.

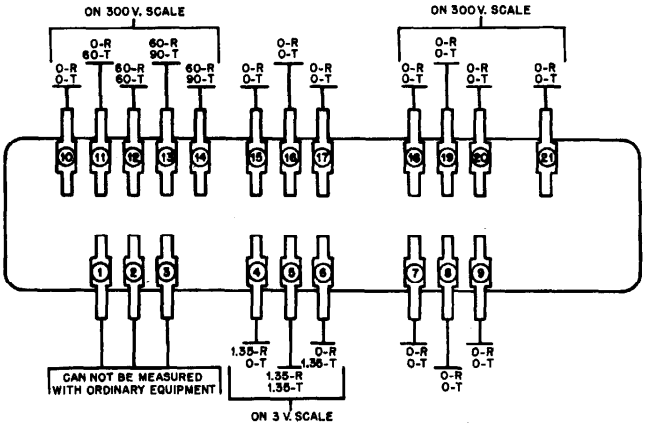
(BOTTOM VIEW)

Figure 25A. Radio Receiver and Transmitter BC-745-(*), Tube Socket Resistance Diagram



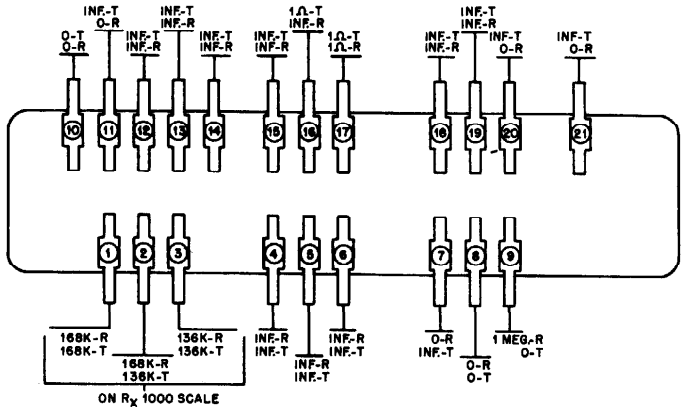
NOTE:-VOLTAGES WITH SUFFIX 'R' MEASURED IN RECEIVE POSITION.
VOLTAGES WITH SUFFIX 'T' MEASURED IN TRANSMIT POSITION.
ALL VOLTAGES MEASURED WITH SIGNAL CORPS. METER I-56-A (D.C.)
ALL MEASUREMENTS MADE BETWEEN CHASSIS AND POINTS INDICATED.

Figure 26. Radio Receiver and Transmitter BC-745-A, Change-Over Switch Terminal Voltage Diagram



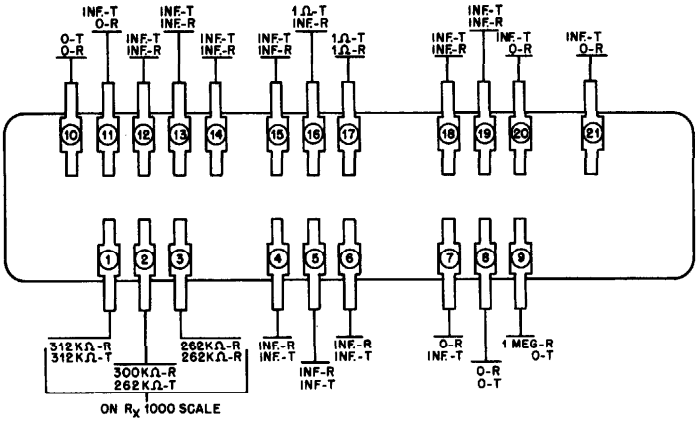
NOTE:-VOLTAGES WITH SUFFIX 'R' MEASURED IN RECEIVE POSITION.
VOLTAGES WITH SUFFIX 'T' MEASURED IN TRANSMIT POSITION.
ALL VOLTAGES MEASURED WITH SIGNAL CORPS. METER I-56-A (D.C.)
ALL MEASUREMENTS MADE BETWEEN CHASSIS AND POINTS INDICATED.

Figure 26A. Radio Receiver and Transmitter BC-745-(*), Change-Over Switch Terminal Voltage Diagram



NOTE:- RESISTANCES WITH SUFFIX 'R' MEASURED IN RECEIVE POSITION.
RESISTANCES WITH SUFFIX 'T' MEASURED IN TRANSMIT POSITION.
INF. NO READING OBTAINED.
ALL RESISTANCES MEASURED WITH SIGNAL CORP. METER I-56-A(D.C.)
ALL MEASUREMENTS MADE BETWEEN CHASSIS AND POINTS INDICATED.
ALL MEASUREMENTS MADE WITH TUNING UNIT BC-746-A, TUBES AND BATTERIES REMOVED.

Figure 27. Radio Receiver and Transmitter BC-745-A, Change-Over Switch Terminal Resistance Diagram



NOTE:- RESISTANCES WITH SUFFIX 'R' MEASURED IN RECEIVE POSITION.
RESISTANCES WITH SUFFIX 'T' MEASURED IN TRANSMIT POSITION.
INF. NO READING OBTAINED.
ALL RESISTANCES MEASURED WITH SIGNAL CORP. METER I-56-A(D.C.)
ALL MEASUREMENTS MADE BETWEEN CHASSIS AND POINTS INDICATED.
ALL MEASUREMENTS MADE WITH TUNING UNIT BC-746-(*), TUBES AND BATTERIES REMOVED.

Figure 27A. Radio Receiver and Transmitter BC-745-(*), Change-Over Switch Terminal Resistance Diagram

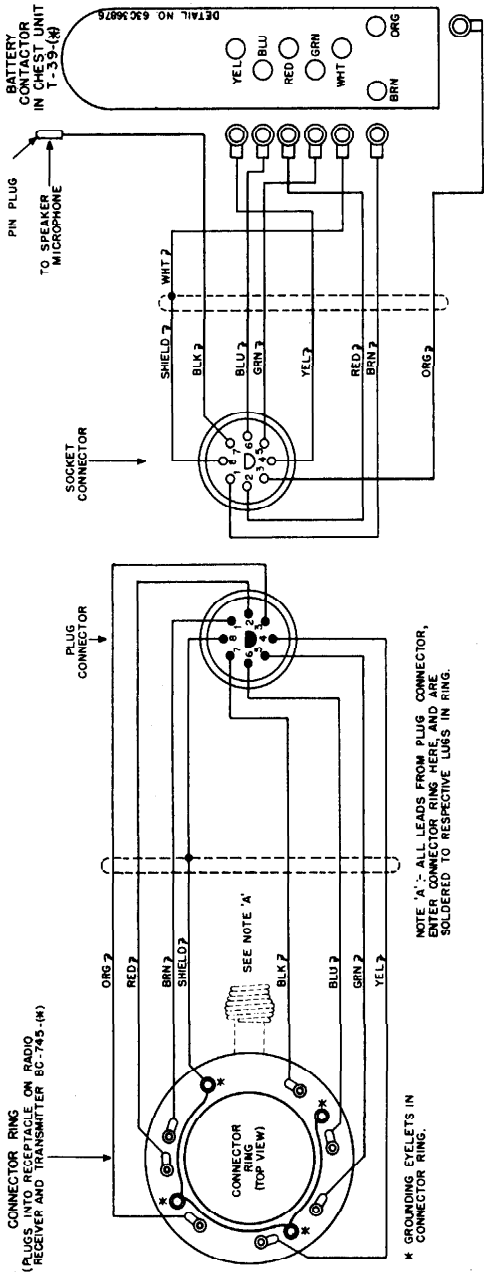


Figure 28. Cord CD-571-(*), Wiring Diagram

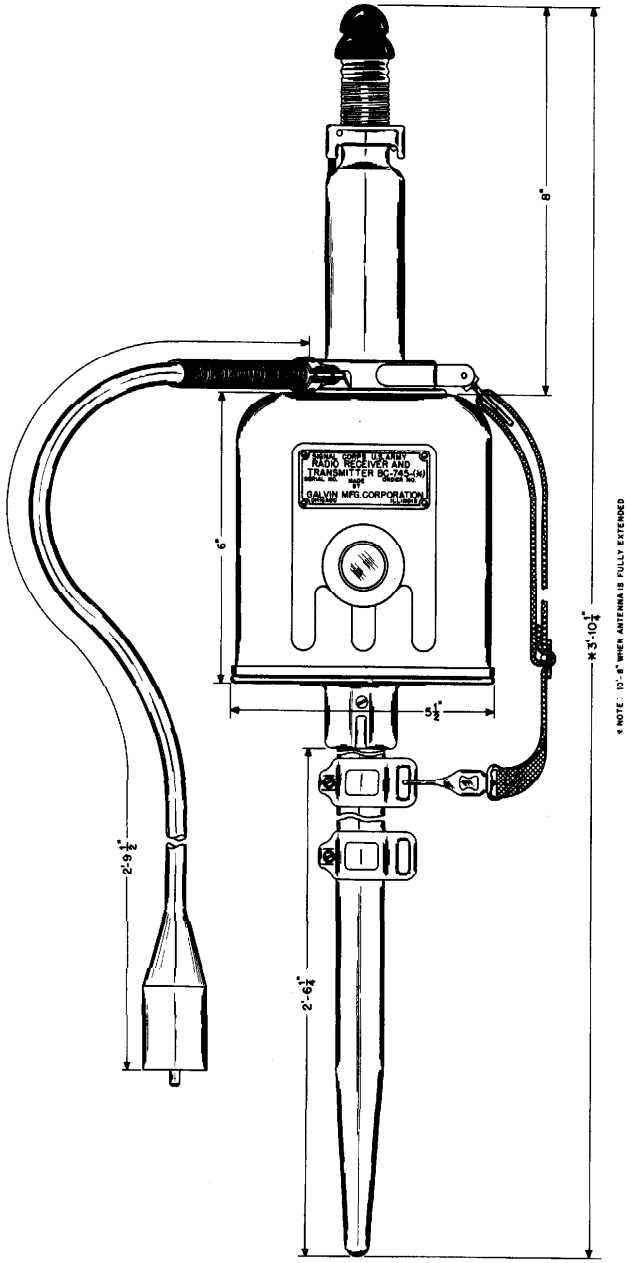


Figure 29. Radio Receiver and Transmitter BC-745-(*), Outline Dimensional Detail

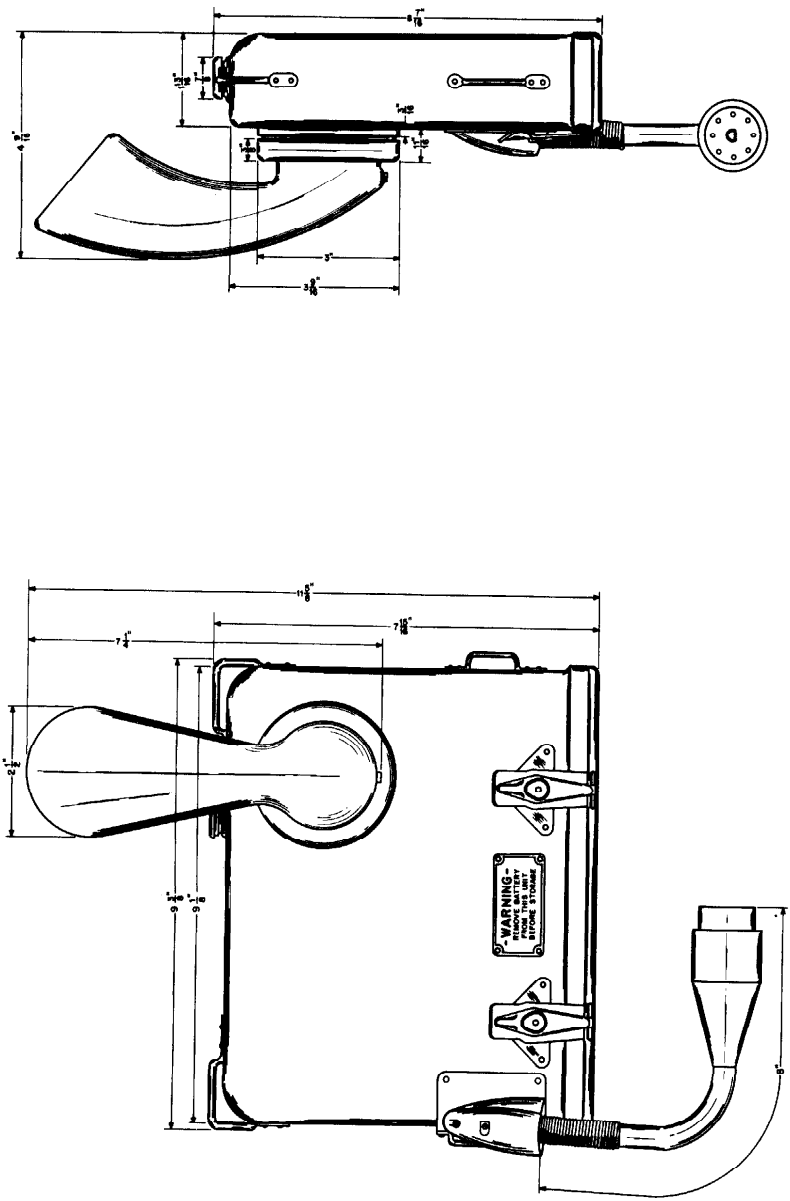


Figure 30. Chest Unit T-39-(*), Outline Dimensional Detail

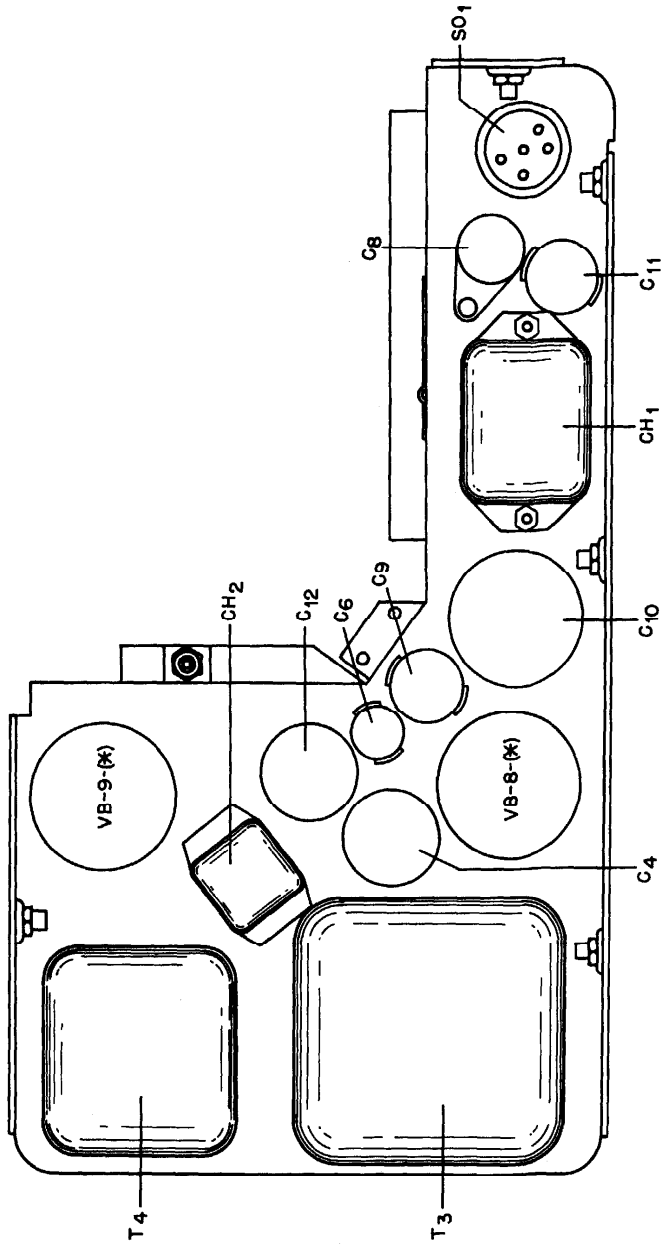


Figure 31. Power Supply Unit PE-157-(*), Top View, Showing Major Parts

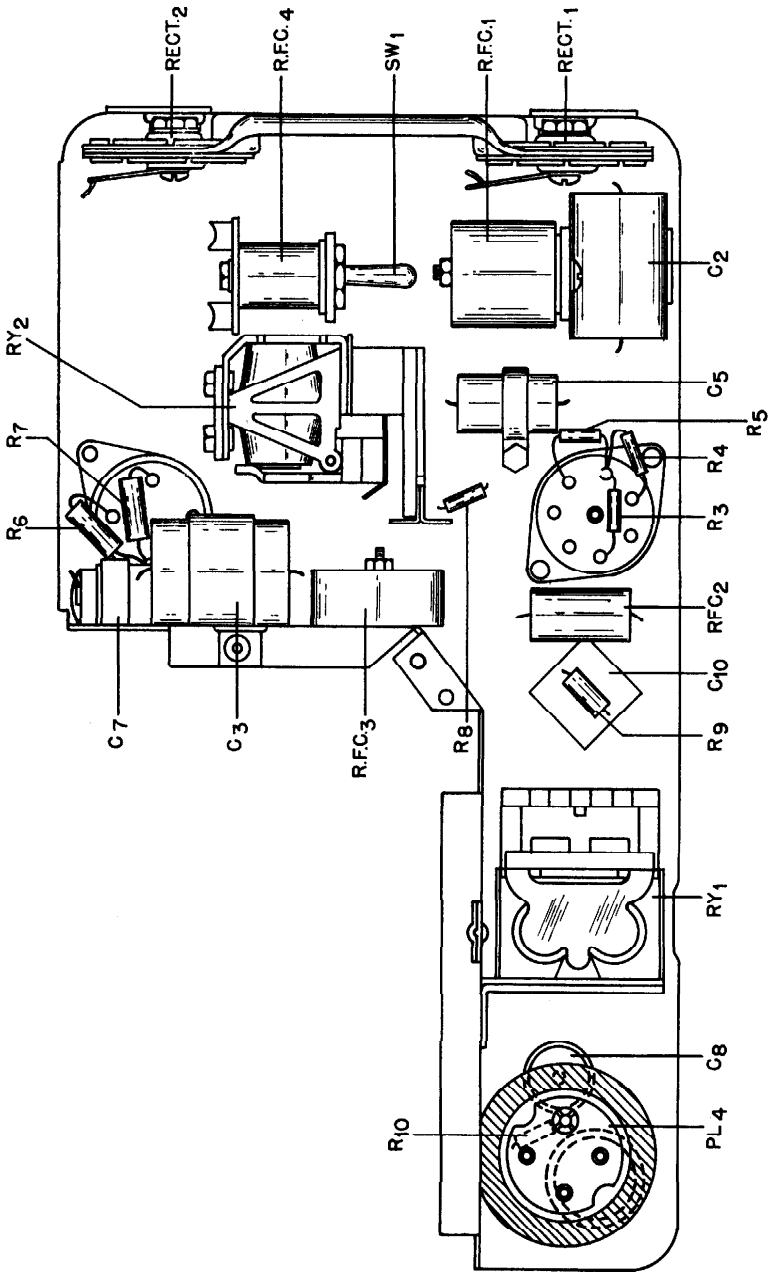


Figure 32. Power Supply Unit PE-157-(*), Bottom View, Showing Major Parts

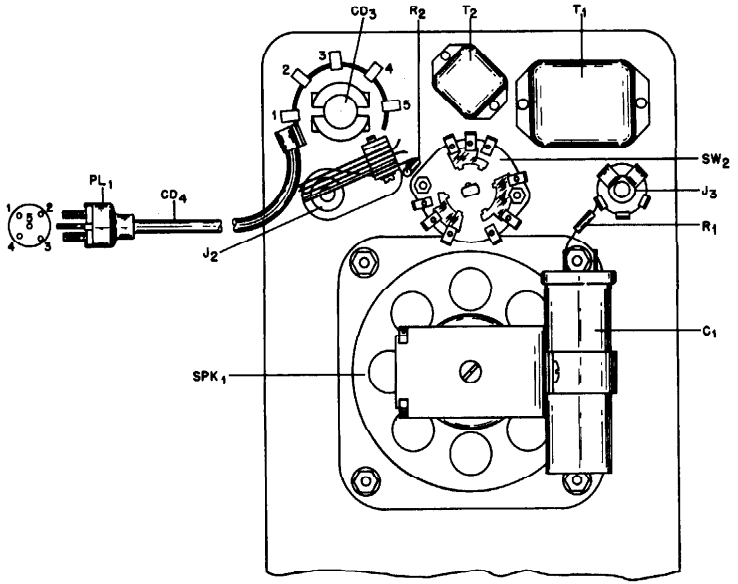


Figure 33. Power Supply Unit PE-157-(*), Interior View of Housing Cover Showing Major Parts

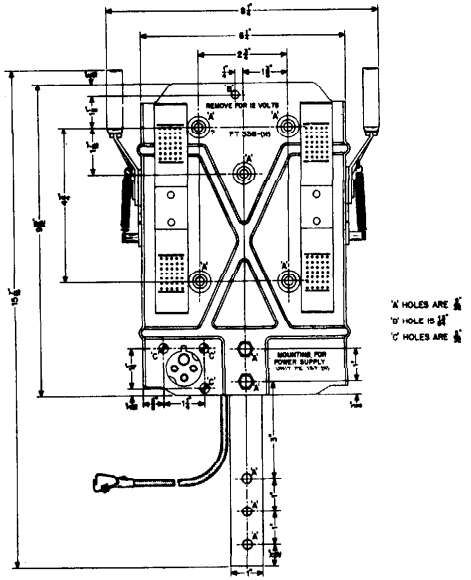


Figure 34. Mounting FT-338-(*), Outline Dimensional and Mounting Hole Location Detail

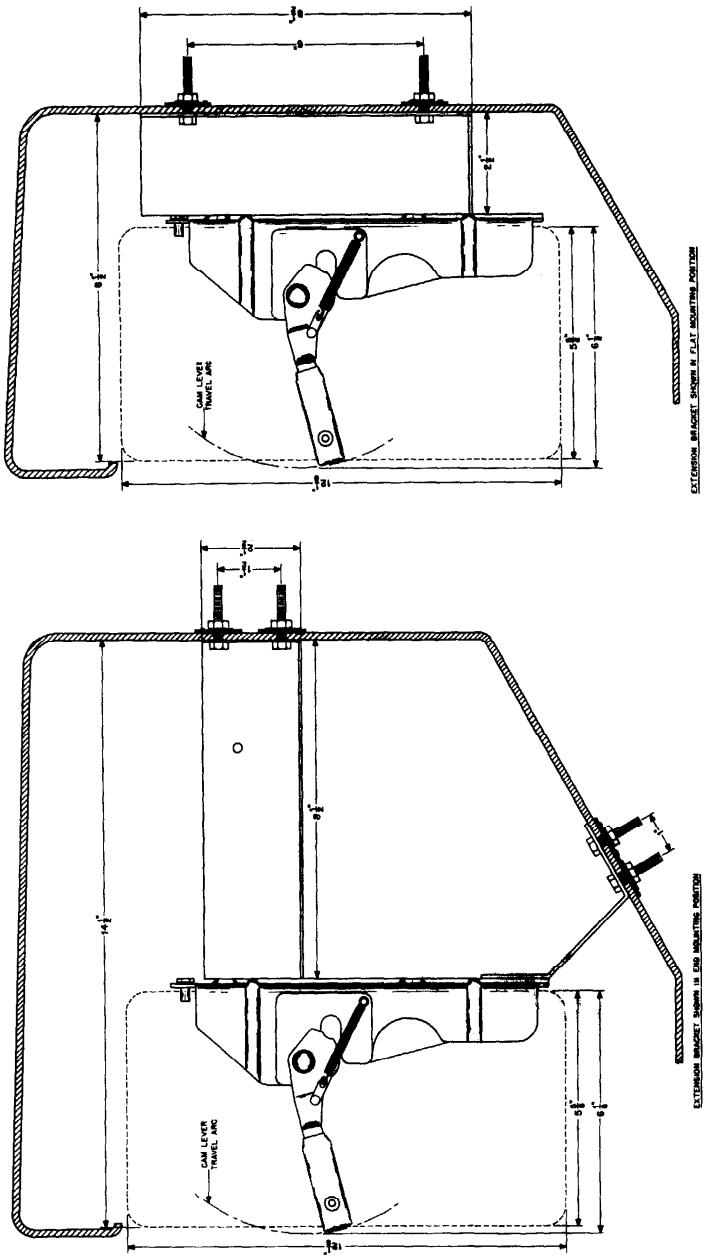


Figure 35. Mounting FT-338-(*), Dimensional Detail

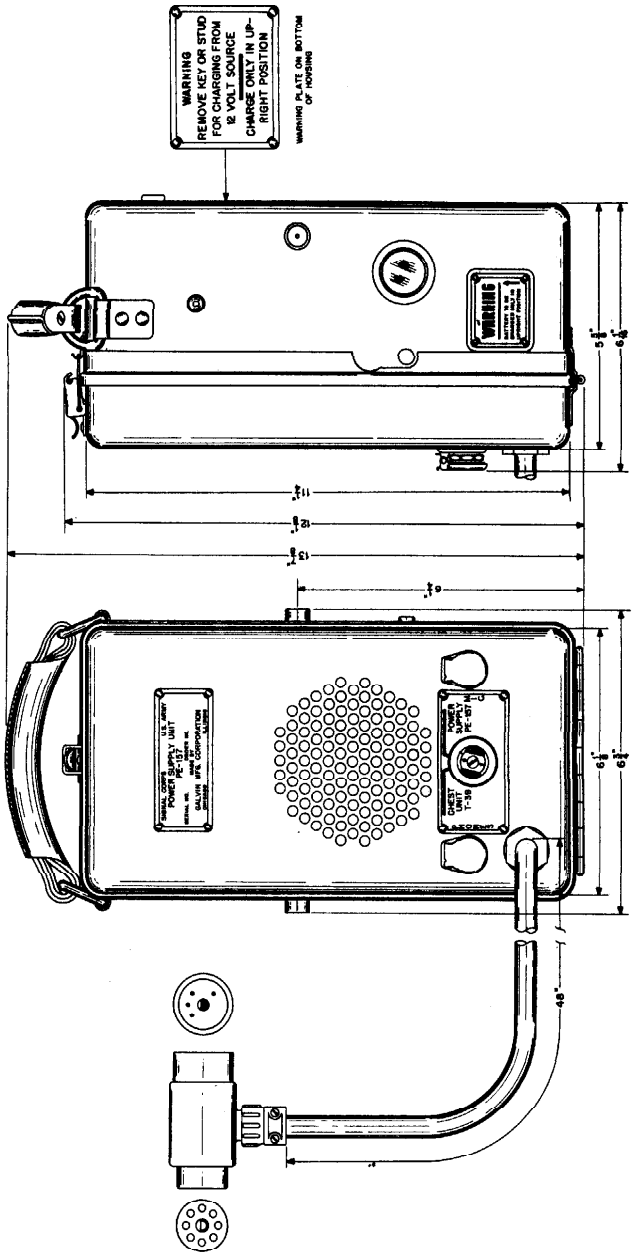


Figure 36. Power Supply Unit PE-157-(*), Outline Dimensional Detail

SECTION V.

TABULAR LIST OF

REPLACEABLE PARTS

IMPORTANT

Reference numbers appearing in the TABULAR LIST OF REPLACEABLE PARTS ON THE FOLLOWING PAGES REFER TO *Radio Set SCR-511-*(*) *figures only.*

Comparable Reference Numbers for Radio Set SCR-511-A will be found on Page 153-155

33 a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
5		1	ANT1		Assembly, Antenna Composed of antenna tube assembly (101), antenna plug washer (176), and switch actuator washer (172). —Special	Transmitter radiator and receiver antenna.	1	1X49714
4		2	C1		Capacitor Fixed, ceramic, silver; 200 $\mu\mu$f, ±10%, 500 w-v d-c. 1 9/64" long x 5/16" diameter.	Coupling receiver grid V1 to antenna coil.	9	21A38783
					or;			
		2			Fixed, ceramic; 200 $\mu\mu$f, ±10%, 500 w-v d-c. Coded. X200 white dot. 1.078" long x .250" diameter. (Also C25).		16	21A49745
		8	C2		Capacitor Fixed, paper; .006 μf, ±20%, 50 w-v d-c. temperature coefficient —30°C to +50°C. 1/2" long x 5/16" diameter. (Also C3, C5, C6, C10, C11, C16, C24, C25) Inside and part of Pack 1.	A-V-C by-pass.		8A34203
			C3		Capacitor Same as C2. Inside and part of Pack 1.	A-V-C by-pass.		

2		1	C4		Capacitor Fixed, ceramic, silver; 100 $\mu\mu$f, $\pm$10%, 500 w-v d-c. $1\frac{1}{16}$" long x $\frac{7}{32}$" diameter.	Coupling V1 to V2.	9	21A38784
			C5		Capacitor Same as C2. Inside and part of Pack 2.	V1 and V2 screen grid by-pass.		
			C6		Capacitor Same as C2. Inside and part of Pack 2.	A-V-C by-pass.		
2		1	C7		Capacitor Fixed, molded phenolic, 4 $\mu\mu$f, $\pm$10%, 500 w-v d-c. .120" to .130" long x .160" to .165" diameter. Color coded: Yellow.	Coupling receiver oscillator (V7) to receiver mixer (V2).	23	21K38951
		1	C8		Capacitor Variable, mica, 60 $\mu\mu$f maximum, $\pm$2%. Unglazed alsimag #35 base. Leaves silver plated. Inside of T1; same as, and part of C9. —Special	Tuning T1 primary.		20A27340
			C9		Capacitor Inside of T1, same as and part of C8. —Special	Tuning T1 secondary.		
			C10		Capacitor Same as C2. Inside and part of Pack 3.	A-V-C by-pass.		
			C11		Capacitor Same as C2. Inside and part of Pack 3.	V3 screen grid by-pass.		

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		1	C12	3D9208V	Capacitor Variable, mica; 25 $\mu\mu$f nominal, $\pm$2%, Alsimag #35 base, leaves silver plated. Inside of T2; part of C13 and C14. —Special	Tuning T2 secondary.	1	20A28609
			C13	3D9070-6	Capacitor Inside of T2; part of C12 and C14, same as C14. 70 - 100 $\mu\mu$f nominal.	Detector filter.		
			C14	3D9070-6	Capacitor Inside of T2; part of C12 and C13, same as C13. 70 - 100 $\mu\mu$f nominal.	Detector filter.		
		2	C15		Capacitor Fixed, paper; .01 μf, $\pm$20%, 100 w-v d-c. 3/4" long x 1/4" wide x 3/16" thick, oval cylinder. Inside and part of Pack 4. (Also C18.)	V4 grid coupling.		8A34881
			C16		Capacitor Same as C2. Inside and part of Pack 4.	V4 screen grid bypass.		

		1	C17		Capacitor Fixed, ceramic; 200 $\mu\mu$f, $\pm$20%, 300 w-v d-c. $\frac{5}{8}$" long x $\frac{3}{16}$" diameter. Inside and part of Pack 5. —Special	V4 plate r-f by-pass.	1	21A38782
			C18		Capacitor Same as C15. Inside and part of Pack 5.	Coupling V4, V5 and V6.		
		1	C19		Capacitor Fixed, paper; .01 μf, $\pm$20%, 135 w-v d-c. (Ground foil common to C20). Inside and part of Pack 6. (Also C20). —Special	Receiver B+ by-pass.	1	
			C20		Capacitor Same as C19. Inside and part of Pack 6.	V5 and V6 screen grid by-pass.		
		1	C21		Capacitor Fixed, paper; .001 μf, +30%-20%, 600 w-v d-c. $\frac{3}{4}$" long x $\frac{3}{8}$" wide x $\frac{3}{16}$" thick oval cylinder. Inside of T5. —Special	Buffer.	1	8A38795
2		1	C22		Capacitor Fixed, ceramic; 25 $\mu\mu$f, $\pm$5%, $\pm$.00003 $\mu\mu$f/$\mu\mu$f/°C. Color coded: black, red, green, black, green. .460" long x .225" diameter.	Equalizer.	16	21A38932

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	C23		Capacitor Fixed, ceramic; 25 $\mu\mu$f, $\pm$1.25%, $\pm$.00003 $\mu\mu$f/$\mu\mu$f/°C. Color coded: red, red, green, black, green. .460" long x .225" diameter.	Regeneration capacitor.	6	21A35389
			C24		Capacitor Same as C2. Inside and part of Pack 7.	B+ by-pass.		
			C25		Capacitor Same as C1.	Coupling V8 and V9 to tank circuit.		
			C26		Capacitor Same as C2. Inside and part of Pack 8.	V5 and V6 bias supply by-pass.		
		1	C27		Capacitor Fixed, ceramic; 50 $\mu\mu$f, $\pm$10%. Color coded: white, green, black, black, white. .460" long x .225" diameter. Inside and part of Pack 8. —Special	Coupling oscillator plate (V7) to transmitter r-f amplifier (V8 and V9) control grids.	1	21A38781
		1	C28		Capacitor Fixed, paper; .006 μf, +25%-10%, 100 w-v d-c. 3/8" long x 9/32" wide x 1/8" thick. Inside and part of Pack 9. —Special	Screen grid by-pass.	1	8A28540

5		1	CD1		Assembly, Ring, Cable and Hanger CD-571-(*). Composed of connector ring and cable (P3 and P4), cable spring (162), swivel and bracket (113), connector ring cover (108), strap hanger pin (148), cable clamp (121), and rivets (152), and screws (538). —Special	Connector cord for connection to Chest Unit T-39-(*).	1	1C35404
		1	CH1		Choke 1 pie; wound on iron core. 170 turns #38 S.S.E. wire. Impregnated with Galvin cement #11M8795. Inductance = .523 mh. Inside and part of Pack 7. —Special	V7 plate choke.	1	24A38931
		1	CH2		Choke 3 pie; wound on iron core. 180 turns of #38 S.S.E. wire per pie. Impregnated with Galvin cement #11M8795. Inductance = 3.15 mh, ±10%. Inside and part of Pack 9. —Special	V8 and V9 plate choke.	1	24A34633
1		1	P1	2C5395-745/P1/1	Assembly, 9 Pin Plug Bakelite insulator, 3/32" thick x 3 11/16" long x 1" wide. 4 mounting holes. .136" diameter. 9 brass terminal pins and 9 contact lugs. —Special	Terminal connector for tuning unit BC-746-(*).	1	1X34892

*List of Manufacturer's names and addresses follows Tbaular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
5		1	P3 and P4		Assembly, Connector Ring and Cable 7 conductor, shielded, rubber covered cable. Insulated connector ring with 7 soldering lugs and 7 contact pins. Leads color coded. 7 contact pins and center guide pin on plug end. —Special	Connector Cord CD-571-(*) of Radio Receiver and Transmitter BC-745-(*).	1	1C35405
4		1	Pack 1		Pack Contains capacitors (C2 and C3) and resistors (R1 and R2).	Refer to components for function.	11	51B34741
4		1	Pack 2		Pack Contains capacitors (C5 and C6) and resistors (R3, R4 and R5).	Refer to components for function.	11	51B34742
4		1	Pack 3		Pack Contains capacitors (C10 and C11) and resistors (R7, R8 and R9).	Refer to components for function.	11	51B34744
4		1	Pack 4		Pack Contains capacitors (C15 and C16) and resistors (R13, R14 and R15).	Refer to components for function.	11	51B34747

4		1	Pack 5		Pack Contains capacitors (C17 and C18) and resistors (R15 and R16).	Refer to components for function.	11	51B34761
4		1	Pack 6		Pack Contains capacitors (C19 and C20).	Refer to components for function.	11	51B34762
4		1	Pack 7		Pack Contains choke (CH1) and capacitor (C24).	Refer to components for function.	11	51B38830
4		1	Pack 8		Pack Contains capacitors (C26 and C27) and resistors (R17, R18, R19 and R20).	Refer to components for function.	11	51B38829
4		1	Pack 9		Pack Contains choke (CH2), capacitor (C28) and resistor (R21).	Refer to components for function.	11	51B34751
		3	R1		Resistor Fixed, carbon; 1 megohm, ±10%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins. (Also R13, R15)	V1 control grid resistor.	2 14 23	6B6337

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
					or:			
					Fixed, carbon: 1 megohm; ±20%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins. Inside and part of Pack 1.		2 14 23	6B6159
		2	R2		Resistor Fixed, carbon, 100,000 ohms, ±10%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins.	A-V-C filter.	2 14 23	6B6369
					or:			
					Fixed, carbon, 100,000 ohms, ±20%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Inside and part of Pack 1. (Also R7)		2 14 23	6B6165

		1	R3		Resistor Fixed, carbon; 10,000 ohms, ±10%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins. Inside and part of Pack 2.	V1 and V2 grid voltage dropping.	2 14 23	6B6401
		2	R4		Resistor Fixed, carbon; 3.3 megohms, ±10%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins.	V2 control grid resistor.	2 14 23	6B6364
					or:			
					Fixed, carbon; 3.3 megohms, ±20%. 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins. Inside and part of Pack 2. (Also R14)		2 14 23	6B6201
		2	R5		Resistor Fixed, carbon; 4.7 megohms, 1/3 watt insulated, ±10%. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins.	A-V-C filter.	2	6B6391

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a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
					or:			
					Fixed, carbon; 4.7 megohms, 1/3 watt insulated, ±20%. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. Inside and part of Pack 2. (Also R8)			6B6368
4		1	R6		Resistor Fixed, carbon; 4,700 ohms, ±20%, 1/3 watt insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins. (Used in early model of BC-745-A.)	Oscillator B+ dropping resistor.	2 14 23	6B6203
			R7		Resistor Same as R2. Inside and part of Pack 3.	A-V-C filter.		
			R8		Resistor Same as R5. Inside and part of Pack 3.	A-V-C filter.		

	1	R9	Resistor Fixed, carbon; 39,000 ohms, ±10%, ⅓ watt, insulated. ⅜″ long x .140″ diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT ¼ Ins. Stackpole Type MB ⅓ Ins. Inside and part of Pack 3.	V3 screen grid dropping.	2 14 23	6B6466
	1	R10	Resistor Fixed, carbon; 1.0 megohm, ±10%, 1/5 watt insulated. 9/32″ long x .065″ diameter. Globar Type 997-A. Inside and part of T1.	T1 secondary loading.	13	6B5564
	1	R11	Resistor Fixed, carbon; 220,000 ohms, ±10%, 1/5 watt insulated. 9/32″ long x .065″ diameter. Globar Type 997-A. Inside and Part of T2.	Detector filter.	13	6B5571
	1	R12	Resistor Fixed, carbon; 10 megohms, ±10%, ⅓ watt insulated. ⅜″ long x .140″ diameter. Allen-Bradley Type EB Ins. Inside and part of Pack 4.	V4 control grid return resistor.	2	6B5572 or 6B6348
		R13	Resistor Same as R1. Inside and part of Pack 4.	Diode load.		

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
			R14		Resistor Same as R4. Inside and part of Pack 4.	V4 screen grid dropping.		
			R15		Resistor Same as R1. Inside and part of Pack 5.	V4 plate load.		
		1	R16		Resistor Fixed, carbon; 5,600 ohms, ±10%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins. Inside and part of Pack 2.	V5 and V6 screen grid voltage dropping.	2 14 23	6B6445
		1	R17		Resistor Fixed, carbon; 250,000 ohms, ±5%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins. Inside and part of Pack 8.	Receiver oscillator grid leak.	2 14 23	6B6485

		1	R18		Resistor Fixed, carbon; 62,000 ohms, ±5%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins.	Voltage divider for supplying V5 and V6 bias.	2 14 23	6B5608
		1	R19		Resistor Fixed, carbon; 200,000 ohms, ±5%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins. Inside and part of Pack 8.	Transmitter oscillator grid leak.	2 14 23	6B6451
		1	R20		Resistor Fixed, carbon, 100,000 ohms, ±5%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins. Inside and part of Pack 8.	V8 and V9 control grid return.	2 14 23	6B6435
		1	R21		Resistor Fixed, carbon; 4,300 ohms, ±10%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. I. R. C. Type BT 1/4 Ins. Stackpole Type MB 1/3 Ins. Inside and part of Pack 9.	V8 and V9 screen grid voltage dropping.	2 14 23	6B5595

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
1		1	SO1	2Z3017.1	Assembly, Connector Ring Receptacle Composed of connector ring receptacle (150), ferrule (129), spring (166), washer (179) and cotter pin (125). —Special	Receptacle for Cord CD-571-(*) and antenna contactor.	1	1X34714
1		1	SW1		Switch Bakelite; 4 3/16" long x 1 3/8" wide x 1/16" thick, slide 3 1/2" long x 1/2" wide x 1/16" thick. 21 contact lugs and stud for switch actuating lever. Lugs and slides silver plated. 4 mounting holes .120" diameter. —Special	Receive-transmit switch.	1	40B34528
5		1	SW2		Switch Double throw, single pole toggle switch. Bakelite body. Steel shell, cadmium plated. 15/32-32 thread stud for mounting. Bushing and toggle arm white nickel plated. Overall dimensions: 1 1/4" long x 7/8" wide x 15/16" high, less arm. Arm: .050" thick x 3/4" long x 3/8" wide. —Special	On-Off switch.	1	40A40235 or 40A34646
2		1	T1	2Z9641.2	Transformer, I-F Composed of coil (102), capacitors (C8 and C9) and resistor (R10). —Special		1	1B34912

2		1	T2	2Z9641.4	Transformer, Diode Composed of coil (104), capacitors (C12, C13 and C14) and resistor (R11). —Special		1	1B34911
		1	T3		Transformer, Microphone Core: #29 gauge radio iron AAS, laminations interleaved. ¼" stack, ¼" leg. Coil form of .007" gummed Kraft paper. Primary: 4810½ turns of #42 B & S gauge P.E. copper wire. Paper insulation between primary and secondary. Secondary: 26½ turns of #28 B & S gauge P.E. copper wire over primary. Paper insulation over secondary. Bi-wax impregnated. Steel shield: .016" thick x 1⅛" high x ⅞" square, flanged at bottom for mounting, 2 holes on flanges .113" diameter. Leads color coded. Primary impedance 10,000 ohms. Secondary impedance 3 ohms. —Special	Microphone coupling.	1	25B34441
5		1	T4	3C362-18	Transformer, Input Core: #26 gauge Alleghany electric metal, laminated. .35" stack, .344" leg. Coil form: 3 layers of .007" gummed Kraft paper. 9014 turns of #42 B & S gauge P.E. copper wire, center tapped at 4507 turns. Paper insulation over coil. Bi-wax impregnated. Korite #3 potting compound. Steel shield: .036" thick wall x 1 13/32" high x 1 5/16" square. Lead holes on sides. Leads color coded. Primary tap impedance 45,000 ohms. —Special	A-f input coupling choke.	1	25B34443

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
5		1	T5	2Z9634.4	Transformer, Modulation Core: #29 gauge radio iron #6AAS, laminations interleaved. ½" stack, ½" leg, Coil form: 3 layers of .007" gummed Kraft paper. Secondary #1: 1720½ turns of #39 B & S gauge P.E. copper wire over coil form. .002" varnished paper between secondary #1 and primary. Primary: 2800½ turns of #41 B & S. gauge P.E. copper wire, center tapped at 1400 turns, over secondary #1. Secondary #2: 28 turns of #25 B & S gauge P.E. copper wire over primary. .010" gummed Kraft paper over complete coil. Bi-Wax impregnated. Korite #3 potting compound. Leads color coded. Steel shield: .036" thick wall x 1⅝" high x 1 1/16" long x 1⅜" wide. Lug on side. 2 holes 5/32" diameter in side for lead wires. Primary impedance 30,000 ohms. Primary tap impedance 7,500 ohms. Secondary #1 impedance 1,320 ohms. Secondary #2 impedance 3 ohms. —Special	Receiver output transformer, and transmitter modulation transformer.	1	25B34728
4		3	V1	2T173	Tube 1T4/VT-173. RMA type 1T4. (Also V2, V3).	Receiver r-f amplifier.	17 20 26	

			V2	2T173	Tube 1T4/VT-173 RMA type 1T4.	Receiver mixer.	17 20 26
			V3	3T173	Tube 1T4/VT-173 RMA type 1T4.	Receiver i-f amplifier.	17 20 26
1		1	V4	2T172	Tube 1S5/VT-172 RMA type 1S5.	Receiver detector a-v-c, and a-f amplifier. Transmitter microphone amplifier.	17 20 26
6			V5	2T174	Tube 3S4/VT-174 RMA 3S4. (Also V6, V7, V8, V9).	Receiver power amplifier. Transmitter modulator.	17 20 26
			V6	2T174	Tube 3S4/VT-174 RMA type 3S4.	Receiver power amplifier transmitter modulator.	17 20 26
			V7	2T174	Tube 3S4/VT-174 RMA type 3S4.	Receiver and transmitter oscillator.	17 20 26
			V8	2T174	Tube 3S4/VT-174 RMA type 3S4.	Transmitter r-f amplifier.	17 20 26

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
			V9	2T174	Tube 3S4/VT-174 RMA type 3S4.	Transmitter r-f amplifier.	17 20 26	
		1	101		Antenna Tubes Stainless steel tubing, 3 sections, internal chromium wipers. Black nickel plated. —Special	Transmitter radiator; receiver antenna.	1	1C49628
		1	102		Coil 2 pie; wound on $1\frac{11}{16}$" long x $\frac{5}{16}$" diameter core. Each pie consists of 300 turns of 3/42 Litz S.S.E. wire. Coated with cerese A-A wax and dipped in white Halowax. Inductance of primary and secondary = 1.746 mh, . ± 1%. Inside and part of T1. —Special	I-f input transformer.	1	24A28537
1			103		Indicator, Resonance Neon bulb resonance indicator; 9" cable, fuse clip on cartridge end, alligator clip on cable end. —Special	Alignment of Radio Receiver and Transmitter BC-745-(*).	1	30A38731

		1	104		Transformer, Diode 2 pie; wound on 1 11/32" long x 3/16" diameter iron-core. Primary coil of 210 turns of #40 S.S.E. wire; inductance: 1.116 mh, ±1% @ 1,000 C.P.S. Secondary coil of 400 turns of #40 S.S.E. wire, inductance = 3.000 mh, ±1% @ 1,000 C.P.S. coated with cerese A-A wax and dipped in white Halowax. Inside and part of T2. —Special	I-f output transformer.	1	24A28536
2		1	105	3G1895-1	Assembly, Antenna Guide Composed of insulator (141), spring (167), and ferrule (130). —Special	Antenna guide and contact wipers.	1	1X35238
		1	106		Assembly, Antenna Stop Bakelite; overall dimensions: 29/32" diameter, 1/2" high. 4 holes tapped 6-32 thread. Rubber bumper in center. —Special	Bottom antenna stop.		1X35398
1		1	107		Assembly, BC-745-(*) Chassis Composed of chassis, base, packs, resistors, capacitors, transformers, tube sockets, change-over switch —Special	Radio Receiver and Transmitter BC-745-(*) chassis only.	1	1X49501
		1	108		Assembly, Connector Ring Cover Cold rolled steel; 2.941" outside diameter, .030" thick, U shaped. Cable clamps and strap supports mounted on connector ring cover. Olive drab finish. —Special	Cover for connector ring and contacts.	1	15B34522

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BS-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		1	109		Assembly, Guidon Staff Composed of guidon staff (138), antenna stop (106), and screws (537). —Special	Encloses telescoped antenna, ground support when operating and bottom cover fastener.	1	1X35397
		1	110		Assembly, Housing and Gasket Stainless steel; 5.240″ square. 5-13/16″ high. Window in side (180), gasket (135), and bezel (115). —Special	Radio Receiver and Transmitter BC-745-(*) chassis housing.	1	1X35403
		0	111		Assembly, Housing Base Plate Composed of housing base plate (147), moisture seal gasket (133), locking collar (124), gasket (136), washer (173), and washer (174). —Special	Bottom housing cover and Tuning Unit BC-746-(*) retainer.	1	1X35409
2		1	112	2Z9043	Assembly, Strap ST-43 Cotton webbing; 36″ long x 3/4″ wide. Terminates in swivel type snap hook. Olive drab color. —Special	Sling for Radio Receiver and Transmitter BC-745-(*).	1	35B34988

		1	113		Assembly, Swivel and Bracket Swivel: brass, government bronze finish. Bracket: cold rolled steel, black nickel finish. Swivel fastened to bracket. —Special	Fasten Strap ST-43.	1	1X35408
2		1	114	2C5395-745A/A2	Assembly, Tube Retainer Plate Cold rolled steel. 9 tube shield and two slide fasteners mounted on plate. Coil springs inside tube shields. —Special	Tube shield and retainer.	1	1X35402
		1	115		Bezel Brass: 1 5/16" outside diameter, 1.055" inside diameter, .020" thick. —Special	Fasten window in housing.	1	13A34998
		1	116		Bracket, Left Hand Cold rolled steel; .060" thick. Overall dimensions: 1 13/16" high x 7/8" long x 15/32" wide. White nickel finish. —Special	Switch (SW2) support.	1	7K34833
		1	117		Bracket, Right Hand Cold rolled steel; .060" thick. Overall dimensions: 1 13/16" high x 7/8" long x 15/32" wide. White nickel finish. —Special	Switch (SW2) support.	1	7B34831
		1	118		Bushing Cold rolled steel; body center: .250" diameter x .8103" long, stud ends: .086" long x .1843" diameter, stud sides flattened to .1543 wide. White nickel finish. —Special	Switch link.	1	43A34594

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
5		1	119	2C5395-745A/A1/1	Cap, Antenna Seal Plug Rubber: 31/32" high, 1" diameter, 1/4" hole. —Special	Antenna pull-out and weather-proofing seal.	1	37A34575
		1	120		Chassis, Base Staff Unit Cold rolled steel; punched, 5" square, .048" thick. White silver plated. —Special	Parts mounting.	1	27C34719
		1	121		Clamp, Cable Cold rolled steel; .042" thick. Riveted to clamp on connector ring. —Special	Cable and spring fastener.	1	42A34733
6		3	122	2Z9051	Clamp Cold rolled steel; U shaped, 3/8" long x 1/4" wide x .060" thick. Hole .116" diameter in one leg. 4-40 thread tapped in the other leg. —Special	Strap retainer.	1	42A34558
4		2	123	2C5395-745A/A3	Clamp, Strap Holder Brass; slotted flange for strap. Overall dimensions 2 1/32" long, 1 1/4" wide, 1" high. 1 hole tapped 8-32 thread for 8-32 thread x 9/16" long slotted fillister head screw. —Special	Fastens Strap ST-43.	1	1X35411

		1	124		Collar, Housing Lock Aluminum; overall dimensions: 2 5/8" diameter at base, 1 1/2" diameter at top, 1 13/16" high. 2 holes tapped 5/16-24 thread on sides. 4 holes tapped 4-40 on base for plate mounting. Sponge rubber gasket seal. Olive drab finish. —Special	Lock bottom housing plate to chassis housing.	1	1X35410
		1	125		Cotter Pin Cold rolled steel; 1/16" diameter x 5/8" long. Cadmium plated. —Special	Fasten antenna wiper spring.	1	22S7969
		5	126		Eyelet Brass; 1 21/32" long x .152" diameter. 25/64" flange at one end. White silver finish. —Special	Pack mounting.	1	5K40189
		1	127		Eyelet Brass; 1 23/32" long x .152" diameter. 25/64" flange at one end. White silver finish. —Special	Pack mounting.	1	5K40191
		1	128		Eyelet Brass; 1 13/32" long x .152" diameter. 25/64" diameter flange on one end. White nickel finish. —Special	Pack mounting.	1	5A40187
		1	129		Ferrule Brass; .025" thick, overall dimensions: 1 11/32" high x .630" diameter. White nickel plated. —Special	Antenna wiper.	1	43A34686

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		1	130		Ferrule Brass; .025″ thick. $1\frac{29}{32}$″ high x .562″ diameter. White nickel finish. —Special	Antenna wiper.	1	43A34572
6		1	131		Gasket Rubber, $1\frac{17}{64}$″ outside diameter, $1\frac{1}{16}$″ inside diameter, .020″ thick Atlantic-India #43A—	Window and bezel seal.	5	32A34995
5		1	132	2C5395-745A/A1/2	Gasket Rubber; overall dimensions: $1\frac{7}{32}$″ diameter base, $\frac{3}{4}$″ diameter top, $\frac{3}{4}$″ high, and .484″ diameter hole. —Atlantic-India K-200-1	Antenna seal.	5	32A34574
5		1	133	2Z4866	Gasket, Base Moisture Seal Sponge rubber; $5\frac{5}{16}$″ square x $\frac{3}{8}$″ thick overall. —Special	Weather-proofing seal between housing and housing base plate.	1	32B34539
15		1	134	2Z4866.2	Gasket, Handle Moisture Seal Rubber; $3\frac{1}{4}$″ diameter, $\frac{13}{16}$″ high shoulder, $1\frac{5}{8}$″ center hole. —Special	Weather-proofing seal between housing and handle.	1	32A34683

5		1	135	2Z4866.3	Gasket, Housing Inner Seal Sponge rubber; 3⅜" diameter, 1/16" thick, 1⅝" center hole. —Special	Weather-proofing seal between housing and connector ring receptacle.	1	32A34582
5		1	136	2Z4866.4	Gasket, Lock Compression Sponge rubber; 2⅞" outside diameter, 1⅞" inside diameter, ⅜" thick —Special	Weatherproonfig seal between base plate and locking collar.	1	32A34567
20		4	137		Gasket, Water Seal Fiber; 11/32" outside diameter, 3/16" inside diameter, 1/16" thick. Victor Gasket #2001 Type A	Connector ring waterseal.	29	32A38936
2		1	138		Guidon Staff Cold rolled steel tubing. Solid steel tip. Bayonet lock collar and guidon staff mounting collar. —Special	Encloses telescoped antenna, ground support when operating, housing support and bottom cover fastener.	1	1B34483
		1	139		Handle Stainless steel tubing; 6½" long. Bottom flange cold rolled steel; 2 15/16" diameter, 7 holes .343" diameter, and 8 holes .187" diameter. Olive drab finish, on tube. —Special	Carrying handle encloses antenna, and push-talk collar mount.	1	43B34526
1		1	140		Insulator Celluloid; 4¼" long x 1 9/16" wide x .016" thick. —Special	Switch (SW2) insulator.	1	14A34663

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		1	141		Insulator Styramic, 1 27/32" long x .830" outside diameter. 7 threads per inch. —Special	Antenna guide.	1	14B34527
		1	142		Link Cold rolled steel; .042" thick. L-shaped. 1 1/16" long x 15/16" high x 5/16" wide. White nickel finish. —Special	Switch (SW2) action.	1	45A34550
		1	143		Link, Long Cold rolled steel; .042" thick. 1.375" long x 5/16" wide. .157" diameter hole on one end and .127" diameter hole on the other. —Special	Switch (SW2) action	1	45A34548
		1	144		Link, Short Cold rolled steel; .042" thick. 1 1/4" long x 3/8" wide. Punches at ends for link connections. —Special	Switch (SW2) action.	1	45A34552
		1	145		Pedestal Aluminum, 2.187" high x 2 15/16" diameter top x 1.562" diameter bottom. Top face: 8 holes tapped 8-32 thread, 8 holes .322" diameter tapered, 1 hole .161" diameter. Bottom face: 8 holes tapped 6-32 thread. —Special	Chassis support.	1	43C34531

		2	146		Plate Copper; .0159″ thick. Hexagonal shaped, .822″ diameter. 1/32″ flanged edges. White nickel finish. —Special	Coil mounting plate.	1	64A27342
		1	147		Plate, Housing Base Cold rolled steel; 5 1/2″ square. Olive drab finish. —Special	Bottom housing cover and retainer for Tuning Unit BC-746-(*).	1	64B34535
		1	148		Pin, Strap Hanger Cold rolled steel, 1 21/32″ long, .124″ diameter. Black nickel finish. —Special	Strap hanger support.	1	47A34456
1		1	149		Pin Brass; .750″ long x .250″ diameter, White silver plated. —Special	Receptacle guide for Tuning Unit BC-746-(*).	1	29A34804
		1	150		Receptacle, Connector Ring Mica rubber insulator; punched for mounting and pin terminals. 7 receptacle pin terminals and 4 eyelets mounted on insulator. —Special	Connector ring.	1	9B36967
		1	151		Ring, Thumb Brass; 1 11/16″ outside diameter x 3/8″ thick. 8-32 tapped hole. Olive drab finish. —Special	Actuate push-talk switch (SW2).	1	42B34703

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		4	152		Rivet Cold rolled steel; .088″ diameter, 3/16″ long. Black nickel finish. Thomson #S1727-3.	Fasten cable clamp to connector ring clamp.	25	5S7786
		1	153		Rivet Cold rolled steel; head: 3/16″ diameter x .020′ thick, shoulder: .125′ diameter x .047″ thick, stud: .076′ diameter x .073′ long. White nickel finish. —Special	Fasten switch arms.	1	5A34554
2		1	154		Rod Stainless steel; 6 5/16″ long x .156″ diameter. 6-32 thread x 1/2″ long thread on one end, other end slotted. —Special	Switch actuating rod.	1	47A34678
		1	155		Shaft Steel; knurled on one end slotted on the other for C spring. .0913″ diameter x 1.0413″ long. .375″ long x .1123″ diameter knurled end. Polished nickel finish. —Special	Switch (SW2) link.	1	47A34596
		2	156		Shaft Brass; 2 21/32″ long x 1/4″ diameter. Slotted 3/64″ from end. White nickel plated. —Special	Retainer plate support.	1	47A34681

		1	157		Shield Aluminum; .015″ thick. 2″ high x .860″ square. One trimmer hole on top. Caustic etch finish. —Special	Diode transformer (T2) shield.	1	26K34913
		1	158		Shield Aluminum; .015″ thick. 2″ high x .860″ square. Two trimmer holes on top. Caustic etch finish. —Special	I-f transformer (T2) shield.	1	26K34914
		1	159		Sleeve Rubber tubing; .020″ thick. 5/8″ long x .156″ inside diameter. —Special	Waterproofing seal on pushrod.	1	37A34645
		2	160		Sleeve and Eyelet Brass eyelet; 1.375″ long x .177″ diameter x .375″ diameter flange at one end, sleeve, 7/8″ long x 1/4″ outside diameter. White silver plated. —Special	Mount packs.	1	1A34490
27		9	161	2Z8758.3	Socket, Tube Body of molded mica; 8 beryllium copper or brass contacts. Saddle type mounting plate of .010″ brass, .875″ between mounting holes. Miniature type.	Tube sockets.	7	9A34891
		1	162		Spring, Cable Bronze wire; 3 1/2″ long, .468″ inside diameter. Government bronze finish. —Special	Reinforce cable.	1	41A34228

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		7	163		Spring, Tube Music wire. 5½ turns. .775″ outside diameter to ⅝″ outside diameter, 27/32″ high. —Special	Tube retainer.	1	41A41464
		2	164		Spring, Tube Music wire; 4½″ turns. .775″ outside diameter to ⅝″ outside diameter, 17/32″ high. —Special	Tube retainer.	1	41A41462
1		1	165		Spring Stainless steel wire; 1 11/16″ long x .145″ outside diameter. .023″ diameter wire. —Special	Switch (SW2) return.	1	41A34570
		1	166		Spring Music wire; .026″ diameter. 1½″ long x .145′ outside diameter. —Special	Antenna wiper.	1	41A34568
		3	167		Spring Phosphor bronze; .018″ thick. 1¼″ long x .125′ wide. White nickel plated. —Special	Antenna wiper.	1	41B34565
		1	168		Spring Phosphor bronze; .010″ thick. L shaped, 7/32″ x ½″. .187″ wide. —Special	Guide ring spring.	1	41A34578

5		1	169		Strap, Transformer Cold rolled steel; 9¼" long x .312" wide x .015" thick. 2 holes near center .094" diameter and 2 holes .120" diameter at ends. —Special	Mount transformers T3, T4, T5.	1	42A34560
4		2	170	2Z9052	Strap Cold rolled steel; U shaped: 2 13/16" long legs x .896" across top. .312" wide x .015" thick. Electro zinc plated. —Special	Mount coil shields T1 and T2.	1	42A4556
		1	171		Stud Cold rolled steel; 59/64" long x 1/16" square at base. Upper end slotted. 4-40 thread tapped in bottom face of base and 6-32 thread tapped on side of base. White nickel finish. —Special	Push rod actuating.	1	46A34592
		1	172		Washer Canvas base bakelite; .812" outside diameter, 1/16" thick, .256" inside diameter. —Special	Actuate On-Off switch (SW2).	1	4A34641
		1	173		Washer Stainless steel; 3" outside diameter, 1 7/8" inside diameter, .008" thick. —Special	Housing base friction washer.	1	4A34644
		1	174		Washer Cold rolled steel; 2" outside diameter, 1 5/16" inside diameter, .048" thick. 4 holes .120" diameter. White nickel finish. —Special	Housing plate retainer.	1	4A34671

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

a. TABULAR LIST OF REPLACEABLE PARTS FOR RADIO RECEIVER AND TRANSMITTER BC-745-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		7	175		Washer Fiber; 9/16" outside diameter x .188" inside diameter x .010" thick. —Special	Pack mounting.	1	14A22929
		1	176	6L50119	Washer, Antenna Plug Brass; 1/2" inside diameter, 1/32" thick, 1 1/64" diameter hole. —Special	Washer at bottom of antenna.	1	4A34615
7		2	177	6L7301	Washer, C Spring Annealed spring steel; .218" diameter x .015" thick. .080" wide slot. —Special	Fasten switch (SW2) links.	1	4K24125
		1	178		Washer, Shim Brass; 3/16" outside diameter x .082" diameter hole x .018" thick. Black nickel finish. —Special	Thumb ring shim.	1	4K34322
		1	179		Washer, Shim Brass, 3/16" outside diameter x .101" diameter hole x .018" thick. Black nickel finish. —Special	Thumb ring shim.	1	4A34320

3		1	180		Window Plexi-glass; 1.250″ diameter, .062″ thick. —Special	Operating channel visible.	1	61A34994
		4	181		Wiper Spring bronze; 1¼″ long x 41/64″ wide x .015″ thick. 2 holes .136″ diameter for mounting. White silver plated. —Special	Chassis to housing contact wipers.	1	39A34576
1			182		Wrench Steel; L shaped. Bristo #8-4 flute. —Special	Adjust set screw on PUSH-TALK collar.	1	66A36436
1			183		Wrench Steel; .578″ open end. 3 11/32″ long x 1⅛″ wide head x 21/32″ wide handle. —Special	Adjust nut on switch (SW2).	1	66A35624

*List of Manufacturer s names and addresses follows Tabular List of Replaceable Parts.

b. TABULAR LIST OF REPLACEABLE PARTS FOR CHEST UNIT T-39-(*)

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
1		1	J1-SW3	2Z5576	Jack, Earphone and Switch Metal, bright nickel plate. Contacts of fine silver. Mounted by 3/8-32 thread x 11/32" long stud. —Special	Headset receptacle.	1	40A34260
1		1	P2		Battery and Contact Canvas bakelite insulator; 1 3/8" wide x 5 11/32" long x 1/16" thick. 2 banana plugs, 5 pin terminals, 3 soldering lugs, 2 terminal screw bushings, 4 lockwashers, and 1 cable lead clamp assembled on insulator plate. —Special	Battery contacts for Battery BA-49.	1	31A34856
		1	R30		Resistor Fixed, carbon, 22 ohms, ±10%, 1/3 watt. insulated. 3/8" long x .140" diameter. Allen Bradley Type EB Ins. Stackpole Type MB-1/3 Ins.	Output limiting resistor for headphones.	2 23	6B6356
5		1	SO3	2Z3018	Assembly, Connector 7 conductor rubber covered cable. Terminates in receptacle CD-571-(*). Leads color coded. —Special	Connect Chest Unit T-39-(*) to Radio Receiver and Transmitter BC-745-(*).	1	30B35315

5		1	SPK1		Assembly, Speaker and Gasket Permanent magnetic type. 2½" diameter water-proofed cone. Rubber gasket cemented to back. 3 ohm voice coil. —Special	Speaker and microphone.	1	1X35329
		1	T6	2Z9632.14	Transformer Earphone Core: 29 gauge radio iron #6AAS. Laminations interleaved. ¼" stack. ¼" leg. Coil form: 2 layers of .007" gummed Kraft paper. Secondary: 466 turns of #35 B & S gauge P.E. copper wire over coil form. Insulation between secondary and primary .0015" Kraft paper. Primary: 50 turns of #26 B & S gauge P.E. copper wire over secondary. Coil and core Bi-Wax #6264 impregnated. Potting compound Korite #3. Leads color coded. Shield: .016" drawn ⅞" square x 1⅛" high. L-shaped mounting bracket riveted to side of shield. 3 ohm input impedance; 300 ohm output impedance. —Special	Headphone matching.	1	25B34442
2		1	201		Assembly, Chest Unit T-39-(*).			
5		1	202		Assembly, Earphone Transformer Composed of transformer (T6) and resistor (R30). —Special	Headphone transformer.	1	1K40605
2		1	203		Assembly, Mouthpiece and Retainer Composed of mouthpiece (210), screen (212), washer (213) and nut (211). —Special	Extension for speaker and microphone.	1	1X35330

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

b. TABULAR LIST OF REPLACEABLE PARTS FOR CHEST UNIT T-39-(*)—Continued

Field Stock	Quantity Depot Stock	In Set	Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
4		2	204	2Z9044	Assembly, Strap ST-44 Cotton webbing; terminates in buckle and leather strap fastener. Overall dimensions: 61¼" long x 1¼" wide. Olive drab color. —Special	Carry Chest Unit T-39-(*).	1	35B34982
2		2	205		Fastener, Dot Brass spring clasp. Slotted for mounting on snap clasp hinge. —Special	Fasten cover to housing.	1	55A34310
5		1	206		Gasket, Louvre Cover Sponge rubber, molded. —Special	Waterproof seal for louvre of Chest Unit T-39-(*).	1	32A34230
5		1	207		Gasket, Cover Seal Sponge rubber, molded; 9$\frac{3}{32}$" long x 1$\frac{25}{32}$" wide x $\frac{5}{16}$" thick. —Special	Seal cover of Chest Unit T-39-(*).	1	32B34241
2		1	208		Hinge, Snap Clasp Composed of hinge clasp leaf of cold rolled steel, brass fastener, phosphor bronze hinge leaf and brass hinge pin. —Special	Fasten cover to housing.	1	55X35312
			209		Jack Sealing Cover Same as #326 of Power Supply Unit PE-157-(*).	Weatherproofing J1 and SW3.		

	1	210	4B439/M5	Mouthpiece Rubber molded. Horn shaped. —Special	Extension for speaker and microphone.	1	49C34287
	1	211	4B439/N6	Nut, Mouthpiece Aluminum; 3″ outside diameter. 2¾″ x 24 thread tapped. Olive drab wrinkle finish. —Special	Fasten mouthpiece to Chest Unit T-39-(*).	1	2A34211
	1	212	4B439A/S3	Screen #8 mesh galvanized iron wire. 2 11/32″ diameter. —Special	Speaker protector	1	64A34290
	1	213	6L4027	Washer, Friction Canvas base bakelite; 2.5″ outside diameter x 2.109″ inside diameter x .062″ thick. —Special	Friction washer for mouthpiece nut.	1	4A34292
	1	214		Wrench, Spanner Cold rolled steel; 1 33/64″ radius. Zinc plated. —Special	Adjusting mouthpiece nut.	1	66B35376

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
5		1	CD1		Cord CD-618-(*) 8 foot cable (one conductor black, other yellow) with 2 large battery clips on one end and a 4-prong female cable receptacle on other. —Special	Charging cord.	1	1X38101
5		1	CD2		Cable Rubber covered; single conductor cable, grounded. Leads coded yellow and black, respectively, terminating with two lugs. —Special	Connect power supply to battery.	1	30K38577
5		1	CD3		Cable and Connector 10 conductor shielded, rubber covered, color coded. Terminates in combination male and female adapter. —Special	Filament and plate supply.	1	1X41993
5		1	CD4		Cable and Connector, Power 5 conductor, shielded. Color coded. Terminates with 5 prong bakelite plug. —Special	Power leads.	1	1X41995

18		3	C1		Capacitor Electrolytic; 2500 μf, ±20%, 3 w-v d-c. Shielded. 3 3/64" long x 1 7/64" diameter. Mounted by 3 negative lugs soldered to chassis. —Special (Also C4, C12)	Microphone hum filter.	1	23A38509 or 23A47859
4		2	C2		Capacitor Fixed, paper; 0.5 μf, ±20%, 2.0 w-v d-c. Shielded. 1 11/32" long x 1" diameter. Mounted on "L" bracket. —Special (Also C3)	Hash filter.	1	8A38505
			C3		Capacitor Same as C2	Hash filter.		8A38505
			C4		Capacitor Same as C1.	Filament filter.		23A38509 or 23A47859
2		1	C5		Capacitor Fixed, paper; .004 μf. ±10%, 400 w-v d-c. RMS. Shielded. 1" long x 9/16" diameter. Mounted on "L" bracket. —Special	Buffer, power transformer.	1	8A38507
2		1	C6		Capacitor Fixed, paper; .05 μf, —6% +14%, 600 w-v d-c. Shielded. 1 13/16" long x 9/16" diameter. Mounted on "U" bracket. —Special	Hash filter.	1	8A31211

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	C7		Capacitor Fixed, paper; .07 μf, ±10% 250 w-v a-c RMS. Shielded. $1\frac{23}{64}$" long x $\frac{9}{16}$" diameter. Mounted on "L" bracket. —Special	Buffer, charging transformer.	1	8A38506
2		1	C8		Capacitor Fixed, paper;.5 μf, +20% —5%. 15 w-v d-c. Shielded. $1\frac{13}{16}$" long x $\frac{13}{16}$" diameter. Mounted on ferrule. —Special	Motor noise filter.	1	8A38030
4		2	C9		Capacitor Fixed, paper; .25 μf, 200 w-v d-c. Shielded. $1\frac{15}{16}$" long x $\frac{7}{8}$" diameter. Mounted on "U" bracket. —Special (Also C11)	R.F. filter.	1	8A31207
6		1	C10		Capacitor Electrolytic; 80 μf, 250 volts identified by lug; 40 μf, 250 volts identified by □ lug; 40 μf. 250 volts identified by △ lug. Shielded. 3" long x $1\frac{15}{32}$" diameter. Mounted by means of 4 ground lugs soldered to chassis. —Special	B+ filter.	1	23A38508 or 23A47858
			C11		Capacitor Same as C9.	R.F by-pass.		8A31207

			C12		Capacitor Same as C1.	Filament filter.		23A38509 or 23A47859
2		1	CH1†		Choke Core: #29 gauge audio #2 iron, butt end laminated. Coil form: 2 layers of .007" gummed Kraft paper. 2340 turns of #36 P.E. copper wire wound over coil form. Layer insulation .001 Kraft paper. 2 leads, each constructed of 7 strands of #30 tinned copper wire, celanese wrapped lacquered and cotton braid lacquered. Leads coded black and red respectively. Inductance 3.75 henries minimum. Resistance 230 ohms ±10%. Cover for choke of .016 mild steel, 1 11/16" long x 1 3/8" wide x 1 5/8" high. with flanges for mounting. —Special	B+ supply filter choke.	2	24B38651
2		1	CH2		Choke Core: #29 gauge audio A annealled after stamping. Wound on 3 layers .007" gummed Kraft paper and 2 layers .001" cellulose acetate tape. 98 turns of #24 gauge P.E. copper wire. Wrapped in 1 layer .003" cellulose acetate and 2 layers .007" gummed Kraft paper. Treated with Petrocene Bi-Wax. Leads coded black and yellow, respectively. D.C. resistance = .4 ohms ..10%. Cover for choke of .016" mild steel, 7/8" long x 7/8" wide x 1 3/8" high. Flanged at bottom for chassis mounting. —Special	Filament reactor choke.	1	25B38652

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	J2		Jack, Earphone and Switch Same as J1—SW3 of Chest Unit T-39-(*). —Special	Accommodate phone jack (PL55).	1	
2		1	J3		Jack, Microphone Metal, white nickel silver plate. Contacts of phosphor bronze, lugs brass. 3/8-32 thread x 9/32" long stud for mounting. —Special	Accommodate microphone jack (PL68).	1	40A40156 or 40A30454
		1	PL1		Plug, power Bakelite; 5 white silver contact plugs. Part of Cable CD4. Cinch.	Connector for power leads.	7	28K38360
		1	PL2		Plug, Cable Connector Eight prong; molded. Brass prongs, white silver plated 1 1/8" diameter. Part of CD3. General —Special	Connector for Chest Unit T-39-(*).	1	28A41509
		1	PL4		Plug, Base Bakelite; 4 white silver banana contact plugs. 1 1/16" diameter. —Special	Charger plug.	1	28A36803

4		2	R1		Resistor Fixed, carbon; 220 ohms, ±10%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type EB Ins. Stackpole Type MB-1/3 Ins. (Also R2)	Microphone load.	2 23	6B6424
			R2		Resistor Same as R1.	Headphone load.		
2		1	R3		Resistor Fixed, carbon; 150 ohms, ±10%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type E B Ins. Stackpole Type MB 1/3 Ins.	Driving coil dropping resistor.	2 23	6B6395
6		3	R4		Resistor Fixed, carbon; 100 ohms, ±10%, 1/3 watt, insulated. 3/8" long x .140" diameter. Allen-Bradley Type E.B. Ins. Stackpole Type MB 1/3 Ins. (Also R5 and R10)	Buffer, primary power transformer.	2 23	6B6405
			R5		Resistor Same as R4.	Buffer, primary power transformer.		

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
4		2	R6		Resistor Fixed, carbon; 220 ohms, ±10%, 1 watt, insulated. ¾" long x .281" diameter. Erie Type 518 Ins. Stackpole Type MB 1 Ins. Globar Type 766-A. (Also R7)	Buffer, charging primary.	9 13 23	6B6389 or 6B6060
			R7		Resistor Same as R6.	Relay dropping resistor.		
2		1	R8		Resistor Fixed, carbon; 4,700 ohms, ±10%, ½ watt, insulated. 7/16" long x .218" diameter. Erie Type 504 Ins. I. R. C. Type BT ½ Ins. Stackpole Type MB ½ Ins.	Relay dropping resistor.	9 14 23	6B6353
2		1	R9		Resistor Fixed, carbon; 550 ohms, ±10%, ½ watt, insulated. 7/16" long x .215" diameter. Erie Type 504 Ins. Stackpole Type MB ½ Ins. I. R. C. Type BT ½ Ins.	R. F. filter.	9 14 23	6B6022

			R10		Resistor Same as R4.	Microphone filter.		6B6405
2		1	RECT 1& 2		Rectifier and Bracket Dual Selenium. Rectifier units mounted on bracket, 5¼″ long x 7/16″ wide overall. 2.2 volts at 1.5 ampere output with 6.5 volts R.M.S. input to rectifiers.	Battery charger rectifier.	10	48B41494
2		1	RFC1		Choke 2 pie, air wound, #14 D.E. copper wire. Dipped in bi-wax. Encased in Armite tube, 15/16″ long x 1″ diameter. Inductance = 9 μh @ 1000 C.P.S. ±2%. —Special	Power supply primary filter choke.	1	24A38511
2		1	RFC2		Choke 4 pie, wound on ¾″ long x 5/16″ diameter dummy resistor core. Each pie consists of 112 turns of #38 S.S.E. #10M9079 wire, 2 crossovers per turn. Coated with Cerese A-A wax and dipped in white Halowax. 500 μh inductance @ 1000 C.P.S. ±5%. —Special	B+ supply r-f filter choke.	1	24A28595
2		1	RFC3		Choke 1 pie, air wound, #12 enameled copper wire. Dipped in bi-wax. Encased in Armite tube, 9/16″ long x 15/16″ diameter. Inductance = 1.5 μf, @ 1000 C.P.S. —Special	Charging supply primary filter choke.	1	24A38510

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	RFC4		Choke Wound on 1½" long x 5/16" diameter varnished sleeve. 120 turns of #22 D.E. copper wire. Eyelet center, 2 fibre washers at ends. Terminal strip at one end as a tie point for leads. Inductance = 30 μh @ 1000 C.P.S. ±20%. —Special	Charging supply filter choke.	1	24A38270
2		1	RY-		Relay Coil resistance: 1.7 ohms, ±5%, center tap at .85 ohms, ±5%. Relay provides positive action at 225 or less milliamperes. Contacts of ¼" fine silver. Overall dimensions: 1 27/32" x 2 3/32" x 1 21/32". —Special	On-Off relay.	1	59B38665
2		1	RY2		Relay Coil resistance: 10,550 ohms, ±7%. Relay provides positive action at 3.75, or less, milliamperes. Overall dimensions: 1 7/8" x 1 27/32" x 1 21/32". —Special	Supplies proper B+ voltage for Receiver and Transmitter BC-745-(*).	1	59B40089
2		1	SO1		Receptacle 5 contact; saddle type, shell of .032" cold roll steel, zinc plated. Top and bottom plates of bakelite. 15/16" diameter x ½" high. 1.250" between mounting holes.	Power receptacle.	7	9A41941

		1	SO2		Socket, Cable Connector Eight prong receptacle; molded. Brass receptacles, white silver plated 1.305″ diameter. Part of CD3. —Special	Cable adaptor for connection to Radio Set SCR-511-(*).	1	9A41508
2		1	SPK1		Speaker 4″ permanent magnet; speaker cone and dust cap of waterproof construction. Mounting 4 5/32″ square. Rubber gasket around speaker cone. 4 holes .203″ diameter for mounting on housing cover.	Reproducer.	1	50B40096
2		1	SW1		Switch Metal copper plated 3/8″ wide x 1 5/16″ long x 1 1/16″ high. 15/64-32 thread x 5/16″ long mounting stud.	Charger voltage change-over.	8	40K41954
2		1	SW2		Switch Selector Bakelite wafer; saddle type. Contacts of brass, silver plated. 1 11/16″ between mounting holes.	Change-over switch for operation with or without Chest Unit T-39-(*).	18	40A41499

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	T1		Transformer, Microphone #28 Birm. gauge Alleghany Electric Metal, laminated. Winding form 3 piece .020″ to .031″ impregnated fibre. Secondary winding of 56 turns of #30 gauge P.E. copper wire random wound on spool. Primary winding of 460 turns of #32 gauge P.E. copper wire layer wound. Coil wrapper of 2 layer, .003 cellulose acetate tape. Leads color coded. Treated with Petrocene B wax. Dipped in #X115 Bi-wax. Inner shield .020″ copper, 2nd shield .018″ crystal, 3rd shield .014″ copper, 4th shield double lapped .018″ silicon steel, Outer shield of .031″ mild steel. 1⅜″ wide x 1 11/16″ long x 1⅝″ high, flanged for mounting. —Special	Supplies proper voltage to microphone.	1	25B38670
2		1	T2		Transformer, Earphone Core: #29 gauge radio iron #6 A.A.S. laminated. Coil form: 2 layers of .007″ gummed Kraft paper. Secondary: 466 turns of #35 gauge P.E. copper wire on coil form. Primary: 50 turns #26 gauge P.E. copper wire over secondary. Treated with Petrocene B wax. Dipped in Ozite A.	Supplies proper voltage to phones.	1	25B38669

					Leads color coded. Shield of .016" mild steel, 7/8" long x 7/8" wide x 1 1/8" high, flanged at bottom for mounting. Primary impedance of 3 ohms. Secondary impedance of 300 ohms. —Special			
2		1	T3		Transformer Core: #26 gauge audio A iron, laminated. Tube: 5 layers .007" gummed Kraft paper. Primary: 32 turns of #15 P.E. copper wire tapped at 16 turns. Static shield:. 002" brass. Secondary tube: 2 layers of .01" gummed Kraft paper and 2 layers of .001" cellulose acetate sheet. Secondary: 3800 turns #34 P.E. copper wire tapped at 1250, 1900 and 2550 turns. Final wrapper: 1 layer of .003" cellulose acetate sheet and 2 layers of .007" gummed Kraft paper. Treated with Petrocene B wax. Dipped in #X115 Bi-wax. Leads are color coded. Shield of .025" steel, rectangular base 2 21/32" x 2 25/32", 3 15/32" high. —Special	B+ supply.	1	25B38653
2		1	T4		Transformer Core: #26 Birm. gauge Audio "A" iron; annealed after stamping, laminator interleaved. Coil form: 5 layers of .007" gummed Kraft paper, placed on center leg. Primary winding #1: 80 turns of #23 gauge P.E. copper wire, tapped at 40 turns over coil form. Primary winding #2: 45 turns of #26 gauge P.E. copper	Battery charger transformer.	1	25B38512
			Cont.					

*List of Manufacturers names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
			T_4 Cont.		wire over Primary #1. Primary winding #3: 45 turns of #26 gauge P.E. copper wire over Primary #2. Static shield: 1 layer of .002" x 1" brass strip. Secondary winding #1: 56 turns of #22 gauge P.E. copper wire, tapped at 28 turns over static shield. Secondary winding #2: 1500 turns of #39 P.E. copper wire over Secondary #1. Overall insulation: Two wraps of .007" gummed Kraft paper. Treated with Petrocene B Wax. Dipped in Bi-wax #X115. The eleven leads are color coded. Cover for transformer: 2 3/16" x 2 3/32" rectangular base, x 2 11/16" high, made of .018" steel. —Special			
20		2	VB-8-(*)		Vibrator 7 pin, small RMA base. 3 5/16" long x 1½" diameter. Double contact, synchronous operation. 2 volt supply for operation. (One installed, one spare.)	Power transformer primary current interrupter and B+ rectifier.	18	48B36963
20		2	VB-9-(*)		Vibrator 4 pin, RMA base. 3⅜" long x 1½" diameter. Single contact, non-synchronous operation. 10 volt supply for operation. (One installed, one spare.)	Charger transformer primary current interrupter.	15	48B36962

		1	301		Actuator Stud and Washer Steel; ¼″ round rod, 13/16″ long ½″ washer. —Special	Actuates charger voltage change-over switch.	1	1X38165
		1	302		Adaptor; Socket, Plug and Cable Aluminum, T-shaped. Plug and socket receptacle 1 1/16″ diameter. Cable receptacle 17/32″ diameter. ¾-20 thread on cable end. —Special	Cable adaptor for connection to Radio Set SCR-511-(*) and Chest Unit T-39-(*).	1	58B47793
2		1	303		Bracket, Battery Hold-down Steel, lead plated; overall dimensions, 4 7/64″ long x 3″ wide x 3/32″ thick. End flange hole tapped with 10-32 thread for thumb screw. —Special	Hold Battery BB-54-(*) in housing.	1	7B40097
		1	304		Bracket, Relay Mount #16 gauge steel; L-shaped, 5/8″ x 1¾″ x ⅞″ wide. 4 holes .156″ diameter for relay mounting. 2 holes .136″ diameter for chassis mounting. —Special	Mount relays on chassis.	1	7A38649
		1	305		Bracket, Switch #16 gauge steel; L-shaped, 1⅞″ x 1″. 2 half-punched holes, .500″. 1 hole 31/64″ diameter for switch stud. 2 holes of .136″ and .56″ diameter, respectively. —Special	Hold switch (SW1).	1	7A40094
		1	306		Bracket, Plug Base Steel; 1 7/16″ diameter, 2 legs, 1 9/64″ high. 2 holes .120″ for mounting plug. 2 holes tapped 6-32 thread for mounting to chassis. —Special	Mounts plug base.	1	7A36890

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		1	307		Bushing, Cable Clamp Aluminum; painted olive drab. 3/4-20 thread x 1/2" long. American Phenolic. —Special	Part of cable adaptor assembly.	1	43K41211
		1	308		Catch, Hold-down Clip Steel; 1 1/8" wide, length overall 1 7/8". —Special	Part of catch clip for holding cover down.	1	55A36922
		1	309		Clip, Hold-down Steel; 7/8" wide, 2 holes .136' diameter for mounting. —Special	Part of catch clip assembly for holding cover down.	1	55A36919
		2	310		Clip, Vibrator Ground Metal; 1 21/32" diameter. Mounting centers 1 1/2".	Vibrators VB-8-(*) and VB-9-(*) retaining and grounding clips.	7	42K36771
		1	311		Clamp Steel; 5/16" wide x 23/32" long. 5/16" hole for mounting.	Cable clamp for transformer wires.	7	42A41939
		2	312		Clamp Steel; 5/16" wide x 1 1/8" long. .156" hole for mounting.	Cable clamps.	24	42A41937

		1	313		Clamp, Cable Yoke Aluminum; oval shaped. 7/8" long x 1/2" wide x 1/4" thick. —Special	Part of cable assembly.	1	42K31181
		1	314		Clamp Steel; 5/8" wide x 1" diameter. .187" holes on ends for mounting. —Special	Mounts capacitor (C1) on speaker.	1	42A38673
		1	315		Cup, Switch Actuating Metal; .531" diameter, 3/8" deep.	Part of voltage changeover assembly.	7	26A36974
1		1	316		Cushion, Battery Sponge rubber; 6 3/32" long, 4 1/8" wide, 2 3/8" deep. —Special	Shock absorber for Battery BB-54-(*).	1	37C36938
6		2	317		Ferrule 8-32 thread x 1/4" long. Cold rolled steel, black nickel plated.	Mount carrying handle.	28	43K31204
2		1	318		Gasket Leather; 3/8" hole x 9/16" diameter x 1/16" thick.	Watersealing switch (SW2).	12	32A40091
		1	319		Gasket Sponge rubber; 1 3/4" outside diameter x 1 1/4" inside diameter, x 1/4" square. Part of plug PL4.	Sealer for plug PL4.	5	32A36889.

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		2	320		Gasket Sponge rubber; 3/32" wall, 1 1/8" diameter. —Special	Waterseal for adaptor.	1	32A41507
		1	321		Gasket, Cable Clamp Vellutex material; 3/4" inside diameter x 31/32" outside diameter x 1/32" thick.	Part of cable adaptor assembly.	12	37A30067
		1	322		Gasket, Housing Rubber; 36" long, approximately 1/4" diameter.	Weatherproofing between housing and cover.	5	32A36976
		1	323		Gasket, Window and Bezel Seal Rubber; 1 1/4" outside diameter, 1 1/16" inside diameter.	Weatherproofing seal.	4	32A34995
2		1	324		Handle Leather; 5 1/2" long. —Special	Carry Power Supply PE-157-(*).	1	55B30177
		1	325		Hinge and Pin 5 5/16" long x 2 1/16" wide, cold rolled steel, black nickel plated.	Fastens cover to main housing.	3	55A36723

		2	326	2Z5649	Jack Sealing Cover Hinged cover mounted on base. Rubber sealing cap. —Special	Weatherproofing for Jack J1 and J2.	1	1X35328
2		1	327		Knob Indicator Black, Zamak #3; ¾″ diameter x 9/16″ high. —Special	Indicator knob for selector switch.	1	36A41971
10		1	328		Lug .032″ brass; #12 hole, hot tinned. —Stewart #624-10	Tie point and mount for capacitor C1.	1	29B5271
2		1	329		Pad, Battery Clamp Sponge rubber; 2½″ long x 1¼″ wide x ⅛″ thick. —Special	Shock absorber for Battery BB-54-(*).	1	35A38186
		1	330		Plate Steel, lead plated; 3 3/32″ x 1″ x .024″ thick. Two .136″ holes. Slot 1 7/32″ x 5/64″ for battery hold-down bracket. —Special	Hold Battery bracket in position.	1	64A36917
		2	331		Ring, Fitting Lock Phosphor bronze or hard brass; 1⅝″ maximum expansion, 9/16″ opening, .062″ thick. Dipped in lacquer, white cadmium plated. —Special	Holds SO2 and PL2 in position.	1	42A47798
		2	332		Ring, Handle Steel; 1 1/16″ wide x 1 5/32″ high. Zinc plated and painted semi-gloss olive drab. —Special	Fastens carrying strap to housing.	1	55A47810

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		1	333		Sleeve Rubber; 5/8″ long x 3/16″ outside diameter x 1/8″ inside diameter. —Special	Insulation for cable.	1	37K1405
2		1	334		Socket VB-8-(*) 7-prong, saddle type. Wax impregnated.	Vibrator VB-8-(*). receptacle.	7	9K6749
2		1	335		Socket VB-9-(*) 4-prong, saddle type. Wax impregnated.	Vibrator VB-9-(*). receptacle.	7	9K6745
		1	336		Spring, Switch Actuator Music wire coil spring. 1/8″ diameter. —Special	Part of voltage changeover assembly.	1	41A38143
10		1	337		Terminal, Cable Lead 1/32″ fine weave canvas bakelite. 6 terminal lugs, 1 terminal bracket. Mounted on metal sleeve.	Tie point.	7	31B41493
10		1	338		Terminal Strip Insulated; 2 tie lugs and 1 center lug for mounting on chassis.	Tie point	7	31K15026

		1	339		Tube, Battery Vent Rubber; 2¾″ long, ¼″ diameter. —Special	To allow battery fumes to escape from set.	1	47A36773
		1	340		Tube, Vent Extension Plastic; 1″ long, .200″ diameter. —Special	For allowing battery fumes to escape from set.	1	47A38071
4		2	341		Washer ¼″ outside diameter x .128″ inside diameter, cold rolled steel, white cadmium plated. —Special	Mount transformer (T2).	1	4S7625
		3	342		Washer 7/16″ outside diameter. Cold rolled steel, white cadmium plated. —Special	Mount speaker to housing cover.	1	4S7590
		1	343		Washer Metal, ¾″ outside diameter, 15/32″ inside diameter.	For switch SW1.	7	4K41995
		2	344		Washer Paper; 11/16″ outside diameter x 17/16″ inside diameter x .031″ thick. —Special	Insulator for choke (RFC4).	1	35K19943
2		1	345		Washer 11/16″ outside diameter, 25/64″ inside diameter. Brass, white nickel plated. —Special	Mount selector switch.	1	4S7632

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

c. TABULAR LIST OF REPLACEABLE PARTS FOR POWER SUPPLY UNIT PE-157-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		10	346		Washer Semi-hard reclaimed rubber; .125″ hole x .343″ outside diameter. —Special	Waterseal for 6-32 clutch head screws.	1	4A38139
		2	347		Washer Rubber; ¾″ outside diameter x ¼″ inside diameter x 3/32″ thick. —Special	Part of cable assembly.	1	37K31184
		2	348		Washer Fiber; waxed. 11/16″ outside diameter x ½″ inside diameter x 3/64″ thick. —Special	Part of cable assembly.	1	14K31185
		1	349		Washer Semi-hard reclaimed rubber; .156″ hole x .106″ outside diameter. —Special	Waterseal for 8-32 clutch head screw.	1	4K38238
		2	350		Washer Fiber; ⅛″ outside diameter x 1/16″ inside diameter x 3/32″ thick. —Special	Insulating spacer.	1	32K4062
2		1	351		Window, Main Housing Plastic; 1.250″ diameter. —Special	Window for observing battery charge indicators.	1	61A34994

		2	352		Washer Brass, zinc plated; 1.375″ outside diameter x 1 5/32″ inside diameter x .030″ thick. —Special	Cable assembly.	1	4A47851
1		1	353		Assembly, Plug Base and Bracket Composed of plug (PL4) and bracket (106). —Special	Charger plug.	1	1X38058
1		1	354		Case, CS-131-(*) Wood. 3½″ high x 5¾″ wide x 10¾″ long. Rubber seal on cover. 2 snap catches fasten cover to box. —Special	Carry spare vibrators, tubes and cord CD-618-(*).	1	51X47800
2		1	355		Cover Bakelite; 17/32″ outside diameter x ⅞″ long. L-shaped mounting bracket. —Special	Cover for RFC2.	1	67A30885
3		1	356		Battery, BB-54-(*) Single cell, 2 volt nominal output. Transparent acid-proof plastic case. Screw terminals. Funnel for electrolyte.	Power supply.	30	1X49083
3		1	357		Electrolyte Chemical solution for Battery BB-54-(*).	Component of Battery BB-54-(*).	30	48B49104

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

d. TABULAR LIST OF REPLACEABLE PARTS—TUNING UNIT BC-746-(*)

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	Chan. 1		Tuning Unit BC-746-(*) Composed of:	Operating channel.	1	1X49825
					3010 Kc. transmitting crystal.			48C35878
					3465 Kc. receiving crystal.			48K35879
					3010 Kc. antenna coil (L1).			24C35993
					3010 Kc. tank coil (L2). —Special			24C35981
2		1	Chan. 2		Tuning Unit BC-746-(*) Composed of:	Operating channel.	1	1X49834
					3825 Kc. transmitting crystal.			48C35878
					4280 Kc. receiving crystal.			48K35879
					3825 Kc. antenna coil (L1).			24K35994
					3825 Kc. tank coil (L2). —Special			24C35982

2		1	Chan. 3		Tuning Unit BC-746-(*) Composed of:		1	1X49835
					3995 Kc. transmitting crystal.			48C35878
					4450 Kc. receiving crystal.			48K35879
					3995 Kc. antenna coil (L1).			24K35995
					3995 Kc. tank coil (L2).			24K35983
					—Special			
2		1	Chan. 4		Tuning Unit BC-746-(*) Composed of:	Operating channel.	1	1X49837
					4845 Kc. transmitting crystal.			48C35878
					5300 Kc. receiving crystal.			48K35879
					4845 Kc. antenna coil (L1)			24K35996
					4845 Kc. tank coil (L2).			24K35984
					—Special			
2		1	Chan. 5		Tuning Unit BC-746-(*) Composed of:	Operating channel.	1	1X49841
					5500 Kc. transmitting crystal.			48C35878
					5955 Kc. receiving crystal.			48K35879
					5500 Kc. antenna coil (L1).			24K35997
					5500 Kc. tank coil (L2).			24K35985
					—Special			

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

d. TABULAR LIST OF REPLACEABLE PARTS—TUNING UNIT BC-746-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	Chan. 6		Tuning Unit BC-746-(*) Composed of: 5880 Kc. transmitting crystal. 6335 Kc. receiving crystal. 5880 Kc. antenna coil (L1). 5880 Kc. tank coil (L2). —Special	Operating channel.	1	1X49842 48C35878 48K35879 24K35998 24K35986
2		1	Chan. 7		Tuning Unit BC-746-(*) Composed of: 3245 Kc. transmitting crystal. 3700 Kc. receiving crystal. 3245 Kc. antenna coil (L1). 3245 Kc. tank coil (L2). —Special	Operating channel.	1	1X49829 48C35875 48K35879 24K47590 24K47747

2		1	Chan. 8		Tuning Unit BC-746-(*) Composed of: 3525 Kc. transmitting crystal. 3980 Kc. receiving crystal. 3525 Kc. antenna coil (L1). 3525 Kc. tank coil (L2). —Special		Operating channel.	1	1X49381 48C35875 48K35879 24K47591 24K47748
2		1	Chan. 9		Tuning Unit BC-746-(*) Composed of: 3655 Kc. transmitting crystal. 4110 Kc. receiving crystal. 3655 Kc. antenna coil (L1). 3655 Kc. tank coil (L2). —Special		Operating channel.	1	1X49382 48C35875 48K35879 24K47592 24K47749
2		1	Chan. 10		Tuning Unit BC-746-(*) Composed of: 3735 Kc. transmitting crystal. 4190 Kc. receiving crystal. 3735 Kc. antenna coil (L1). 3735 Kc. tank coil (L2). —Special		Operating channel.	1	1X49833 48C35878 48K35879 24K47593 24K47750

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

d. TABULAR LIST OF REPLACEABLE PARTS—TUNING UNIT BC-746-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	Chan. 11		Tuning Unit BC-746-(*) Composed of: 4780 Kc. transmitting crystal. 5235 Kc. receiving crystal. 4780 Kc. antenna coil (L1). 4780 Kc. tank coil (L2). —Special	Operating channel.	1	1X49836 48C35878 48K35879 24K47594 24K47751
2		1	Chan. 12		Tuning Unit BC-746-(*) Composed of: 5030 Kc. transmitting crystal. 5485 Kc. receiving crystal. 5030 Kc. antenna coil (L1). 5030 Kc. tank coil (L2). —Special	Operating channel.	1	1X49838 48C35878 48K35879 24K47595 24K47752

2		1	Chan. 13		Tuning Unit BC-746-(*) Composed of: 5305 Kc. transmitting crystal. 5700 Kc. receiving crystal. 5305 Kc. antenna coil (L1). 5305 Kc. tank coil (L2). —Special		Operating channel.	1	1X49839 48C35878 48K35879 24K47596 24K47753
2		1	Chan. 46		Tuning Unit BC-746-(*) Composed of: 3410 Kc. transmitting crystal. 3865 Kc. receiving crystal. 3410 Kc. antenna coil (L1). 3410 Kc. tank coil (L2). —Special		Operating channel.	1	1X49852 48C49878 48K49879 24K49180 24K49342
2		1	Chan. 54		Tuning Unit BC-746-(*) Composed of: 3475 Kc. transmitting crystal. 3930 Kc. receiving crystal. 3475 Kc. antenna coil (L1). 3475 Kc. tank coil (L2). —Special		Operating channel.	1	1X49844 48C49878 49K49879 24K49547 24K49549

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

d. TABULAR LIST OF REPLACEABLE PARTS—TUNING UNIT BC-746-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	Chan. 58		Tuning Unit BC-746-(*) Composed of: 2670 Kc. transmitting crystal. 3125 Kc. receiving crystal. 2670 Kc. antenna coil (L1). 2670 Kc. tank coil (L2). —Special	Operating channel.	1	1X49828 48C49878 48K35879 24K49820 24K49823
2		1	Chan. 59		Tuning Unit BC-746-(*) Composed of: 3035 Kc. transmitting crystal. 3490 Kc. receiving crystal. 3035 Kc. antenna coil (L1). 2670 Kc. tank coil (L2). —Special	Operating channel.	1	1X49827 48C49878 48K35879 24C49746 24K49740

2		1	Chan. 60		Tuning Unit BC-746-(*) Composed of: 3155 Kc. transmitting crystal. 3610 Kc. receiving crystal. 3155 Kc. antenna coil (L1). 3155 Kc. tank coil (L2). —Special	Operating channel.	1	1X49826 48C49878 48K35879 24K49747 24K49741
2		1	Chan. 61		Tuning Unit BC-746-(*) Composed of: 3345 Kc. transmitting crystal. 3800 Kc. receiving crystal. 3345 Kc. antenna coil (L1). 3345 Kc. tank coil (L2). —Special	Operating channel.	1	1X49843 48C35878 48K35879 24K49748 24K49742
2		1	Chan. 62		Tuning Unit BC-746-(*) Composed of: 3402.5 Kc. transmitting crystal. 3857.5 Kc. receiving crystal. 3402.5 Kc. antenna coil (L1). 3402.5 Kc. tank coil (L2). —Special	Operating channel.	1	1X49851 48C35878 48K35879 24K49749 24K49975

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

d. TABULAR LIST OF REPLACEABLE PARTS—TUNING UNIT BC-746-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	Chan. 63		Tuning Unit BC-746-(*) Composed of: 3665 Kc. transmitting crystal. 4120 Kc. receiving crystal. 3665 Kc. antenna coil (L1). 3665 Kc. tank coil (L2). —Special	Operating channel.	1	1X49849 48C35878 48K35879 4K49750 24K49743
2		1	Chan. 64		Tuning Unit BC-746-(*) Composed of: 3725 Kc. transmitting crystal. 4180 Kc. receiving crystal. 3725 Kc. antenna coil (L1). 3725 Kc. tank coil (L2). —Special	Operating channel.	1	1X49847 48C35878 48K35879 24K49751 24K49744

2		1	Chan. 65		Tuning Unit BC-746-(*)		Operating channel.	1	1X49848
					Composed of:				
					3865 Kc. transmitting crystal.				48C35878
					4320 Kc. receiving crystal.				48K35879
					3865 Kc. antenna coil (L1).				24K49752
					3865 Kc. tank coil (L2).				24K49755
						—Special			
		1	Chan. 66		Tuning Unit BC-746-(*)		Operating channel.	1	1X49845
					Composed of:				
					4105 Kc. transmitting crystal.				48C35878
					4560 Kc. receiving crystal.				48K35879
					4105 Kc. antenna coil (L1).				24K49753
					4105 Kc. tank coil (L2).				24K49756
						—Special			
2		1	Chan. 67		Tuning Unit BC-746-(*)		Operating channel.	1	1X49846
					Composed of:				
					4435 Kc. transmitting crystal.				48C35878
					4890 Kc. receiving crystal.				48K35879
					4435 Kc. antenna coil (L1).				24K49754
					4435 Kc. tank coil (L2).				24K49757
						—Special			

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

d. TABULAR LIST OF REPLACEABLE PARTS—TUNING UNIT BC-746-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
2		1	Chan. 68		Tuning Unit BC-746-(*) Composed of: 5870 Kc. transmitting crystal. 6325 Kc. receiving crystal. 5870 Kc. antenna coil (L1). 5870 Kc. tank coil (L2). —Special	Operating channel.	1	1X60209 48C35878 48K35879 24K60096 24K60104
2		1	Chan. 69		Tuning Unit BC-746-(*) Composed of: 5900 Kc. transmitting crystal. 6355 Kc. receiving crystal. 5900 Kc. antenna coil (L1). 5900 Kc. tank coil (L2). —Special	Operating channel.	1	1X60208 48C35878 48K35879 24K60098 24K60106

		1	L_1		Coil, Antenna Single layer solenoid wound on clear plastic form. Clear plastic protective cover. 3-prong base. Overall dimensions: 7/8" diameter base x 2" high. (Refer to proper channel for replaceable part numbers.) —Special	Antenna tuning.	1	
		1	L_2		Coil, R-F Adjustable iron core tuning. Enclosed in bakelite housing. 2 pin receptacle. Overall dimensions: 5/8" x 13/16" x 9/16". (Refer to proper channel for replaceable part numbers.) —Special	R-f tuning.	1	
		1	Pack 10		Pack Mounts resistors R_{22}, R_{23}, R_{24}, R_{25}, R_{26}, R_{27}, R_{28} and R_{29}. —Special	V_4 and V_5 transmit and receive bias adjustments.	1	1X40167
		1	R_{22}		Resistor Fixed, paper; 60,000 ohms, ±10%, 1/5 watt, non-insulated .296" long x .107" diameter. Stackpole Type M—1/5 N.I. Speer Type S 1¼" N.I. (Also R_{27})	Bias resistor.	22 23	6B560
		1	R_{23}		Resistor Fixed, paper; 200,000 ohms, ±10%, 1/5 watt, non-insulated. .296" long x .107" diameter. Stackpole Type M 1/5 N.I. Speer Type S 1¼ N.I.	Bias resistor.	22 23	6B5605

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

d. TABULAR LIST OF REPLACEABLE PARTS—TUNING UNIT BC-746-(*)—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
		1	R24		Resistor Fixed, paper; 330,000 ohms, ±10%, 1/5 watt, non-insulated. .296" long x .107" diameter. Stackpole Type M 1/5 N.I. Speer Type S 1¼ N.I. (Also R29)	Bias resistor.	22 23	6B5606
		1	R25		Resistor Fixed, paper; 470,000 ohms, ±10%, 1/5 watt, non-insulated. .296" long x .107" diameter. Stackpole Type M 1/5 N.I. Speer Type S 1¼ N.I.	Bias resistor.	22 23	6B5607
			R26		Resistor Fixed, carbon; 15,000 ohms, ±10%, 1/5 watt, non-insulated. .296" long x .107" diameter. Stackpole Type M 1/5 N.I. Speer Type S 1¼ N.I.	Bias resistor.	22 23	6B5602
			R27		Resistor Same as R22.	Bias resistor.		

			R28		Resistor Fixed, carbon; 150,000 ohms, ±10%, 1/5 watt, non-insulated. .296″ long x .107″ diameter. Stackpole Type M 1/5 N.I. Speer Type S 1¼ N.I.	Bias resistor.	22 23	6B5604
			R29		Resistor Same as R24.	Bias resistor.		
		1	401		Assembly, Capacitor and Cover Composed of capacitor (C29) and clear amphenol cover. —Special	Antenna tuning.	1	1X34695
		1	XTAL 1		Crystal Holder FT-243 (Receiver) Body: phenolic. Cover: metal or phenolic. 1⅛″ long x 13/16″ wide x 7/16″ thick. 2 contact pin terminals, .4″ long x .093′ diameter. Top face marked REC. (See proper channel for frequency of crystal.) —Special	Receiver frequency stabilizer.	1	48C35878
		1	XTAL 2		Crystal Holder FT-243 (Transmitter) Body: phenolic. Cover: metal or phenolic. 1⅛″ long x 13/16″ wide x 7/16″ thick. 2 contact pin terminals .4″ long x .093′ diameter. Top face marked TRAN. (See proper channel for frequency of crystal.) —Special	Transmitter frequency stabilizer.	1	48K35879
		1	C29	3D9006 VE5	Capacitor Variable, air: 6.5 μμf-140μμf, 37 soldered brass plates, cadmium plated. Overall dimensions: 1 7/32″ x 15/16″ x 1 25/32″. —Special	Antenna capacitor.	1	19A34504

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

e. TABULAR LIST OF REPLACEABLE PARTS—BC-745-(*) LOCKWASHERS, NUTS AND SCREWS

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
25		11	501		Lockwasher #4 internal, 17/64" outside diameter. Spring steel, white cadmium finish. —Shakeproof #1204	For #4 screws. (General)	21	4S7683
2		15	502		Lockwasher #5 internal. 1/4" outside diameter. Spring steel, black nickel finish. —Shakeproof #1205	For #5 screws. (General)	21	4S8415
2		1	503		Lockwasher #6 counterbored external, spring steel, black nickel plated.	Mount indicator knob	21	4S8420
16		36	504		Lockwasher #6 internal, 9/32" outside diameter. Spring steel, white cadmium finish. —Shakeproof #1206	For 6-32 screws. (General)	21	4S7650
		1	505		Lockwasher 15/32" internal, spring steel, white nickel finish.	For switch SW1.	21	4S8424
13		7	506		Lockwasher #8 internal, spring steel, white cadmium plated.	For 8-32 screw.	21	4S7651

6		3	507		Nut Brass; 3/8-32 thread x .618" diameter, special head. —Special	Jack retainer.	1	2A34283
		4	508		Nut 8-32 thread x 5/16" diameter hexagonal. Cold rolled steel, white cadmium plated.	Mount speaker to housing cover.	28	2S7003
2		1	509		Nut 3/8-32 thread x 1 1/2" diameter, hexagonal. Cold rolled steel, white cadmium plated.	Mount selector switch.	28	2S7018
		8	510		Nut 6-32 thread x 1/4" hexagonal. Cold rolled steel, white cadmium finish.	For 6-32 screw. (General)	28	2S7005
		1	511		Nut 15/32-32 thread, 3/32" thick, hexagonal, cold rolled steel, white nickel plated.	For switch SW1.	8	2S8382
2		2	512		Rivet 9/32" long x .122" diameter. Cold rolled steel, black nickel finish. —Thomson S1969-6	Fasten clasp hinge to cover.	25	5S8476

*List of Manufacturers names and addresses follows Tabular List of Replaceable Parts.

e. TABULAR LIST OF REPLACEABLE PARTS—BC-745-(*) LOCKWASHERS, NUTS AND SCREWS—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
4		2	513		Rivet 3/32" long x .088" diameter cold rolled steel, black nickel plated.	Fasten transformer (T2) to housing.	25	5S8487
4		2	514		Rivet 3/16" long, .122" diameter, cold rolled steel, black nickel plated.	Fasten transformer (T1) to housing.	25	5S6806
20		9	515		Rivet Brass, polished nickel; 3/16" long x .122" diameter.	Mount tube sockets, receptacle SO1, relay brackets.	25	5S7701
10		2	516		Rivet Brass, polished nickel; 1/8" long x .122" diameter.	Mount relay bracket.	25	5S7706
4		4	517		Rivet Brass, black nickel plated; .088" diameter x 1/8" long.	Mount choke, CH2.	25	5S8488
62		18	518		Eyelet .089" outside diameter, .062" inside diameter x .125" long. Brass, polished nickel finish. —United Shoe Machine #SE-34	General use.	27	5S7866

4		4	519		Rivet .122" diameter x ¼" long. Cold rolled steel, polished nickel finish. —Thomson #S1793-4	Mount plug (P1).	25	5S7700
2		8	520		Rivet .122' diameter x 5/32" long. Cold rolled steel, polished nickel finish. —Thomson #31793-2-½	Mount chassis wipers.	25	5S7707
24		3	521		Screw 6-32 thread x ¼" long, slotted hexagonal head, Cold rolled steel, white cadmium plated. —Shakeproof #SEM	Fasten C11, C9 and C6 to chassis.	21	3S7350
		12	522		Screw 6-32 thread x 3/16" long slotted hexagonal head. Cold rolled steel, white cadmium plated.	Mounting relays on brackets, rectifiers, plug PL4, bracket on chassis.	28	3S7247
		2	523		Screw 4-40 thread x ¼" long, slotted round head. Cold rolled steel, white cadmium plated. —Shakeproof #SEM	Mounting plug PL4 on bracket.	21	3S6927
3		2	524		Screw 6-32 thread x 1¼" long, slotted hexagonal head. Cold rolled steel, white cadmium plated.	Mount choke (RFC4)	28	3S6924

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

e. TABULAR LIST OF REPLACEABLE PARTS—BC-745-(*) LOCKWASHERS, NUTS AND SCREWS—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
3		1	525		Screw 8-32 thread x 5/16" long, slotted binder-head machine screw. Cold rolled steel, white cadmium plated.	Mounting capacitor clamp on speaker of power supply.	28	3S7162
6		2	526	6L5050	Screw 5/16-24 thread x .468" long, slotted head. Stud end .2105" diameter x .182" long. —Special	Collar locking.	1	3A34651
21		7	527		Screw 4-40 thread x 1/4" long. Slotted binderhead machine screw. Cold rolled steel, white nickel finish.	General use.	28	3S6914
6		1	528		Screw 6-32 thread x 3/16" long. Slotted locking hexagonal head machine screw. Cold rolled steel, white nickel finish.	Mount earphone transformer.	21	3S8088
45		2	529		Screw 6-32 thread x 1/2" long. Slotted locking round head machine screw. Cold rolled steel, black nickel finish. —Shakeproof #SEM	General use.	21	3S8093

21		1	530		Screw 6-32 thread x ½" long. Slotted locking round head machine screw. Cold rolled steel, black nickel finish. —Shakeproof #SEM	General use.	21	3S6934
12		3	531		Screw 4-40 thread x ½" long. Slotted round head machine screw. Cold rolled steel, white nickel finish.	Fasten clamp straps.	28	3S8080
12		4	532		Screw 6-32 thread x ⅜" long. Slotted binderhead machine screws. Cold rolled steel, white cadmium finish.	Mount pedestal.	28	3S7229
12		4	533		Screw 4-40 thread x 3/16" long. Slotted hexagonal cap screw. Cold rolled steel, white nickel finish.	Mount switch insulator.	28	3S8082
3		1	534		Screw 4-40 thread x ⅜" long. Self-tapping slotted binderhead. White nickel finish. —Shakeproof #21	Fasten stud to switch arm.	21	3S8163
12		4	535		Screw 8-32 thread x ⅜" long. Slotted binderhead machine screw. Brass, white nickel finish.	Mount handle.	28	3S8034

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

e. TABULAR LIST OF REPLACEABLE PARTS—BC-745-(*) LOCKWASHERS, NUTS AND SCREWS—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No. *	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
3		1	536		Screw 8-32 thread x ¼" long. Case hardened steel. Cup point set screw. Black nickel finish.	Fasten switch actuator rod to thumb ring.	28	3S7139
12		2	537		Screw 6-32 thread x ⅜" long. Slotted oval head machine screw. Cold rolled steel. Black nickel finish.	Fasten antenna stop.	28	3S6906
60		4	538		Screw 8-32 thread x 1¼" long. Slotted binderhead machine screw. Cold rolled steel, black nickel finish.	General use.	4	3S6943
3		1	539		Screw 6-32 thread x ¾" long, slotted binderhead machine screw. Cold rolled steel, white cadmium plated.	Fastens choke (RFC3) to chassis.	28	3S7346
2		1	540		Screw 6-32 thread x ⅜" long, slotted oval head machine screw. Cold rolled steel, black nickel plated.	Fastens knob to selector switch.	28	3S8089

6		2	541		Screw 8-32 thread x ½" long, special head. Cold rolled steel, black nickel plated.	Mount carrying handle.	28	3K31203
30		10	542		Screw 6-32 thread x ⅜" long, special 5/32" binder clutch head, painted machine screw. Cold rolled steel, zinc plated, painted semi-gloss olive drab.	Mounting chassis in housing.	28	3A40698
12		4	543		Screw #8 x 1½" long, Parker-Kalon type Z, slotted hexagonal head. Cold rolled steel, white cadmium plated.	Fastens transformer (T3) to chassis.	19	3S7530
20		5	544		Screw 6-32 thread x ¼" long, slotted binderhead machine screw. Cold rolled steel, white cadmium plated.	Fasten choke (CH1) to chassis, terminal strip, capacitors C5, C7, C3.	28	3S7164
16		4	545		Screw 5-40 thread x ⅝" long, filluster head machine screw. Cold rolled steel, zinc plated. —Special	Cable clamp yoke screws.	1	3S8067
3		1	546		Screw 8-32 thread x ½" long, special 5/32" binder clutch head. Cold rolled steel, zinc plated, painted semi-gloss olive drab.	Mounting chassis in housing.	28	3A40703

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

e. TABULAR LIST OF REPLACEABLE PARTS—BC-745-(*) LOCKWASHERS, NUTS AND SCREWS—Continued

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No.	Galvin Part and Drawing No.
Field Stock	Depot Stock	In Set						
3		1	547		Screw 6-32 thread x 1¼" long, slotted binderhead machine screw. Cold rolled steel, polished nickel.	Mounting choke (RFC1) on bracket.	28	3S7266
2		1	548		Screw, Battery Hold down Steel; nickel plated. 10-32 thread x ½" long, special knurled slotted head. —Special	Mount battery hold down bracket in place.	1	3A36947
12		4	549		Screw #8 x 1⅛" long, Parker-Kalon Type Z, slotted hexagonal head. Cold rolled steel, white cadmium plated.	Fasten transformer T4 to chassis.	19	3S7526
2		2	550		Technical Manual TM 11-245 Description, operation, and maintenance of Radio Set SCR-511-A, SCR-511-B and SCR-511-(*), including Power Supply Unit PE-157-A. —Special	For operating and maintenance personnel.	1	54X49719

*List of Manufacturer's names and addresses follows Tabular List of Replaceable Parts.

TABLE OF COMPARABLE REFERENCE NUMBERS

SCR-511-A (Early) Order No. 2658-CHI-42	SCR-511-A (Late) Order No. 2658-CHI-42	SCR-511-B and SCR-511-(*)
.....	ANT1	ANT1
C1	C23	C1
C2	C2	C2
C3	C3	C3
C4	C4	C5
C5	C5	C4
C6	C6	C6
C7	C7	C7
C8	C8	C8
C9	C9	C9
C10	C10	C10
C11	C11	C11
C12	C12	C12
C13	C13	C13
C14	C14	C14
C15	C15	C15
C16	C16	C16
C17	C17	C17
C18	C18	C18
C19	C19	C19
C20	C20	C20
C21	C21	C21
C22	C22	C29
C23	.....	.....
C24	C24	C23
.....	.....	C24
C25	.....	.....
C26	.....	.....
C27	C27	C26
C28	C28	C27
C29	C29	C28
.....	C1	C25
.....	C30	C22
CD-571-A	CD-571-A	CD-571-B (CD1)
CH1	CH1	CH1
CH2	CH2	CH2
J1	J1	J1
L1	L1	L1
L2	L2	L2

TABLE OF COMPARABLE REFERENCE NUMBERS
Continued

SCR-511-A (Early) Order No. 2658-CHI-42	SCR-511-A (Late) Order No. 2658-CHI-42	SCR-511-B and SCR-511-(*)
Pack 1	Pack 1	Pack 1
Pack 2	Pack 2	Pack 2
Pack 3	.....	.....
Pack 4	Pack 4	Pack 3
Pack 5	Pack 5	Pack 4
Pack 6	Pack 6	Pack 5
Pack 7	Pack 7	Pack 6
Pack 8	Pack 8	.....
Pack 9	Pack 9	.....
Pack 10	Pack 10	Pack 9
.....	.....	Pack 7
.....	.....	Pack 8
.....	.....	Pack 10
.....	P1	P1
P3	P2	P3
.....	P3	P4
.....	.....	P2
R1	R1	R1
R2	R2	R2
R3	R3	R3
R4	R4	R4
R5	R5	R5
R6	.....	.....
R7	R7	R7
R8	R8	R10
R9	R9	R9
R10	R10	R8
R11	R11	R11
R12	R12	R13
R13	.....	.....
R14	R14	R12
R15	R15	R14
R16	R16	R15
R17	R17	R16
R18	R18	R17
R19	R19	R18
R20	R20	R19
R21	R21	R20
R22	R22	R21

TABLE OF COMPARABLE REFERENCE NUMBERS
Continued

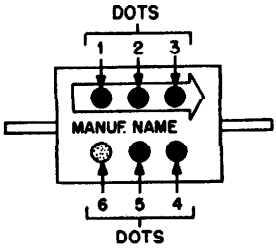
SCR-511-A (Early) Order No. 2658-CHI-42	SCR-511-A (Late) Order No. 2658-CHI-42	SCR-511-B and SCR-511-(*)
R23	R13	R30
R24	R24	.....
R25	R25	.....
R26	R26	.....
.....	.....	R22
.....	.....	R23
.....	.....	R24
.....	.....	R25
.....	.....	R26
.....	.....	R27
.....	.....	R28
.....	.....	R29
.....	SO1	SO2
.....	SO2	SO1
.....	SO3	SO3
SPK1	SPK1	SPK1
SW3	SW3	SW3
SW2	SW2	SW2
T1	T1	T1
T2	T2	T2
T3	T3	T3
T4	T4	T4
T5	T5	T5
T6	T6	T6

LIST OF MANUFACTURERS' NAMES AND ADDRESSES

Mfr. No.	*Name*	*Street Address*	*City*	*State*
1	Galvin Manufacturing Corporation	4545 W. Augusta Blvd.	Chicago	Illinois
2	Allen-Bradley Company		Milwaukee	Wisconsin
3	American Hardware Company	North Main Street	Rockford	Illinois
4	American Screw Company		Providence	Rhode Island
5	Atlantic India Rubber Company	1453 W. Van Buren Street	Chicago	Illinois
6	Centralab	900 E. Keefe Avenue	Milwaukee	Wisconsin
7	Cinch Manufacturing Company	2339 W. Van Buren Street	Chicago	Illinois
8	Cutler-Hammer Company	400 W. Madison Street	Chicago	Illinois
9	Erie Resistor Corporation	644 W. 12th Street	Erie	Pennsylvania
10	Fansteel Metallurgical		North Chicago	Illinois
11	Fast, J. E. Company	3123 N. Crawford Avenue	Chicago	Illinois
12	Felt Products Company	1508 Carroll Avenue	Chicago	Illinois
13	Carborundum Corporation	Globar Division	Niagara Falls	New York
14	International Resistance Company	18 W. Chelton	Philadelphia	Pennsylvania
15	Mallory, P. R. Company		Indianapolis	Indiana
16	Muter Company	1255 S. Michigan Avenue	Chicago	Illinois
17	National Union Company	1181 McCarter Highway	Newark	New Jersey
18	Oak Manufacturing Company	1620 Clybourn Avenue	Chicago	Illinois
19	Parker-Kalon Company	200 Varick Street	New York	New York
20	R. C. A. Manufacturing Company		Camden	New Jersey
21	Shakeproof, Inc.	2501 N. Keeler Avenue	Chicago	Illinois
22	Speer		St. Mary's	Pennsylvania
23	Stackpole Carbon Company	Elk County	St. Mary's	Pennsylvania
24	Stewart Stamping Company	621 E. 216th	New York	New York
25	Thomson, J. L. Manufacturing Company	17 N. Loomis Street	Chicago	Illinois
26	Tung Sol Radio Tube	95 8th Avenue	Newark	New Jersey
27	United Shoe Machinery	500 S. Franklin Street	Chicago	Illinois
28	United Screw and Bolt	2513 W. Cullerton Street	Chicago	Illinois
29	Victor Gasket	5750 W. Roosevelt Road	Chicago	Illinois
30	Willard Storage Battery	2005 S. Michigan Avenue	Chicago	Illinois

AMERICAN WAR STANDARD 6-DOT COLOR CODE CHART

For Capacitors (Molded Mica)

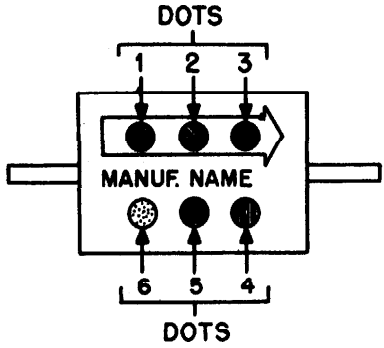


Color	1st Dot	2nd Dot	3rd Dot	4th Dot	5th Dot	6th Dot
	1st Digit	*2nd Digit*	*3rd Digit*	*Decimal Multiplier*	*Toler-ance*	*Charac-teristics*
Black	0	0	0	1	±20%	*A
Brown	1	1	1	10		B
Red	2	2	2	100	± 2%	C
Orange	3	3	3	1,000		D
Yellow	4	4	4	10,000		E
Green	5	5	5	100,000		F
Blue	6	6	6	1,000,000		G
Violet	7	7	7	10,000,000		
Gray	8	8	8	100,000,000		
White	9	9	9	1,000,000,000		
Gold	. . .	. . .	. . .	0.1	± 5%	
Silver	. . .	. . .	. . .	0.01	±10%	

*A—Ordinary Mica By-pass.
B—Same as A—Low Loss Case.
C—By-pass or Silver Mica Capacitor (±200 parts/Million/C)
D—Silver Mica Capacitor (±100 Parts/Million/C)
E—Silver Mica Capacitor (0 to +100 Parts/Million/C)
F—Silver Mica Capacitor (0 to +50 Parts/Million/C)
G—Silver Mica Capacitor (0 to −50 parts/Million/C)

RMA STANDARD 6-DOT COLOR CODE CHART

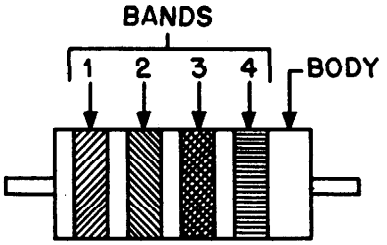
For Capacitors (Molded Mica)



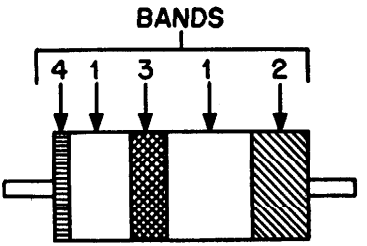
Color	1st Dot	2nd Dot	3rd Dot	4th Dot	5th Dot	6th Dot
	1st Digit	*2nd Digit*	*3rd Digit*	*Decimal Multiplier*	*Toler-ance*	*Voltage*
Black	0	0	0	1	....	....
Brown	1	1	1	10	1%	100v.
Red	2	2	2	100	2%	200v.
Orange	3	3	3	1,000	3%	300v.
Yellow	4	4	4	10,000	4%	400v.
Green	5	5	5	100,000	5%	500v.
Blue	6	6	6	1,000,000	6%	600v.
Violet	7	7	7	10,000,000	7%	700v.
Gray	8	8	8	100,000,000	8%	800v.
White	9	9	9	1,000,000,000	9%	900v.
Gold	...	...	...	0.1		1,000v.
Silver	...	...	...	0.01	10%	2,000v.
Body	...	...	...	.....	20%	500v.

RMA STANDARD COLOR CODE CHART

For Resistors



METHOD 1

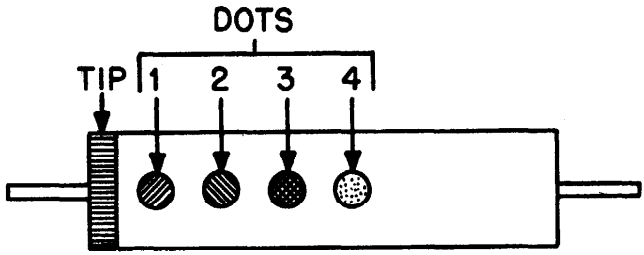


METHOD 2

COLOR	1st Band	2nd Band	3rd Band	4th Band
	1st Digit	*2nd Digit*	*Decimal Multiplier*	*Tolerance*
Black	0	0	1	
Brown	1	1	10	
Red	2	2	100	
Orange	3	3	1,000	
Yellow	4	4	10,000	
Green	5	5	100,000	
Blue	6	6	1,000,000	
Violet	7	7	10,000,000	
Gray	8	8	100,000,000	
White	9	9	1,000,000,000	
Gold	. . .	. . .	. . . . .	± 5%
Silver	. . .	. . .	. . . . .	±10%
No Color	. . .	. . .	. . . . .	±20%

COLOR CODE CHART

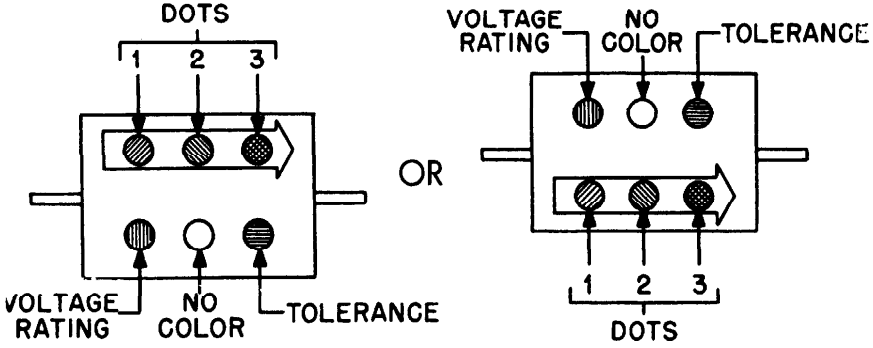
For Capacitors (Tubular Ceramic)



Color	Tip	1st Dot	2nd Dot	3rd Dot	4th Dot
	Temperature Coefficient	*1st Digit*	*2nd Digit*	*Decimal Multiplier*	*Tolerance*
Black	0	0	0	1	...
Brown	.00003 Neg.	1	1	10	1%
Red	.00008 "	2	2	100	2%
Orange	.00015 "	3	3	1,000	3%
Yellow	.00022 "	4	4	10,000	4%
Green	.00033 "	5	5	100,000	5%
Blue	.00047 "	6	6	1,000,000	6%
Violet	.00075 "	7	7	10,000,000	7%
Gray		8	8	0.1	
White		9	9	0.01	10%

3-DOT COLOR CODE CHART

For Capacitors



COLOR	1st Dot	2nd Dot	3rd Dot	*Tolerance*	*Voltage Rating*
	1st Digit	*2nd Digit*	*Decimal Multiplier*		
Black	0	0	1		
Brown	1	1	10	1%	100v.
Red	2	2	100	2%	200v.
Orange	3	3	1,000	3%	300v.
Yellow	4	4	10,000	4%	400v.
Green	5	5	100,000	5%	500v.
Blue	6	6	1,000,000	6%	600v.
Violet	7	7	10,000,000	7%	700v.
Gray	8	8	100,000,000	8%	800v.
White	9	9	1,000,000,000	9%	900v.
Gold	. . .	. . .	0.1		1000v.
Silver	. . .	. . .	0.01	10%	2000v.
Body	. . .	. . .	. . . . .	20%	*

*When no Color is indicated the Voltage Rating may be as low as 300 volts.

[A.G.300.7 (4-17-43).]
By order of the Secretary of War:

G. C. MARSHALL,
Chief of Staff

OFFICIAL:
J. A. ULIO,
Major General,
The Adjutant General

DISTRIBUTION:
D2 (2); B2 (2); IR2, 5, 7, (5); IBn 2, 5, 7, (5); IC2, 5, 7, 11 (10).

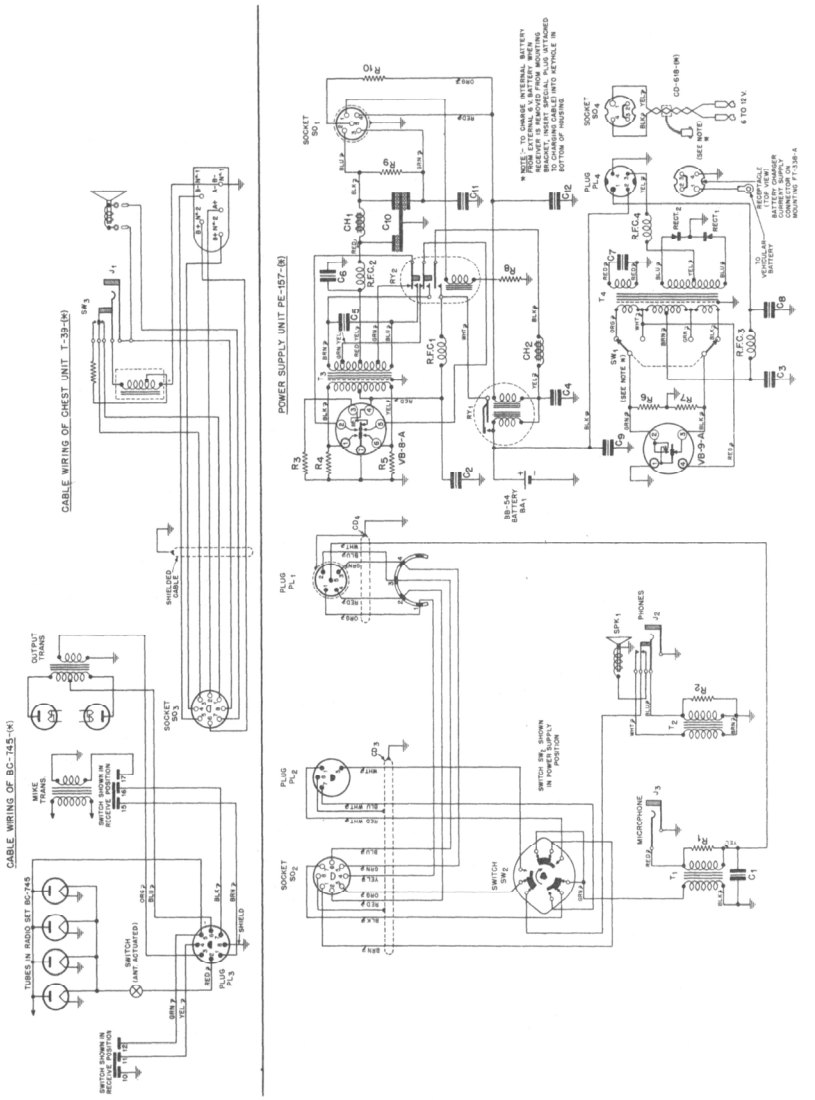


Figure 37. Power Supply Unit PE-157-(*), Schematic Diagram

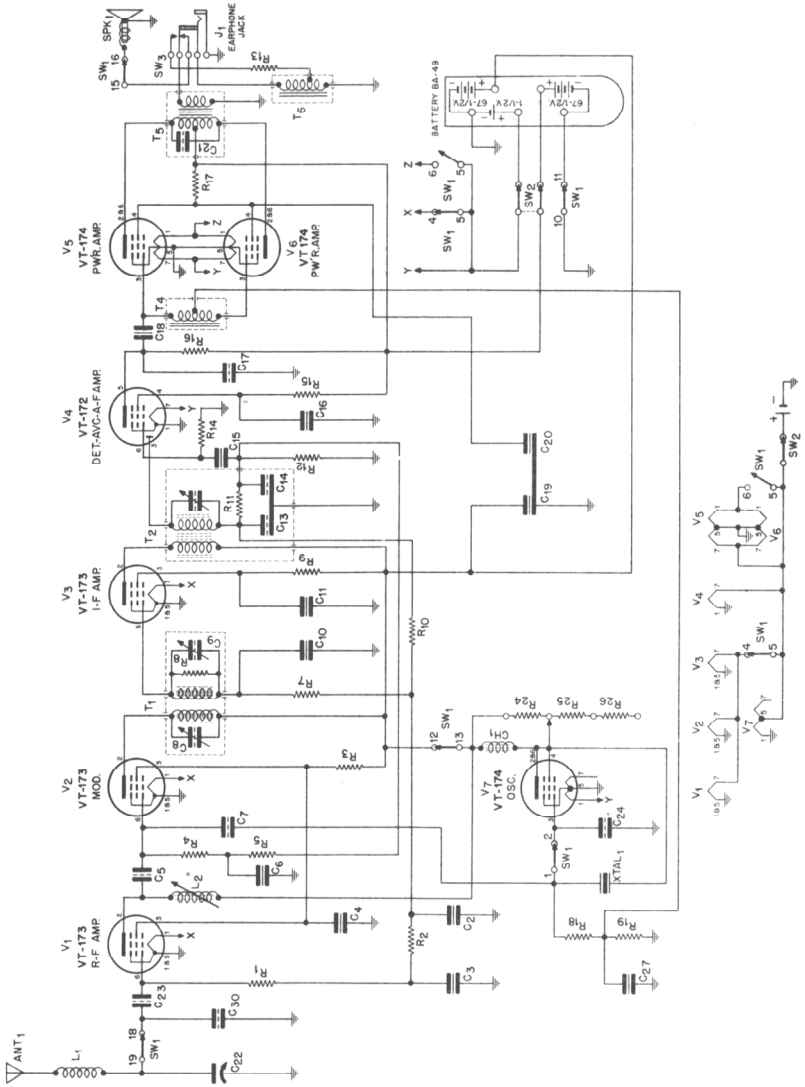


Figure 38. Functional Diagram of Receiver BC-745-A

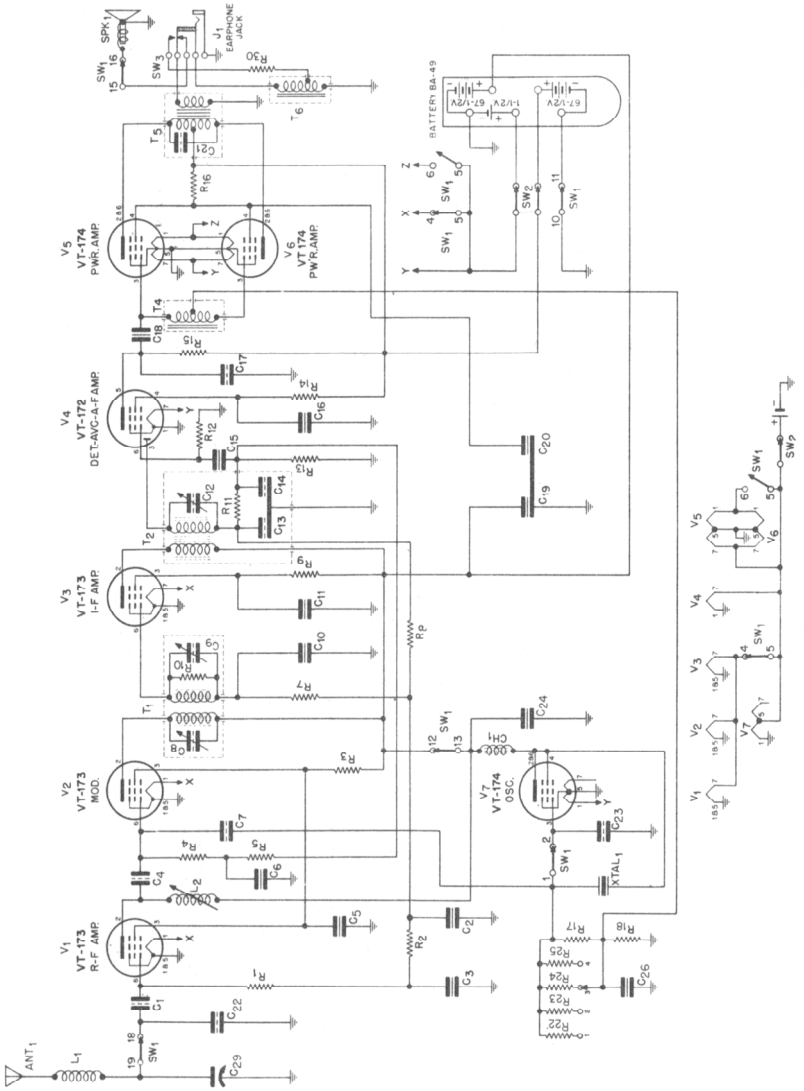


Figure 38A. Functional Diagram of Receiver BC-745-(*)

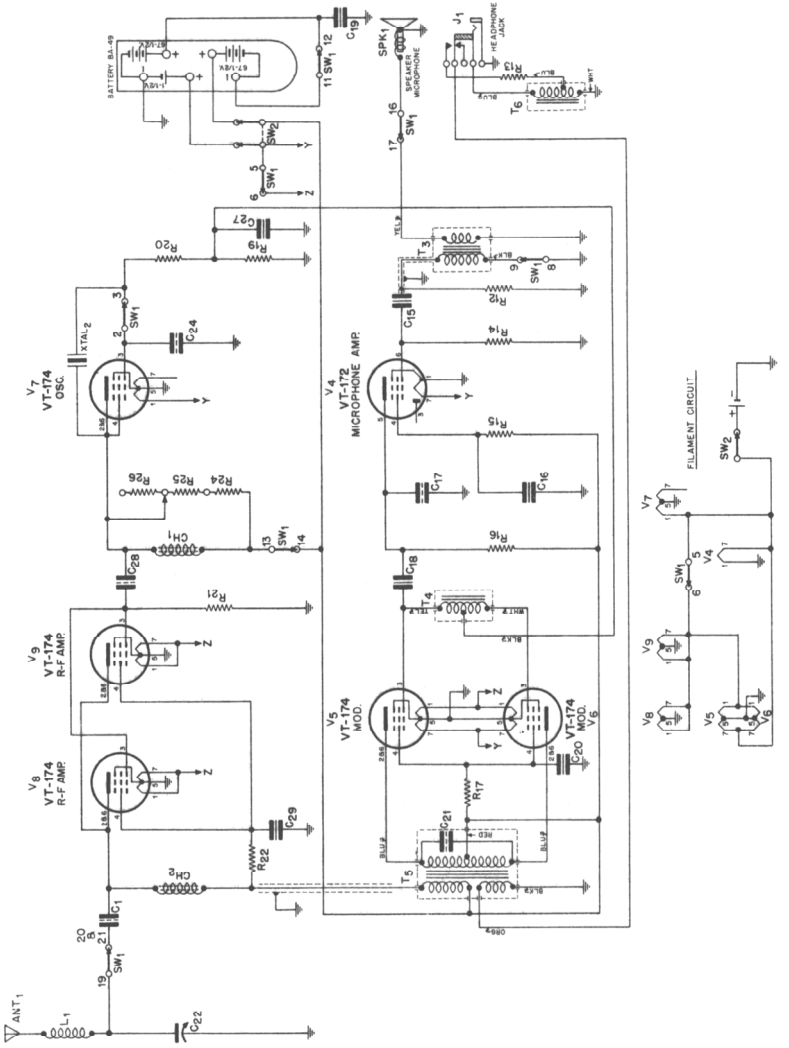


Figure 39. Functional Diagram of Transmitter BC-745-A

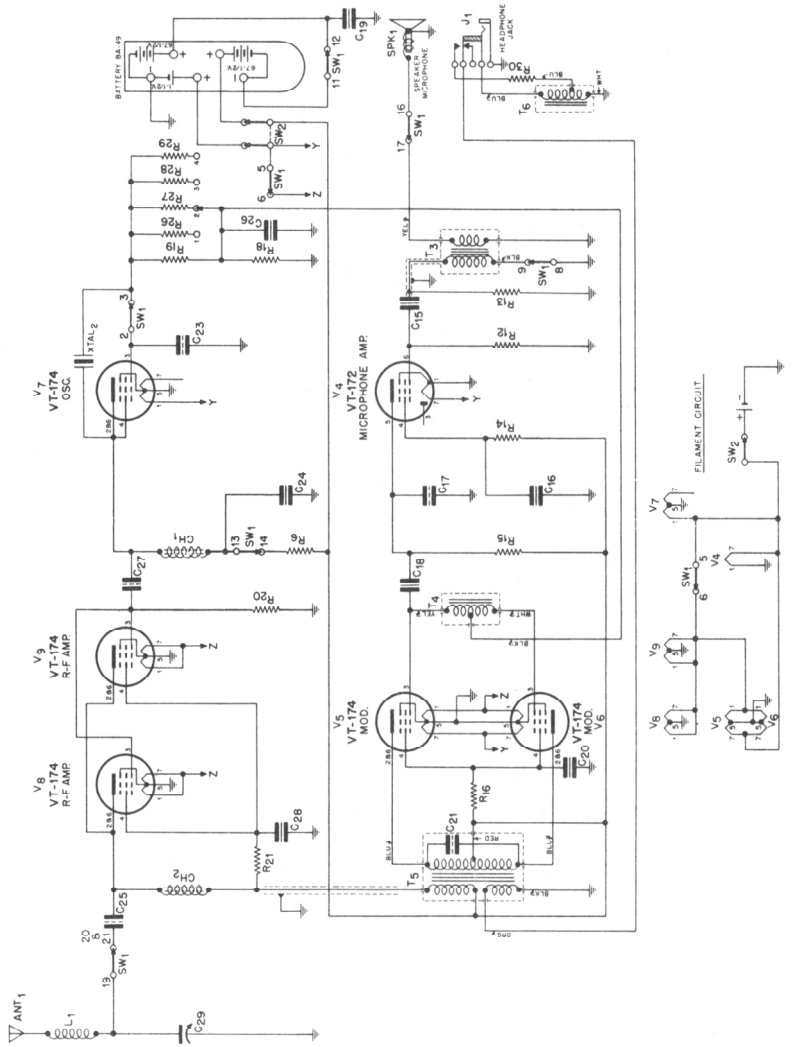


Figure 39A. Functional Diagram of Transmitter BC-745-(*)

SUPPLEMENT 1
4 November 1943
TM 11-245

SUPPLEMENT

to

TECHNICAL MANUAL

Radio Sets SCR-511-A, SCR-511-B, SCR-511-(*) and (Power Supply Unit PE-157-(*))

July 30, 1943

The following supplementary information is published by Galvin Mfg. Corp. on Order Nos. 26378-Phila-43, 31158-Phila-43, 31816-Phila-43, and 34238-Phila-43, covering Radio Sets SCR-511-A, SCR-511-B and SCR-511-(*) and Power Supply Unit PE-157-(*). The paragraph conforms with the sequence established in Technical Manual TM 11-245, July 30, 1943.

Personnel using this equipment will enter a suitable notation beside the changed paragraph of the Technical Manual, to indicate the presence of supplementary information contained in this supplement.

In most sets Power Supply Unit PE-157-(*), Resistor R_8 (4,700 ohms, ½ watt) is replaced by Resistor R_{11}, (2,200 ohms, ½ watt, Galvin Part and Drwg. No. 6B6069.)

Paragraph

33c. Tabular List of Replaceable Parts for Power Supply Unit PE-157-(*)

Page 114

Add Resistor R_{11} same as R_8 except value and part number are as given above.

54X52244

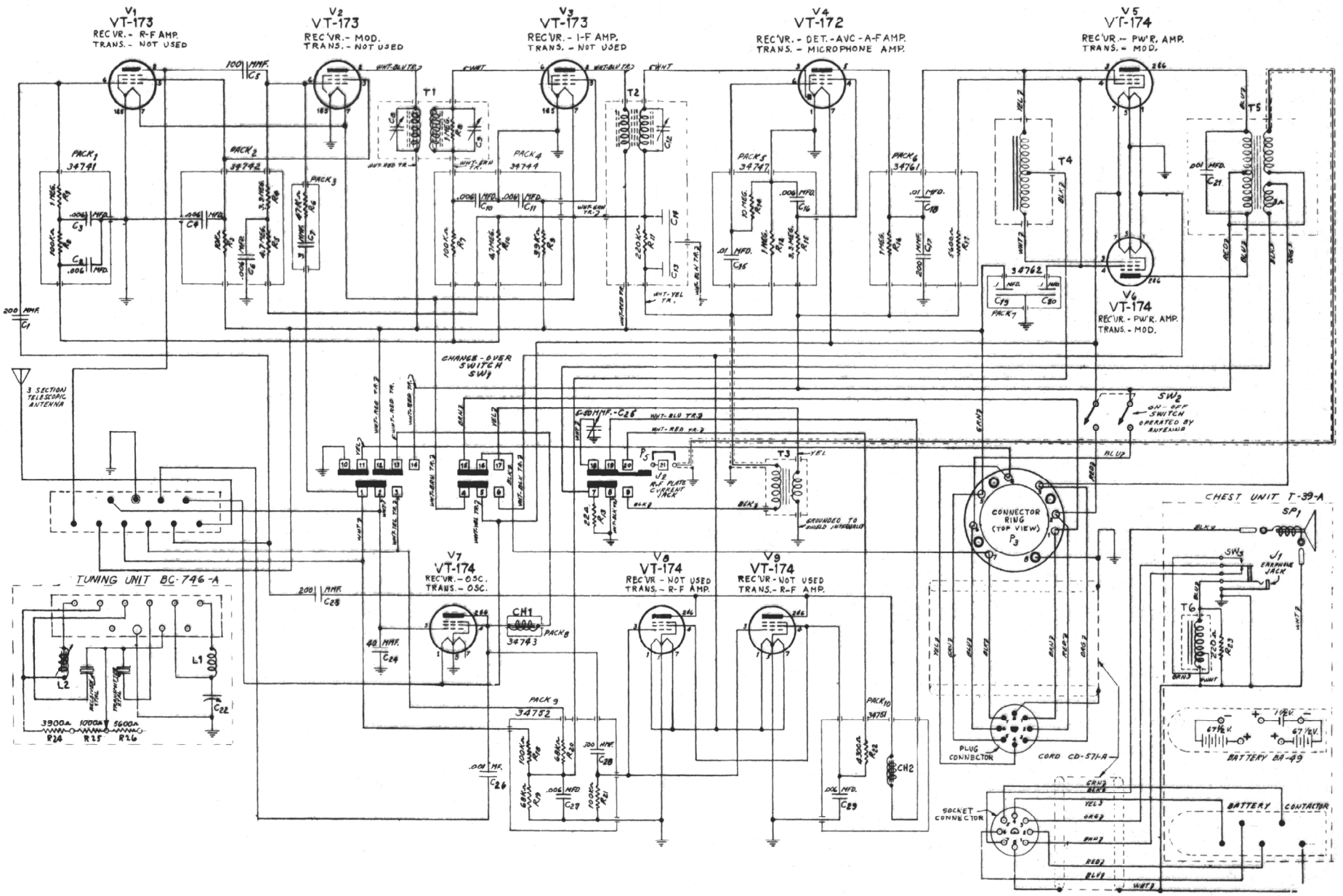


Figure 40. Radio Receiver and Transmitter BC-745-A, Tuning Unit BC-746-A, and Chest Unit T-39-A, Schematic Diagram (Early), Order No. 2658-CHI-42
(See Page 170.)

ALL RADIO RECEIVERS AND TRANSMITTERS BC-745-A on Order No. 2658-CHI-42 bearing the serial numbers listed below, are wired according to the circuit diagram shown on the reverse side of this page.

5	11	13	18	19	22	23	25
26	35	36	38	39	40	41	42
46	50	58	59	61	63	65	67
71	73	75	76	79	80	81	82
84	91	92	93	95	97	98	99
101	104	105	106	108	112	113	114
116	118	120	122	123	125	126	128
130	134	136	142	148	151	152	154
161	164	167	168	170	181	182	185
186	187	188	192	193	194	200	246
269	272	275	176	277	279	280	287
294	296	297	303	310	359	362	365
370	379	386	388	2415	2417	2423	2425
2436							

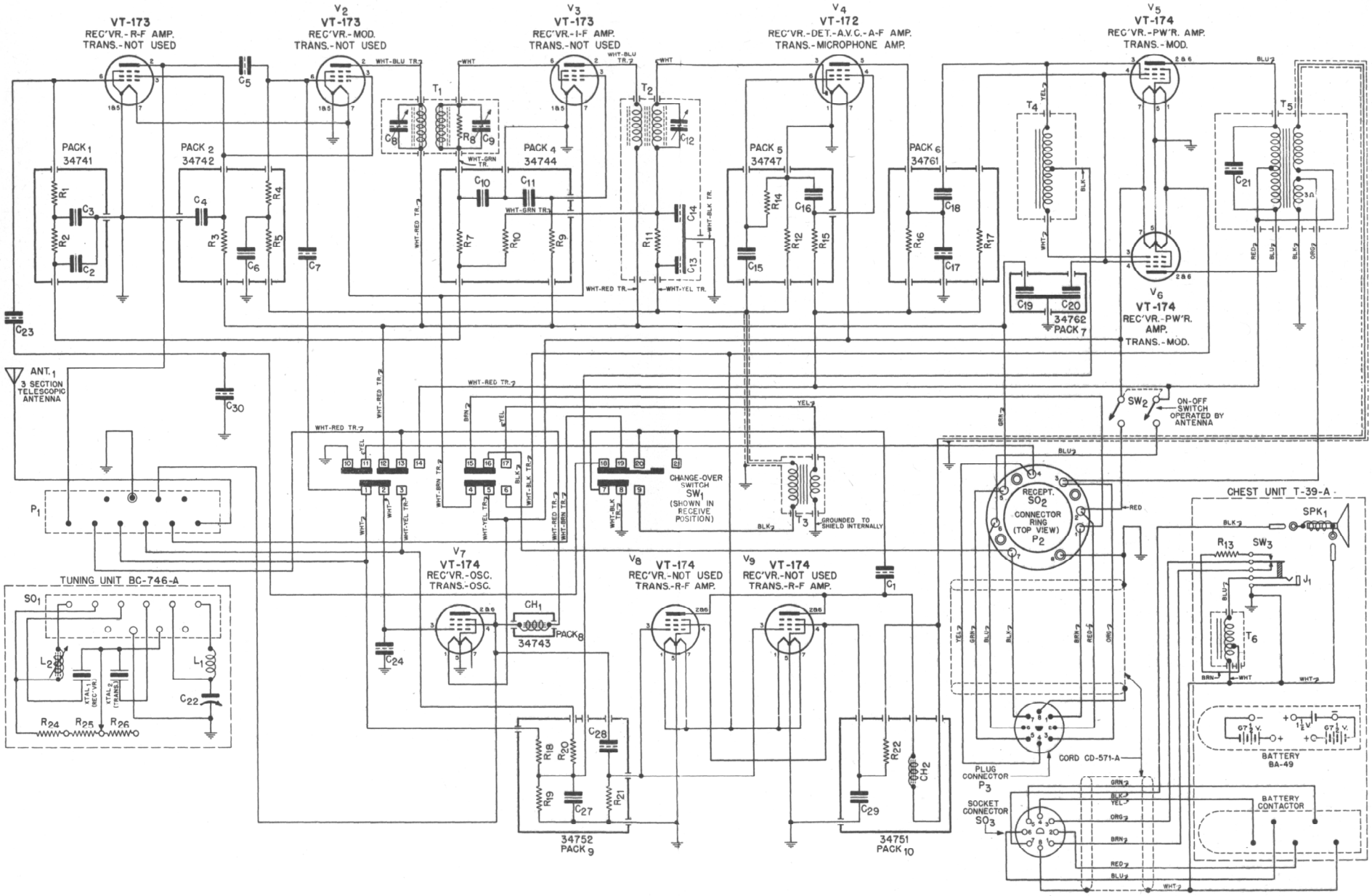


Figure 40A. Radio Receiver and Transmitter BC-745-A, Tuning Unit BC-746-A and Chest Unit T-39-A, Schematic Diagram (Late), Order No. 2658-CHI-42

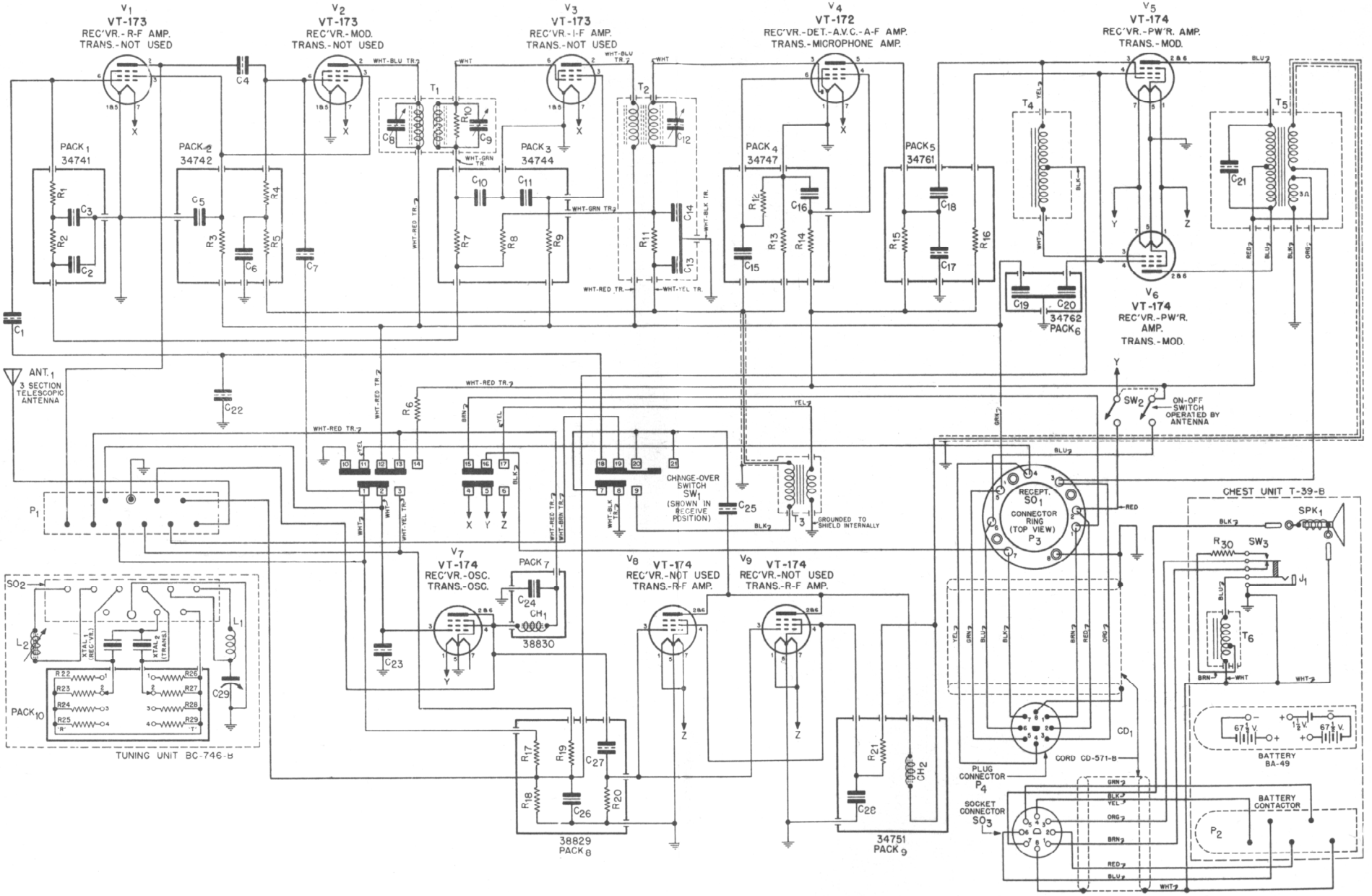


Figure 40B. Radio Receiver and Transmitter BC-745-(*), Tuning Unit BC-746-(*) and Chest Unit T-39-(*), Schematic Diagram

SUPPLEMENT 2
12 December 1943
TM 11-245

SUPPLEMENT

to

TECHNICAL MANUAL

Radio Sets SCR-511-A, SCR-511-B, SCR-511-(*) and (Power Supply Unit PE-157-(*))

30 July 1943

The following supplementary information is published by Galvin Mfg. Corp. on Order No. 34238-Phila-43, covering Power Supply Unit PE-157-B. The paragraphs and figure numbers conform with the sequence established in Technical Manual TM 11-245, dated July 30, 1943.

Personnel using this equipment will enter suitable notations beside each changed paragraph of the Technical Manual to indicate the presence of supplementary information contained in this supplement.

Power Supply Unit PE-157-A is identical to Power Supply Unit PE-157-B with the following changes:

Charging Transformer, Ref. No. T_4, Galvin Part No. 25B38512, is replaced by Charging Transformer, Galvin Part No. 25B60849. Rectifier, Ref. No. RECT 1 & 2, Galvin Part No. 48B41494 is replaced by Galvin Part No. 48B61289. Capacitor, Ref. No. C_2, Galvin Part No. 8A38505 is replaced by Galvin Part No. 8A60852.

Note: Circuit diagram of Power Supply Unit PE-157-A and Power Supply Unit PE-157-B are identical.

33c. Tabular List of Replaceable Parts for Power Supply Unit PE-157-(*)

Quantity			Ref. No.	Signal Corps Stock No.	Name of Part and Description	Function	Mfr. No.	Galvin Part and Drwg. No.
Field Stock	Depot Stock	In Set						
2		1	T_4		Transformer, Charging Core: #26 (.018") Birmingham gauge Audio "C" iron; annealed after stamping. Laminations interleaved. Coil form; 5 layers of .007" gummed paper, placed on center leg. Primary winding #1: 28 turns #23 P.E. copper wire. Primary winding #2: 25 turns #19 P.E. copper wire. Start of winding connected to finish of Primary #1 and connection brought out. Primary winding #3: 25 turns of #19 P.E. copper wire. Start of winding connected to finish of Primary #2 and connection brought out. Primary winding #4: 28 turns of #23 P.E. copper wire. Start of winding connected to finish of Primary #3 and connection brought out. Static shield, one layer of .002"x1" brass strip. Secondary winding #1: 38 turns of #19 P.E. copper wire (2 layers) tapped at 19 turns. Secondary winding #2: 940 turns P.E. copper wire. Overall insulation, one layer of .00088" cellulose acetate film and one layer of .008" gummed Argelec. Treatment: dehydrate coil and core and vacuum impregnate with Petrogene "B" wax. The eleven leads are color coded. Case for transformer Terneplate, 3" high x 2.5" long x 2.4" wide.	Battery charger transformer.	1	25B60849

2			RECT 1 & 2		Rectifier and Bracket Dual selenium rectifier units mounted on bracket, 5¼" long x 7/16" wide overall. Rectifier will deliver 2.4 amperes minimum to 3.0 amperes maximum with an impressed voltage of 7.1 volts RMS.	Battery charger rectifier.	10	48B61289
4		2	C_2		Capacitor Fixed, paper; 0.5 μf ±20%, 2.0 w-v d-c. Shielded. 1 11/32" long x 1" diameter. Mounted on "L" bracket. Axial leads 2" ± ⅛".	Hash filter.	1	8A60852