MOBILE RADIO

MASTR
PROGRESS LINE
Personal Series
MAINTENANCE MANUAL

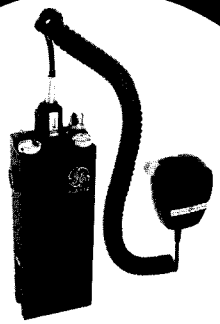
138-512 MHz
LOCAL/REMOTE
PE MODELS

30-50 MHz
LOCAL/REMOTE
PE MODELS

2-FREQUENCY
PE MODEL

TWO-WAY
PERSONAL
FM RADIOS

LBI-4575C



138-512 MHz
REMOTE
PE MODELS

GENERAL ELECTRIC

TABLE OF CONTENTS

ILLUSTRATIONS

WARNING

No one should be permitted to handle any portion of the equipment that is supplied with high voltage; or to connect any external apparatus to the units while the units are supplied with power. KEEP AWAY FROM LIVE CIRCUITS.

EQUIPMENT INDEX

EQUIPMENT	TYPE OR PART NUMBER
Transmitters	
30 - 50 MHz	KT-17-A
138 - 174 MHz	ET-95-A, ET-96-A, KT-106-A & KT-107-A
406 - 470 MHz	ET-98-A, KT-104-A & KT-105-A
470 - 512 MHz	KT-26-A, KT-110-A & KT-111-A
Receivers	
30 - 50 MHz	ER-61-A
138 - 174 MHz	ER-59-C, ER-59-A
406 - 470 MHz	ER-60-A
470 - 512 MHz	ER-62-A
System Board & Case Assemblies Local/Remote	
30 - 50 MHz	19D413548G5
138 - 174 MHz	19D413548G1
406 - 470 MHz	19D413548G2
470 - 512 MHz	19D413548G7
Remote	
138 - 174 MHz	19D413548G8
406 - 470 MHz	19D413548G9
470 - 512 MHz	19D413548G13

SPECIFICATIONS*

GENERAL

DIMENSIONS (HxWxD)	30-50 MHz	138-512 MHz
(With 500 mAh Battery)	7.39"x2.62"x1.58"	6.59"x2.62"x1.58"
(With 700 mAh Battery)	7.63"x2.62"x1.58"	6.83"x2.62"x1.58"
(With Intrinsically Safe) Battery		7.49"x2.62"x1.58"

OPERABLE TEMPERATURE RANGE

Transmitter-Receiver	-30°C to +60°C (-22°F to +140°F)
Rechargeable Battery Pack	-20°C to +45°C (- 4°F to +113°F)
Alkaline Battery	-18°C to +45°C (0°F to +113°F)
Mercury Battery	- 6°C to +55°C (+20°F to +130°F)

MAXIMUM FREQUENCY SPACING

	Transmitter		Receiver	
Frequency Range	No Degradation	1 dB Degradation (Power Out)	No Degradation	1 dB Degradation (Sensitivity)
30 - 50 MHz	-0.4%	-0.8%	+1.2% (highest frequency)	+1.5% (center frequency)
138 - 174 MHz	+0.6%	+2.0%	±0.2% (highest frequency)	±0.4% (center frequency)
406 - 420 MHz	+0.4%	+0.8%	-0.4% (highest frequency)	-0.8% (center frequency)
450 - 470 MHz	+0.4%	+5.5 MHz	-0.4% (highest frequency)	-0.8% (center frequency)
470 - 512 MHz	+0.4%	+3.5 MHz	+3.5 MHz to -0.5 MHz (tune frequency)	

FREQUENCY STABILITY

-30°C to +60°C	±.0005% (30-50 MHz TX Only, ±.002%)
0°C to +55°C	±.0002%

BATTERY DRAIN (7.5 Volts)

Frequency Range	30-50 MHz
Standby	15 milliamps
Receive	140 milliamps
Transmit	680 milliamps
Frequency Range	138-174 MHz
Standby	14.5 milliamps
Receive	140 milliamps
Transmit	
100 milliwatts	150 milliamperes
200 milliwatts	165 milliamperes
1 Watt	340 milliamperes
2 Watts	630 milliamperes
5 Watts	1.5 amps
Frequency Range	406-420 and 450-470 MHz
Standby	13 milliamps
Receive	140 milliamps
Transmit	
1 Watt	680 milliamps
4 Watts	1.5 amps
Frequency Range	470-512 MHz
Standby	14 milliamps
Receive	140 milliamps
Transmit	
1 Watt	700 milliamps
3.5 Watts	1.5 amps

*These specifications are intended primarily for the use of the serviceman. Refer to the appropriate Specification Sheet for the complete specifications.

COMBINATION NOMENCLATURE

(For earlier PE models)

1st & 2nd Digit	3rd Digit	4th Digit	5th Digit	6th Digit	7th Digit	8th & 9th Digits
Product Line	RF Power Output Range	Channel Spacing	Control	Number of Freq.	Options	Frequency Range
PE Personal Series	**2** 100 - 200 Milliwatts	**4** 20 kHz	**R** Local/ Remote PTT	**A** 1-Freq.Xmit 1-Freq.Rec.	**S** Standard	**13** 30-36 MHz
	4 0.8 - 1.6 Watts	**5** 25 kHz	**Q** Remote	**B** 2-Freq.Xmit 1-Freq.Rec.	**U** Channel Guard Encoder/Decoder	**23** 36-42 MHz
	5 1 - 2 Watts	**6** 30 kHz		**C** 2-Freq.Xmit 2-Freq.Rec.	**R** 2-Tone Channel Guard Encoder	**33** 42-50 MHz
				D 1-Freq.Xmit 2-Freq.Rec.	**B** Type 90 Encoder/Decoder	**55** 138-150.8 MHz
					C Type 90 2-Tone Encoder	**66** 150.8-174 MHz
						77 406-420 MHz
						88 450-470 MHz
						89 470-494 MHz
						91 494-512 MHz

COMBINATION NOMENCLATURE

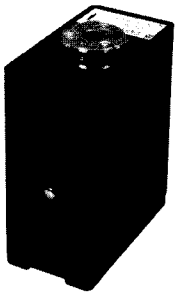
(For later PE models)

1st & 2nd Digit	3rd Digit	4th Digit	5th Digit	6th Digit	7th Digit	8th Digit	9th Digit	10th Digit
Product Line	RF Power Output	Channel Spacing	Control	Number Xmit Freq.	Options	Number Rec. Freq.	Frequency Range	Freq. Range Dual Front End
PE Personal Series	**2** 100 - 700 Milliwatts	**4** 20 kHz	**R** Local/ Remote	**A** 1-Freq. Xmit	**S** Standard	**A** 1-Freq. Rec.	**A** 30-36 MHz	**X** No Dual Front End
	4 0.8-1.6 Watts	**5** 25 kHz	**Q** Remote	**B** 2-Freq. Xmit	**W** Channel Guard Encode/Decode	**B** 2-Freq. Rec.	**B** 36-42 MHz	
	5 1.6-3.8 Watts	**6** 30 kHz			**R** 2-Tone Channel Guard Encode		**C** 42-50 MHz	
	6 3.8-6.4 Watts				**B** Type 90 Encoder/Decoder		**G** 130-150.8 MHz	
					C Type 90 2-Tone Encoder		**H** 150.8-174 MHz	
					L Type 99 Individual Call		**K** 406-420 MHz	
							M 450-470 MHz	
							N 470-494 MHz	
							P 494-512 MHz	

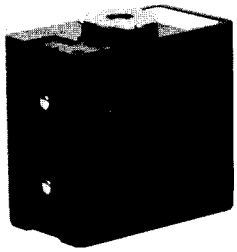
ACCESSORIES

BATTERY PACKS

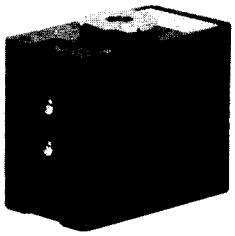
RECHARGEABLE
700 mAh
Intrinsically Safe
Battery Pack
(Option 4671)



RECHARGEABLE
700 mAh
Battery Pack
(Option 4237)



RECHARGEABLE
500 mAh
Battery Pack
(Option 4421)

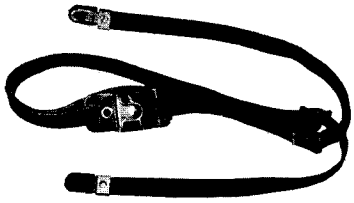


STANDARD DRY
Battery Pack
(Option 4422&4424)

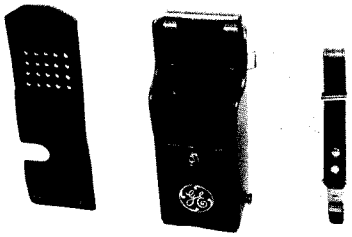
HAND STRAP
(Option 4406)

RF ADAPTER CABLE
(Option 4466)

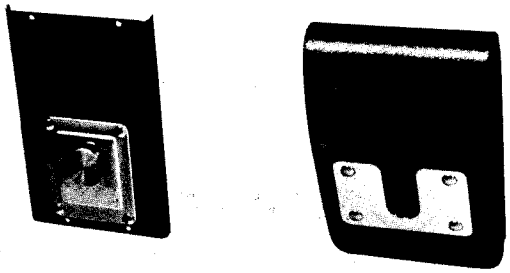
SHOULDER STRAP
Attaches to Radio (Option 4407)
Attaches to Carrying Case (Option 4332)



CARRYING CASE
(Option 4412)
With Swivel Mount and
Belt Loop
(Option 4491)



SWIVEL MOUNT AND BELT LOOP
(Option 4480)

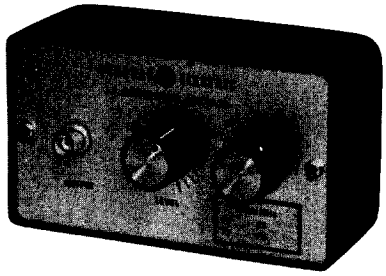


TEST EQUIPMENT

TEST ADAPTOR
MODEL 4EX12A10 (Option 4384)

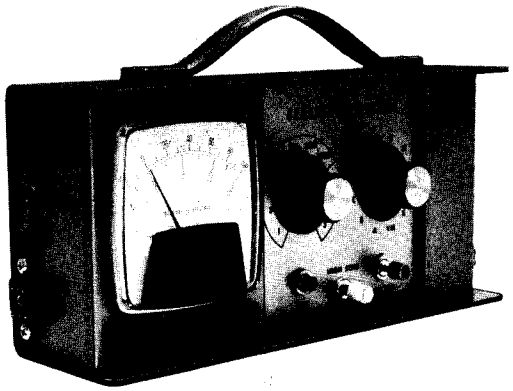
Provides transmitter and receiver audio connections

IF GENERATOR
MODEL 4EX9A10 (Option 4381)



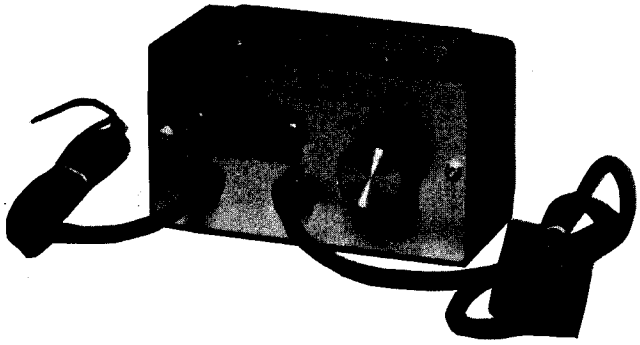
For setting the receiver on frequency and for troubleshooting

TEST SET
MODEL 4EX3A11 (TM-11, 12, 13, 16 & 17)



Used with Test Regulator for servicing

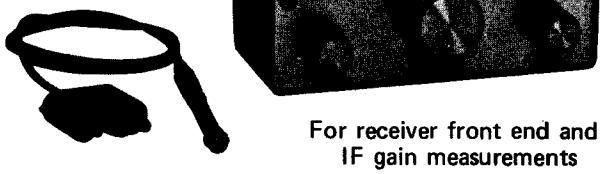
TEST REGULATOR
MODEL 4EX18A10 (Option 4465)



Extension cables for servicing the receiver out of the radio

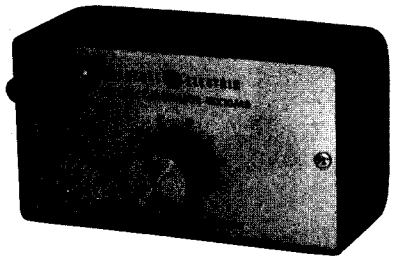
Transmitter RF Adaptor Cable

TEST AMPLIFIER
MODEL 4EX16A10 &
RF PROBE 19C311370-G1 (Option 4382)



For receiver front end and IF gain measurements

VOLTAGE CALIBRATOR
MODEL 4EX10A10 (Option 4383)



For setting voltages on Personal Battery Chargers

DESCRIPTION

General Electric MASTR PE Series personal radios are extremely compact, high performance two-way FM radios. The radios are fully transistorized -- utilizing both discrete components and Integrated Circuit modules (IC's).

The radio is contained in a ruggedly-constructed, weatherproof Lexan® case with vinyl-covered, stainless steel front and back covers. All operating controls except the PTT switch are conveniently located on the top of the radio. The accessory jack on the top of the radio is provided for external microphones, earphones and other audio accessories.

Power for the radio is normally supplied by a rechargeable nickel-cadmium battery pack that quickly attaches to the bottom section of the case. The battery pack can be recharged either attached or removed from the radio.

A battery pack using dry batteries is available whenever the rechargeable battery pack is not required.

INTRINSICALLY SAFE COMBINATIONS

Combinations PE45 with option 4670, PE56 with option 4669 and battery pack 19D413522G5 have been approved by Factory Mutual Research Corporation as Intrinsically Safe for use in Class I, Division I, Group D atmospheres.

Group D atmospheres are described in Table 500.2 in Chapter 5 of the National Electrical Code - 1975.

"Intrinsically Safe equipment and wiring shall not be capable of releasing sufficient electrical or thermal energy under normal or abnormal conditions to cause ignition of a specific hazardous atmospheric mixture in its most easily ignited concentration."

GREEN LABEL

PE Intrinsically Safe combinations, battery pack 19D413522G5 Desk Chargers 381L1A1X and 381M1A1X and Rack Chargers 382L1C1X and 383L1C1X are identifiable as being of the Intrinsically safe series by a GREEN LABEL.

A PE combination with a GREEN LABEL will only use a battery pack with a GREEN LABEL and the battery pack can only be recharged in a charger with a GREEN LABEL. The GREEN LABEL alone does not imply an Intrinsically Safe rating unless it so states. It does identify an exclusive and different mechanical connection system compatible within this group of equipment.

WARNING

Replacement of any service part must be made with a component having the specification shown on the appropriate parts list. The use of any other parts or circuit modifications is forbidden and their use immediately voids the Intrinsically Safe Rating.

OPERATION

When using the collapsible antenna, make sure that the antenna is in the fully-extended position. If the radio is equipped with an option switch, disable the option before adjusting the radio by placing the option switch in the OFF or M (Monitor) position. After adjusting the radio, return the option switch back in the ON or N (Normal) position to enable the option. Refer to LBI-4231 for complete operating instructions.

TO RECEIVE A MESSAGE

1. Turn the OFF-VOLUME control about halfway to the right.
2. Turn the SQUELCH (SQ) control to the right as far as possible. A hissing sound will be heard from the speaker.
3. Adjust the VOLUME control until the hissing sound is easily heard but not annoyingly loud.
4. Turn the SQUELCH control slowly to the left until the hissing noise just fades out.

In multi-frequency units, select the proper frequency. You are now ready to receive messages from other radios in your system.

TO SEND A MESSAGE

1. Turn on the radio as directed in the "To Receive a Message" section.
2. In multi-frequency units, select the proper frequency. Then listen to make sure that no one is using the channel.
3. While holding the radio so that the antenna is vertical, press the Push-to-Talk (PTT) switch and speak directly into the local speaker/microphone (or across the face of an external speaker/microphone) in a normal tone of voice. Release the PTT switch as soon as you stop talking. You cannot receive messages when the PTT switch is pressed.

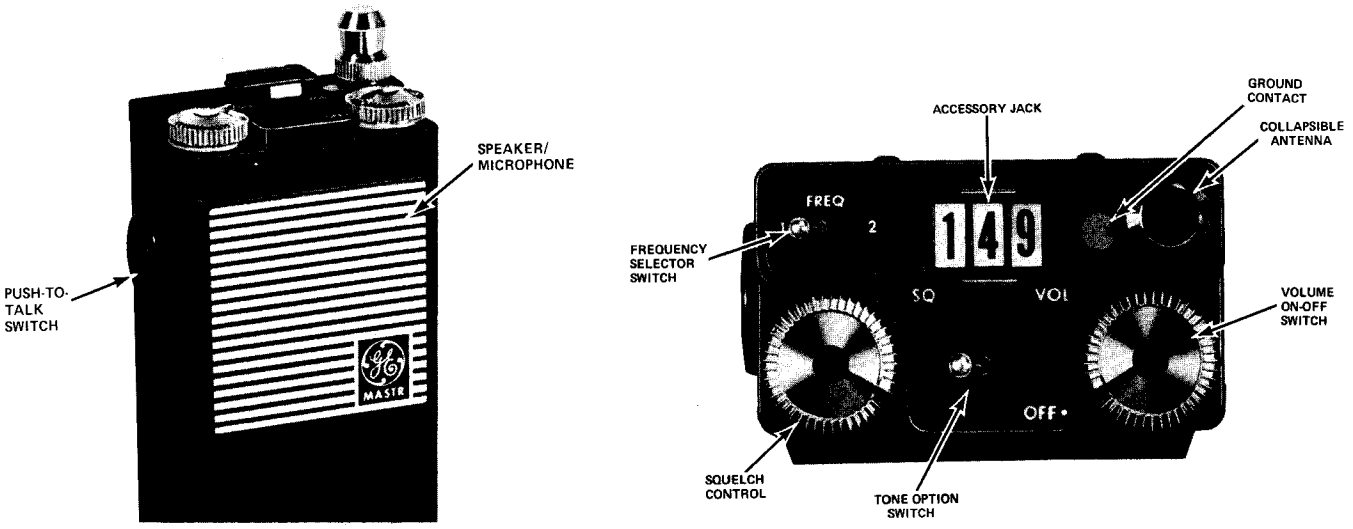


Figure 3 - Operating Controls

OPERATING TIPS

The following conditions tend to reduce the effective range of Two-Way Radios, and should be avoided whenever possible.

- Operating the radio in low areas of the terrain, or while under power lines or bridges.
- Operating the radio inside of a vehicle, or in a metal or steel-framed building unless using an outside antenna.
- Obstructions such as mountains or buildings between the person sending and the person receiving the messages.

In areas where transmission or reception is poor, some improvement may be obtained by insuring the antenna is fully extended and vertical. Moving a few yards in another direction or moving to a higher elevation may also improve communication.

MAINTENANCE

SERVICING THE RADIO

A complete procedure is provided in this manual for disassembling the radio for servicing. The procedure also contains instructions for replacing the different assemblies, Integrated Circuit modules and transmitter PA transistors. Refer to the Disassembly Procedure as listed in the Table of Contents.

If the radio should begin to operate improperly (i.e., transmitted messages start getting weak and hard to understand, or the receiver won't squelch properly), the first thing to suspect is run-down batteries. If a freshly recharged battery pack or new dry batteries fail to restore the radio to its normal operating condition, refer to the appropriate Troubleshooting Procedure for help in isolating and correcting the problem.

TEST AND TROUBLESHOOTING PROCEDURES

Whenever difficult servicing problems occur, the Test Procedures for the transmitter and receiver can be used by the servicemen to compare the actual performance of the unit to the specifications met by the unit when shipped from the factory.

In addition, specific Troubleshooting Procedures are available for the transmitter, receiver and tone options. For best results, the Test Procedures should be used in conjunction with the Troubleshooting Procedures when servicing the radio. Refer to the applicable maintenance manual.

CHANGING FREQUENCIES

To change the operating frequency of the transmitter or receiver, it is necessary to replace the entire oscillator module as directed in the Disassembly Procedure. Always give the model number of the module and the exact operating frequency required when ordering new oscillator modules.

After replacing the oscillator module, re-align the transmitter or receiver as directed in the Alignment Procedure (Refer to the applicable maintenance manual).

BATTERY INFORMATION

Three rechargeable battery packs and a dry battery pack are available for operating the radio. The different battery packs are shown in Table 1.

The rechargeable Nickel-Cadium battery pack should be given a 100% charge prior to placing into service. If the radio has been stored for over 30 days, the battery pack should be fully recharged before using. When it is necessary to store the unit for over 30 days, it is recommended that the battery pack be maintained on charge in the appropriate battery charger.

All of the battery packs are not interchangeable. The battery pack should be selected according to the power output, battery life required and application.

INTRINSICALLY SAFE BATTERY PACK

Battery pack 19D413522G5 is designed for use with other PE Intrinsically Safe approved equipment. It consists of a nickel-cadmium, 700 mAh battery pack with a Redundant Current Sensing switch (RCSS). The RCSS protects the battery pack against current drain in excess of 1.50 amperes.

To reconnect the battery pack to the radio:

1. Hold the battery pack at a 90° angle to the radio as shown in Figure 4.
2. Align the large tab marked with an arrow on the battery pack connector with the large cut-out marked with an arrow on the radio socket.
3. Press the battery pack connector into the socket on the radio and turn the battery pack one-quarter turn to the right until the latch clicks.

STANDARD DRY BATTERY PACK

Standard battery pack 19E500938G1 is equipped with a removable bottom cover for use with dry batteries. To remove the batteries:

1. Remove the battery pack from the radio.
2. Press in and turn the captive screw one-quarter turn to the left to the OPEN position, and lift off the cover.
3. Rap the open end of the battery pack on the palm of one hand over a table or desk to dislodge the batteries.
4. Replace the batteries with the plus (+) end pointing away from the springs as shown on the decal in the battery compartment.
5. Replace the bottom cover by matching the grooves on the battery with the notches on the cover.
6. Turn the locking screw one-quarter turn to the right to the LOCK position.

BATTERY CHECKS

CHARGE LEVEL MEASUREMENT

The charge level of the battery packs can be measured by connecting a voltmeter across the charge contacts and measuring the voltage with the transmitter keyed.

Table 1 - Battery Packs

Battery Pack	Battery Pack	Battery Part No.	Equivalent
Optional 500 mAh	Rechargeable	19D413522G1	None
Standard 700 mAh	Rechargeable	19D413522G4	None
Optional Intrinsically Safe 700 mAh	Rechargeable	19D413522G5	None
Dry Battery Pack 19E500938G1	Carbon-zinc		Eveready 1015
Dry Battery Pack 19E500938G1	Alkaline (Package of 4)	19B200608P2	Eveready E91
Dry Battery Pack 19E500938G1	Mercury (Package of 4)	19A116522P2	Mallory RM15

For the rechargeable battery packs, a fully charged battery pack should provide a reading of 7.5 to 8 Volts. A fully discharged battery pack should provide a reading of no less than 6 Volts.

For dry battery packs, replace the batteries if the reading is 6 Volts or less.

RCSS CHECK

The RCSS protective circuitry in battery pack 19D413522G5 should be checked on a routine basis. This can be done by connecting a 2-ohm resistor across the battery pack output terminals. A voltage reading of 0.2 Volt or less across the 2-ohm resistor indicates proper operation. Any reading substantially higher than 0.2 Volt indicates a malfunction in the RCSS. The battery pack should not be used.

RECHARGEABLE BATTERY CHECK

One of the best service checks for the PE series rechargeable battery packs can be easily obtained by measuring the milliampere-hour capacity. The results of the measurement can then be compared with the rated capacity of the battery pack to determine the general condition of the rechargeable batteries.

First, it is necessary to find the percentage of rated capacity. This is obtained by measuring the time it takes to discharge a fully charged battery pack until the voltage drops to 6.0 Volts. The proper load resistor for each of the battery packs is shown in Table 2.

Then use the formula $\frac{T}{60} = \%$ where "T" is the time in minutes required to discharge the battery pack to 6 Volts and % is the percentage of rated capacity the battery delivered to a load. For example: assume the standard battery pack voltage dropped to 6 Volts in 50 minutes:

$$\frac{50}{60} = .83 \text{ (percentage of capacity)}$$

Now multiply the percentage of capacity by its rated capacity (see Table 2):

$$.83 \times 500 \text{ mA} = 415 \text{ mAh}$$

The 415 milliampere-hours is the actual capacity of the battery pack.

CAUTION

As the voltage drops very fast near the end of the discharge cycle, be very careful to avoid discharging the battery pack below 6.0 Volts.

BATTERY CHARGERS

Several PE Series chargers are available for recharging General Electric nickel-cadmium battery packs. For specific instructions refer to the applicable operating instructions or maintenance manual.

Table 2 - Capacity Measurement Data

RECHARGEABLE BATTERY PACK	RATED CAPACITY	AVERAGE DISCHARGE RATE (for 60 minutes)	LOAD RESISTOR (R_L)	END VOLTAGE
Optional (6 cells) 19D413522G1	500 mAh	≈500 mA	15 ohms, 8 Watts	6 VDC
Standard (6 cells) 19D413522G4	700 mAh	≈700 mA	10.5 ohms, 10 Watts	6 VDC
Optional (7 cells) 19D413522G5	700 mAh	≈700 mA	10 ohms, 10 Watts	6 VDC

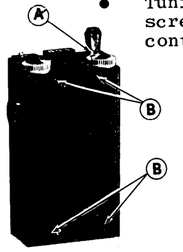
DISASSEMBLY PROCEDURE

Do not attempt to remove a module from the printed wiring board until troubleshooting indicates that the module is bad. Remove or replace the assemblies or modules as directed.

Caution: Always remove the battery before removing any component board to avoid blowing the fuse.

Equipment Required

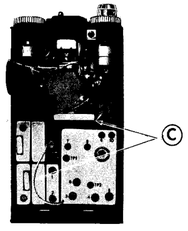
- Small Phillips-head screwdriver.
- Pencil-type soldering iron (40-60 watts) with a fine tip for unsoldering module leads and component leads, and a medium tip for unsoldering module mounting tabs.
- Needlenose pliers for removing slotted nuts.
- Tuning tool 19B219079-P1 for removing Allen-head screws in the cover, and the set screws in the controls and antenna tip.



STEP 1.

To remove the antenna, unscrew the antenna nut (A) and pull out the antenna.

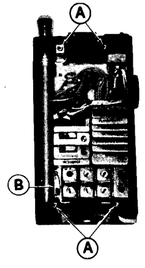
STEP 2.



To gain access to the transmitter, remove the four Allen-head screws (B) with the tuning tool, and carefully lift off the front cover to avoid breaking the speaker leads.

The exciter and PA modules can be unplugged by pulling on lifting straps (C) .

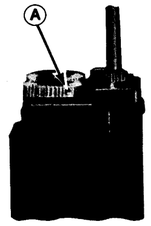
STEP 3.



To gain access to the receiver and tone board, remove the four Allen-head screws (A) in the back cover with the tuning tool and lift off the cover. Lift the receiver board out of the case by lifting strap (B) . The tone board can also be lifted out of the case.

CAUTION

Do not place either board on metal or other conductive surface with power applied. To do so will damage the Integrated Circuit modules. A small "pancake" of Duxseal® provides an excellent insulated work surface for the receiver or tone board.

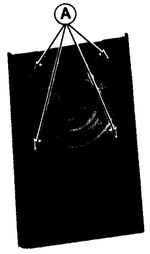


STEP 4.

To remove the Volume or Squelch Control, remove the set screw (A) in the side of the control with the tuning tool. Then unscrew the slotted nut and remove the control.

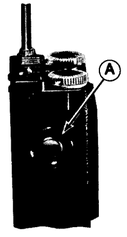
STEP 5.

To replace the accessory jack, first remove the tone board if present. Then unscrew the slotted nut (A) , and press down to the top of the jack to break the waterproof seal. Apply RTV-108 (GE Part No. 19A115153P2) around the shoulder on the new jack before inserting the jack into the mounting hole and replacing the slotted nut.



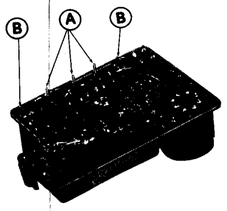
STEP 6.

To replace the speaker, remove the four Phillips-head screws (A) , and lift off the speaker cover. Then push the speaker out of its mounting hole and remove any of the sealant remaining around the edge of the mounting hole. Apply RTV-108 around the edge of the speaker mounting hole and replace the speaker in the hole aligned as shown. Then replace the speaker cover.



STEP 7.

To replace the PTT switch or clean the rubber diaphragm, use a 3/32-inch diameter blade flat-head screwdriver (GE Service Parts No. SPK-528) and remove the two screws holding the PTT ring (A) to the case. Remove the PTT ring and button. Remove the diaphragm, metal disk and spring.

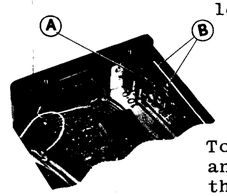


STEP 8.

To replace one of the modules, unsolder and straighten up the module wire leads (A) . Remove any solder accumulation from the leads.

Unsolder and straighten up the module mounting tabs (B) and remove any solder accumulation.

If replacing the receiver front end or mixer modules, also remove the small screws holding the helical resonators. Replace the module and solder down the mounting tabs and then the wire leads. Refer to the appropriate Outline Diagram (see Table of Contents) for the wire lead placement, if required.



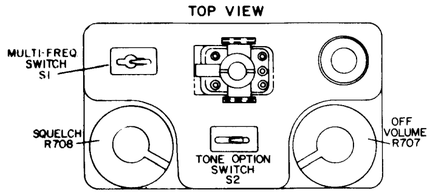
STEP 9.

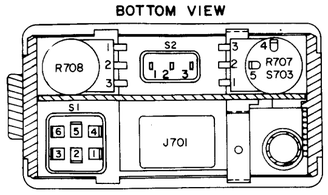
To replace the antenna switch, remove the antenna and the receiver and tone boards from the case. Next, remove the Phillips-head screw (A) and then unsolder the mounting tabs (B) .

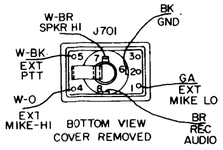
Install the new switch by replacing the Phillips-head screw (A) and then soldering the mounting tabs (B) .

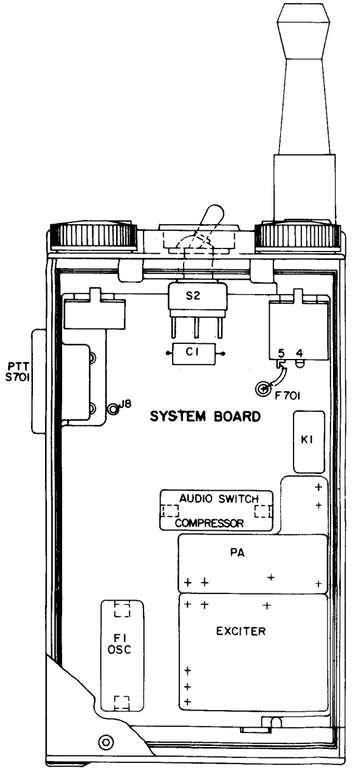
WARNING

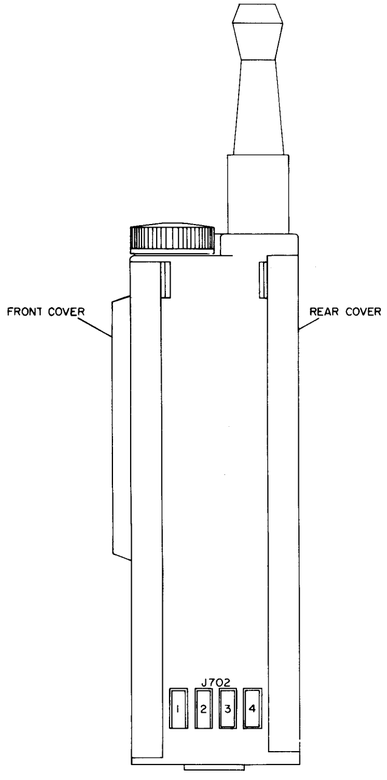
The stud-mounted RF Power Transistors used in the PA module, contain Beryllium Oxide, a TOXIC substance. If the ceramic or other encapsulation is opened, crushed, broken or abraded, the dust may be hazardous if inhaled. Use care in replacing transistors of this type.

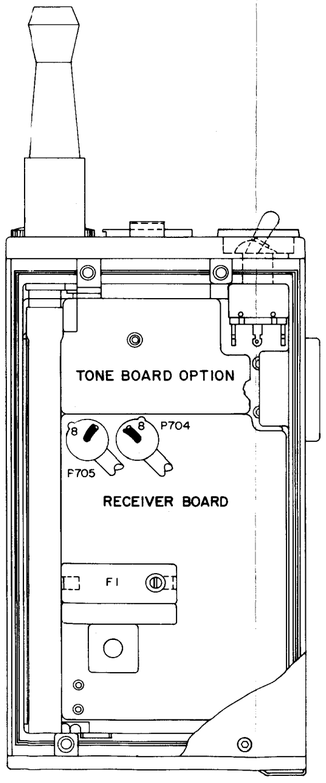


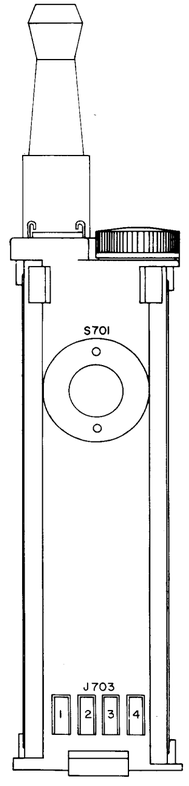












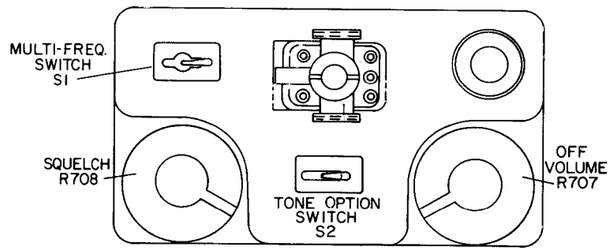
MODULE LAYOUT DIAGRAM

30—50 MHz, PE MODEL TWO-WAY FM RADIO

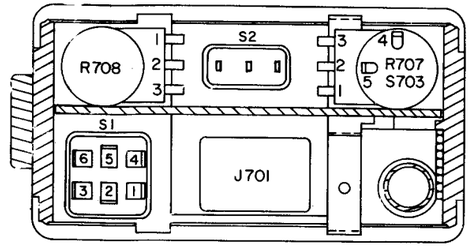
(19D417622, Rev. 0)

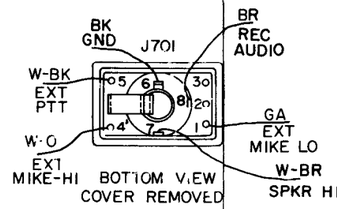
CONTROL UNIT

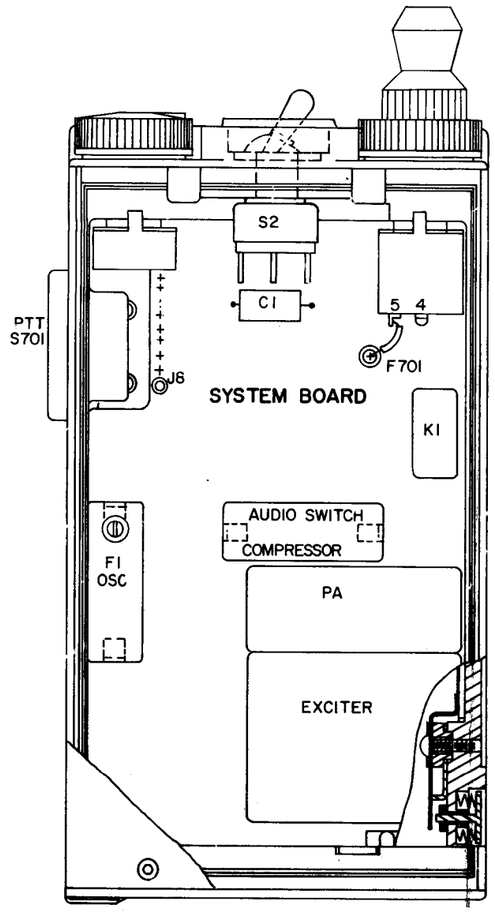
TOP VIEW

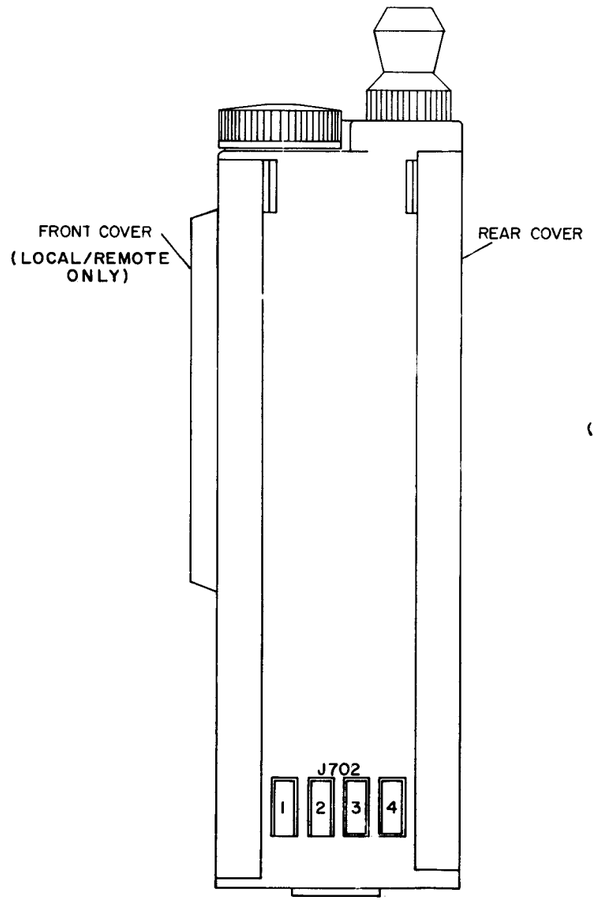


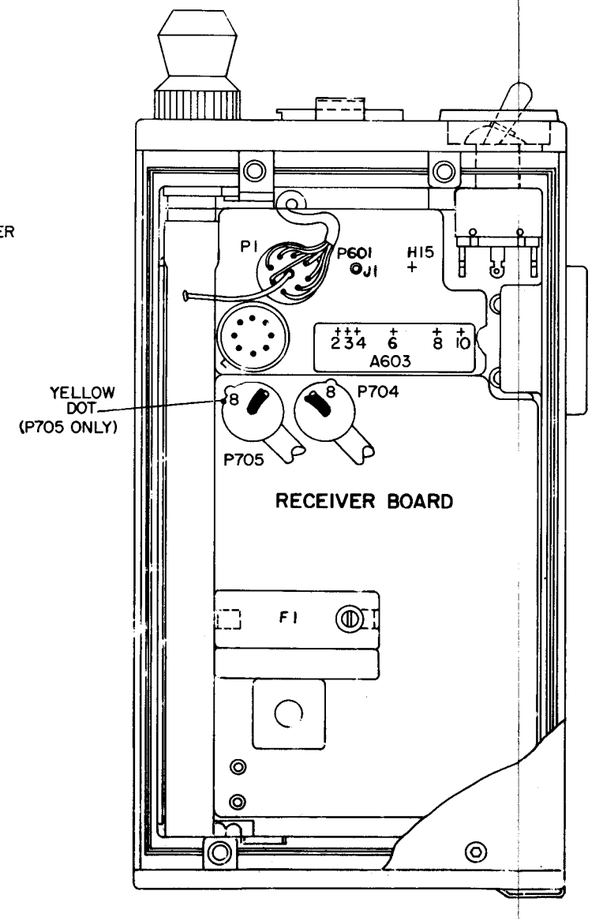
BOTTOM VIEW

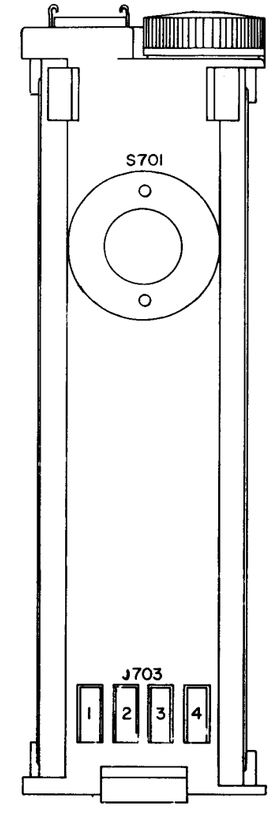










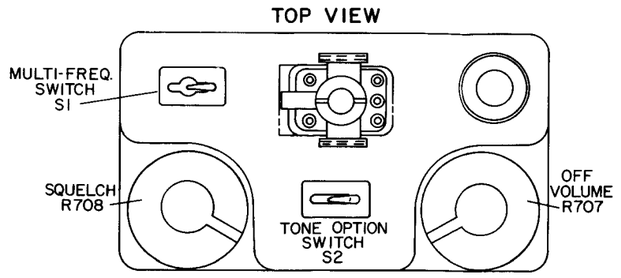


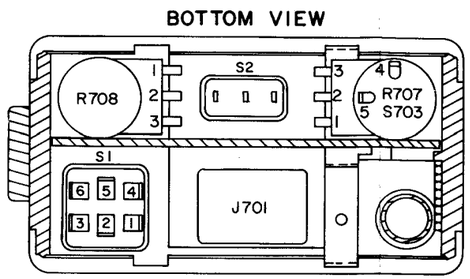
(19D416235, Rev. 8)

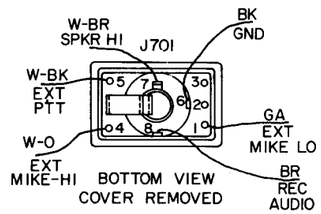
MODULE LAYOUT DIAGRAM

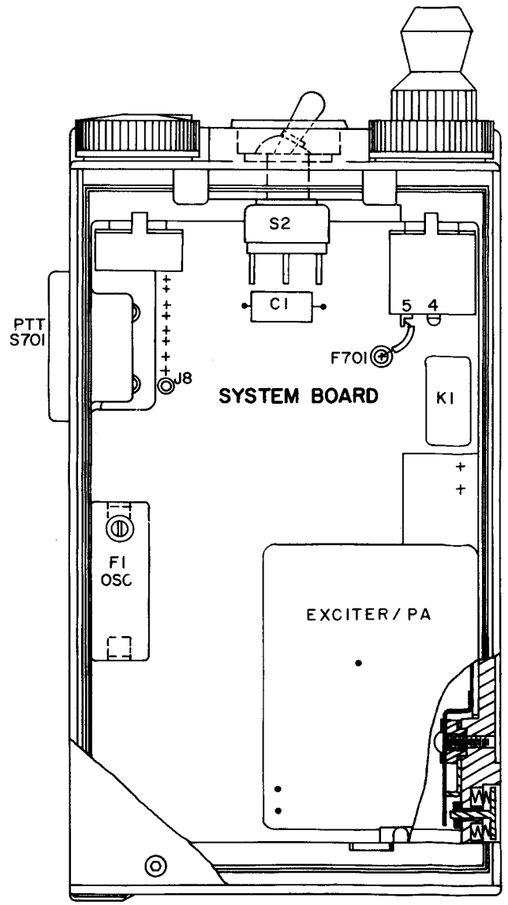
150.8—174 MHz PE MODEL
TWO-WAY FM RADIO

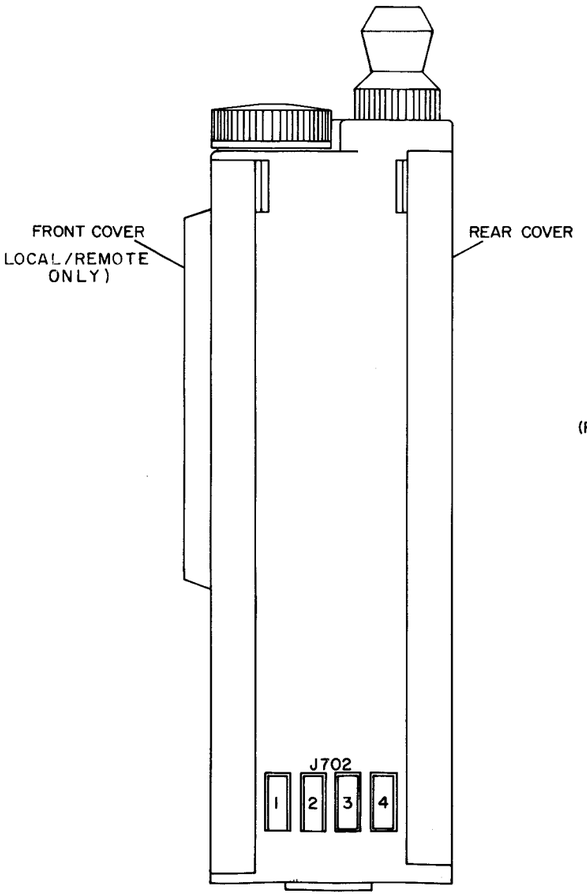
CONTROL UNIT

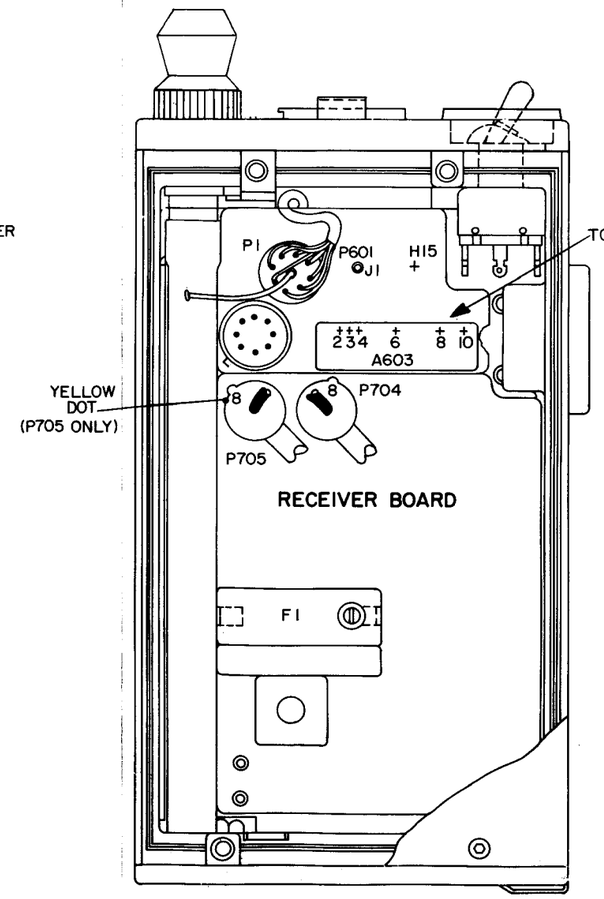


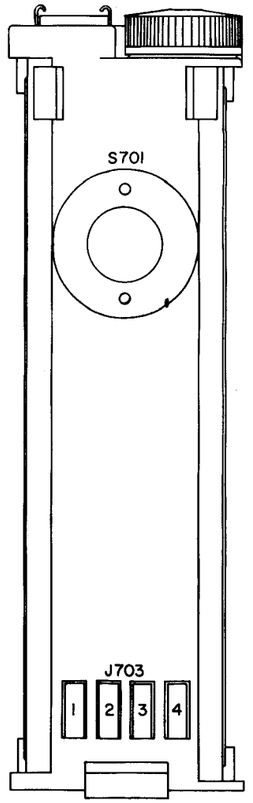












MODULE LAYOUT DIAGRAM

406—512 MHz PE MODEL
TWO-WAY FM RADIO

(19D416906, Rev. 4)

ORDERING SERVICE PARTS

Each component appearing on the schematic diagram is identified by a symbol number, to simplify locating it in the parts list. Each component is listed by symbol number, followed by its description and GE Part Number.

Service may be obtained from Authorized GE Communication Equipment Service Stations or through any GE Radio Communication Equipment Sales Office. When ordering a part, be sure to give:

1. GE Part Number for component
2. Description of part
3. Model number of equipment
4. Revision letter stamped on unit

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance.

Should further information be desired, or should particular problems arise which are not covered sufficiently for the purchaser's purposes, contact the nearest Readio Communication Equipment Sales Office of the General Electric Company.

MAINTENANCE MANUAL

LBI-4575

MOBILE RADIO DEPARTMENT
GENERAL ELECTRIC COMPANY ● LYNCHBURG, VIRGINIA 24502

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ECP-736