

 **MOBILE RADIO**

# **MASTR**

## **PROGRESS LINE**

**MAINTENANCE MANUAL**

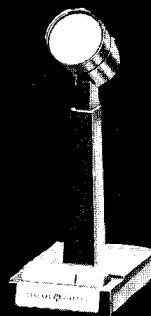


**DESK MATE STATION**

**TWO-WAY FM  
DESK MATE  
STATION  
COMBINATION**

**LOCAL CONTROL**

LBI-3568M



**DESK MICROPHONE**

# TABLE OF CONTENTS

|  | Page |
|--|------|
| EQUIPMENT INDEX.....                                 | iii  |
| SPECIFICATIONS.....                                  | iv   |
| COMBINATION NOMENCLATURE.....                        | iv   |
| DESCRIPTION.....                                     | 1    |
| Servicing.....                                       | 1    |
| Transmitter.....                                     | 1    |
| Receiver.....  | 1    |
| Power Supplies.....                                  | 1    |
| Antenna Switching Relay.....                         | 1    |
| Optional Power Supply.....                           | 1    |
| Control Panel.....                                   | 1    |
| AC Input.....  | 2    |
| Multi-Frequency Switch.....                          | 2    |
| Microphone Pre-Amplifier.....                        | 2    |
| Optional Handset & Hookswitch.....                   | 2    |
| INITIAL ADJUSTMENT.....                              | 2    |
| Test Equipment Required.....                         | 2    |
| Transmitter Adjustment.....                          | 2    |
| Receiver Adjustment.....                             | 2    |
| Power Supply Adjustment.....                         | 3    |
| OPERATION.....                                       | 3    |
| To Receive A Message.....                            | 3    |
| To Transmit A Message.....                           | 3    |
| MAINTENANCE.....                                     | 3    |
| Preventive Maintenance.....                          | 3    |
| Test & Troubleshooting Procedures.....               | 3    |
| Maintenance Check.....                               | 4    |
| OUTLINE DIAGRAM.....                                 | 6    |
| INTERCONNECTION DIAGRAM.....                         | 7    |
| PARTS LIST.....                                      | 8    |
| Desk-Mate Cabinet 7354211-G4.....                    | 8    |
| Control Panel 19D402460-G1 & -G2.....                | 8    |
| Frequency-Selector Switch 19A121629-G1 thru -G5..... | 8    |
| Desk Microphone Models 4EM28A10 & 4EM38B10.....      | 8    |
| Microphone Models 4EM25A10/B10.....                  | 9    |
| Handset Model 4EM26A10, C10.....                     | 10   |
| Hookswitch 19B204867-G2.....                         | 10   |

NOTE: This is the Combination Manual. You must also refer to the applicable transmitter, receiver, and power supply manuals.

## 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 MODEL NUMBER             |
|--|----------------------------------|
| Transmitter  | ET-54-A through ET-60-H          |
| Receiver   | ER-39-A through ER-42-L          |
| Desk Mate Cabinet  | 7354211G4                        |
| Station Power Supply                                       | EP-38-A                          |
| Control Panel  | 19D402460G1                      |
| Antenna Relay (mounts on EP-38-A)                          | 19A121260G1                      |
| Microphone (with Channel Guard)<br>(without Channel Guard) | 4EM28B10<br>4EM28A10             |
| Multi-Frequency Switch                                     | 19A121629G1 through G5           |
| 117-VAC Power Cable  | 7491206P1                        |
| Two-Prong Plug Adapter                                     | 7160486P1                        |
| Alignment Tools (hex slug type)<br>(slotted screw type)    | 4038831P2<br>4033530G2           |
| Lock Assembly<br>Lock (With Key)<br>Keys                   | 5491682P13<br>5491682P4 (BF-10A) |

## OPTIONAL EQUIPMENT

| EQUIPMENT  | OPTION NO.     | TYPE OR MODEL NUMBER         |
|--|----------------|------------------------------|
| Priority Search Lock Monitor Kit   | 7676           | 19A127679 G1                 |
| Priority Search Lock Monitor Switch  | 7677           | 19A121629G9                  |
| Handset<br>Hookswitch  | 7701 &<br>7702 | 4EM26A10, C10<br>19B204867G2 |
| Control Panel (with Channel<br>Guard Switch)   | 7702 & 7706    | 19D402460G2                  |
| Application Kit For Type 90 &<br>Type 99 Decoders                                      | 7711           | 19B204996G1                  |
| Receiver Power Supply<br>Antenna Relay   | 7721 &<br>7722 | EP-39-A<br>19A121260 G2      |
| Two-Frequency Monitoring Kits:   |                |                              |
| Two Receivers - single-frequency<br>Transmitter  | 7721           | 19A121629G7                  |
| Two Receivers - two-frequency<br>Transmitter   | 7722           | 19A121629G8                  |
| Station Test Metering Panel:<br>Meter Panel Assembly<br>Meter Switching Panel Assembly | 7609           | 19A121953G1<br>19A121460G1   |
| Transmitter Metering Cover   | 7648           | 19C303676G3                  |
| Receiver Metering Cover  | 7649           | 19C303676G2                  |
| 220/110 VAC Step Down Transformer Kit  | 7608           | 19A121971G1                  |
| Microphone (Military Type)   | 7705 & 7706    | 19B209102 P1                 |

**SPECIFICATIONS \***

|                                 |  |
|---------------------------------|--|
| DIMENSIONS (H x W x D)          | 30-3/8" x 14" x 25-1/2"  |
| WEIGHT                          | Approximately 112 pounds   |
| DUTY CYCLE (Transmit & Receive) | Continuous   |
| INPUT VOLTAGE                   | 117 VAC, $\pm 10\%$ , 50/60 Hz   |
| INPUT POWER                     | Transmit: 2.9 amps, max., 340 watts<br>Receive: 0.8 amps, max., 95 watts |
| OPERABLE TEMPERATURE RANGE      | -30°C (-22°F) to +60°C (+140°F)  |

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

**COMBINATION NOMENCLATURE**

| 1st Digit                     | 2nd Digit           | 3rd Digit                | 4th Digit          | 5th Digit                         | 6th Digit                        | 7th Digit                                 | 8th & 9th Digit            |
|-------------------------------|---------------------|--------------------------|--------------------|-----------------------------------|----------------------------------|---|----------------------------|
| Mechanical Package            | Operating Voltage   | RF Power Output Range    | Channel Spacing    | Control                           | Number of Freq.                  | Options                                   | Frequency Range            |
| <b>D</b><br>Desk Mate Station | <b>M</b><br>117 VAC | <b>5</b><br>16—38 watts  | <b>4</b><br>20 KHz | <b>L</b><br>Local Control Station | <b>A</b><br>1-Freq.T<br>1-Freq.R | <b>S</b><br>Standard                      | <b>11</b><br>25—33 MHz     |
|                               | <b>T</b><br>117 VAC | <b>6</b><br>38—64 watts  | <b>6</b><br>30 KHz |                                   | <b>B</b><br>2-Freq.T<br>1-Freq.R | <b>N</b><br>Noise Blanker                 | <b>22</b><br>33—42 MHz     |
|                               |                     | <b>7</b><br>64—128 watts | <b>7</b><br>40 KHz |                                   | <b>C</b><br>2-Freq.T<br>2-Freq.R | <b>U</b><br>Channel Guard                 | <b>33</b><br>42—50 MHz     |
|                               |                     |                          | <b>8</b><br>50 KHz |                                   | <b>D</b><br>1-Freq.T<br>2-Freq.R | <b>W</b><br>Noise Blanker & Channel Guard | <b>44</b><br>66—77 MHz     |
|                               |                     |                          | <b>9</b><br>60 KHz |                                   | <b>E</b><br>3-Freq.T<br>3-Freq.R | <b>P</b><br>UHS Receiver                  | <b>45</b><br>77—88 MHz     |
|                               |                     |                          |                    |                                   | <b>F</b><br>4-Freq.T<br>4-Freq.R | <b>G</b><br>UHS Receiver & Channel Guard  | <b>55</b><br>132—150.8 MHz |
|                               |                     |                          |                    |                                   |                                  |   | <b>66</b><br>150.8—174 MHz |
|                               |                     |                          |                    |                                   |                                  |   | <b>77</b><br>406—420 MHz   |
|                               |                     |                          |                    |                                   |                                  |   | <b>88</b><br>450—470 MHz   |
|                               |                     |                          |                    |                                   |                                  |   | <b>89</b><br>470—494 MHz   |
|                               |                     |                          |                    |                                   |                                  |   | <b>91</b><br>494—512 MHz   |

## DESCRIPTION

General Electric MASTR Progress Line Desk Mate Stations are attractively styled base stations that are designed to meet the most stringent requirements in the field of Two-Way FM Radio.

The Desk Mate cabinet can be located on either side of a desk to provide additional working space. All operating controls are conveniently located on the control panel on the front of the cabinet. Both the transmitter exciter and the receiver are fully transistorized. Silicon transistors are used throughout for added reliability.

### SERVICING

Both side panels on the station cabinet can be easily removed to gain access to the transmitter, receiver and power supply. The transmitter and receiver modules are equipped with centralized metering jacks, and are mounted on swing-out chassis for simplified alignment and troubleshooting.

The transmitter and receiver modules may be used interchangeably in mobile and station installations. No modifications are required when transferring the units from one type of operation to another.

The station may also be equipped with an optional built-in Station Test Metering Panel to facilitate servicing.

### TRANSMITTER

The transmitter assembly consists of a transistorized exciter board and the power amplifier section. The standard transmitter may be equipped with:

- One through four frequencies
- Channel Guard (tone squelch)

### RECEIVER

The fully transistorized receiver is completely contained in an aluminum casting, which provides excellent electrical shielding and reduces the effects of vibration. The standard receiver may be equipped with:

- One through four frequencies
- Channel Guard (tone squelch)
- Noise Blanker

### POWER SUPPLIES

Station Power Supply Type EP-38-A provides operating voltages for both the transmitter and receiver. In addition to plate, screen and bias voltages for the transmitter, the power supply provides:

- Regulated -20 volts for the transistorized transmitter exciter board.
- Regulated +10 volts for the receiver and for transmitter Channel Guard.
- Regulated +12.6 volts for receiver audio, xmtr filaments, relays & pilot lights.

### Antenna Switching Relay

The antenna switching relay (K502) is mounted on the power supply. Keying the transmitter energizes the relay, which connects the transmitter output to the antenna. When the transmitter is unkeyed, K502 is de-energized and the receiver is connected to the antenna.

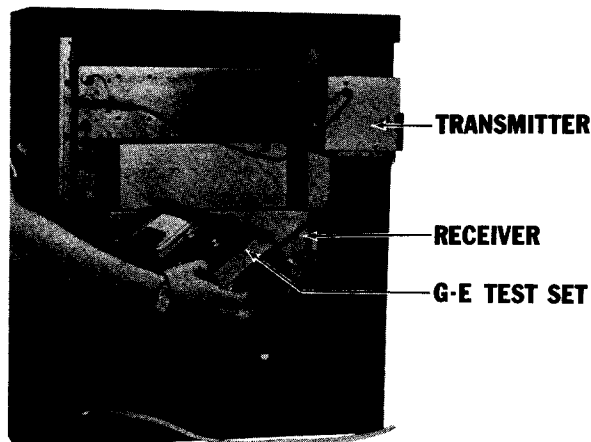
### Receiver Power Supply (Optional)

Receiver power supply Type EP-39-A is provided when the Desk Mate Station is equipped with a second receiver.

### CONTROL PANEL

The Control Panel is conveniently located on the front of the Desk Mate Station, and contains all operating controls for the station.

The VOLUME control (R901), SQUELCH control (R902), ON-OFF switch (S901) and



Transmitter-Receiver Test

indicator lights are located on the front of the Control Panel below the speaker grille. Two additional mounting holes are provided for option switches. The loud-speaker, microphone pre-amplifier stage and AC connection terminal board are mounted on the rear of the Control Panel.

#### AC Input

The 117-volt AC input is connected directly to terminals 1 and 2 of TB903. All power to the station is controlled by switch S901. Turning S901 ON lights the green Power-On light. This indicates that the transmitter and receiver are turned on.

#### NOTE

220-VAC input-A220/110-v Step Down Transformer Kit is available for use when the input line voltage is 220 VAC.

#### WARNING

117-volts AC is always present at terminals 1 and 2 of TB903, even when S901 is in the OFF position. Always use care when servicing the Control Panel.

#### Multi-Frequency Switch (S902)

In two-, three- or four-frequency units, a multi-frequency switch is located on the Control Panel for selecting the desired frequency. The switch connects +10 volts to the selected receiver oscillator switching diode, and connects the transmitter switching diode to ground. The unit will then operate on the frequency determined by each of the crystal-controlled oscillators.

#### Microphone Pre-Amplifier (A901)

Microphone pre-amplifier A901 provides an additional 10-dB gain for use with desk-type microphones. When a military mike or handset is used, the pre-amplifier is disconnected from the circuit by moving lead P1 from J1 to J2 (refer to Front Panel Outline Diagram) so that the signal is connected directly to the transmitter.

The audio signal from the desk-type mike is connected to the pre-amp transistor Q1 through coupling capacitor C1. Following amplifier Q1, the signal is coupled through audio coupling capacitor C2 to the transmitter.

Base bias for Q1 is provided through voltage divider circuit R1 and R2 from the 10-volt regulated supply.

#### Optional Handset and Hookswitch

Handset Model 4EM26A10 and Hookswitch 19B204867-G2 are optional equipment for MASTR Desk Mate Local Control Stations. With the handset on the hookswitch, audio can be heard through speaker LS901. When the handset is lifted off the hookswitch, the normally closed contacts of S1 in the hookswitch open, muting the speaker. The call can be heard in the handset ear piece. The push-to-talk button on the handset is pressed to transmit a message.

The handset plug connects to J901 located on the rear grille of the station cabinet.

### **INITIAL ADJUSTMENT**

After the MASTR Desk Mate Station has been installed as described in the Installation Manual, the transmitter, receiver, and power supply must be adjusted by an electronics technician who holds a 1st or 2nd Class FCC Radiotelephone or Radiotelegraph license before the station can be placed in operation.

#### **TEST EQUIPMENT REQUIRED**

The following test equipment is required for the adjustment of both transmitter and receiver:

1. A tuning tool and a screwdriver.
2. GE Test Meter Model 4EX3A10, built-in Station Test Metering Panel (Optional), or a 20,000 ohms-per-volt multimeter.
3. A signal source operating at the system frequency (preferably the transmitter which will normally be monitored by the receiver).

#### **TRANSMITTER PROCEDURE**

The initial adjustment for the transmitter includes:

- Loading the power amplifier into the antenna.
- Checking the frequency and modulation

For the Initial Adjustment procedure, refer to the ALIGNMENT PROCEDURE in the MAINTENANCE MANUAL for the transmitter.

#### **RECEIVER ADJUSTMENT**

The initial adjustment for the receiver includes:

- Zeroing the receiver to the system operating frequency.
- Matching the antenna transformer to the antenna.

For the Receiver Initial Adjustment Procedure, refer to the FRONT END ALIGNMENT PROCEDURE in the MAINTENANCE MANUAL for the receiver.

#### POWER SUPPLY ADJUSTMENT

The initial adjustment for power supply Type EP-38-A includes:

- Setting the VOLUME control (R511) on the power supply to mid-range.
- Setting the SQUELCH control (R512) on the power supply fully clockwise.

After these adjustments are made, the VOLUME and SQUELCH controls on the station Control Panel will normally operate near mid-range.

### OPERATION

The basic procedures for receiving and transmitting messages are as follows:

#### TO RECEIVE A MESSAGE

1. Turn the radio on by pressing the ON button to the ON position. The green power-on light will glow, indicating that power is applied to the unit.
2. Turn the SQUELCH control clockwise (to the right) as far as possible.
3. Adjust the VOLUME control until the "hissing" sound is easily heard but not annoyingly loud.
4. Now, slowly turn the SQUELCH control counterclockwise (to the left) until the "hissing" sound disappears.

The radio is now ready to receive messages from other radios in the system.

#### TO TRANSMIT A MESSAGE

1. Apply power to the transmitter by pressing the ON button to the ON position. Let the unit warm up for 30 seconds.
2. Press the push-to-talk button on the microphone and speak in a normal (or softer) voice six inches away from the front of the mike. Release the button as soon as the message has been given. The red signal light on the Control Panel will glow each time the microphone button is pressed, indicating that the transmitter is on the air. The receiver is muted whenever the transmitter is keyed.

### MAINTENANCE

#### PREVENTIVE MAINTENANCE

To insure high operating efficiency and to prevent mechanical and electrical failures from interrupting system operations, routine checks should be made of all mechanical and electrical parts. This preventive maintenance should include the maintenance checks listed on the following page.

#### TEST & TROUBLESHOOTING PROCEDURES

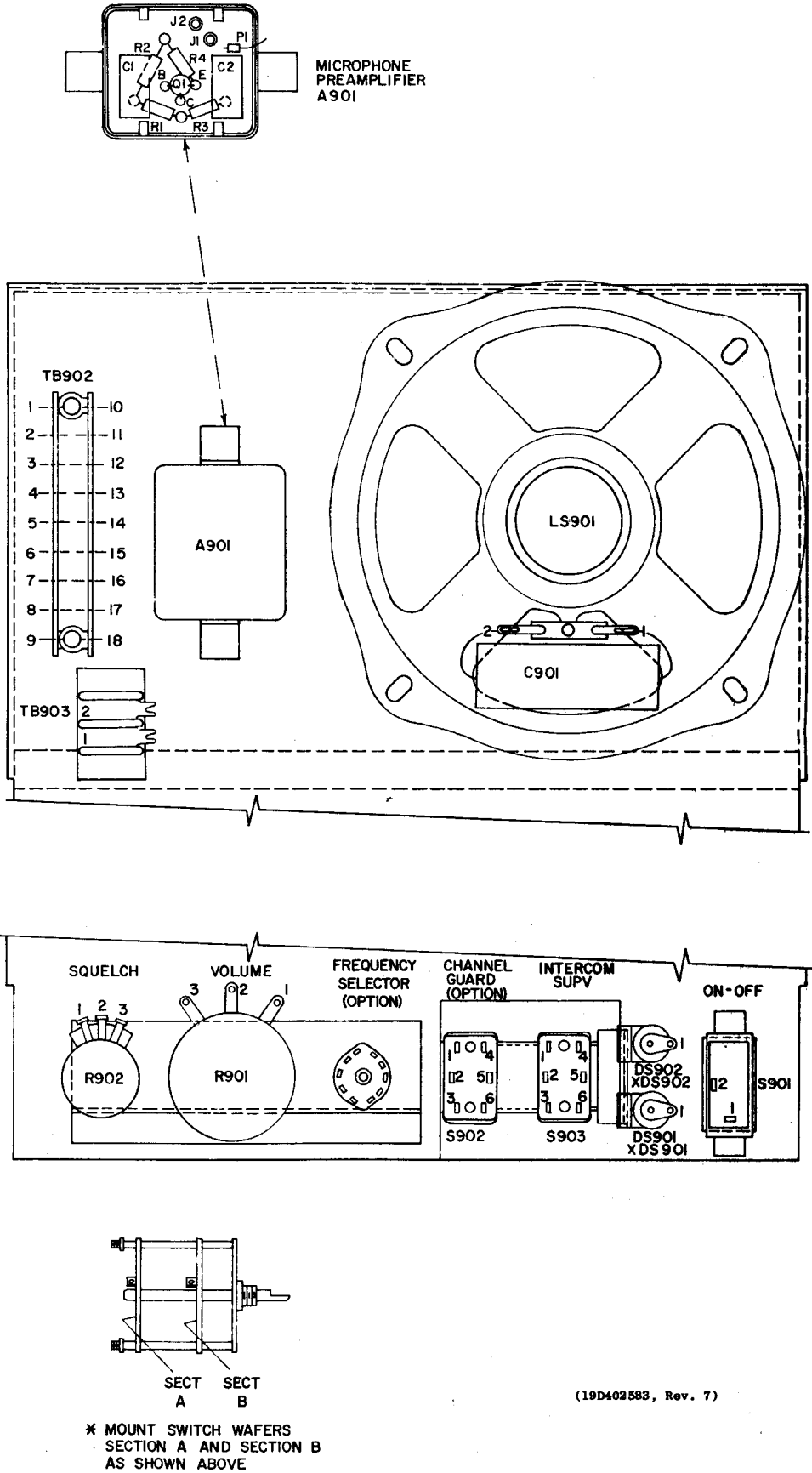
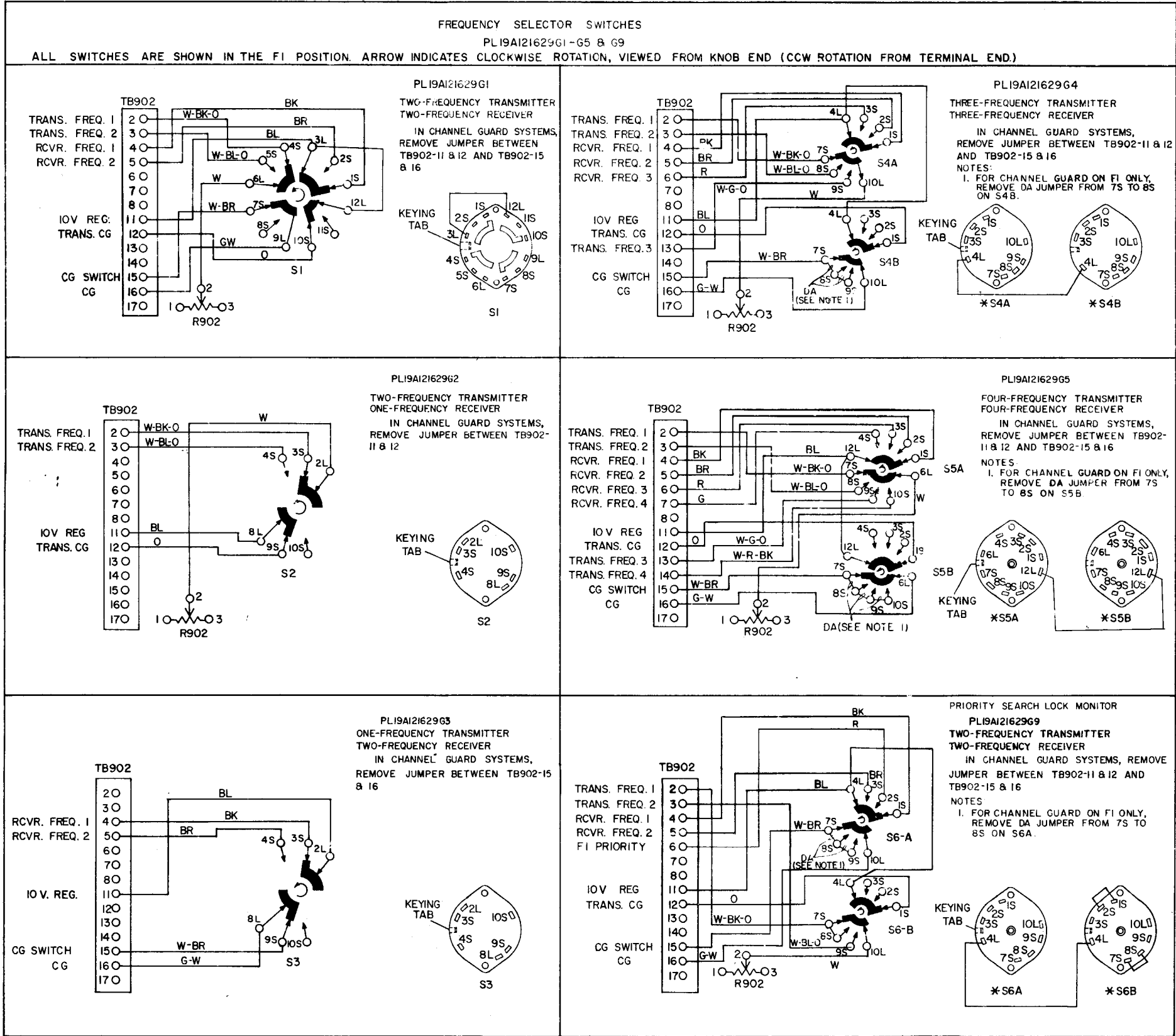
The individual Maintenance Manual for the transmitter and receiver describe standard test procedures which the serviceman can use to compare the actual performance of the transmitter or receiver against the specifications of the unit when shipped from the factory.

In addition, specific troubleshooting procedures are available to assist the serviceman in troubleshooting the transmitter, receiver and power supply.

For best results in servicing the station, the TEST PROCEDURES should be used in conjunction with the TROUBLESHOOTING PROCEDURES. Both sheets are listed in the Table of Contents of the applicable Maintenance Manual.

| MAINTENANCE CHECK   | INTERVAL BETWEEN CHECKS |             |
|---|-------------------------|-------------|
|   | Every 6 Months          | As Required |
| <u>Input Voltage</u> - Check input voltage across terminals 1 & 2 of TB903 in Control Panel. Meter should read within 10% of 117 VAC.   | X                       |             |
| <u>Transmitter Alignment</u> - Compare meter readings at transmitter multiplier metering jacks with voltages read during initial tune up. Touch up multiplier tuning. Retune transmitter PA. (See Alignment Procedure for Transmitter)        |                         | X           |
| <u>Receiver</u> - While receiving an unmodulated signal on the station frequency(s), adjust OSC-1 trimmer for each operating frequency for a zero discriminator reading. (See the Receiver Alignment Procedure MAINTENANCE Section).          |                         | X           |
| <u>Relay Contacts</u> - Examine relay contacts. Burnish pitted or coated contacts to smooth out metallic deposits or to remove the coating. (See Transmitter-Receiver Power Supply Maintenance Manual.)                                       |                         | X           |
| <u>Transmission Line</u> - Check for positive indication of pressure on transmission line pressure guage (if pressurized line is used).   | X                       |             |
| <u>Antenna</u> - Check antenna & mast for mechanical stability.   | X                       |             |
| <u>Fan</u> - (If used, see detailed maintenance instructions in instructions for Power Supply)  |                         |             |
| 1. Clean dust from blades   | X                       |             |
| 2. Lubricate bearings - If operating continuously<br>If operating intermittently  | X                       |             |
| <u>Emergency Power Plant</u> - If station has emergency power plant, run generator for 15 minutes; check fuel & check emergency power alarm circuit.  |                         | X           |
| <u>Mechanical Inspection</u> - Visually check cables, plugs, sockets, terminal boards & components for good electrical connections. Check for tightness of nuts, bolts & screws to make sure that nothing is working loose from its mounting. | X                       |             |
| <u>Cleaning</u> - Use a vacuum cleaner to remove dust which has accumulated inside the cabinet.   | X                       |             |
| <u>Frequency Check</u> - Check transmitter frequency & deviation as required by FCC.  |                         | X           |





**OUTLINE DIAGRAM**  
**MASTR DESK-STATION COMBINATION**  
**LOCAL CONTROL**



PARTS LIST

LBI-4149

MASTR DESK MATE STATION CABINET  
7354211-G2

| SYMBOL | GE PART NO.   | DESCRIPTION  |
|--------|---------------|--|
|        | 7354211-P8    | Door: (fits either side).  |
|        | 4035449-P5    | Bumper, door: rubber, sim to Atlantic India Rubber 1165.                                       |
|        | N529P38C      | Plug, (for cable Knockouts at bottom of assembly).   |
|        | 7354211-P7    | Mounting rack. (2 drilled angles).   |
|        | 5491682-P13   | Lock and Key. Sim to Yale and Towne F7678DX1. Includes Key 5491682-P4 (Yale and Towne BF-10A). |
|        | N80P19008C13  | Screw, phillips: 12-24 x 1/2. (Used to secure rack panel assemblies).                          |
|        | N403P21C13    | Lockwasher: external tooth, No. 12. (Used to secure rack panel assemblies).                    |
|        | 19A121317-G15 | Interconnection Harness.   |

\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

PARTS LIST

LBI-3624

FREQUENCY - SELECTOR SWITCHES  
PL-19A121629-G1 - G6

| SYMBOL  | G-E PART NO. | DESCRIPTION   |
|---------|--------------|---|
|         |              | ----- SWITCHES -----  |
| S1      | 5495454-P18  | Rotary: 4 poles, 2 positions, non-shorting contacts, 2 amps at 25 VDC or 1 amp at 110 VAC; sim to Oak Type "A" or Centralab Series 100.             |
| S2 & S3 | 5495454-P1   | Rotary: 2 poles, 2 positions, non-shorting contacts, 2 amps at 25 VDC or 1 amp at 110 VAC; sim to Oak Type "A" or Centralab Series 100.             |
| S4 & S6 | 5495454-P20  | Rotary: 2 sections, 4 poles, 3 positions, non-shorting contacts, 2 amps at 25 VDC or 1 amp at 110 VAC; sim to Oak Type "A" or Centralab Series 100. |
| S5      | 5495227-P25  | Rotary: 2 sections, 4 poles, 4 positions, non-shorting contacts, 2 amps at 28 VDC or 1 amp at 110 VAC; sim to Oak Type "F".                         |

\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

PARTS LIST

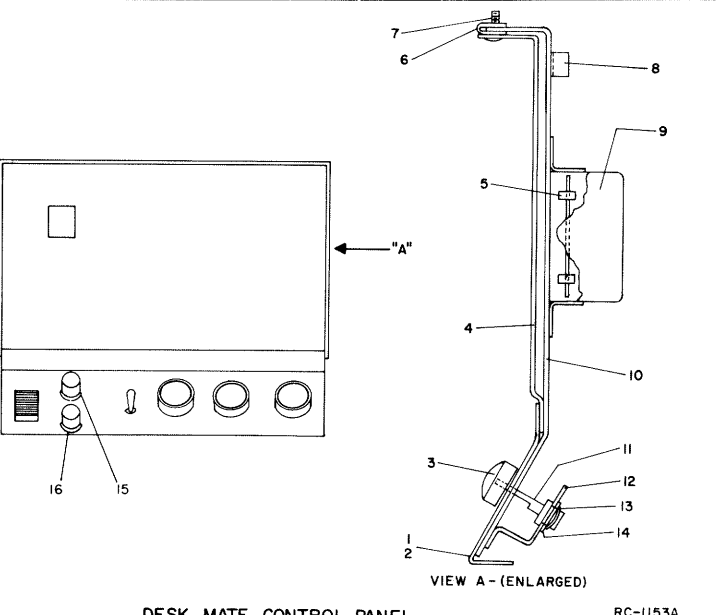
LBI-3625C

DESK-MATE STATION  
FRONT END CONTROL PANEL  
19D402460-G1 and G2  
REV C

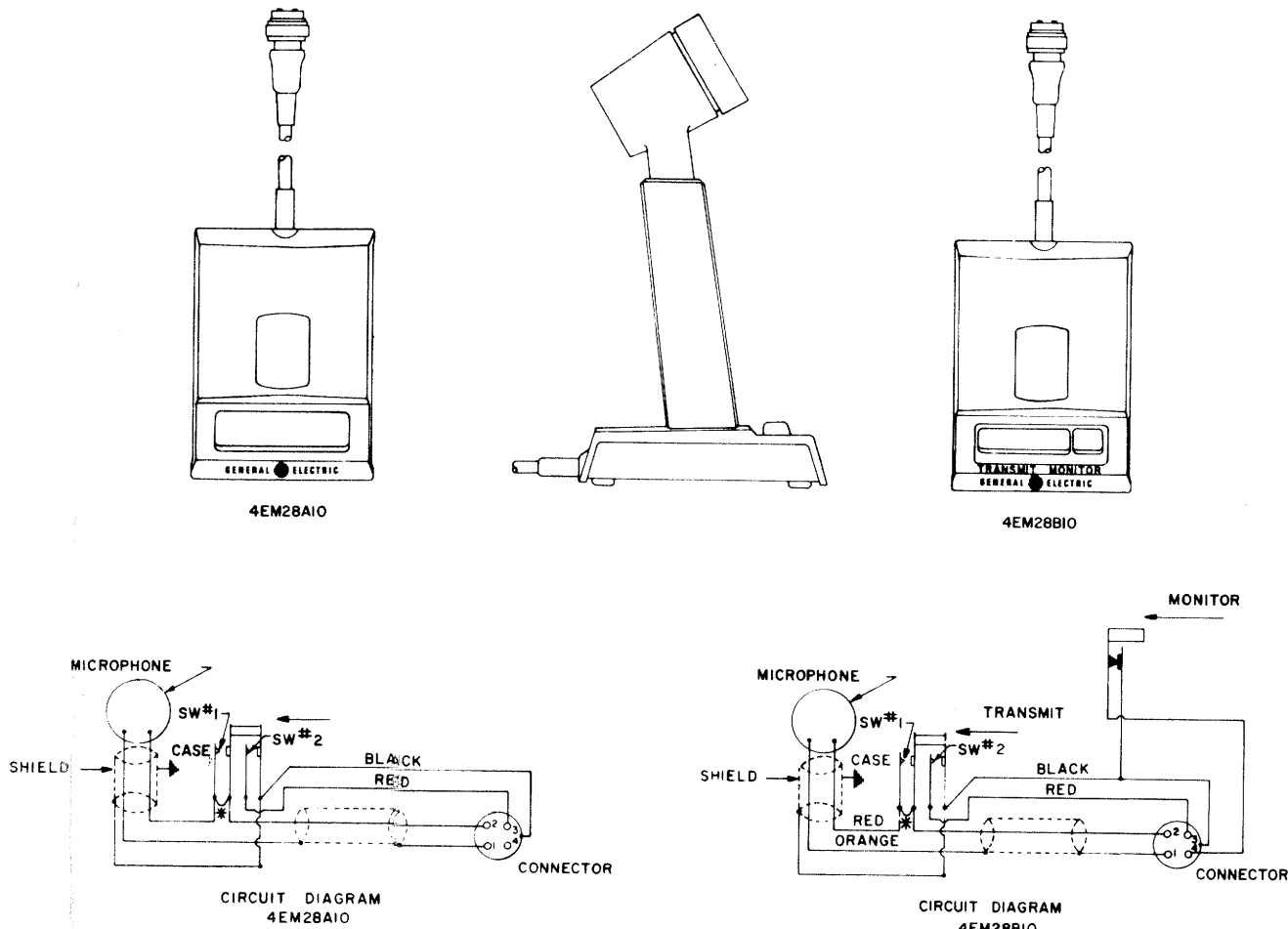
| SYMBOL          | G-E PART NO.   | DESCRIPTION  |
|-----------------|----------------|--|
| A901            |                | PRE-AMPLIFIER MICROPHONE ASSEMBLY<br>19B204663-G1  |
|                 |                | ----- CAPACITORS -----   |
| C1 and C2       | 19A115028-P114 | Polyester: 0.1 $\mu$ f $\pm$ 20%, 200 VDCW.  |
|                 |                | ----- JACKS AND RECEPTACLES -----  |
| J1 and J2       | 4033513-P4     | Contact, electrical: sim to Bead Chain L93-3.  |
|                 |                | ----- PLUGS -----  |
| P1              | 4029840-P2     | Contact, electrical: sim to Amp 42827-2.   |
|                 |                | ----- TRANSISTORS -----  |
| Q1              | 19A115123-P1   | Silicon, NPN; sim to Type 2N2712.  |
|                 |                | ----- RESISTORS -----  |
| R1              | 3R77-P434J     | Composition: 0.43 megohm $\pm$ 5%, 1/2 w.  |
| R2              | 3R77-P823K     | Composition: 82,000 ohms $\pm$ 10%, 1/2 w.   |
| R3              | 3R77-P103J     | Composition: 10,000 ohms $\pm$ 5%, 1/2 w.  |
| R4              | 3R77-P202J     | Composition: 2000 ohms $\pm$ 5%, 1/2 w.  |
|                 |                | ----- CAPACITORS -----   |
| C901*           | 19B209233-P2   | Electrolytic, non-polarized: 25 $\mu$ f $\pm$ 20%, 25 VDCW; sim to Sprague Type 44DC. Added by Rev B.  |
|                 |                | ----- INDICATING DEVICES -----   |
| DS901 and DS902 | 19C307037-P19  | Lamp, incandescent: miniature, 14 v; sim to GE 756.  |
|                 |                | ----- JACKS AND RECEPTACLES -----  |
| J901            | 7117934-P2     | Connector, chassis: 4 female contacts; sim to Amphenol Type 91-PC4F.   |
|                 |                | ----- LOUDSPEAKERS -----   |
| LS901*          | 19C307123-P3   | Permanent magnet, 6-inch: 3.2 ohms $\pm$ 10% Voice Coil imp., 3 W maximum operating, 150-300 Hz resonance, paper dust cap; sim to Pioneer 5-709524. In Models earlier than Rev. C: |
|                 | 19C307123-P1   | Permanent magnet, 6-inch: 3.2 ohms $\pm$ 10% voice coil imp., 3 W max operating, 150-300 Hz resonance, paper dust cap; sim to Russell Speaker S-3406.                              |
|                 |                | ----- PLUGS -----  |
| P902            | 7478726-P6     | Connector, cable: 4 male contacts; sim to Amphenol Type 91-MC4M.   |
|                 |                | ----- RESISTORS -----  |
| R901            | 7478301-P48    | Attenuator, variable, audio, L pad: 3.5 ohms, 4 w, 40 db max attenuation min.  |
| R902            | 5493662-P5     | Variable, carbon film: 2500 ohms $\pm$ 20%, 0.5 w; sim to CTS Series 45.   |
|                 |                | ----- SWITCHES -----   |
| S901            | 19B209147-P1   | Push: SPST, 3 amps at 250 VAC or 6 amps at 125 VAC; sim to Cutler-Hammer 8134K6.   |
| S902            | 5491899-P4     | Toggle: DPDT, 3 amps at 250 VAC or 6 amps at 125 VDC; sim to Cutler-Hammer 8373K8. (Used in 19D402460-G2).   |

\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

| SYMBOL  | G-E PART NO. | DESCRIPTION  |
|---------|--------------|--|
| TB902   | 7775500-P19  | ----- TERMINAL BOARDS -----<br>Phen: 9 terminals.  |
| TB903   | 19C301088-P1 | Phen: 15 amps at 1200 VRMS, 2 terminals; sim to GE CR151D.   |
|         |              | ----- CABLES -----   |
| W901    | 7491206-P1   | Cord and plug: 3 conductor, 10 amps at 125 VRMS max, approx 15 feet long.                            |
|         |              | ----- SOCKETS -----  |
| XDS901* | 19B209342-P2 | Lamp; sim to Leecraft 7-04-1.  |
|         | 7141855-P12  | In Models earlier than Rev A:<br>Lamp: cylindrical red plastic lens; sim to Dialight 135-410-1431.   |
| XDS902* | 19B209342-P2 | Lamp: sim to Leecraft 7-04-1.  |
|         | 7141855-P13  | In Models earlier than Rev A:<br>Lamp: cylindrical green plastic lens; sim to Dialight 135-410-1432. |
|         |              | MECHANICAL PARTS<br>(SEE RC-1153)  |
| 1       | NP243558     | Nameplate; etched aluminum. (Used in 19D402460-G1).  |
| 2       | NP243557     | Nameplate; etched aluminum. (Used in 19D402460-G2).  |
| 3       | 19A121675-G1 | Knob. (Used with R901, R902 and Dummy).  |
| 4       | 19B204642-P1 | Grille.  |
| 5       | 19B201879-P1 | Spring tension clip; sim to Tinnerman C42798-011-2. (Used with printed board).                       |
| 6       | 7160861-P4   | Nut: sheet spring; sim to Tinnerman C6452-82-157.  |
| 7       | N11P1508C13  | Phillips screw: No. 8-18 x 1/2 inch.   |
| 8       | 7763541-P7   | Cable clamp.   |
| 9       | 19A121365-G1 | Can. (Used with A901).   |
| 10      | 19B204803-G1 | Support.   |
| 11      | 4032256-P1   | Shaft: nylon, dummy.   |
| 12      | 19B204800-P1 | Support. (Used with R901 and R902).  |
| 13      | 4032230-P1   | Retaining ring: sim to Walde Kohinoor 5131-37.   |
| 14      | N402P13C13   | Plain washer.  |
| 15      | 4032237-P1   | Lens, green.   |
| 16      | 4032237-P2   | Lens, red.   |



DESK MATE CONTROL PANEL  
RC-1153A



NOTES:  
1. SWITCH #1 OF THE MICROPHONE  
CIRCUIT MUST CLOSE FIRST  
AND OPEN LAST.

(RC-302, Sh. 2, Rev. 0)

PARTS LIST

FOR:  
MICROPHONE, MAGNETIC, DESK TYPE  
MODELS 4EM28A10, B10

| SYMBOL | G-E PART NO. | DESCRIPTION   |
|--------|--------------|---|
|        | 19C307105-P1 | Microphone, magnetic desk type; high impedance control; magnetic to operate into a load impedance of approx. 100,000 ohms. Normal output 53.5 db below 1 volt per microbar. Sim to Shure Bros. Model CM17 with Shure Cartridge Number 99A86. Model 4EM28A10 only. |
|        | 19C307106-P1 | Same as above plus a mechanical interlock which prevents operation of "TRANSMIT" switch unless "MONITOR" switch is locked in down position. Model 4EM28B10 only.  |
|        | 7478726-P6   | Connector, cable: 4 male contacts. Sim to Amphenol Type 91-MC4M.  |

\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

PRODUCTION CHANGES

Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter", which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the Parts List for descriptions of parts affected by these revisions.

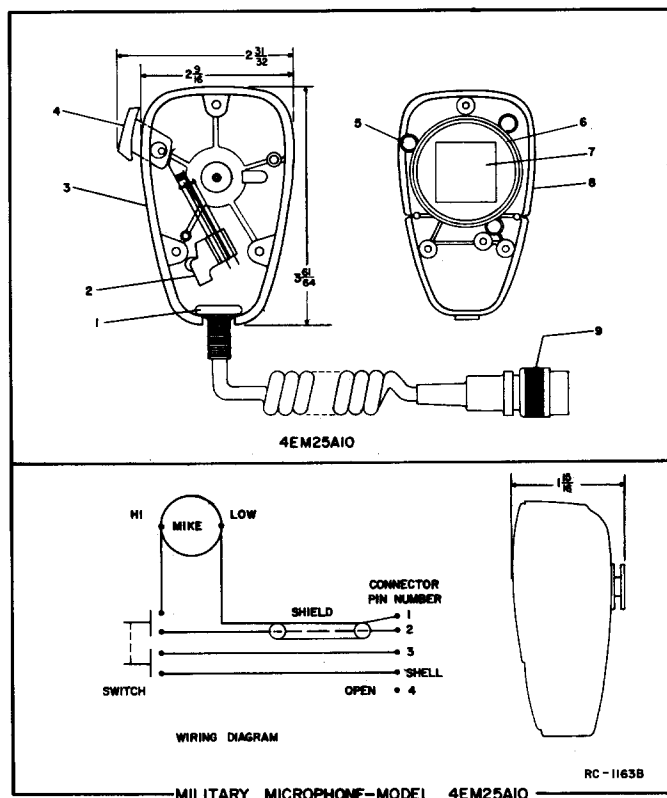
REV. A - To simplify manufacturing. Changed XDS901 and XDS902.  
REV. B - To improve audio quality. Added C901.  
REV. C - To incorporate an improved speaker. Changed LS901.

## PARTS LIST

LBI-3558B

MILITARY MICROPHONE  
 MODEL 4EM25A10  
 (PL-198209102-P1)  
 (SEE RC-1163)

| SYMBOL | G-E PART NO. | DESCRIPTION   |
|--------|--------------|---|
|        |              | MECHANICAL PARTS  |
|        |              | MODEL 4EM25A10  |
| 1      |              | Cable clamp. Shure Brothers RP-16.                              |
| 2      |              | Switch. Shure Brothers RP-26.                                   |
| 3      |              | Case (back) and mounting button: plastic. Shure Brothers RP-67. |
| 4      |              | Switch button: red plastic. Shure Brothers RP-25.               |
| 5      |              | Spring. Shure Brothers RP-1.                                    |
| 6      |              | Shield. Shure Brothers RP-23.                                   |
| 7      |              | Magnetic controlled cartridge. Shure Brothers RP-13.            |
| 8      |              | Case (front) plastic. (Part of item 3).                         |
| 9      |              | Cable and plug: approx 6 feet long. Shure Brothers RP-14.       |



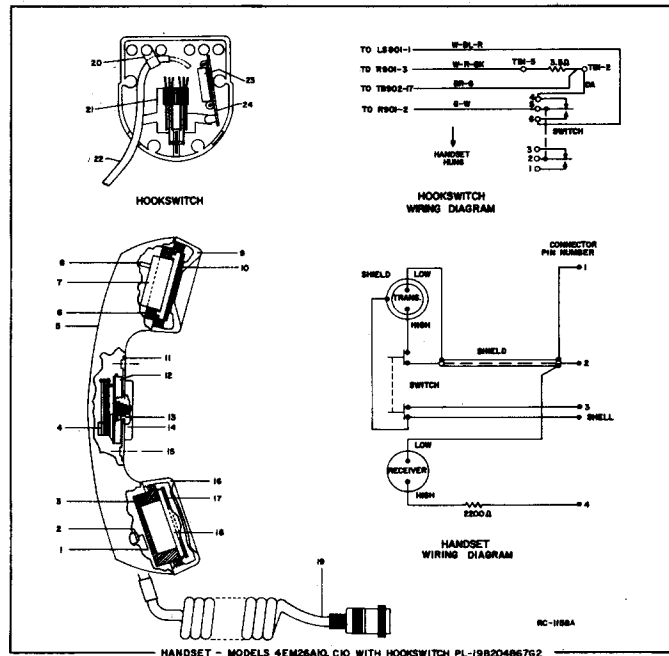
\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

PARTS LIST

LBI-3559B

HANDSET  
MODEL 4EM26A10, C10

| SYMBOL | GE PART NO. | DESCRIPTION  |
|--------|-------------|--|
|        |             | (REFER TO RC-1158)   |
| 1      |             | Self tap screw, blind head: No. 4 x 5/16.<br>Shure Brothers 30C640C.   |
| 2      |             | Cable clamp. Shure Brothers 53A532.  |
| 3      |             | Shield. Shure Brothers RP19.   |
| 4      |             | Switch. Shure Brothers RP81.   |
| 5      |             | Case. Shure Brothers RP49. (Used in 4EM26A10).<br>Case. Shure Brothers 21RP899F. (Used in 4EM26C10).                     |
| 6      |             | Adapter. Shure Brothers 65A230.  |
| 7      |             | Magnetic controlled cartridge. Shure Brothers RP41.  |
| 8      | 3R77P222K   | Composition: 2200 ohms $\pm 10\%$ , 1/2 w.   |
| 9      |             | Receiver cap. (Part of item 5).  |
| 10     |             | Washer. Shure Brothers 34A321.   |
| 11     |             | Escutcheon. Shure Brothers 53A536A.  |
| 12     |             | Actuator. Shure Brothers 53A556.   |
| 13     |             | Spring. Shure Brothers 44A140.   |
| 14     |             | Plunger bar. Shure Brothers RP82.  |
| 15     |             | Flat head screw, socket cap: No. 4-40 x 1/4.<br>Shure Brothers 30C557B.  |
| 16     |             | Transmitter cap. (Part of item 5).   |
| 17     |             | Washer. Shure Brothers 34A309.   |
| 18     |             | Magnetic controlled cartridge. Shure Brothers RP13.  |
| 19     |             | Cable and plug. Shure Brothers RP48. (Used in 4EM26A10).<br>Cable and plug. Shure Brothers 21RP738F. (Used in 4EM26C10). |
|        |             | HOOKSWITCH ASSEMBLY<br>19B204867G2   |
|        |             | - - - MISCELLANEOUS - - -  |
| 20     | 4029851P5   | Cable clamp; sim to Weckesser 3/16-4.  |
| 21     | 19A121612P1 | Holder and switch: thermoplastic case,<br>contact rating 1 amp at 125 v.   |
| 22     | 19A121720G1 | Cable: approx 8-1/2 feet long.   |
| 23     | 5493035P10  | Resistor, wirewound, ceramic: 3.5 ohms $\pm 5\%$ ,<br>5 w; sim to Tru-Ohm Type X-60.                                     |
| 24     | 7775500P55  | Terminal board, phen: 5 terminals.   |



\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.