MAINTENANCE MANUAL
FOR
MASTR REPEATER STATIONS
WITH SATELLITE RECEIVER AND VOTING SELECTOR
(OPTIONS 7762 & 7763)

CONTENTS

DESCRIPTION

Options 7762 (without Chan. Gd.) and 7763 (with Chan. Gd.) add the following units and modification kits to the Repeater Station:

UNITS

- Tone/Audio Panel 19D413943G3
- Audio Board 19D416667G3 (deletes 667G1)
- Power Supply 19D413917G1
- Audio Module 19D413958G1
- Receiver Module 19D413994G1
- Extender Board 19C317762G1
- Test Board 19D416003G1
- Selector Cabinet 19E500936G1

MODIFICATION KITS

- Back Plane 19A129630G1
- Audio Board 19A129640G1
- 4-Wire Audio 19A129508G1
- Chan. Gd. Mod to Audio Bd. 19B219806P1
- Repeater Board 19B219907
- Power Supply 19A129670G1

The Voting Selector panel is used with satellite receivers to form a receiver voting system. The Tone/Audio panel and Line Amplifier enables the station receiver to be used as a satellite receiver.

The satellite receivers are located so that at least one receiver will receive a good quality signal from a Personal or Mobile two-way radio transmitting from a specified operating area. The satellite receiver outputs are applied to the Voting Selector which selects the receiver with the best audio quality to be transmitted by the repeater station. All of the external satellite receivers are connected to the Voting Selector by AC or DC lines, or on RF link.

VOTING SELECTOR PANEL

The basic Voting Selector consists of an Interconnection Board, 117-Volt Power Supply, an Audio Module and up to six Receiver Modules (one for each satellite receiver). The Voting Selector provides continuous voting for the satellite receivers. The selected audio is amplified and applied to the repeater transmitter and to the Selector speaker.

Complete instructions for the Voting Selector are contained in Maintenance Manual.

DF-9026

TONE/AUDIO PANEL

The tone/audio panel contains a 1950 Hz tone generator, a tone gate, and a line transformer. When the receiver is squelched, the 1950 Hz tone is applied to the Voting Selector Panel. When the receiver is unsquelched, the tone is removed and the receiver audio is applied to the Voting Selector panel.

Complete instructions for the tone/audio panel are contained in Maintenance Manual.

SELECTOR AUDIO CONNECTIONS

All audio inputs from the satellite receivers must be connected to terminal boards mounted on the back of the Voting Selector Panel. A #22 AWG twisted pair is recommended for the audio leads. To gain access to the input terminals, remove the station back door and then remove the back plate on the Selector panel. Connect the audio pairs to the line input terminals as shown in the following chart:

Audio for Receiver Module:	Connect Audio Pair To:
1 (see note)	
2	TB9-12 and TB9-15
3	TB9-7 and TB9-10
4	TB9-2 and TB9-5
5	TB8-17 and TB8-20
6	TB8-12 and TB8-15

NOTE: Receiver Module 1 is connected to the station receiver by the Receiver Voting Overlay Harness.

VOTING SELECTOR ADJUSTMENT

The adjustment procedure for the Voting Selector also includes adjustment of the satellite receivers. For complete instructions, refer to the Maintenance Manual for the Voting Selector.

MODIFICATIONS

For receiver voting applications, modifications are required to the station, Voting Selector and the station Interconnection wiring.

1. Install the 19D413943G3 Tone/Audio Panel as shown in Figure 1.
2. Install the 19E500936G1 Voting Selector Cabinet as shown in Figure 1.
3. Mount the 19B219906G1 Component Board under the existing screw as shown in Figure 1.
4. For Receiver Voting applications with CHANNEL GUARD, remove the jumper wire between H16 and H17 on the 19D416675G4 Repeater Control Board.
5. Install the 19A129631G1 Overlay Harness and make connections as shown on the Wiring Diagram 19D416883.
6. Spot tie the overlay harness to the existing cabinet harness.
7. Install the following boards in the Voting Selector Panel as shown in Figure 1.
   A. Power Supply 19D413719G1
   B. Audio Board 19D413958G1
   C. Receiver Board 19D419994G1

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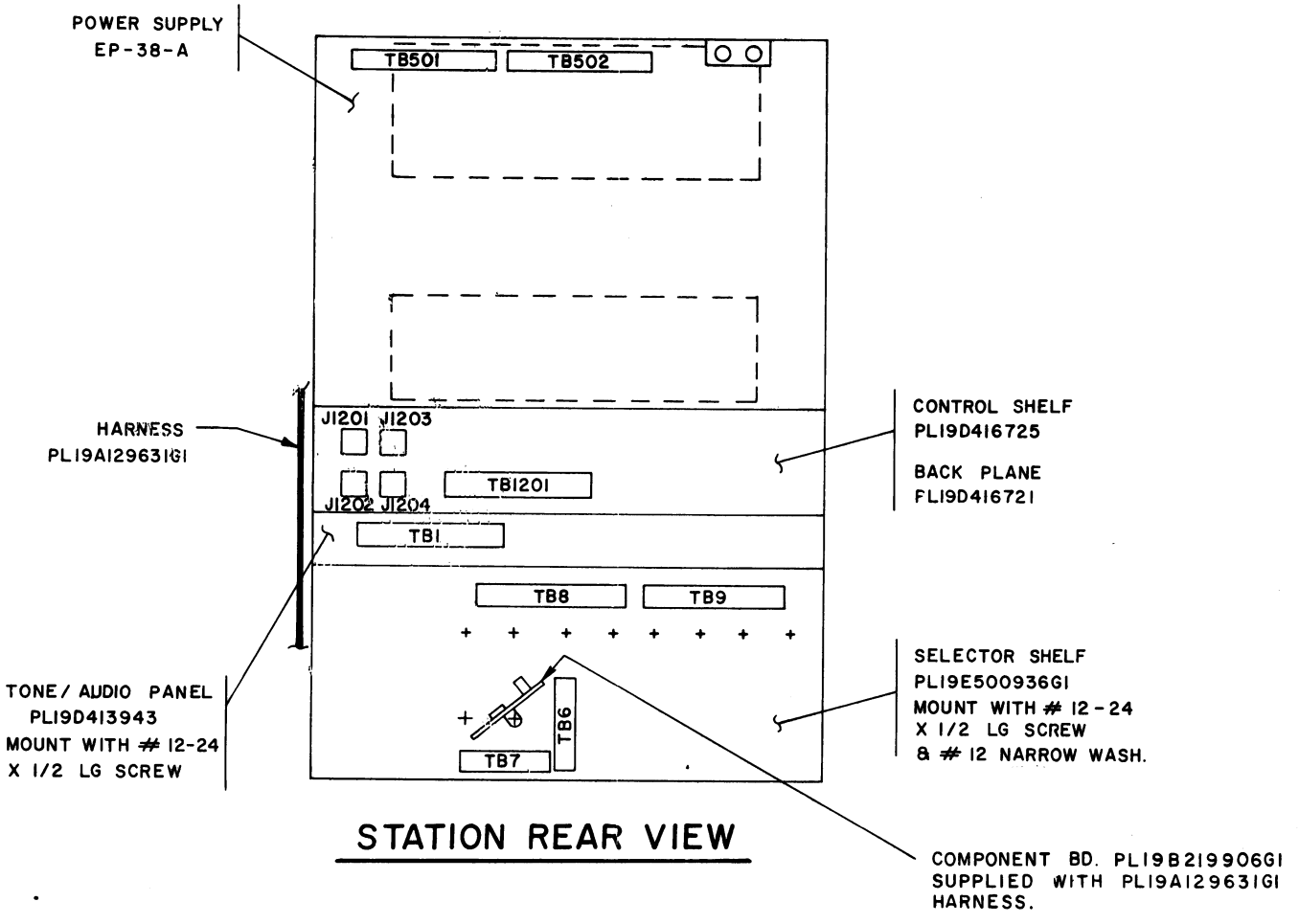
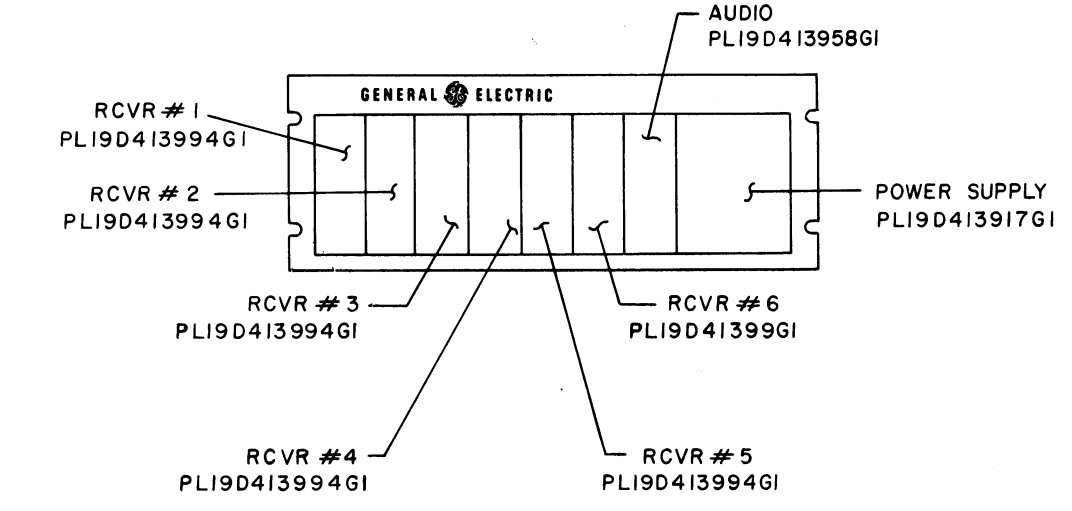


STATION REAR VIEW



FRONT VIEW SELECTOR SHELF
(PARTIAL)

RC-2526B

Figure 1 - Installation Diagram

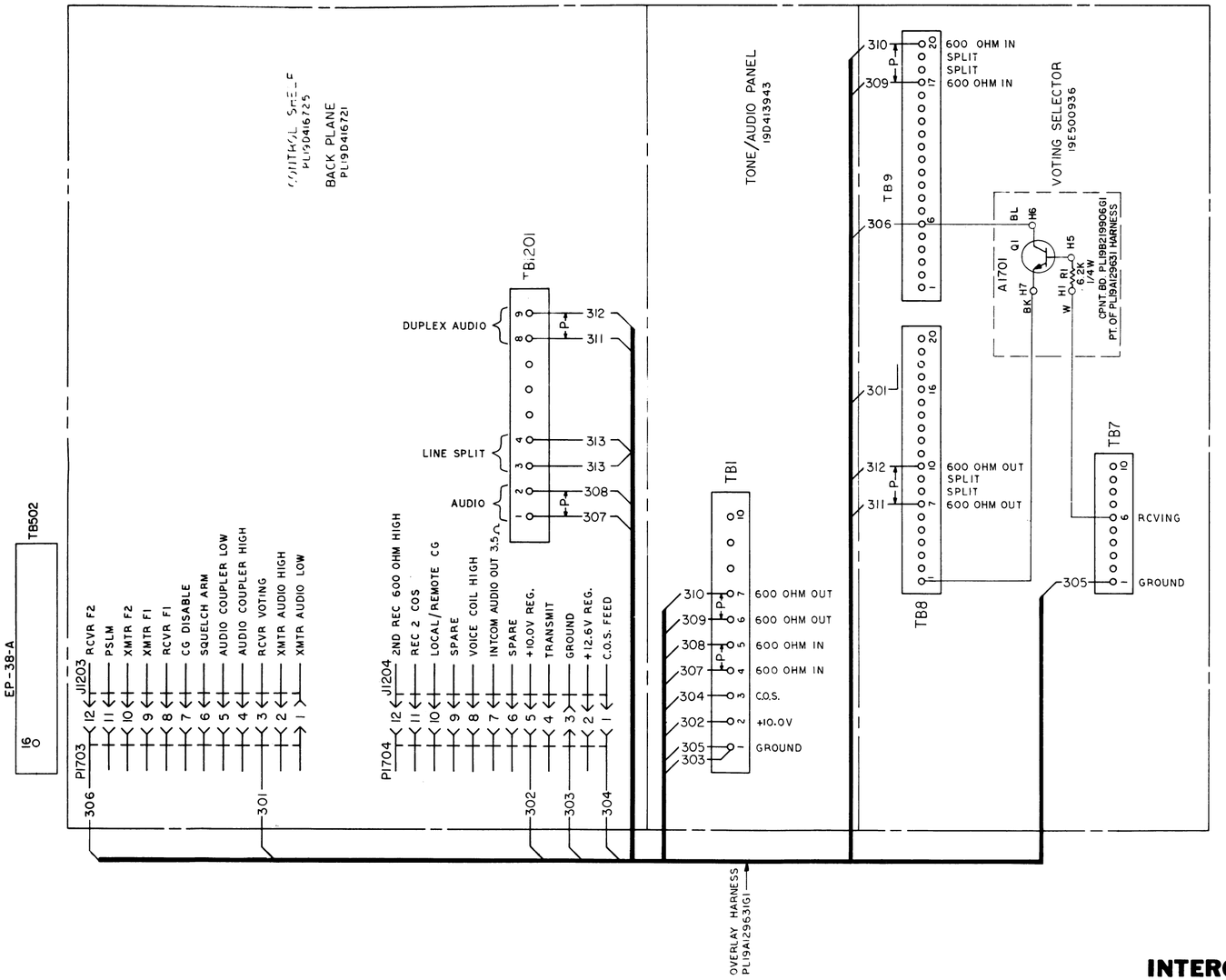
PARTS LIST

LBI-4687B

HARNESS AND ASSEMBLY
19A129631G1

SYMBOL	GE PART NO.	DESCRIPTION
A1701		COMPONENT BOARD 19B219906G1
		- - - - - - - - - TRANSISTORS - - - - - - - - -
Q1	19A115889P1	Silicon, NPN.
		- - - - - - - - - RESISTORS - - - - - - - - -
R1	3R152P622J	Composition: 6200 ohms ±5%, 1/4 w.
		- - - - - - - - - - PLUGS - - - - - - - - - -
P1703		Connector. Includes:
	5496809P17	Contact, electrical: female; sim to Molex Products 1381-T.
	19B209288P20	Shell: sim to Molex 1360R-1.
P1704		Connector. Includes:
	5496809P17	Contact, electrical: female, wire size No. 18-28 AWG; sim to Molex Products 1381-T.
	5496809P18	Contact, electrical: male; wire size No. 18-28 AWG; sim to Molex Products 1380T.
	19B209288P20	Shell: sim to Molex 1360R-1.
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19B209260P102	Terminal, solderless: 16-20 AWG, No. 6 stud hole; sim to AMP 40763.
	19B209260P103	Terminal, solderless: 20-24 AWG, No. 6 stud hole; sim to AMP 60495-1.
	19A116006P1	Spade terminal: sim to Kulka 410SL.

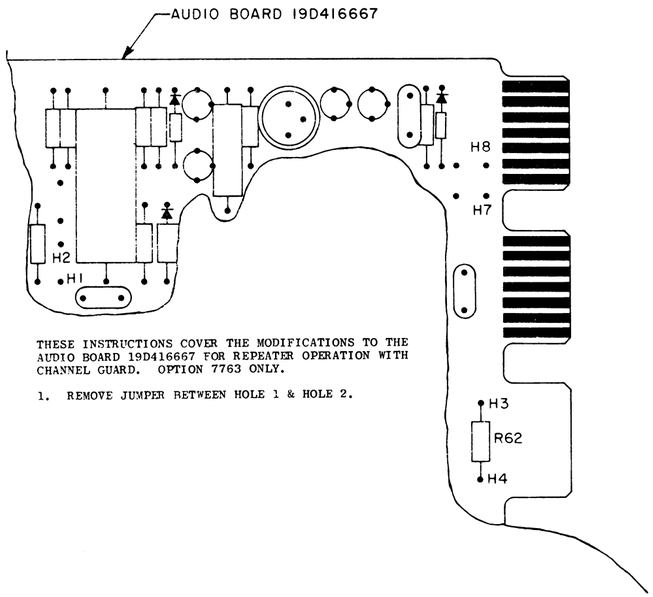
*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.



(19D416883, Rev. 5)

INTERCONNECTION DIAGRAM

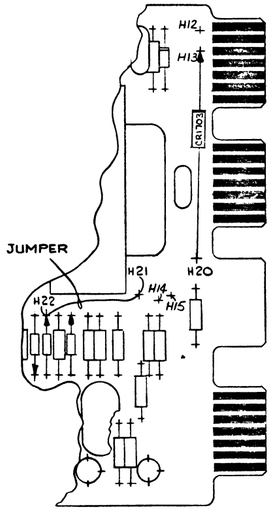
RECEIVER VOTING OVERLAY HARNESS
FOR REPEATER CONTROL STATIONS



THESE INSTRUCTIONS COVER THE MODIFICATIONS TO THE AUDIO BOARD 19D416667 FOR REPEATER OPERATION WITH CHANNEL GUARD. OPTION 7763 ONLY.

1. REMOVE JUMPER BETWEEN HOLE 1 & HOLE 2.

(19B219806, Rev. 1)



AUDIO BOARD
PL19D416667
(COMPONENT SIDE)

THESE INSTRUCTIONS COVER THE INSTALLATION OF THE DIODE KIT PL19A129640G1 ON THE AUDIO BOARD

INSTRUCTIONS FOR INSTALLING (PL19A129640G1) DIODE KIT FOR RECEIVER VOTING APPLICATIONS

1-REMOVE JUMPER BETWEEN H12 & H13.

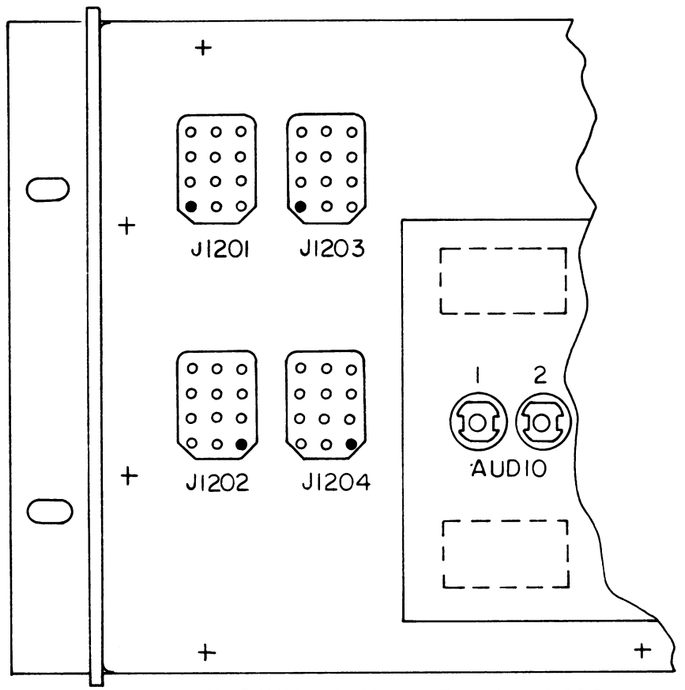
2-SOLDER IN CR1703 IN HOLES PROVIDED AS SHOWN.

3. SOLDER JUMPER BETWEEN H21 & H22.

(19C320463, Rev. 3)

MODIFICATION DRAWINGS

FOR AUDIO BOARD 19D416667



CONTROL SHELF PL19D416725

THESE INSTRUCTIONS COVER THE INSTALLATION OF THE OPTION JACK KIT PL19A129630 ON THE CONTROL SHELF.

INSTRUCTIONS FOR INSTALLING (PL19A129630) OPTION JACK KIT.

1. INSTALL J1203 ON BACK PLANE BY SOLDERING IN PLACE. TAKE NOTICE OF THE ORIENTATION OF THE JACK AND ALSO THE LOCATION OF THE "KEY" PIN.

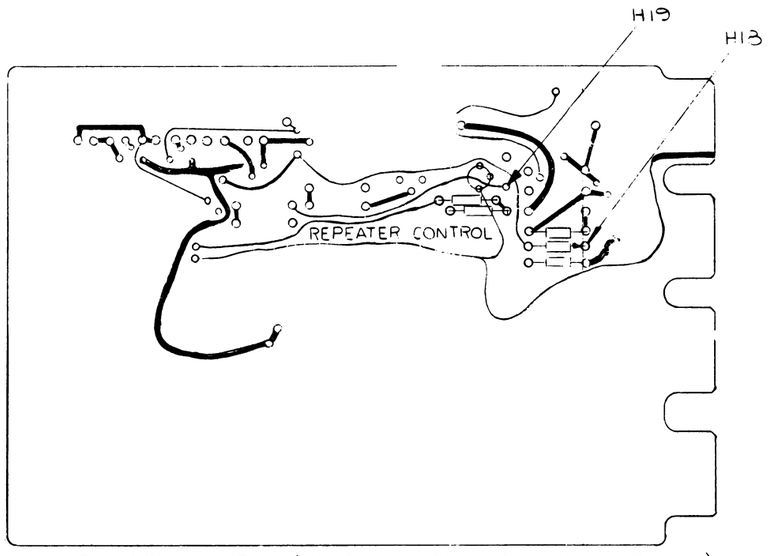
2. INSTALL J1204 ON BACK PLANE BY SOLDERING IN PLACE. TAKE NOTICE OF THE ORIENTATION OF THE JACK AND ALSO THE LOCATION OF THE KEY PIN.

(19B219883, Rev. 1)

MODIFICATION DRAWING

FOR CONTROL SHELF 19D416725

Issue 2



PL19D416675 (REPEATER CONTROL BOARD)

THESE INSTRUCTIONS COVER THE MODIFICATION OF THE REPEATER CONTROL BOARD PL19D416675 FOR RECEIVER VOTING APPLICATION.

INSTRUCTIONS FOR MODIFICATION OF REPEATER CONTROL BOARD PL19D416675.

1. INSTALL #22 JUMPER BETWEEN H18 AND H19 AND SOLDER IN PLACE

(19B219907, Rev. 1)

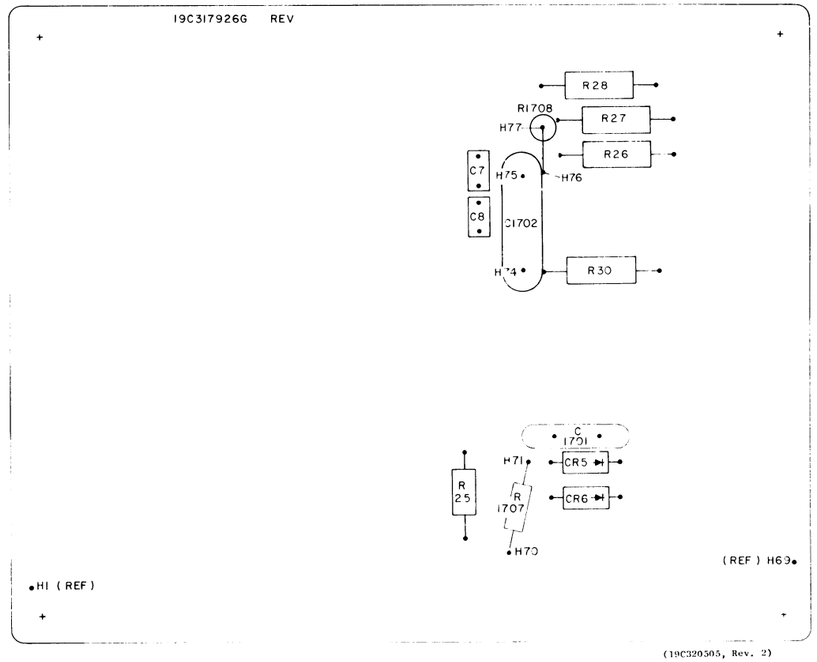
PARTS LIST

LBI-4644A

POWER SUPPLY (EP-38-A)
MODIFICATION KIT

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1701	5494481P21	Ceramic disc: 10,000 pf ±20%, 500 VDCW; sim to RMC Type JF Discap.
C1702	19A115028P54	Polyester: 0.1 µf ±20%, 400 VDCW.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1707 and R1708	3R77P100J	Composition: 10 ohms ±5%, 1/2 w.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.



(19C320505, Rev. 2)

NOTES:

1. ADD C1701, C1702, R1707 & R1708 AS SHOWN.
2. SOLDER ALL ELECTRICAL CONNECTIONS.

MODIFICATION DRAWING

FOR POWER SUPPLY EP-38-A 19C317926G1 AND REPEATER CONTROL BOARD

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 parts 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 Radio Communication Equipment Sales Office of the General Electric Company.

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