

**INSTALLATION INSTRUCTIONS  
FOR  
952-960 MHz CONVERSION KITS FOR 450-470 MHz  
MASTR PROGRESS LINE SINGLE-CHANNEL STATIONS  
(OPTIONS 7338, 7339, 7340)**

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| OPTION                                                     | 7338                          | 7339                            | 7340                                                                                                          |
|------------------------------------------------------------|-------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------|
| STATION                                                    | REMOTE<br>CONTROL<br>STATIONS | REPEATER<br>CONTROL<br>STATIONS | REPEATER<br>WITH<br>DUPLEXER                                                                                  |
| REQUIRED<br>EQUIPMENT                                      |                               |                                 | <u>19B216648P1<br/>DUPLEXER</u><br><br><u>19B216679G2<br/>TX CABLE</u><br><br><u>19B216679G1<br/>RX CABLE</u> |
| <u>19B216678G1<br/>RECEIVER<br/>ANTENNA<br/>CABLE</u>      | 1                             | 2                               | 1                                                                                                             |
| <u>19D413291G1<br/>CONVERSION<br/>PANEL</u>                | 1                             | 1                               | 1                                                                                                             |
| <u>CONVERTER<br/>ICOM<br/>4EG25A13</u>                     | 1                             | 1                               | 1                                                                                                             |
| <u>TRANSMITTER<br/>ICOM<br/>4EG25A12</u>                   | 1                             | 1                               | 1                                                                                                             |
| <u>RECEIVER<br/>ICOM<br/>4EG26A15</u>                      | 1                             | 1                               | 1                                                                                                             |
| <u>19A127597G1<br/>RECEIVER<br/>CONVERTER<br/>CABLE</u>    | 1                             | 1                               | 1                                                                                                             |
| <u>19A127595G1<br/>TRANSMITTER<br/>CONVERTER<br/>CABLE</u> | 1                             | 1                               | 1                                                                                                             |
| <u>19D413397G1<br/>TEST GENERATOR</u>                      | 1                             | 1                               | 1                                                                                                             |
| <u>19A127681G1<br/>TEST CABLE KIT</u>                      | 1                             | 1                               | 1                                                                                                             |
| <u>19A127317G14<br/>OVERLAY HARNESS</u>                    | 1                             | 1                               | 1                                                                                                             |
| <u>19A127610G1<br/>TRANSMITTER<br/>RANGE EXTENDER</u>      | 1                             | 1                               | 1                                                                                                             |
| <u>19A127710G1<br/>HARDWARE KIT</u>                        | 1                             | 1                               | 1                                                                                                             |
| <u>19A127104G1<br/>LOW POWER<br/>MOD. KIT</u>              | 1                             | 1                               | 1                                                                                                             |

## INSTALLATION INSTRUCTIONS

### INTRODUCTION

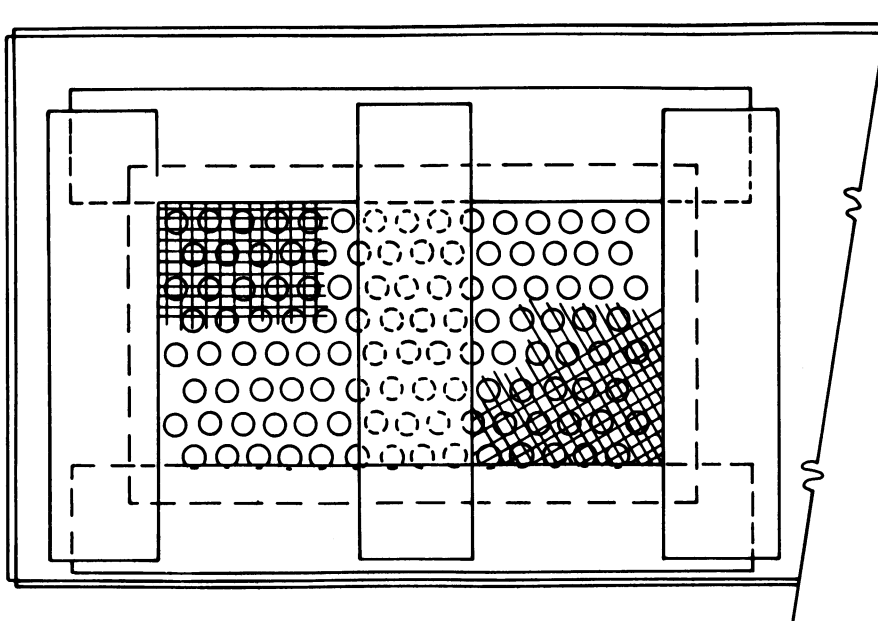
Options 7338, 7339 and 7340 provide field kits for converting MASTR Progress Line wide-band, single-channel 450-470 MHz Remote Control, Repeater Control, and Repeater Control with Duplexer stations to 952-960 MHz operation. The conversion consists of modifying the 450 MHz transmitter and receiver, the installation of a Converter Panel, and replacing the Duplexer where used.

### INSTALLATION

1. Mount the 19D413291G1 Converter Panel. Refer to RC-2141 for correct location. Use No. 12-24 bolts supplied. Install the 19B216648P1 Duplexer (if used).
2. Install overlay wiring harness. Refer to Converter Panel Maintenance Manual LBI-4082 for connection of harness to Converter Panel. (See Table of Contents).
3. Install ICOM module 4EG25A13 in Converter. Connect Transmitter Converter Cable 19A127595G1 and Receiver Converter Cable 19A127597G1 as shown on RC-2141. The receiver cable drops straight down from the Converter Panel and passes along the bottom side of the receiver.
4. Modify the 450 MHz transmitter to new Models 4ET59C42 or 4ET59C43 (Channel Guard). No conversion can be made on 4ET59B or 4ET60B transmitters. A new transmitter must be ordered.

To modify the transmitter, first install the 19A127610G1 Range Extender Kit:

- a. Remove cover from transmitter Power Amplifier ..... ☐
- b. Remove the three screws holding the plate line to the PA tube V103..... ☐
- c. Place the range extending plate on top of the existing plate line so that the three holes line up. Replace the three mounting screws ..... ☐
- d. Delete or mark out the FCC type number ..... ☐
- e. Take the 6-inch length of 3-inch wide copper foil tape and cut it into two 3-inch lengths. Remove the paper liner just before attaching ..... ☐
- f. Take a 3-inch length and adhere to the inside of the PA cover. Using a sharp tool, open up the "AMPL PLATE" tuning access hole. Replace the cover ..... ☐
- g. Adhere the other 3-inch length over the vent holes in the bottom of the PA compartment (from the outside) ..... ☐
- h. Use the aluminum tape and aluminum screen to cover the top and bottom cover vent holes, as shown in RC-2146 ..... ☐



(RC-2146)

If the 450 MHz transmitter is a 4ET60C or 4ET60D, install the Low Power Mod Kit 19A127104G1:

- a. Remove jumper between E7-2 and C157-2 ..... ☐
- b. Add R101 (0.91 ohm) between E7-2 and C157-2 ..... ☐
- c. Remove R123 (1500 ohms) and replace with R126 (5600 ohms, 2 watt).  
Dress resistor R126 so as to clear existing leads ..... ☐
- d. Change FCC filing type from ET-60-D to ET-59-D or ET-60-C to  
ET-59-C ..... ☐

If transmitter is a 4ET-D11 or D31, install ICOM Modification Kit 19A127076G3.  
If transmitter is a 4ET-D17 or D37, install ICOM Modification Kit 19A127076G7.  
Install these kits as follows:

- a. Unplug wiring from existing exciter board ..... ☐
- b. Remove exciter board. Save the four screws ..... ☐
- c. Insert new exciter board and replace mounting screws ..... ☐
- d. Attach exciter wiring per decal instructions ..... ☐
- e. Apply decals supplied over existing decals ..... ☐
- f. Install NP196584 near (but not covering) existing model number nameplate  
and mark 4ET59C42 (non-Channel Guard) or 4ET59C43 (Channel Guard)..... ☐

Plug in Transmitter ICOM 4EG25A12.

5. If 450 MHz Receiver is a 4ER42B or 4ER42F, install 19A127083G3 ICOM Modification Kit:

- a. Unplug wiring from existing first oscillator board ..... ☐
- b. Remove first oscillator board. Save four screws ..... ☐

- c. Insert new first oscillator board and replace mounting screws ..... ☐
- d. Attach first oscillator board wiring per decal instructions ..... ☐
- e. Apply supplied decals over existing decals ..... ☐
- f. Change model number marking "B" to "D" or "F" to "H" ..... ☐

Plug in Receiver ICOM 4EG26A15.

- 6. If station is Local, Local/Remote, or Remote Control, install 960 MHz Antenna Relay Kit 19A127605G1 as shown in 19D413355 (see Table of Contents). Attach antenna cable 19B216678G1.
- 7. If duplexer is used, connect 19B216679G1 Duplexer Cable from Converter Panel Rx to Duplexer Rx. Connect 19B216679G2 Duplexer Cable from Converter Panel Tx to Duplexer Tx. Connect 19B216678G1 Duplexer Cable from Duplexer ANT to antenna.
- 8. If Duplexer is not used, attach repeater antenna cables. Route each cable straight up and away from its connection on each end of the Converter Panel.
- 9. Use NP258002 to cover up the "Transmitter Type" line on the existing station combination nameplate.
- 10. Tune the transmitter as outlined in the Maintenance Manual LBI-4084 (see Table of Contents.)
- 11. Tune the receiver as outlined in the Maintenance Manual LBI-4085 (see Table of Contents.)
- 12. Mount the Receiver Converter Cover 19C317178G1 and the Transmitter Converter Cover 19B216641G1 or the Signal Generator Cover 19D413397G1. Use the #4 nuts and lockwashers provided. Refer to the Signal Generator Maintenance Manual LBI-4082 for connections and operating instructions.

**PARTS LIST**

LBI-4256

952-960 MHz FIELD CONVERSION KITS  
FOR  
450-470 MHz STATIONS

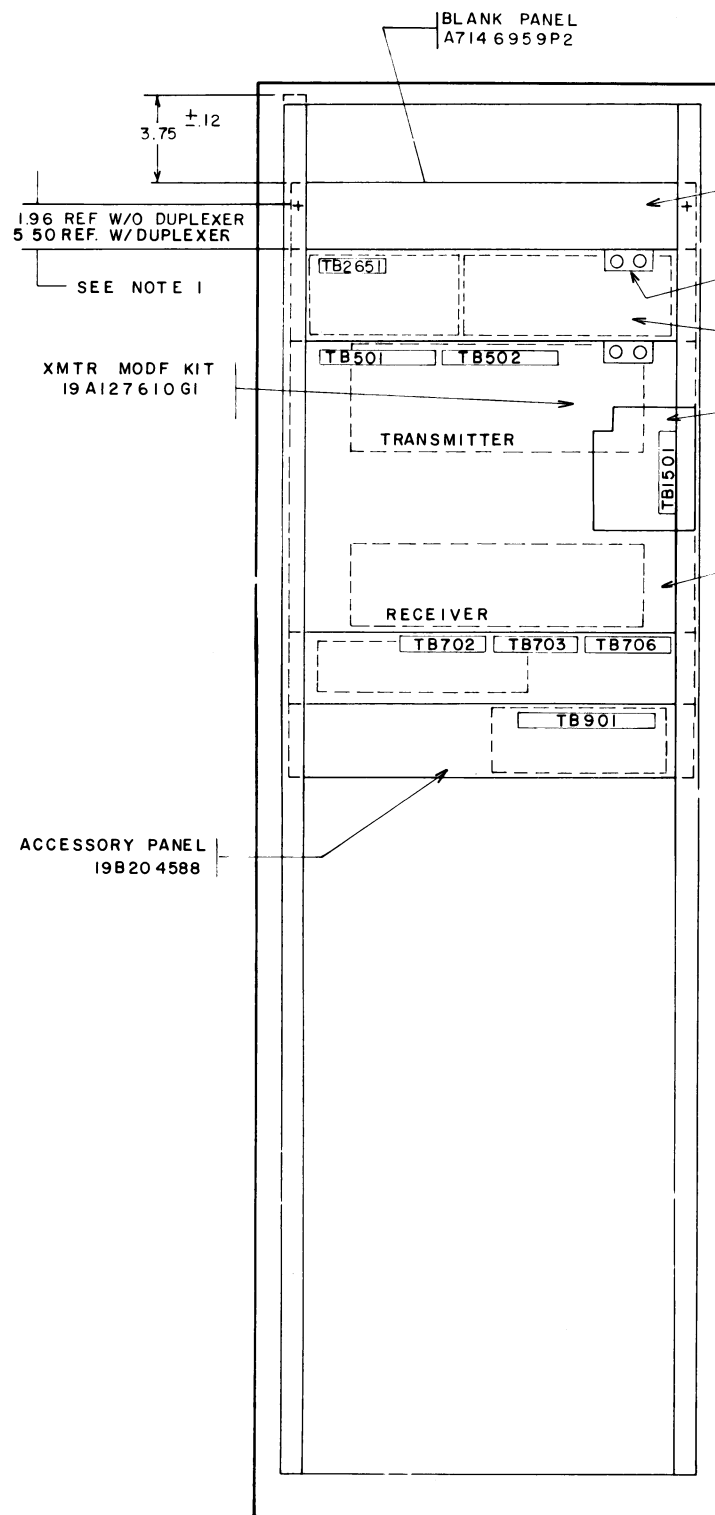
| SYMBOL | GE PART NO. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |             | <p>LOW POWER MODIFICATION KIT<br/>19A127104G1</p> <p>----- RESISTORS -----</p> <p>R101      19A115416P1      Wirewound: 0.91 ohms <math>\pm 1\%</math>, 2 w; sim to Dale Type RS-2B.</p> <p>R102      3R79P562K      Composition: 5600 ohms <math>\pm 10\%</math>, 2 w.</p> <p>ANTENNA RELAY KIT<br/>19A127605G1</p> <p>----- RELAYS -----</p> <p>K2651      19B216688G1      Armature, coaxial: 12 VDC nominal, 2 w max operating, 100 ohms <math>\pm 15\%</math> coil res, 1 form C contact rated at 100 w RF at 470 MHz; sim to FXR 300-10977. Includes:</p> <p>----- JACKS AND RECEPTACLES -----</p> <p>J2651      7777145P5      Receptacle: 1 female contact; sim to Amphenol 82-97 or Military UG-58A/U.</p> <p>----- PLUGS -----</p> <p>P2152 and P2351      Includes:</p> <p>7777145P4      Adapter: sim to Amphenol 82-98 or Military UG-27B/U.</p> <p>19B209018P5      Plug: sim to Automatic Metal Products Corp 100-N1000A or Military UG-536B/U.</p> |

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

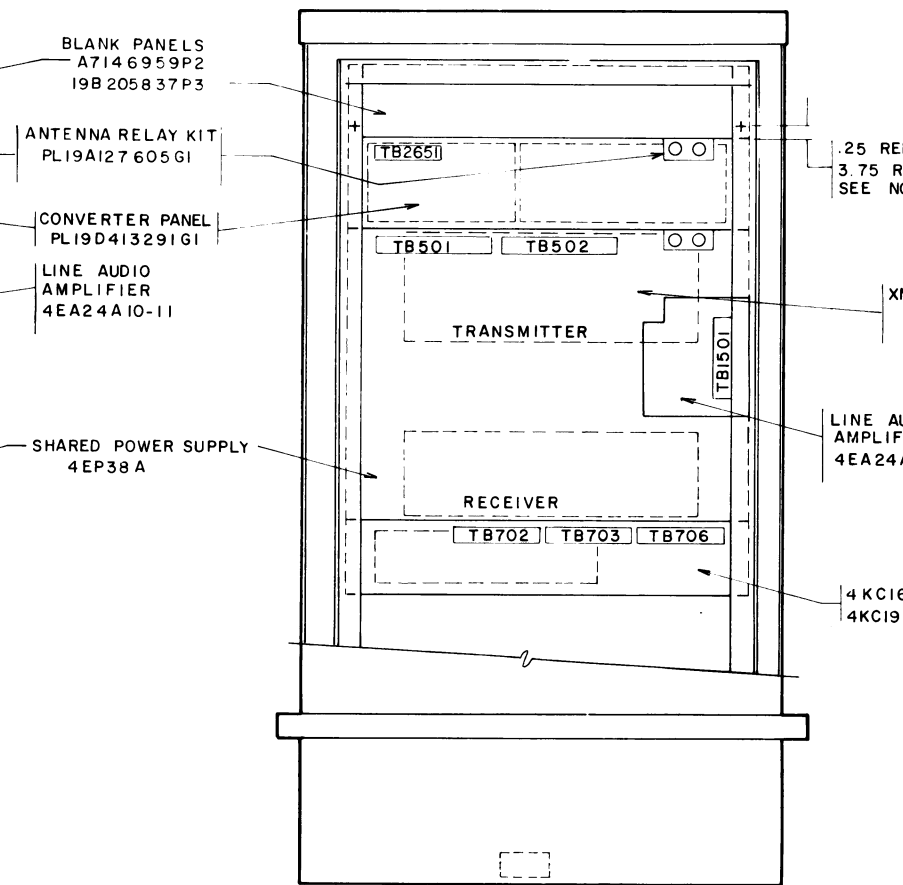
| SYMBOL | GE PART NO   | DESCRIPTION                         |
|--------|--------------|-------------------------------------|
|        | 19A127076G3  | TRANSMITTER ICOM MODIFICATION KIT.  |
|        | 19A127083G3  | RECEIVER ICOM MODIFICATION KIT.     |
|        | 19A127610G1  | 450 MHz Transmitter Range Extender. |
|        | 19A121317G14 | Overlay Harness.                    |
|        | 19A127710G1  | Hardware Kit.                       |
|        | 19B216679G2  | Transmitter Cable.                  |
|        | 19B216679G1  | Receiver Cable.                     |
|        | 19B216678G1  | Receiver Antenna Cable.             |
|        | 19A127597G1  | Receiver Converter Cable.           |
|        | 19A127595G1  | Transmitter Converter Cable.        |
|        | 19C317178G1  | Receiver Converter Cover.           |



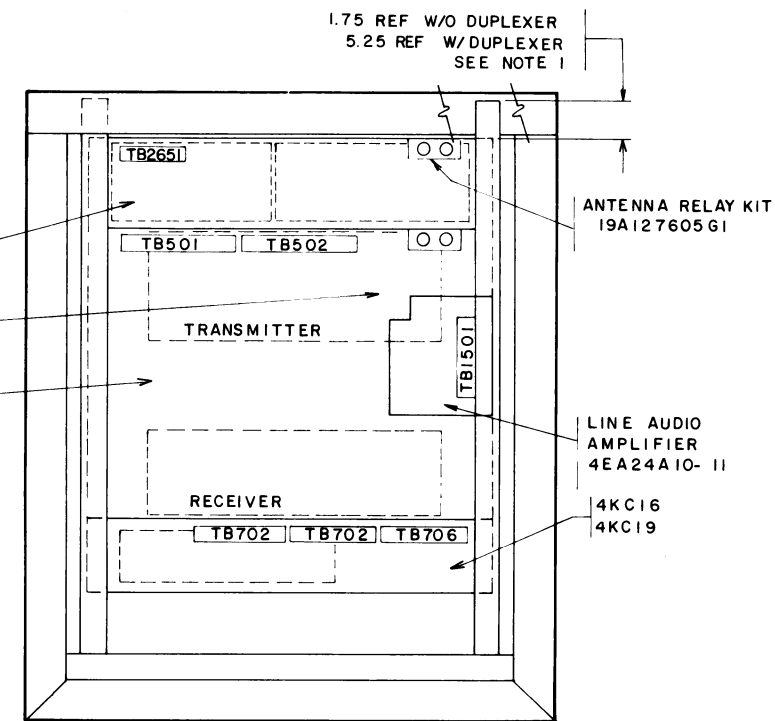
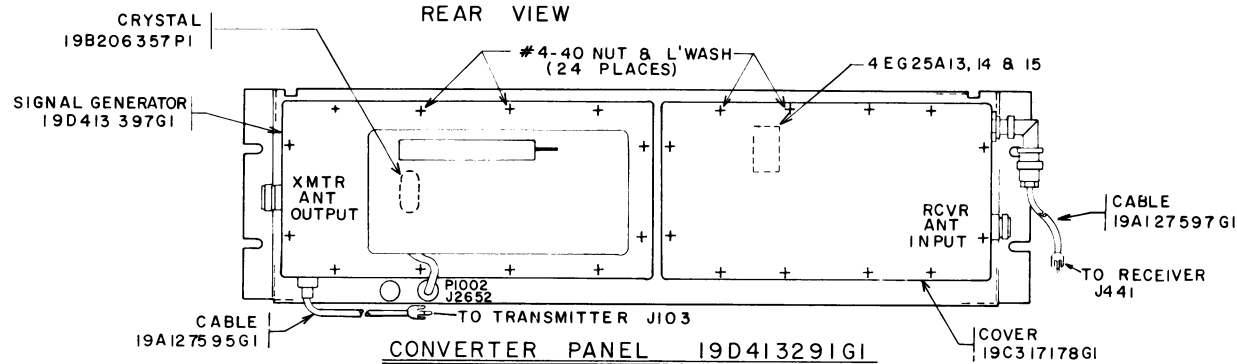
960MHz FIELD INSTALLATION



FLOOR MOUNT  
LOW POWER 960 MHz REMOTE OR  
REPEATER CONTROL  
REAR VIEW - DOOR REMOVED



POLE MOUNT  
960 MHz REMOTE OR REPEATER CONTROL



DESK MATE  
960 MHz LOCAL / REMOTE & LOCAL CONTROL  
960 MHz REMOTE OR REPEATER CONTROL

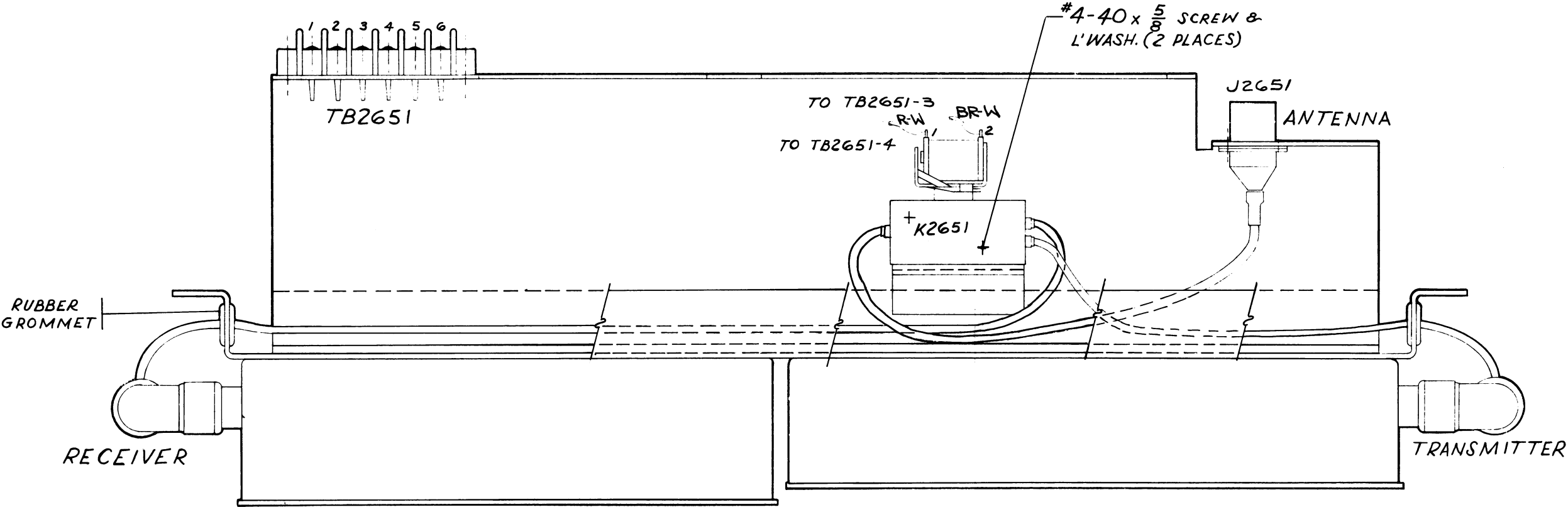
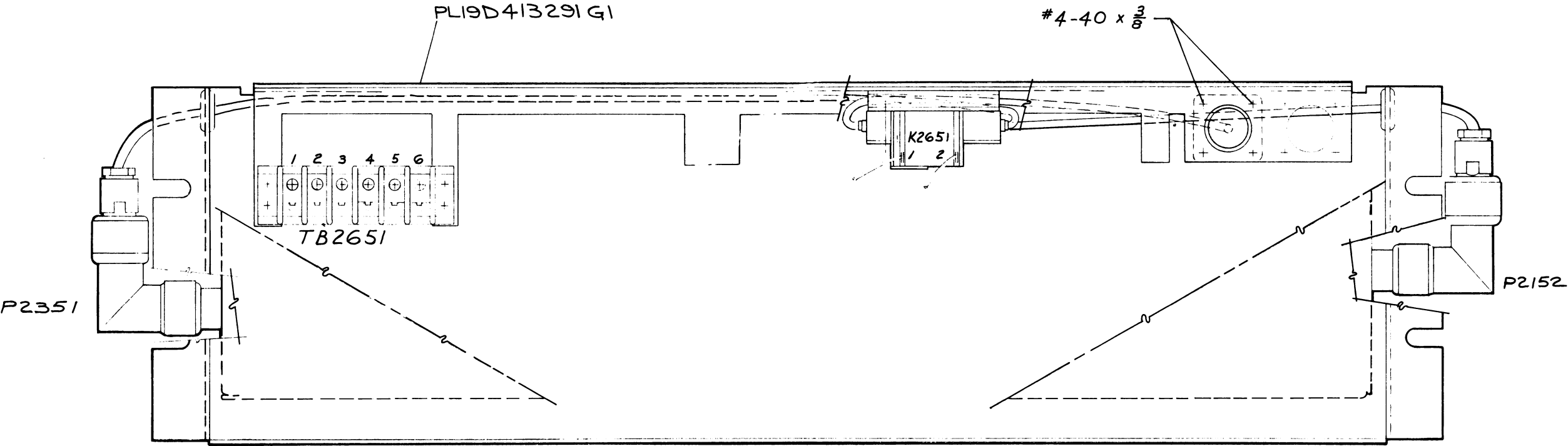
SIDE VIEW - REAR OF UNIT

- NOTES:
1. THIS DUPLEXER OPTION MOUNTS DIRECTLY ABOVE THE CONVERTER PANEL
  2. INSTALLATION INSTRUCTIONS INCLUDED IN KIT.

RC-2141

INSTALLATION INSTRUCTIONS  
960 MHz STATION ASSEMBLY

RC-2141



INSTRUCTIONS-  
MOUNT K2651 AND J2651 WITH HARDWARE AS SHOWN.  
MAKE CONNECTIONS AS SHOWN.

INSTALLATION INSTRUCTIONS  
19A127605G1 ANTENNA RELAY KIT