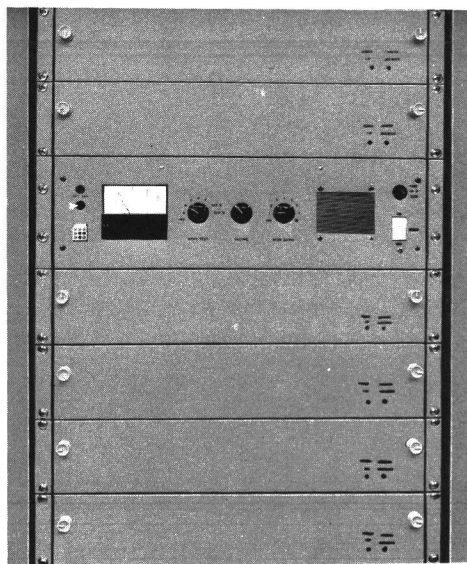


# MASTR® II

## MAINTENANCE MANUAL

### MULTIPLE RECEIVER STATIONS



#### SPECIFICATIONS \*

Input Voltage 121/242 VAC, 60 Hz only,  
50 Hz optional

<u>AC Input Power</u>	<u>Squelched</u>	<u>Unsquelched</u>	<u>Full Audio**</u>
With one Receiver	37.5 Watts	41 Watts	50 Watts
For each additional Receiver	2.5 Watts	6.0 Watts	

DC Input Current (Operating from Optional Standby Battery)

	<u>Squelched</u>	<u>Unsquelched</u>	<u>Full Audio**</u>
Each Receiver	160 mA	400 mA	1.6 Amps

ivers power requirements of monitoring amplifier only; assumes audio power amplifier in each receiver has been strapped out of circuit.

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

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## COMBINATION NOMENCLATURE

1st Digit	2nd Digit	3rd Digit	4th Digit
Package	Cabinet	Power Supply	No. of Frequencies
<b>S</b> Satellite Receiver	<b>D</b> 30-Inch Desk-Mate	<b>1</b> 60 Hz Power Supply	<b>1</b> One Receiver
	<b>S</b> 44-Inch Desk Mate	<b>2</b> 50 Hz Power Supply	<b>2</b> Two Receivers
	<b>P</b> Pole Mount Cabinet		<b>3</b> Three Receivers
	<b>V</b> Floor Mount Cabinet		<b>4</b> Four Receivers
9700 - Battery Standby Kit			<b>5</b> Five Receivers
9701 - Battery Standby/Charger Kit (121 VAC)			<b>6</b> Six Receivers
9702 - Battery Standby/Charger Kit (242 VAC)			<b>7</b> Seven Receivers
9703 - 25-174 MHz Antenna Matching Unit			<b>8</b> Eight Receivers
9704 - 406-512 MHz Antenna Matching Unit			
9706 - Line and Bridging Jack Panel			
9707 - Metering Kit 19A137630G1			

## 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.

## DESCRIPTION

The General Electric MASTR® II Multiple Receiver Station is designed to accommodate a maximum of eight MASTR II Auxiliary Receivers. A maximum of five receivers can be mounted in the 30-inch Desk Mate Cabinet. The Auxiliary Receivers are supplied separately from the station and are described in LBI4915.

A total of four Auxiliary Receivers may be coupled by means of Antenna Matching Units (AMU) to a single receiving antenna. Each General Electric 19C321150 AMU results in a loss of approximately 3.5 dB for each power splitter in series with the receiver input. If Antenna Matching Units are not used in the station, a 19A129312G4 coaxial cable (equipped with an Auxiliary Antenna UHF Connector) is supplied with each receiver.

A receiver Power Supply is provided with each station. The supply will operate at 60 Hertz (Model 19E501707G4) or 50 Hertz (Model 19E501707G5). A Metering Kit (Option 9707) is available for mounting on the front panel of the supply. This kit allows functional checks of up to eight receivers. The metering points are the same as in the MASTR II Station Receivers. An audio power amplifier is included in the supply along with a speaker mounted on the front panel. A switch is also provided for connecting each receiver line audio output to the amplifier and speaker. The receiver audio PA is not used in Multiple Receiver Stations. The Power Supply is described in LBI30731.

### Line and Bridging Jack Panel (Option 9706)

The Line and Bridging Jack Panel may be mounted in the Multiple Receiver Station directly above the Power Supply for receivers No. 5 thru 8 and another panel may be mounted directly below the Power Supply for receivers No. 1 thru 4. Refer to the Installation Instructions listed in the Table of Contents.

All interconnecting line pairs between the voting selector and the Multiple Receiver Station terminate to screw terminals on the back of the Line and Bridging Jack Panel at TB1. Three-terminal line surge protectors are located behind the terminal strip to provide transient voltage protection for each incoming line pair.

Three phone jacks for each of the receiver line pairs are located on the front of the panel. This is a total of twelve jacks accommodating four receivers. The jack sets for each receiver are labeled EQPT, LINE and BRIDGE. Each jack set allows the following functions to be performed on each incoming line pair:

- EQPT - Isolates the line and allows test equipment to be connected to the receiver.
- LINE - Isolates the receiver and allows test equipment to be connected to the incoming phone line.
- BRIDGE- Connects test equipment in parallel with the incoming phone line while terminated to the receiver; i.e. bridging the line.

## INSTALLATION

Three cabinet styles (Desk-Mate, Pole-Mount and Floor Mount) are available to meet different system requirements. The following paragraphs list the characteristic of the individual style of cabinet.

**Desk-Mate --** The Desk Mate station cabinet can be conveniently located on either side of a desk to provide additional working area or in some other suitable location as required. Two Desk-Mate cabinets are available; the 30-inch cabinet contains 14 EIA rack units of space (24-1/2 inches); the 44-inch cabinet contains 22 EIA rack units of space (34-1/2 inches).

The cabinets have removable front and rear doors secured with individual locks. 3/4-inch holes are provided for cable entry.

**Pole Mount --** The Pole Mount Station Cabinet is a weather-proof cabinet designed for indoor or outdoor use. The cabinet can be mounted on a pole or a wall. The brackets supplied with the cabinet (19C320924P1) permit mounting on the crossarm of a single pole, on the crossarms between two poles, on a wall (inside or outside) or some other vertical surface. The cabinet may also be mounted on a pedestal or platform. Optional brackets (19B226279P1) are available for mounting the cabinet to a pole. The front and rear doors may be locked by a customer supplied padlock. The cabinet contains 22 EIA rack units of space (38-1/2 inches).

**Floor-Mount --** The Floor-Mount Station Cabinet can be located in the building adjacent to the antenna installation or in some other convenient area as required. The cabinet contains 33 EIA rack units of space (57-3/4 inches).

Desk-Mate Cabinet Installation

The two-Desk-Mate Cabinets with their dimensions are illustrated in Figure 1.

The Desk Mate cabinet can be placed adjacent to either side of a desk. A typi-

cal installation is shown in Figure 2. The front and rear of the station should be kept clear of obstructions so that the serviceman can easily gain access to the transmitter, receiver and power supply compartments and to avoid obstructing the front and rear vents.

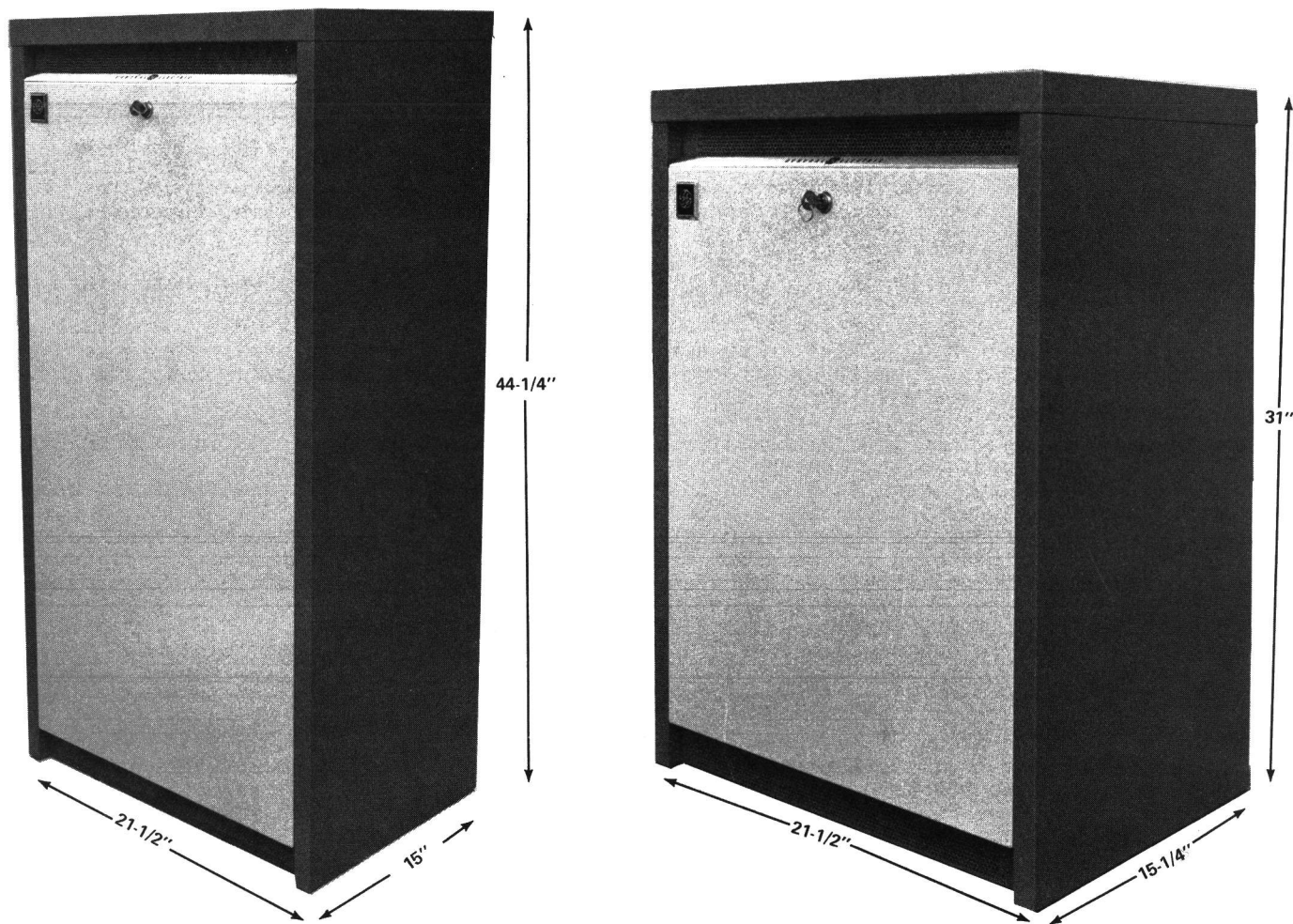


Figure 1 - Desk Mate Station Cabinets



Figure 2 - Typical Desk-Mate Station Installation

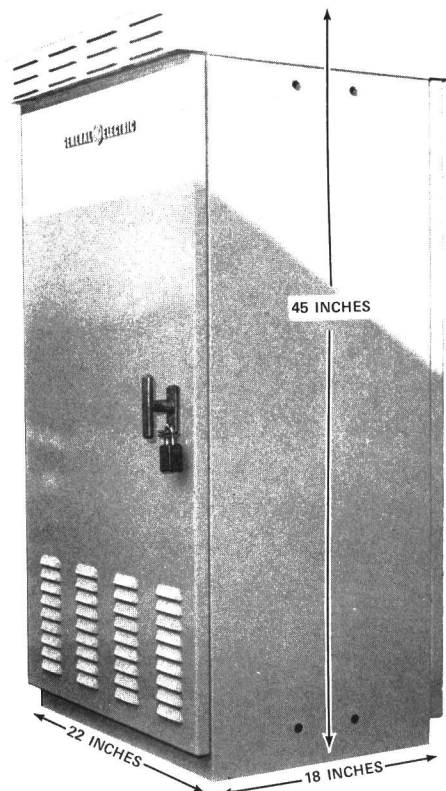


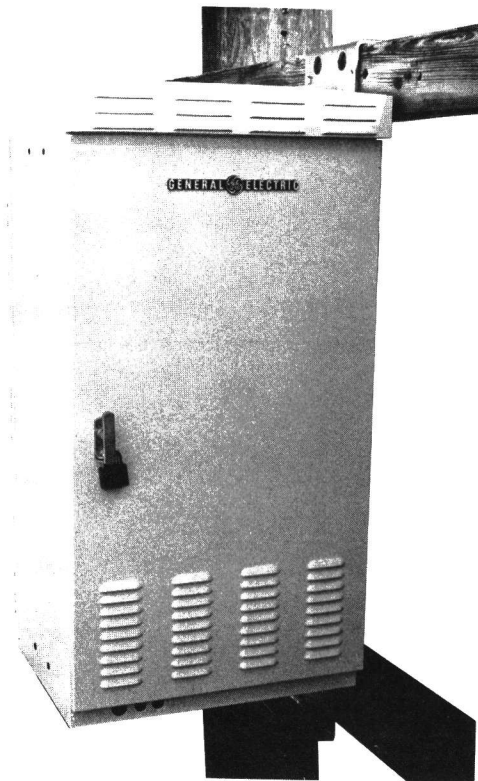
Figure 3 - Pole Mount Cabinet

**MOUNTING CABINET TO POLE**

Determine which side of cabinet is to mount to pole. Minimum pole diameter is 12 inches. Remove four plastic plugs from cabinet mounting holes.

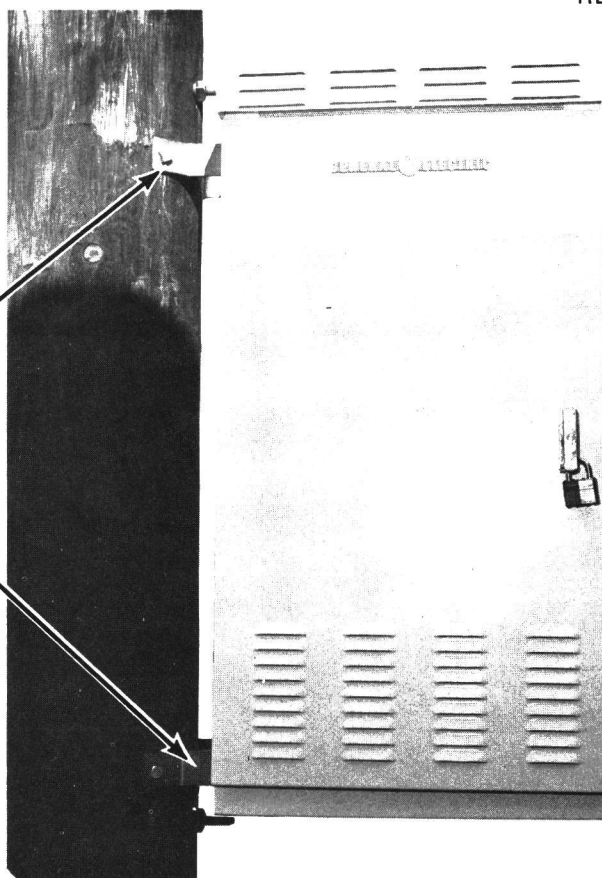
1. MOUNT THE TOP 19B226279P1 BRACKET TO THE POLE. BRACKET WILL ACCEPT 1/2-INCH HARDWARE.
2. SCREW TWO 3/8 - 16 x 7/8 INCH LONG BOLTS AND LOCKWASHERS (PART OF 19A130145G1 KIT) PART WAY INTO TOP MOUNTING HOLES.
3. MOUNT THE BOTTOM 19B226279P1 BRACKET TO THE BOTTOM MOUNTING HOLES IN THE CABINET USING TWO 3/8 - 16 x 7/8 INCH LONG BOLTS AND LOCK WASHERS. INSTALL SO THAT CABINET WILL BE SUPPORTED BY BRACKET.
4. MOUNT CABINET TO POLE BY PASSING HEAD OF 3/8 - 16 BOLT THROUGH HOLE IN TOP BRACKET.
5. TIGHTEN 3/8 - 16 BOLTS IN TOP BRACKET. INSTALL LAG SCREWS IN BOTTOM BRACKET AND SECURE TO POLE.

RIGHT  
SIDE  
CABINET  
MOUNTING  
HOLES



REAR VIEW OF CABINET

POLE MOUNT  
BRACKET  
(19B226279P1)  
(OPTIONAL)

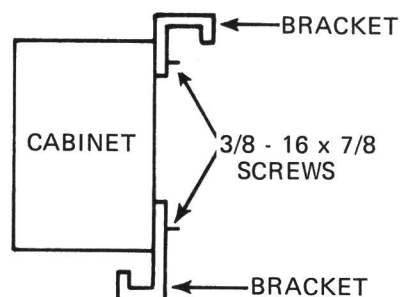


FRONT VIEW  
OF CABINET

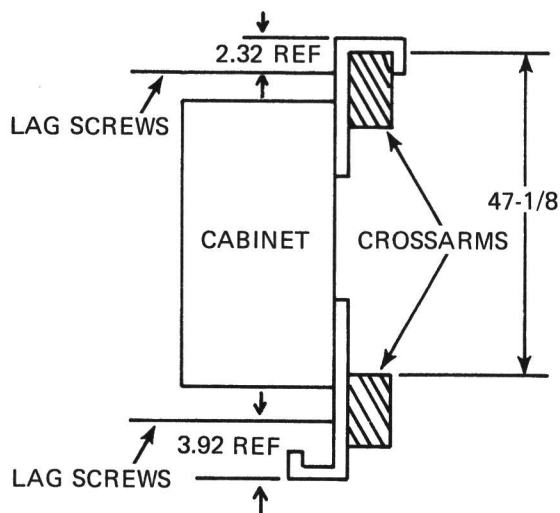
# MOUNTING CABINET TO CROSSARMS

Determine which side of cabinet is to mount to crossarms. Remove four plastic plugs from cabinet mounting holes. 19C320924P1 brackets are supplied with cabinet.

1. ATTACH TWO 19C320924P1 MOUNTING BRACKETS TO CABINET USING 4-3/8 - 16 x 7/8 INCH LONG BOLTS AND LOCK-WASHERS SUPPLIED IN 19A130145G1 HARDWARE KIT. INSTALL BRACKETS AS SHOWN AT RIGHT.



2. INSTALL CROSSARMS WITH VERTICAL SPACING AS SHOWN BELOW. DIMENSIONS GIVEN WILL ALLOW MOUNTING LAG SCREW TO BE APPROXIMATELY CENTERED IN CROSSARMS IF STANDARD CROSSARM (3-4/16 x 4-7/8 INCHES, FINISHED SIZE) IS USED.



4. MOUNT CABINET OVER TOP CROSSARM AND INSTALL TWO LAG SCREWS IN EACH BRACKET IN LOCATION SHOWN. USE 3/8-INCH DIAMETER SCREWS. CENTER LINE TO CENTER LINE OF LAG SCREWS IS 47.51 INCHES. CAUTION MUST BE USED IF CROSSARM SIZE IS LARGER THAN 4-7/8 INCHES OR SPACING IS GREATER THAN 47-1/8 INCHES BECAUSE OPENING OF CABINET DOOR MAY BE BLOCKED.

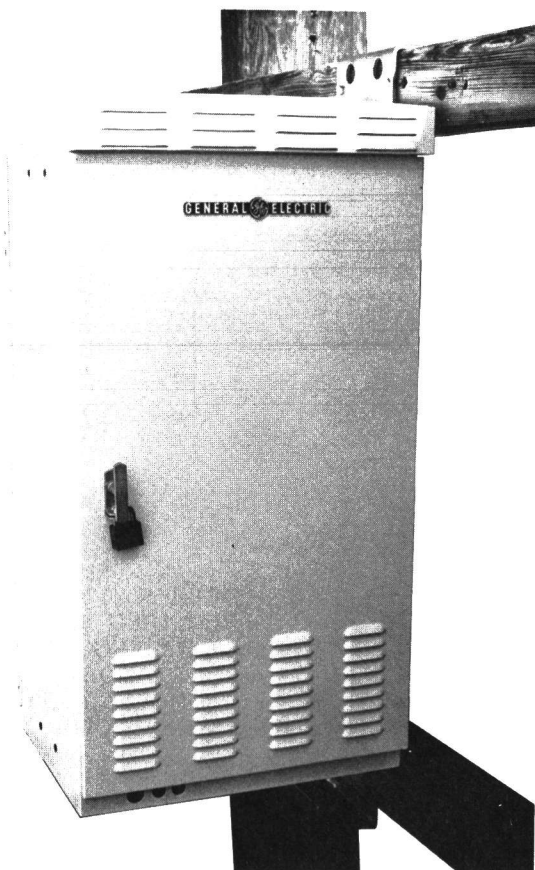


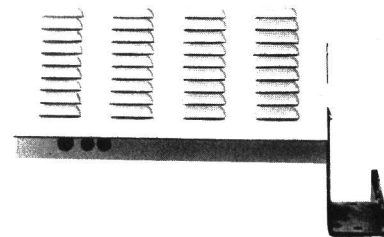
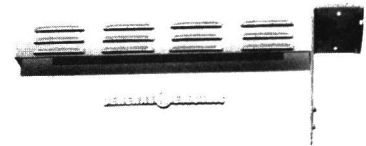
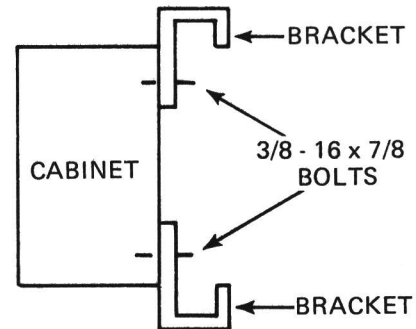
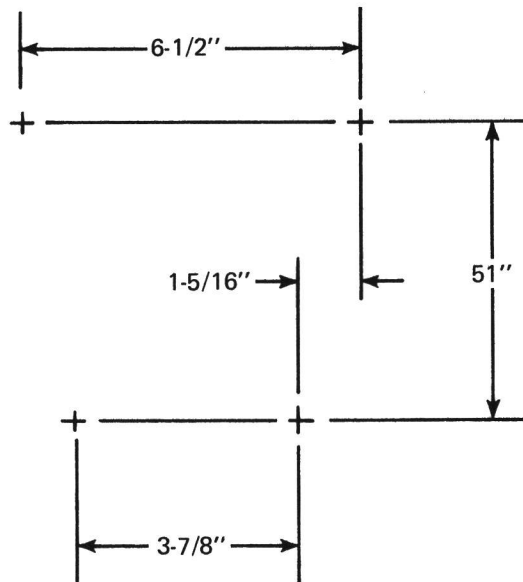
Figure 5 - Mounting Pole Mount Cabinet to Crossarms



## MOUNTING CABINET TO WALL

Determine which side of cabinet is to mount to wall. Remove four plastic plugs from cabinet mounting holes.

1. ATTACH TWO 19C320942P1 MOUNTING BRACKETS TO CABINET USING 4-3/8-16 x 7/8 LONG BOLTS AND LOCKWASHERS (SUPPLIED IN HARDWARE KIT 19A130145G1) AS SHOWN AT RIGHT.
2. LAYOUT THE FOLLOWING HOLE PATTERN ON THE WALL.



3. DRILL AND INSTALL ANCHORS IF REQUIRED. BRACKETS WILL ACCEPT 3/8 INCH BOLTS OR SCREWS. INSTALL BOLTS AND WASHERS IN TOP MOUNTING HOLES. ALLOW 3/8-INCH TO 1/2-INCH TO PROTRUDE FROM WALL.
4. MOUNT CABINET TO WALL. TOP BRACKET SCREWS WILL ACCEPT SLOTS IN TOP BRACKET. INSTALL SCREWS AND WASHERS IN WALL TO SECURE LOWER BRACKET. LARGE HOLES IN BRACKET FACILITATE ASSEMBLY. TIGHTEN ALL WALL MOUNTINGS.

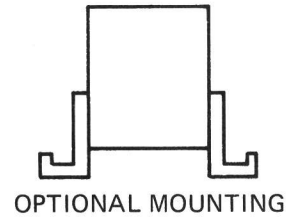
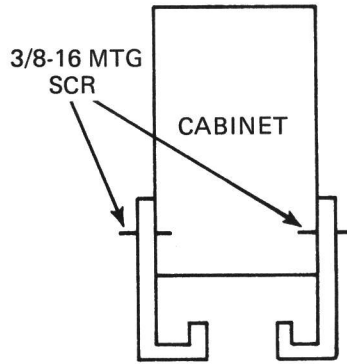
Figure 6 - Mounting Pole Mount Cabinet to Wall



# MOUNTING CABINET TO PLATFORM OR PEDESTAL

Remove four plastic plugs from bottom of cabinet, two from each side.

1. ATTACH TWO 19C320942P1 MOUNTING BRACKETS TO CABINET USING 4-3/8-16 x 7/8 LONG BOLTS AND LOCK WASHERS (SUPPLIED IN HARDWARE KIT 19A130145G1) AS SHOWN BELOW.



2. LAYOUT MOUNTING HOLES FOR BRACKETS BY PLACING CABINET IN POSITION AND MARKING HOLES. 3/8-INCH HARDWARE IS USED IN BRACKETS. PLACE CABINET IN POSITION AND BOLT DOWN.

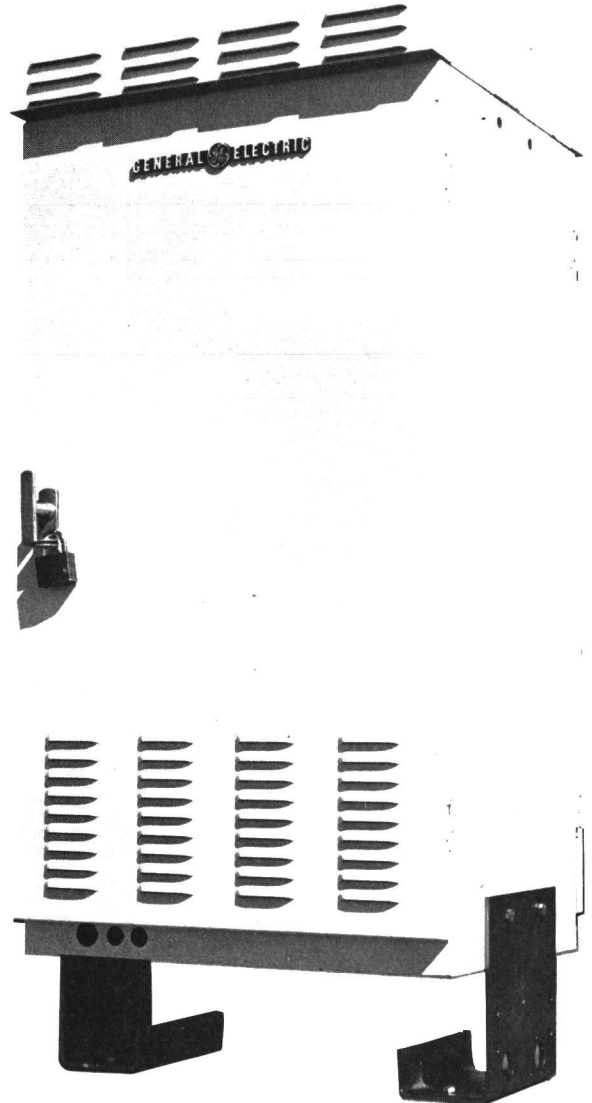


Figure 7 - Mounting Pole Mount Cabinet to Platform

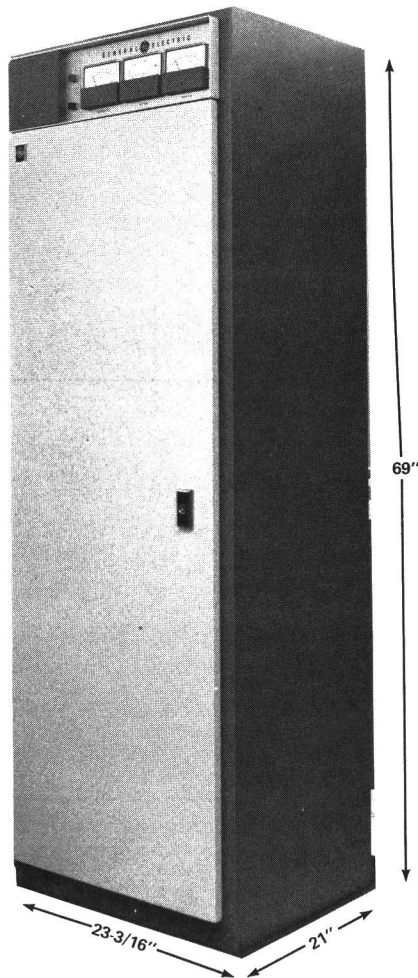
Floor-Mount Cabinet Installation

Figure 8 - Floor Mount Cabinet

Your station cabinet occupies a floor area of 22 inches by 23 inches. Be sure to allow sufficient space in front of -- and behind -- the cabinet to permit front and rear doors to open completely. Either door may be removed, inverted, and hinged on the opposite side if desired.

Three knockouts are located along the rear bottom edge of the cabinet for cable entry. If it is desirable to bring the cables up through the floor, the cabinet can be situated over the power receptacle or cable hole on the floor. Conduit may be extended into the cabinet through one of the two 7-inch by 17-inch baseplate openings in the cabinet bottom. A cable entry hole (2" x 1") is located in the top rear of the cabinet to bring in the antenna cables or conduit from above the station. The front and back sides of the station must always be accessible for the serviceman.

Holes are located on the bottom for bolting the cabinet securely to the floor with 1/2" bolts. An FCC license holder (19A130126G1) is provided with the Floor Mount cabinet. This holder may be attached to the cabinet where desired using the adhesive backing on the holder.

Power and Ground Connections

A 15 or 20 ampere, 121 VAC, 60 Hertz electrical circuit must be provided for the station. The power cable from the station is provided with a standard 3-prong plug. One of the prongs grounds the station to protect personnel. Check the electrical code to be sure the power outlet complies with local ordinances.

If a 242 VAC source is to be used for the station, jumper connections on TB801 of the power supply must be changed. Refer to the Schematic Diagram of the Power Supply. The plug on the power cable must also be changed to mate with the 242 VAC outlet. The station should be connected to a good earth ground using No. 14 or larger wire. A ground stud is provided on all cabinets for a separate cabinet ground. Use No. 14 or larger wire for grounding the cabinet.

Antenna Requirements

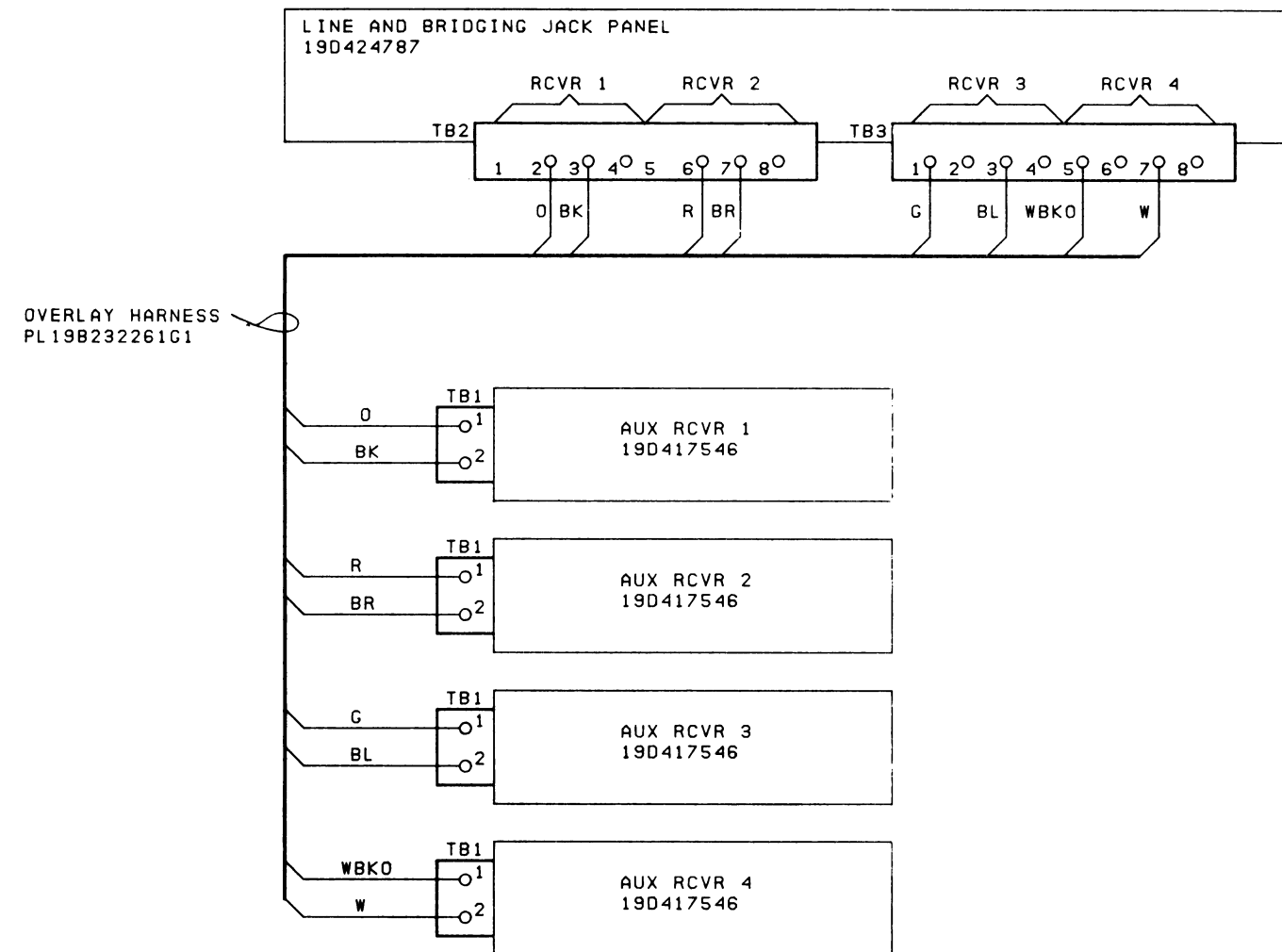
The antenna should be located as close as possible to the station so that the transmission line can be kept as short as possible. Receiving efficiency decreases as the length of the transmission line increases.

Station Cable Connections

1. Route the antenna transmission line through hole in cabinet and connect to Auxiliary Receiver Antenna Connector located on the rear bracket of the receiver (if no Antenna Matching Unit is used), or connect the transmission line to antenna Connector J1 on AMU if used.
2. Route telephone pair through hole in cabinet and make connection to TB1 (part of station harness) mounted to rear panel of receiver.
3. Connect power cable to the 121 VAC receptacle.

ADJUSTMENT

The initial adjustments for the receiver are provided in the receiver MAINTENANCE MANUAL. Adjustments for the Auxiliary Receiver System Board are provided in LBI4915. Select the desired receiver to be monitored by means of switch S803 on the front panel of the Power Supply and then adjust the VOLUME control (R802) for the desired listening level.



NOTES :

- 1.ALL WIRES ARE SF22.
- 2.TERMINATE ALL LEADS WITH  
19B209260P103.
- 3.TB1 ON AUX RCVRS IS PART  
OF HARNESS OVERLAY 19B226307.

(19C327985, Rev. 2)

## INTERCONNECTION DIAGRAM

LINE & BRIDGING JACK PANEL  
OVERLAY HARNESS 19B232261G1

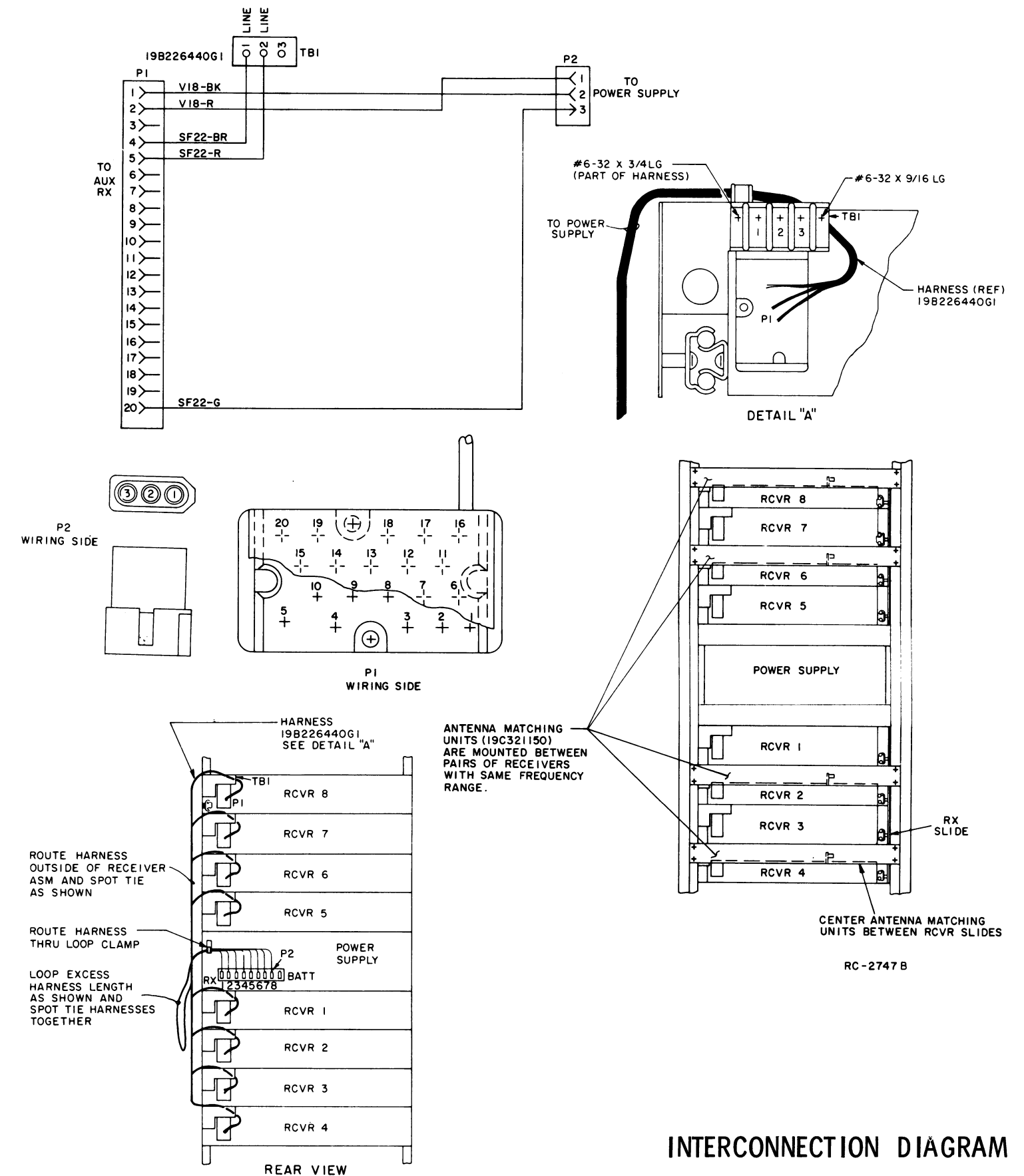
## PARTS LIST

LBI-4927A

### MULTIPLE RECEIVER HARNESS AND CABLE

SYMBOL	GE PART NO.	DESCRIPTION
		<p>MULTIPLE RECEIVER POWER HARNESS 19B226440G1</p> <p>----- PLUGS -----</p> <p>P1 Connector, phen: 20 contacts.</p> <p>P2 Includes:</p> <p>19B209288P10 Shell.</p> <p>5496809P18 Contact, pin: male; sim to Molex Products 1380- (Quantity 1).</p> <p>5496809P17 Contact, pin: female; sim to Molex Products 1381-T. (Quantity 2).</p> <p>----- TERMINAL BOARDS -----</p> <p>TB1 Feed-thru, phen: 3 terminals; sim to GE CR151D.</p> <p>----- MISCELLANEOUS -----</p> <p>4029851P13 Cable clip, nylon: sim to Weckesser 3/16-4-140. (Located on TB1).</p> <p>19A121589P1 Cover. (Used with P1).</p> <p>ANTENNA MATCHING UNIT CABLE 5491689P126 (RF coaxial, approx 36 inches long).</p>

\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

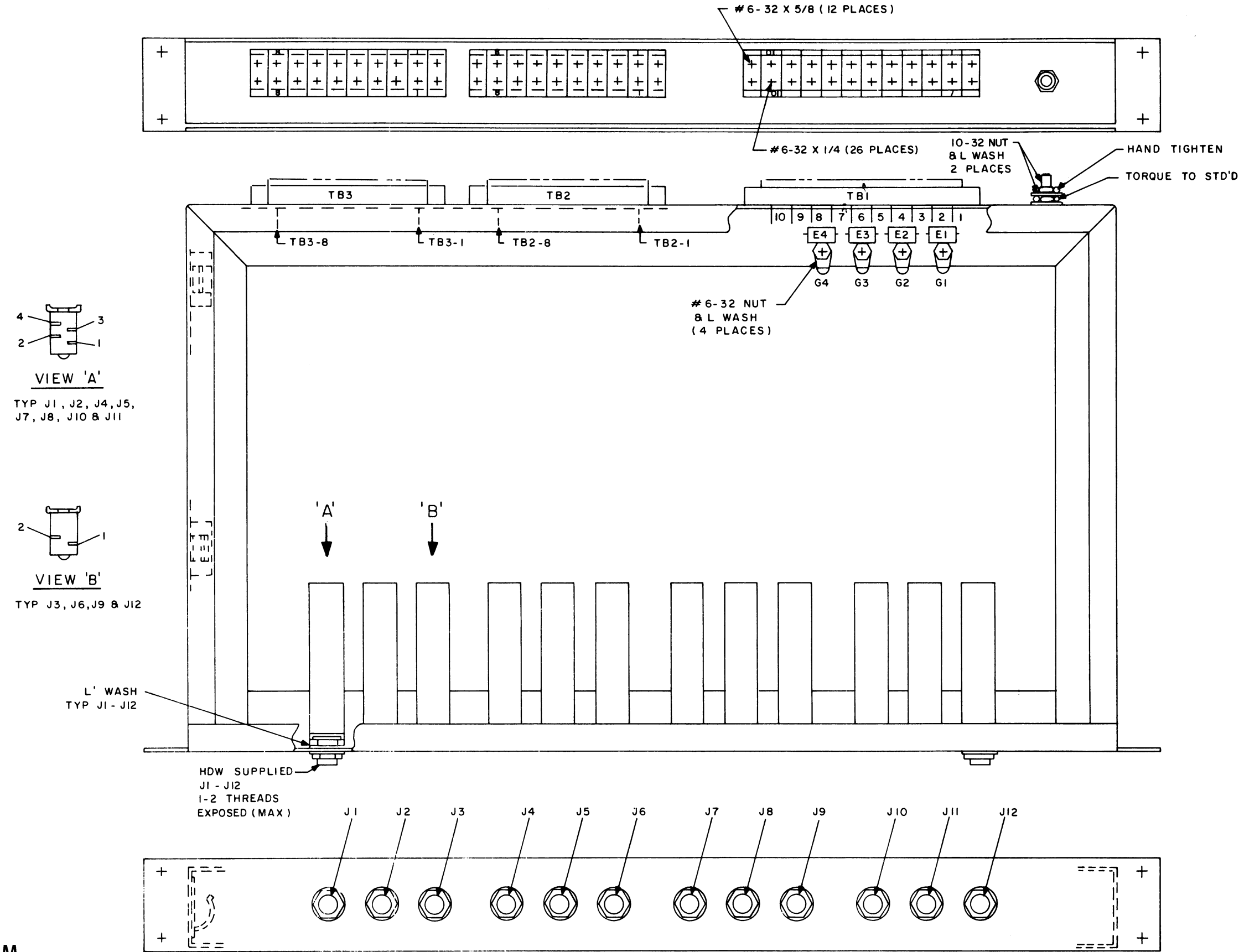


### INTERCONNECTION DIAGRAM

### MULTIPLE RECEIVER STATION

## Issue 1

9



OUTLINE DIAGRAM  
LINE & BRIDGING JACK PANEL  
19D424787G1

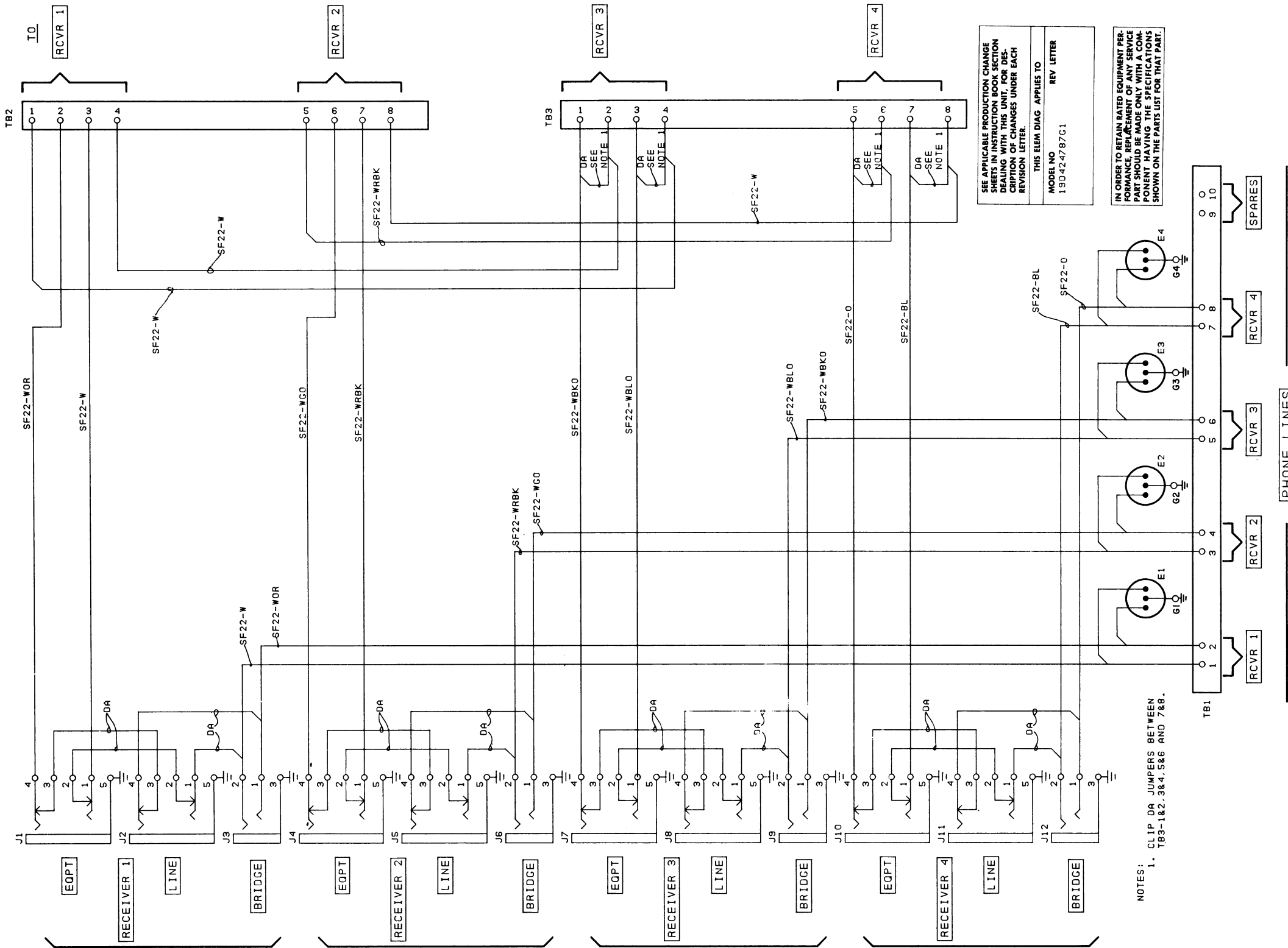
PARTS LIST

LBI-8880  
LINE AND BRIDGING PANEL  
19D424787G1

LBI30761

SYMBOL	GE PART NO.	DESCRIPTION
E1 thru E4	19A134356P1	----- TELEPHONE PROTECTORS ----- Telephone protector: 250-350 VDC breakdown to ground, 700 VDC breakdown Line to Line; sim to JOSLYN 2022-24.
		----- TERMINALS ----- Terminal, solder: sim to Zierick Mfg Corp 505.
		----- JACKS AND RECEPTACLES ----- Telephone, jack: contact rating 3 amps at 125 VAC; sim to Mallory Type 4B or Switchcraft Type 4J-1197.
		Telephone, jack: contact rating 3 amps at 125 VAC; sim to Mallory Type 2B or Switchcraft Type 4J-1195.
G1 thru G4	4036994P1	
J1 and J2	7489006P5	Telephone, jack: contact rating 3 amps at 125 VAC; sim to Mallory Type 4B or Switchcraft Type 4J-1197.
J3	7489006P3	Telephone, jack: contact rating 3 amps at 125 VAC; sim to Mallory Type 2B or Switchcraft Type 4J-1195.
J4 and J5	7489006P5	Telephone, jack: contact rating 3 amps at 125 VAC; sim to Mallory Type 4B or Switchcraft Type 4J-1197.
J6	7489006P3	Telephone, jack: contact rating 3 amps at 125 VAC; sim to Mallory Type 2B or Switchcraft Type 4J-1195.
J7 and J8	7489006P5	Telephone, jack: contact rating 3 amps at 125 VAC; sim to Mallory Type 4B or Switchcraft Type 4J-1197.
J9	7489006P3	Telephone, jack: contact rating 3 amps at 125 VAC; sim to Mallory Type 2B or Switchcraft Type 4J-1195.
J10 and J11	7489006P5	Telephone, jack: contact rating 3 amps at 125 VAC; sim to Mallory Type 4B or Switchcraft Type 4J-1197.
J12	7489006P3	Telephone, jack: contact rating 3 amps at 125 VAC; sim to Mallory Type 2B or Switchcraft Type 4J-1195.
TB1 TB2 and TB3	19C301086P7	----- TERMINAL BOARDS ----- Feed-thru, phen: 10 terminals; sim to GE CR151D.
	19C301086P6	Feed-thru, phen: 8 terminals; sim to GE CR151D.
		----- MISCELLANEOUS ----- Lockwasher, internal tooth: sim to Shakeproof 1220-2. (Used with J1-J12).
	19A116496P1	Cable, clamp: sim to Fastex 8511-06-00.

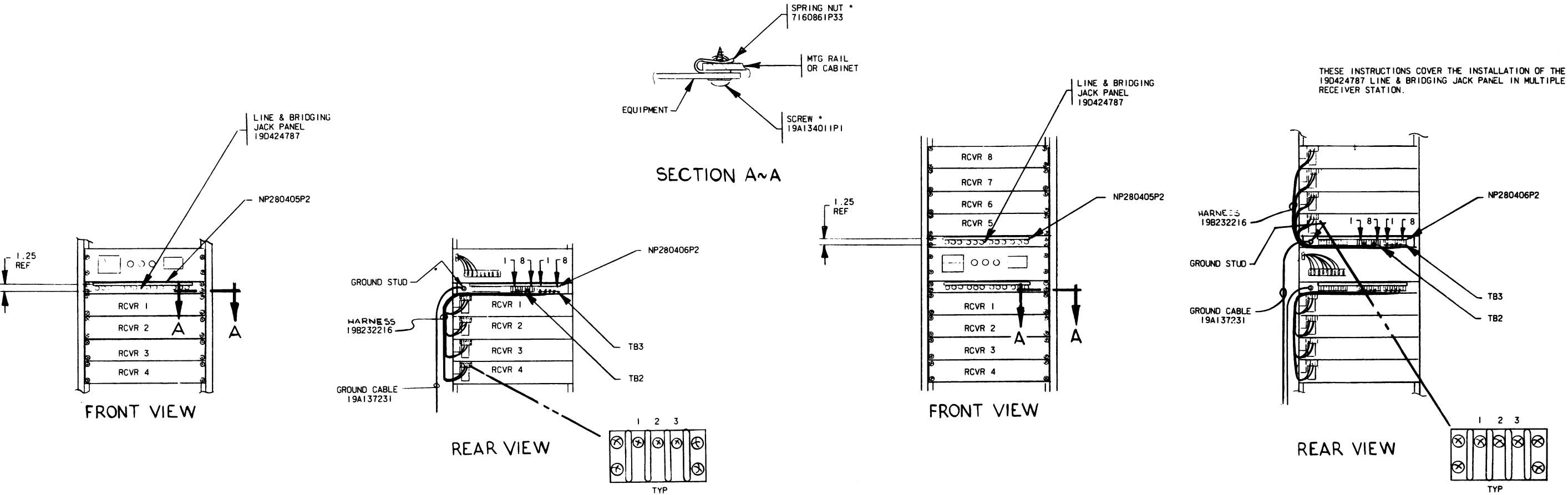
\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



(19D429015, Rev. 4)

SCHEMATIC DIAGRAM

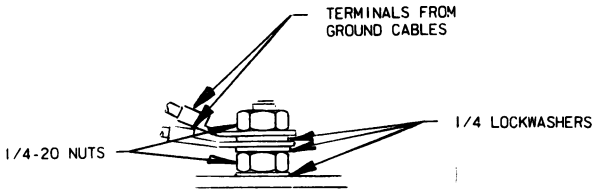
LINE & BRIDGING JACK PANEL  
19D424787G1



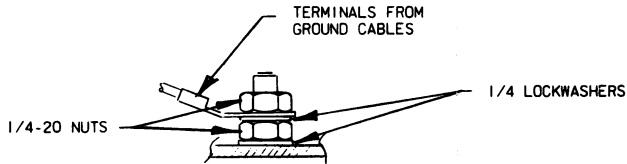
THESE INSTRUCTIONS COVER THE INSTALLATION OF THE 19D424787 LINE & BRIDGING JACK PANEL IN MULTIPLE RECEIVER STATION.

1. INSTALLATION OF 1 JACK PANEL FOR AUX RECEIVERS 1, 2, 3, OR 4
- STEPS:
1. MOUNT THE LINE & BRIDGING JACK PANEL 19D424787 DIRECTLY BELOW THE MULTI RECEIVER POWER SUPPLY AS SHOWN IN THE FRONT VIEW.
  2. INSTALL NAMEPLATE NP280405P2 AS SHOWN IN THE FRONT VIEW, CENTERING THE NAMEPLATE OVER THE JACKS.
  3. INSTALL NAMEPLATE NP280406P2 AS SHOWN IN THE REAR VIEW, CENTERING THE NAMEPLATE OVER THE TERMINAL BOARDS.
  4. INSTALL THE HARNESS 19B232216G1 AS SHOWN IN THE REAR VIEW.
  5. TAPE ALL TERMINALS ON HARNESS GOING TO RECEIVERS NOT PRESENT IN A PARTICULAR INSTALLATION.
  6. INSTALL 19A137231 CABLE ON GROUND STUD OF LINE & BRIDGING JACK PANEL AS SHOWN IN REAR VIEW. HARDWARE SUPPLIED WITH PANEL.
  7. ROUTE GROUND CABLE DIRECTLY TO BOTTOM OF CABINET TO CABINET GROUND STUD. CUT CABLE TO LENGTH LEAVING NO EXCESS. ATTACH 7491823P10 TERMINAL SUPPLIED WITH CABLE AND INSTALL ONTO CABINET GROUND STUD AS SHOWN IN DETAIL B.

- NOTES:
1. \* ITEMS MARKED WITH ASTERISK (\*) ARE PARTS OF HDW KIT PL19A13003/G4, G6 OR G8.
  2. REFERENCE DIAGRAMS, 19C327985



DETAIL C



DETAIL B

2. INSTALLATION OF 1 JACK PANEL FOR AUX RECEIVERS 5, 6, 7 OR 8
- STEPS:
1. INSTALL JACK PANEL FOR RECEIVERS 1 THRU 4 PER PART 1 OF THE INSTRUCTION.
  2. MOUNT THE LINE & BRIDGING JACK PANEL 19D424787 DIRECTLY BELOW THE MULTI RECEIVER POWER SUPPLY AS SHOWN IN THE FRONT VIEW.
  3. INSTALL NAMEPLATE NP280405P2 AS SHOWN IN THE FRONT VIEW, CENTERING THE NAMEPLATE OVER THE JACKS.
  4. INSTALL NAMEPLATE NP280406P2 AS SHOWN IN THE REAR VIEW, CENTERING THE NAMEPLATE OVER THE TERMINAL BOARDS.
  5. INSTALL THE HARNESS 19B232216G1 AS SHOWN IN THE REAR VIEW.
  6. TAPE ALL TERMINALS ON HARNESS GOING TO RECEIVERS NOT PRESENT IN A PARTICULAR INSTALLATION.
  7. INSTALL 19A137231 CABLE ON GROUND STUD OF LINE & BRIDGING JACK PANEL AS SHOWN IN REAR VIEW. HARDWARE SUPPLIED WITH PANEL.
  8. ROUTE GROUND CABLE DIRECTLY TO BOTTOM OF CABINET TO CABINET GROUND STUD. CUT CABLE TO LENGTH LEAVING NO EXCESS. ATTACH 7491823P10 TERMINAL SUPPLIED WITH CABLE AND INSTALL ONTO CABINET GROUND STUD AS SHOWN IN DETAIL C.

INSTALLATION INSTRUCTIONS

LINE & BRIDGING JACK PANEL  
19D424787G1