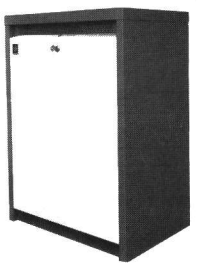
MOBILE RADIO

MASTR™ II

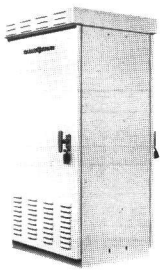
LOCAL / REPEATER STATION COMBINATION

MAINTENANCE MANUAL LBI-4790B

DATAFILE FOLDER – DF-9033



DESK MATE STATION



POLE MOUNT STATION

FLOOR MOUNT STATION

GENERAL ELECTRIC

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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.

High level RF energy in the transmitter Power Amplifier assembly can cause RF burns. KEEP AWAY FROM THESE CIRCUITS WHEN THE TRANSMITTER IS ENERGIZED!

SPECIFICATIONS*

EIA DIMENSIONS (H X W X D)

DESK MATE (30-Inch)	30-1/4" X 21-1/2" X 15"
DESK MATE (40-Inch)	44-1/4" X 21-1/2" X 15" (Adding louvered door for Continuous Duty PA adds 1/2-inch to depth dimension)
POLE MOUNT	45" X 21-1/2" X 21"
FLOOR MOUNT	69" X 23" X 21"

WEIGHT

DESK MATE (30-Inch)	160 lbs.
DESK MATE (40-Inch)	180 lbs.
POLE MOUNT	225 lbs.
FLOOR MOUNT	290 lbs.

INPUT VOLTAGE 121/242 VAC, 60 Hertz Only (50 Hertz Optional)

AC INPUT POWER

RF OUTPUT POWER	TRANSMIT	RECEIVE	STANDBY
LOW BAND			
50 Watts	270 Watts	75 Watts	40 Watts
100 Watts	560 Watts	105 Watts	65 Watts
HIGH BAND			
35 Watts	270 Watts	75 Watts	40 Watts
65 Watts	270 Watts	75 Watts	40 Watts
110 Watts	560 Watts	105 Watts	65 Watts
UHF BAND			
20 Watts	270 Watts	75 Watts	40 Watts
40 Watts	270 Watts	75 Watts	40 Watts

TEMPERATURE RANGE -30° to +60°C (-22°F to +140°F)

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

FCC FILING NUMBERS

25-50 MHz

MODEL SERIES	DUTY CYCLE (EIA)	POWER OUTPUT (Internally Adjustable)	FCC FILING NUMBER	
			5 ppm Freq. Stab.	2 ppm Freq. Stab.
(●)164E...	Intermittent	15 to 50 W	KT-56-A	KT-56-C
(●)174E...	Intermittent	50 to 100 W	KT-59-A	KT-59-C
(●)164 (K, J, R or T)...	Intermittent	15 to 50 W	KT-57-A	KT-57-C
(●)174 (K, J, R or T)...	Intermittent	50 to 100 W	KT-60-A	KT-60-C
(●)C64...	Continuous	15 to 50 W	KT-58-A	KT-58-C
(●)C74...	Continuous	50 to 100 W	KT-61-A	KT-61-C

138-174 MHz

MODEL SERIES	DUTY CYCLE (EIA)	POWER OUTPUT (Internally Adjustable)	FCC FILING NUMBER	
			5 ppm Freq. Stab.	2 ppm Freq. Stab.
(●)156E...	Intermittent	10 to 35 W	KT-41-A	KT-41-C
(●)166E...	Intermittent	10 to 65 W	KT-42-A	KT-42-C
(●)176E...	Intermittent	20 to 110 W	KT-43-A	KT-43-C
(●)156 (K, J, R or T)...	Intermittent	10 to 35 W	KT-44-A	KT-44-C
(●)166 (K, J, R or T)...	Intermittent	10 to 65 W	KT-45-A	KT-45-C
(●)176 (K, J, R or T)...	Intermittent	20 to 110 W	KT-46-A	KT-46-C
(●)C56...	Continuous	10 to 35 W	KT-47-A	KT-47-C
(●)C66...	Continuous	10 to 65 W	KT-48-A	KT-48-C
(●)C76...	Continuous	20 to 100 W	KT-49-A	KT-49-C

406-512 MHz

MODEL SERIES	DUTY CYCLE (EIA)	POWER OUTPUT (Internally Adjustable)	FCC FILING NUMBER
(●)145E...	Intermittent	1 to 20 W	KT-50-D
(●)155E...	Intermittent	1 to 40 W	KT-53-D
(●)165E...	Intermittent	10 to 75 W	KT-117-C
(●)175E...	Intermittent	30 to 100 W	KT-118-C
(●)145 (K, J, R or T)...	Intermittent	1 to 20 W	KT-51-D
(●)155 (K, J, R or T)...	Intermittent	1 to 40 W	KT-54-D
(●)165 (K, J, R or T)...	Intermittent	10 to 75 W	KT-115-C
(●)175 (K, J, R or T)...	Intermittent	30 to 100 W	KT-116-C
(●)C45...	Continuous	1 to 20 W	KT-52-D
(●)C55...	Continuous	1 to 40 W	KT-55-D
(●)C65...	Continuous	10 to 75 W	KT-113-C
(●)C75...	Continuous	30 to 100 W	KT-114-C

(●)Cabinet Style (1st Digit "D", "S", "P" or "V")
Applicable to FCC Rules Part Numbers 21, 89, 91 & 93

NOTE: FCC Filing Number not relevant to equipment operating in 406 to 420 MHz frequency range.

COMBINATION NOMENCLATURE

1 st Digit	2 nd Digit	3rd Digit	4th Digit	5th Digit	6th Digit	7th Digit	8th & 9th Digit		10th Digit
Mechanical Package	Duty Cycle	RF Power Output Range	Channel Spacing	Control	Number of Frequency	Options	Frequency Range		Oscillator Stability
D 30 - inch Desk Mate	**C** 120/240 VAC Continuous Duty	**4** 8 - 16 Watts	**4** 20 kHz	**N** Local/ Repeat	**A** 1 Freq. TX 1 Freq. RX	**S** Standard	**12** 25 - 30 MHz	**13** 30 - 36 MHz	**A** 5 PPM
S 44 - inch Desk Mate		**5** 16 - 38 Watts	**5** 25 kHz			**U** Channel Guard	**23** 36 - 42 MHz	**33** 42 - 50 MHz	**B** 2 PPM
P Pole Mount Station		**6** 38 - 66 Watts	**6** 30 kHz				**56** 138 - 150.8 MHz	**66** 150.5 - 174 MHz	**C** PLL* ±5 PPM
V Floor Mount Station		**7** 66 - 128 Watts					**77** 406 - 420 MHz	**88** 450 - 470 MHz	**D** PLL* ±2 PPM
							89 470 - 494 MHz	**91** 494- 512 MHz	

*Phase-Lock-Loop

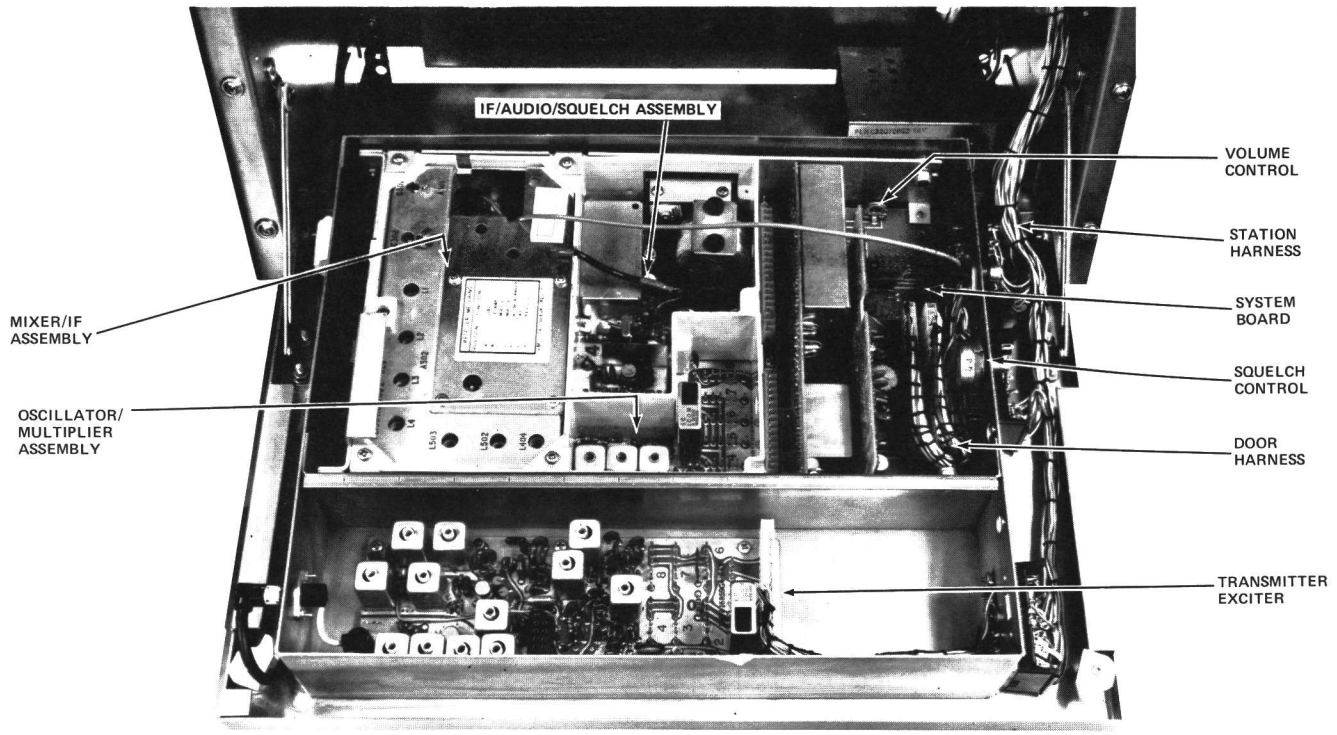


Figure 1 - Radio Panel Front Door

DESCRIPTION

The General Electric MASTR II Local/ Repeater Station is a complete two-way radio station designed for simultaneously receiving and retransmitting signals in a communication system. The station transmitter exciter is located in a shielded compartment on the radio panel front door. The station receiver is mounted in a shielded enclosure on the radio panel front door, along with a receiver system board which accomodates the decode Channel Guard Board. Jacks are provided on the system board for plug-in interface with the control functions. See Figure 1.

The transmitter power amplifier hinges from the bottom of the radio housing. The PA consists of a frame mounted to a heat sink. A cover snaps over the frame to form an RF-tight enclosure for the PA board assembly.

Directly above the PA assembly is the station control shelf. A mother board is mounted to this shelf which accomodates the station 10-Volt Regulator and Control Module, the Repeater Control Board and the Repeater Audio Board.

The 10-Volt Regulator and Control Module supplies the regulated 10-Volts DC for station operation and contains the transmit/ receive repeat switching controls. A station pre-amplifier is also provided on the module printed board. Front panel controls include the REM PTT and INTERCOM switches along with the TX LIGHT Light Emitting Diode (LED). See Figure 2.

The Repeater Control Board consists of the repeat transmit keying function, a drop-out delay timer and a 3-minute limit timer. The Repeater Audio Board consists of a high-pass filter, audio amplifiers, a de-emphasis network, and a repeater audio switch. Refer to the Repeater Station Control Shelf MAINTENANCE MANUAL, LBI-4794.

The station power supply is connected to a 121 Volt AC power source. Conversion from 121 VAC to 242 VAC is made by jumper changes on the back of the power supply front panel. The input voltage is stepped down to 12 Volts by a ferro-resonant transformer which provides line regulation of ±2% for a ±20% primary change. A power switch, primary and secondary fuses and two AC outlets are located on the power supply front panel. A high-current fuse for the PA supply is located on the back of the power supply chassis.

The Local/Repeater Station may be converted to a Remote/Repeat (DC or Tone) combination by plugging the appropriate modules into the Control Shelf Mother Board.

INITIAL ADJUSTMENT

After the MASTR II Local/Repeater station has been installed, the transmitter and receiver must be adjusted by an electronics technician who holds a First or Second Class FCC Radiotelephone or Radiotelegraph license before the station can be placed in operation.

Make sure that a RADIO TRANSMITTER IDENTIFICATION Form (FCC FORM 452-C or General Electric Form NP270303) has been filled out and attached to the transmitter.

TRANSMITTER ADJUSTMENT

The adjustment for the transmitter includes measuring the forward and reflected power and adjusting the antenna length for optimum ratio, then setting the transmitter to rated power output (or to the specific power output which may be required by the FCC station authorization). Next, measuring the frequency and modulation and entering these measurements on the FCC-required station records.

The following procedure should be used for setting the transmitter modulation gain.

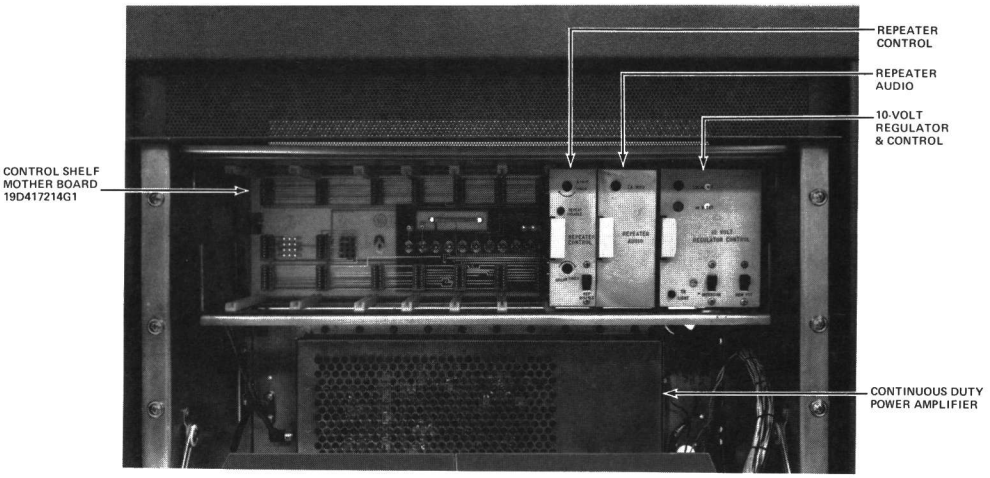


Figure 2 - Control Shelf and PA Assemblies

1. Apply a 1000 microvolt on-frequency signal modulated with 1000 Hz tone at 3 kHz deviation to the station receiver. If Channel Guard tone is used, modulate the signal with the proper CG tone to provide an additional 0.75 kHz deviation.

2. Adjust the TX MOD control R14 on the Repeater Audio Board to its maximum clockwise position.

3. Set the MOD ADJUST control R127 on the transmitter exciter for a 4.5 kHz deviation as indicated on a frequency modulation monitor.

4. Adjust TX MOD control R14 on the Repeater Audio Board for a 3.0 kHz deviation as indicated on the deviation monitor.

5. While talking in a normal voice at from four to six inches from the station microphone at the MASTR Local Controller, adjust MIC GAIN control R14 on the 10-Volt Regulator Board for a deviation of 4.5 kHz as measured on the deviation monitor.

For the complete transmitter adjustment, refer to the ALIGNMENT PROCEDURE IN THE MAINTENANCE MANUAL for the transmitter.

RECEIVER ADJUSTMENT

The initial adjustment for the receiver includes tuning the input circuit to match the antenna. Refer to the FRONT END ALIGNMENT PROCEDURE in the MAINTENANCE MANUAL for the receiver.

To set the station VOLUME control (R3 on the System Board) use the following procedure:

1. Apply a 1000 microvolt on-frequency test signal modulated by 1,000 Hertz with ±3% deviation to the receiver antenna jack J937. Disable channel guard if present.

2. Disconnect MASTR Local Controller cable from station input (P1102 from J1).

3. Connect an 8.0 ohm, 5-Watt resistor across METERING jack J905 terminals 1 and 2 on the System Board. Connect an AC VTVM across the 8.0 ohm resistor and adjust R3 for a reading of 6.3 Volts RMS on the meter (5 Watts).

4. Disconnect the 8.0 ohm resistor and connect the Controller cable to the station.

CAUTION

Adjustment of VOLUME CONTROL to settings higher than instructed in the INITIAL ADJUSTMENT may result in damage to the station service speaker or Local Controller speaker.

To set the station SQUELCH control (R901 on the Receiver/Exciter door) use the following procedure:

1. Turn the SQUELCH control clockwise (to the right) as far as possible.

2. Adjust the VOLUME control on the MASTR Local Controller until the noise is easily heard in the Controller speaker but is not annoyingly loud.

3. Turn the SQUELCH control counter-clockwise (to the left) until the noise just disappears then advance control another 20 degrees.

REPEATER CONTROL ADJUSTMENT

The repeater drop-out delay timing and 3-minute limit timing must be adjusted before placing the station in operation. Refer to the MASTR II Repeater Station Control Shelf MAINTENANCE MANUAL (LBI-4794) for these adjustments.

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 at regular intervals. This preventive maintenance should include the checks as listed in the table of Maintenance Checks.

Test and 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 and receiver.

REMOVING IC's (and all other soldered-in components) can be easily accomplished by using a de-soldering tool such as a SOLDA-PULLT® or equivalent. To remove an IC, heat each lead separately on the solder side and remove the old solder with the de-soldering tool.

An alternate method is to use a special soldering tip that heats all of the pins simultaneously.

MAINTENANCE CHECK	INTERVAL BETWEEN CHECKS	
	Every 6 Months	As Required
Transmitter Alignment - Compare meter readings at transmitter multiplier metering jacks with voltages read during initial tune up. Touch up multiplier tuning. Check power output. (See Alignment Procedure for Transmitter).		X
Receiver - 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
Transmission Line - Check for positive indication of pressure on transmission line pressure guage (if pressurized line is used).	X	
Antenna - Check antenna & mast for mechanical stability	X	
Mechanical Inspection - 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	
Cleaning - Use a vacuum cleaner to remove dust which has accumulated inside the cabinet.	X	
Frequency Check - Check transmitter frequency & deviation as required by FCC.		X

SYSTEM DESCRIPTION

Receiver

The station receiver consists of an Oscillator/Multiplier Assembly (OSC/MULT), RF Assembly, Mixer/IF Assembly (MIF) and an IF-Audio and Squelch Assembly (IFAS). In receivers with noise blankers, the noise blanker circuit replaces the standard MIF board. Refer to the Receiver MAINTENANCE MANUAL for a complete description of the station receiver.

Transmitter

The station transmitter consists of an exciter board assembly and a power amplifier assembly. The PA assembly consists of a PA printed wiring board mounted on a heat sink at the rear of the radio housing. Refer to the Transmitter MAINTENANCE MANUAL for a complete description of the station transmitter.

System Board A901

The station System Board is located on the radio panel front door and the receiver modules plug directly into the board. Along the edge of the System Board are two connectors which interconnect to the Repeater Control and Audio modules and to the power supply.

Plug-in Channel Guard jacks are provided. A metering jack is provided for accomodating the General Electric 4EX3A11 Test Set. VOLUME control R4 is located on the System Board. SQUELCH control R901 is located on the receiver/exciter door.

A jumper is present between J933-pin 4 and J933-pin 8 in single-frequency transmit stations. A jumper is present between H47 and H48 on A901 in single-frequency receive stations.

VOLUME/SQUELCH HI from the receiver Audio Pre-Amp is connected via J904-12 to the VOLUME (R4) and SQUELCH (R901) controls. The VOLUME control arm is returned to the receiver IFAS board where the audio is amplified by the receiver Audio Power Amplifier circuit. The audio output of the PA is then connected to the speaker leads at P904-18 and -19.

Channel Guard

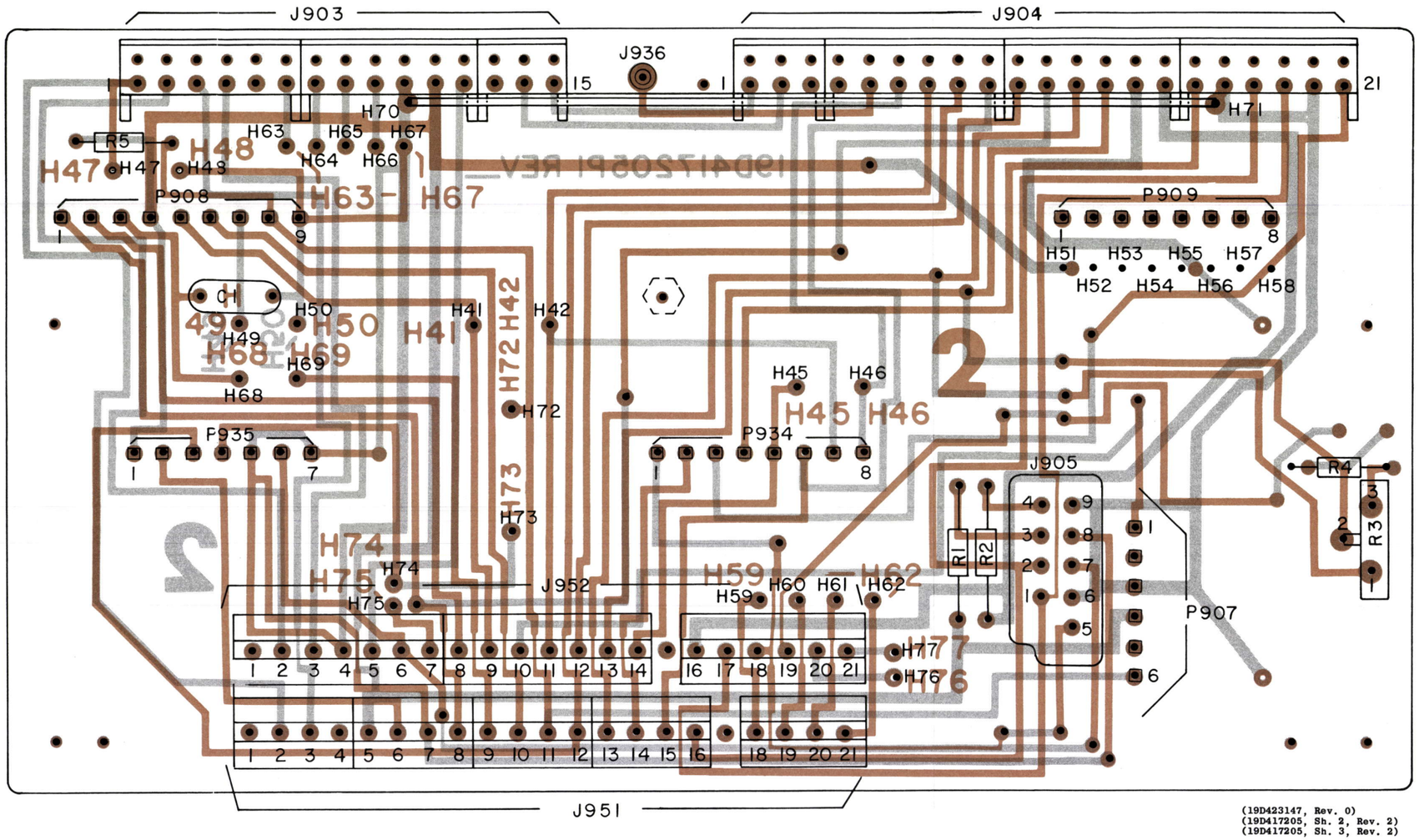
In stations equipped with Channel Guard, a CG Encode Board (19C321162G1) is located in the transmitter exciter compartment and a CG Decode Board (19D497261G6) is

plugged into the System Board at P908 and P909. Each MASTR II receiver is equipped with a tone reject filter to prevent the CG tone from being heard in the speaker.

Channel Guard is a continuous-tone controlled squelch system that provides communications control in accordance with EIA standard RS-220. The system utilizes standard tone frequencies from 71.9 to 203.5 Hertz with both the encoder and decoder operating on the same frequency. The STE circuit (Squelch Tail Eliminator) employs a phase shift of approximately 180° in the encode function to eliminate undesirable noise bursts after each transmission.

A Channel Guard Filter is added to the Repeater Audio Board which attenuates frequencies below 203.5 Hertz to prevent the Channel Guard tone from being applied to the transmitter modulator input.

The Repeater will not key in Channel Guard systems unless the received signal is coded with the proper Channel Guard tone. The CG MON function, when selected at the Local Controller, will not allow the Repeater to key on an uncoded input signal but will allow the Local Controller operator to hear all channel activity.



(19D423147, Rev. 0)
(19D417205, Sh. 2, Rev. 2)
(19D417205, Sh. 3, Rev. 2)

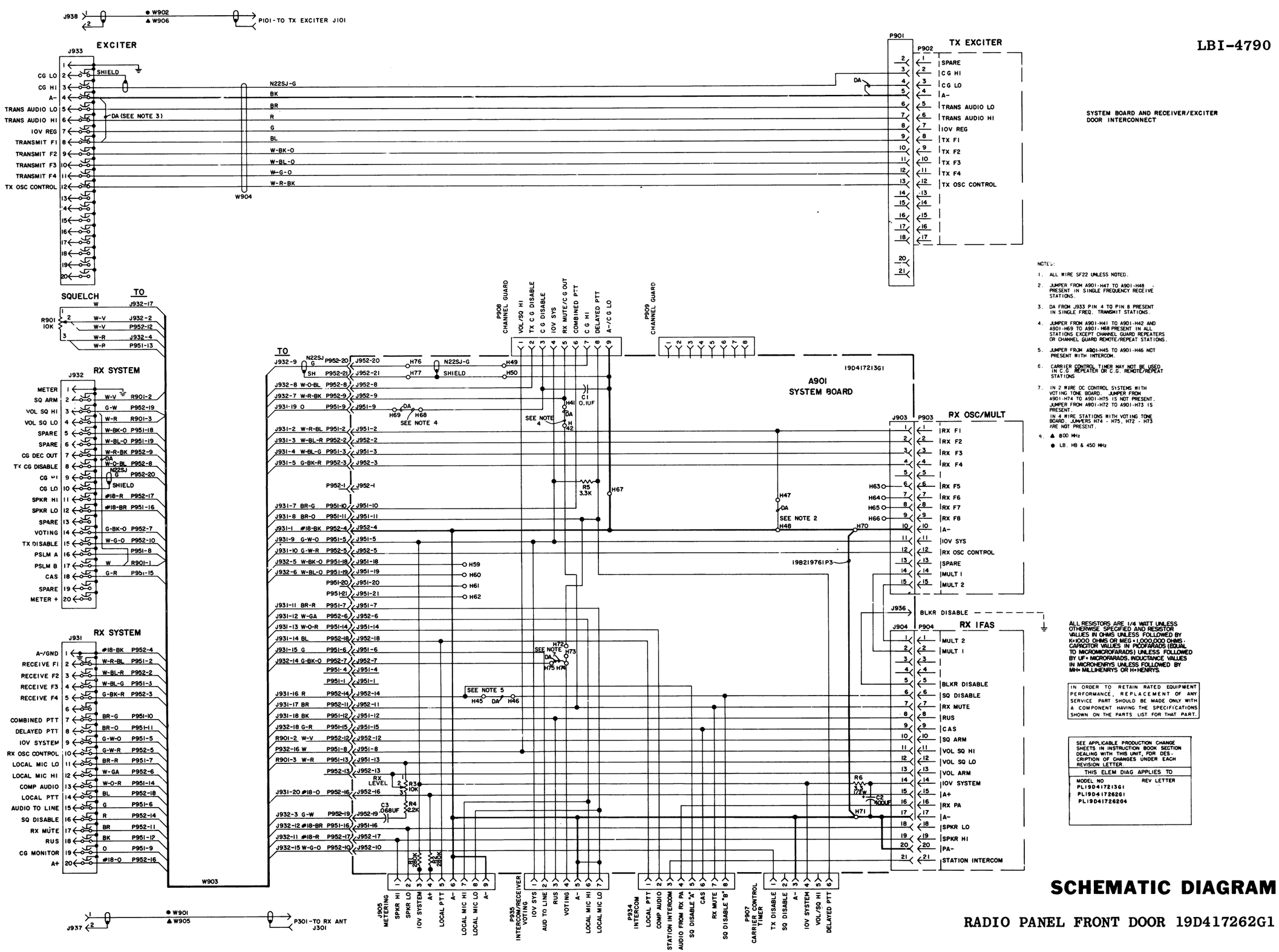
REFER TO WIRING DIAGRAM FOR THE FOLLING CONNECTIONS	
FROM	TO
H41	H42
H50	H77
H45	H46
H47	H48
H68	H69
H49	H76

DF-9033

OUTLINE DIAGRAM

SYSTEM BOARD A901

Issue 2



NOTES:

1. ALL WIRE SF22 UNLESS NOTED.
2. JUMPER FROM A901-H47 TO A901-H48 PRESENT IN SINGLE FREQUENCY RECEIVE STATIONS.
3. DA FROM J933 PIN 4 TO PIN 8 PRESENT IN SINGLE FREQ. TRANSMIT STATIONS.
4. JUMPER FROM A901-H41 TO A901-H42 AND A901-H69 TO A901-H68 PRESENT IN ALL STATIONS EXCEPT CHANNEL GUARD REPEATERS OR CHANNEL GUARD REMOTE/REPEAT STATIONS.
5. JUMPER FROM A901-H45 TO A901-H46 NOT PRESENT WITH INTERCOM.
6. CARRIER CONTROL TIMER MAY NOT BE USED IN C.G. REPEATER OR C.G. REMOTE/REPEAT STATIONS
7. IN 2 WIRE DC CONTROL SYSTEMS WITH VOTING TONE BOARD, JUMPER FROM A901-H74 TO A901-H75 IS NOT PRESENT. JUMPER FROM A901-H72 TO A901-H73 IS PRESENT.
   IN 4 WIRE STATIONS WITH VOTING TONE BOARD, JUMPERS H74 - H75, H72 - H73 ARE NOT PRESENT.
8. ▲ 800 MHz
   ● LB, HB & 450 MHz

ALL RESISTORS ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG=1,000,000 OHMS. CAPACITOR VALUES IN MICROFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF= MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH= MILLIHENRYS OR H= HENRYS.

IN ORDER TO RETAIN RATED EQUIPMENT PERFORMANCE, REPLACEMENT OF ANY SERVICE PART SHOULD BE MADE ONLY WITH A COMPONENT HAVING THE SPECIFICATIONS SHOWN ON THE PARTS LIST FOR THAT PART.

SEE APPLICABLE PRODUCTION CHANGE SHEETS IN INSTRUCTION BOOK SECTION DEALING WITH THIS UNIT, FOR DESCRIPTION OF CHANGES UNDER EACH REVISION LETTER.

THIS ELEM DIAG APPLIES TO	
MODEL NO	REV LETTER
PLI9D417213G1	
PLI9D417262G1	
PLI9D417262G4	

DF-9033

SCHEMATIC DIAGRAM

RADIO PANEL FRONT DOOR 19D417262G1

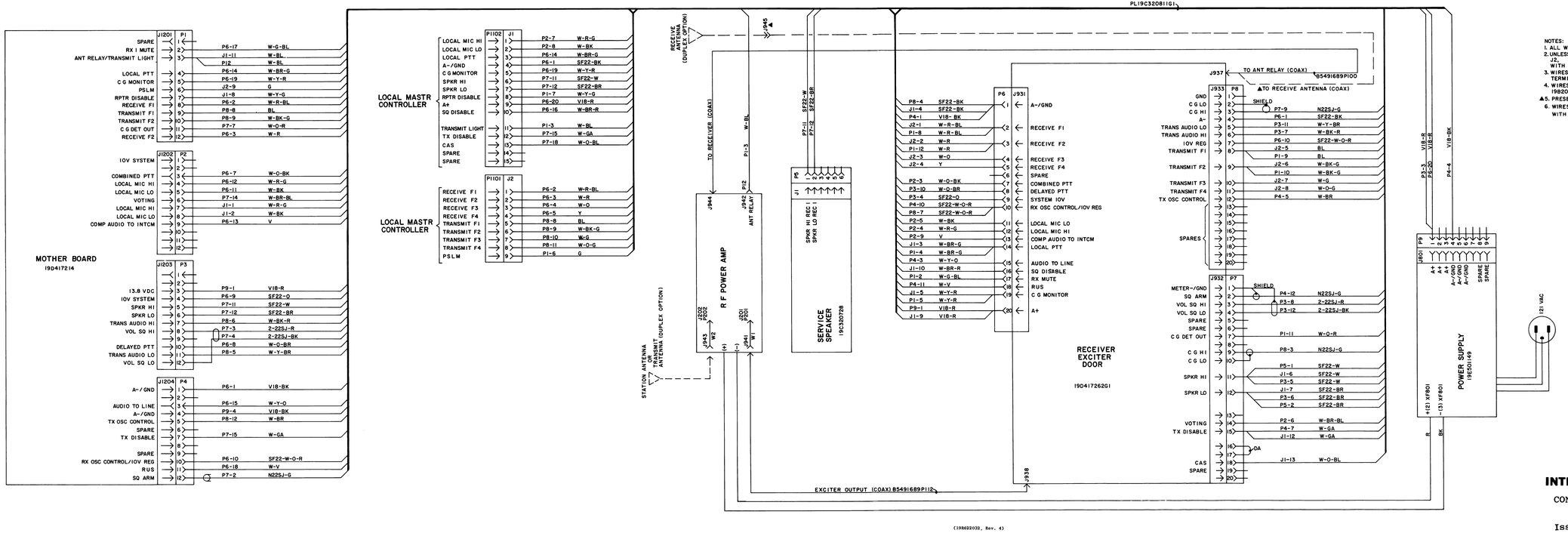
PARTS LIST

LBI-4801A

MASTR II STATION RADIO PANEL
FRONT DOOR ASSEMBLY
19D417262G1

SYMBOL	GE PART NO.	DESCRIPTION
		DOOR ASSEMBLY 19D417262G1
A901		COMPONENT BOARD 19D417213G1
		- - - - - - - - - CAPACITORS - - - - - - - - -
C1	19A116080P7	Polyester: 0.1 µf ±20%, 50 VDCW.
C2	19A115680P24	Electrolytic: 400 µf +150% -10%, 18 VDCW; sim to Mallory Type TTX.
C3	19A116080P106	Polyester: 0.068 µf ±10%, 50 VDCW.
		- - - - - - - JACKS AND RECEPTACLES - - - - - -
J903		Connector. Includes:
	19A116659P1	Connector: 3 contacts; sim to Molex 09-52-32. (Quantity 1).
	19A116659P4	Connector: 6 contacts; sim to Molex 09-52-3062. (Quantity 2).
J904		Connector. Includes:
	19A116659P1	Connector: 3 contacts; sim to Molex 09-52-3032. (Quantity 1).
	19A116659P4	Connector: 6 contacts; sim to Molex 09-52-3062. (Quantity 3).
J905	19B219374G2	Connector: 9 contacts.
J936	4033513P4	Contact, electrical: sim to Bead Chain L93-3.
J951		Connector. Includes:
	19A116659P13	Connector: 4 contacts; sim to Molex 09-56-1041. (Quantity 5).
J952		Connector. Includes:
	19A116659P11	Connector: 7 contacts; sim to Molex 09-56-1071. (Quantity 2).
	19A116659P12	Connector: 6 contacts; sim to Molex 09-56-1061. (Quantity 1).
		- - - - - - - - - - PLUGS - - - - - - - - - -
P907	19A116779P1	Contact, electrical: sim to Molex 08-54-0404. (Quantity 6).
P908	19A116779P1	Contact, electrical: sim to Molex 08-54-0404. (Quantity 9).
P909	19A116779P1	Contact, electrical: sim to Molex 08-54-0404. (Quantity 8).
P934	19A116779P1	Contact, electrical: sim to Molex 08-54-0404. (Quantity 8).
P935	19A116779P1	Contact, electrical: sim to Molex 08-54-0404. (Quantity 7).
		- - - - - - - - - - RESISTORS - - - - - - - - -
R1 and R2	19C314256P22803	Metal film: 280,000 ohms ±1%, 1/4 w.
R3	19B209358P106	Variable, carbon film: approx 75 to 10,000 ohms ±10%, 0.25 w; sim to CTS Type X-201.
R4	3R152P222J	Compositon: 2200 ohms ±5%, 1/4 w.
R5	3R152P332J	Composition: 3300 ohms ±5%, 1/4 w.
R6	7147161P15	Composition: 3.3 ohms ±5%, 1/2 w.
		- - - - - - - - - - CABLES - - - - - - - - - -
W901	5491689P105	Cable, RF: approx 12 inches long, 350 VRMS, 500 VDC operating voltage. Includes J937, P301.
W902	5491689P104	Cable, RF: approx 3-5/8 inches long, 350 VRMS, 500 VDC operating voltage. Includes J938, P101.
W903		CABLE ASSEMBLY 19D417262G2
		- - - - - - - JACKS AND RECEPTACLES - - - - - -
J931 and J932	19C303426G1	Connector: 20 pin contacts.
		- - - - - - - - - - PLUGS - - - - - - - - - -
P951 and P952		Connector. Includes:
	19A116659P25	Shell.
	19A116781P5	Contact, electrical: wire No. 16-20 AWG; sim to Molex 08-50-0106.
	19A116781P6	Contact, electrical: wire No. 22-26 AWG; sim to Molex 08-50-0108.
		- - - - - - - - - - RESISTORS - - - - - - - - -
R901	5496870P31	Variable, carbon film: 10,000 ohms ±20%; sim to Mallory LC(10K).
W904		EXCITER CABLE 19D417262G3
		- - - - - - - JACKS AND RECEPTACLES - - - - - -
J933	19C303426G1	Connector: 20 pin contacts.
		- - - - - - - - - - PLUGS - - - - - - - - - -
P901		Connector. Includes:
	19A116659P25	Shell.
	19A116781P5	Contact, electrical: wire No. 16-20 AWG; sim to Molex 08-50-0106.
	19A116781P6	Contact, electrical: wire No. 22-26 AWG; sim to Molex 08-50-0108.
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19C320679G1	Door.
	19B218178P1	Pawl. (Part of door latch).
	19C318151P1	Knob. (Part of door latch).
	N193P1208C6	Tap screw: No. 6 x 1/2. (Part of door latch).
	5493361P8	Washer, spring tension. (Part of door latch).
	19A121676P1	Guide pin. (Used with J931-J933).
	19B209519P1	Polarizing tab. (Used with P901, P951, P952).
	7115130P9	Lockwasher: sim to Shakeproof 1220-2. (Used with R901 mounting).
	7165075P2	Hex nut, brass: No. 3/8-32. (Used with R901 mounting).
	19A115874P1	Catch, friction. (Latches A901).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.



NOTES:
1. ALL WIRES ARE SF24 UNLESS OTHERWISE NOTED.
2. UNLESS OTHERWISE NOTED ALL WIRES TO J1, J2, P1, P2, P3, P4 AND P5 TERMINATED WITH C5498609P17.
3. WIRES TO P2-3 AND P4-3 ARE TERMINATED WITH C5498609P18.
4. WIRES TO P9-1 AND P9-4 ARE TERMINATED WITH 19B209288P2.
▲5. PRESENT WITH DUPLEX OPTION ONLY.
6. WIRES TO P3-3, P4-1, P4-4 AND J1-9 ARE TERMINATED WITH 19B209288P1.

(19B622032, Rev. 4)

DF-9033

INTERCONNECTION DIAGRAM

CONTINUOUS DUTY STATION HARNESS
WITHOUT METERING 19C320811G1

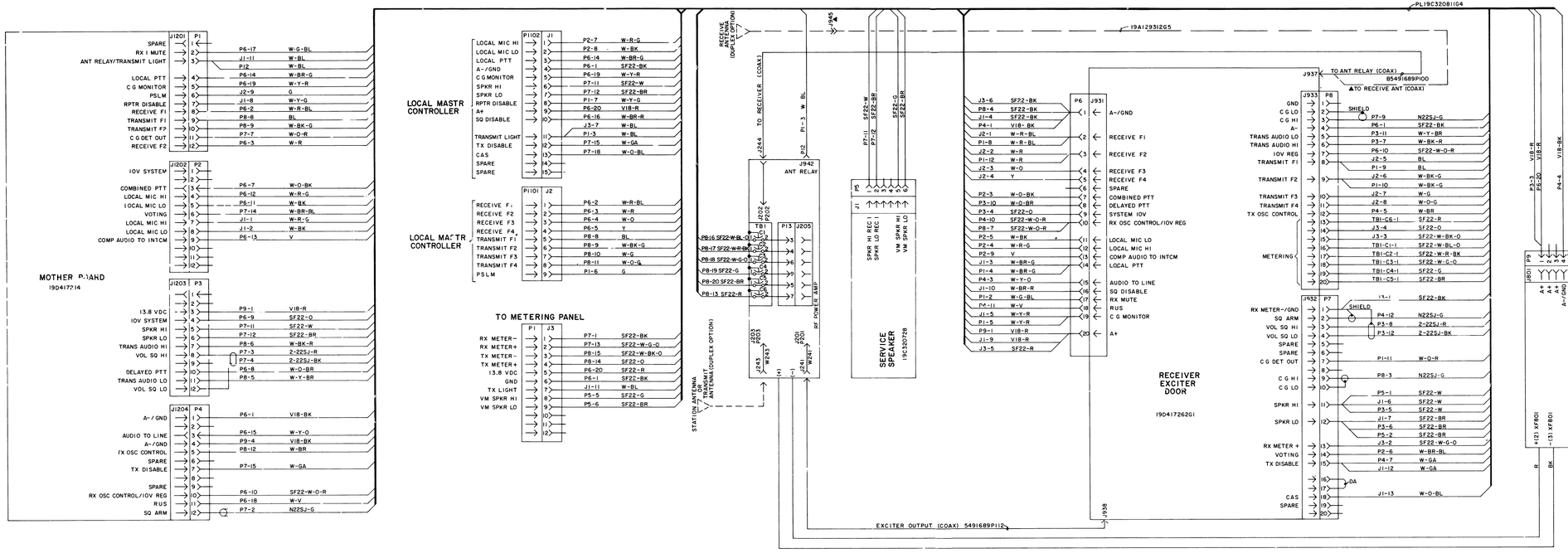
PARTS LIST

LBI-4796

MASTR II CONTINUOUS DUTY
STATION HARNESS
19C329811G1

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - JACKS AND RECEPTACLES - - - - - -
J1		Connector. Includes:
	19B209288P5	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 13).
J2		Connector. Includes:
	19B209288P3	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 9).
		- - - - - - - - - - - PLUGS - - - - - - - - - -
P1		Connector. Includes:
	19B209288P20	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 11).
P2		Connector. Includes:
	19B209288P20	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 6).
	5496809P18	Contact, electrical: male; sim to Molex 1380-T. (Quantity 1).
P3		Connector. Includes:
	19B209288P20	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 9).
P4		Connector. Includes:
	19B209288P20	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 7).
	5496809P18	Contact, electrical: male; sim to Molex 1380-T. (Quantity 13).
P5		Connector. Includes:
	19B209288P23	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 2).
P6 thru P8	19C303506P1	Connector, phen: 20 contacts.
P9		Connector. Includes:
	19B209288P4	Shell.
	5496809P18	Contact, electrical: male; sim to Molex 1380-T. (Quantity 13).
	19B209288P2	Contact, electrical: male; sim to Molex 1190-T. (Quantity 1).
P12	19A115793P1	Contact, electrical: sim to Walco 2700.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



(19B622055, Rev. 5)

DF-9033

INTERCONNECTION DIAGRAM

CONTINUOUS DUTY STATION HARNESS WITH METERING 19C320811G4

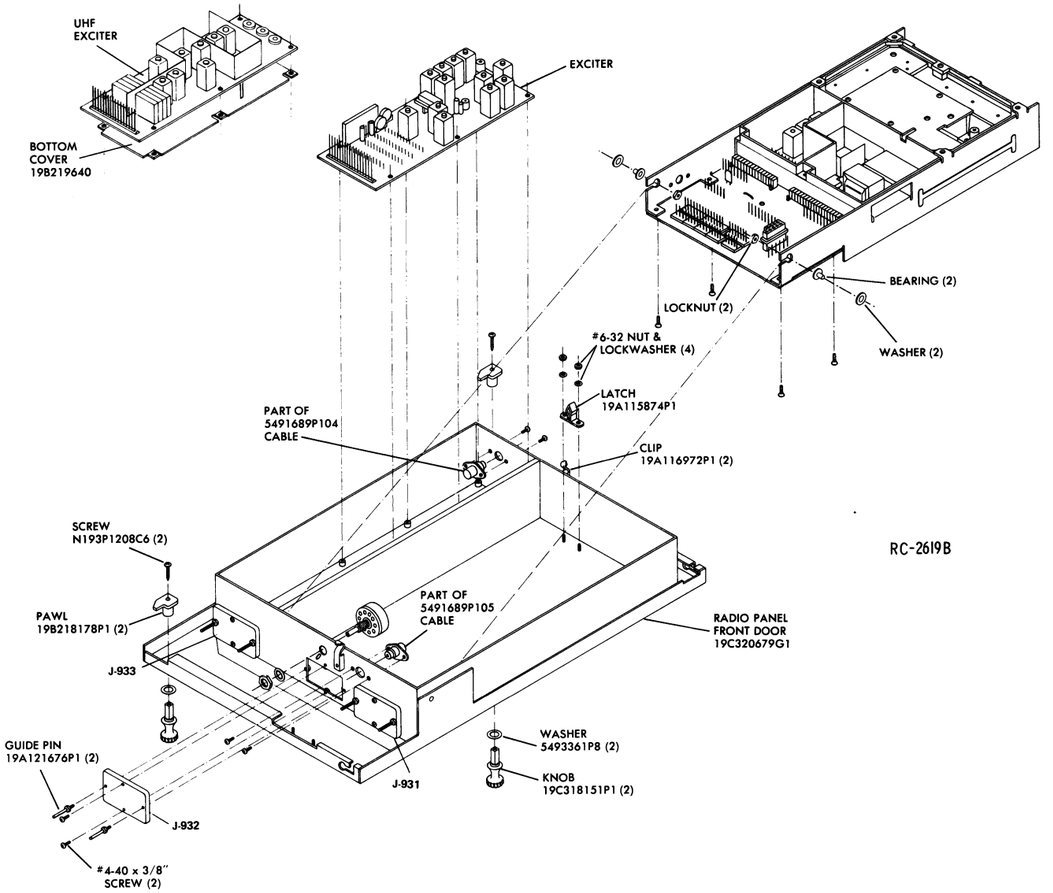
PARTS LIST

LBI-4799

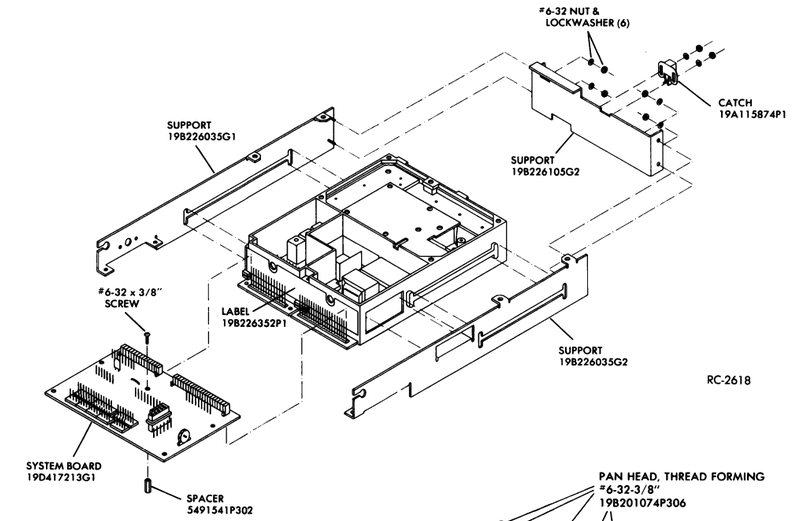
WASTR II CONTINUOUS DUTY
STATION HARNESS WITH METERING
19C320851G4

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - JACKS AND RECEPTACLES - - - - - -
J1		Connector. Includes:
	19B209288P5	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 13).
J2		Connector. Includes:
	19B209288P3	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 9).
J3		Connector. Includes:
	19B209288P25	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 9).
		- - - - - - - - - - - - PLUGS - - - - - - - - - - -
P1		Connector. Includes:
	19B209288P20	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 11).
P2		Connector. Includes:
	19B209288P20	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 6).
	5496809P18	Contact, electrical: male; sim to Molex 1380-T. (Quantity 1).
P3		Connector. Includes:
	19B209288P20	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 9).
P4		Connector. Includes:
	19B209288P20	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 7).
	5496809P18	Contact, electrical: male; sim to Molex 1380-T. (Quantity 1).
P5		Connector. Includes:
	19B209288P23	Shell.
	5496809P17	Contact, electrical: female; sim to Molex 1381-T. (Quantity 4).
P6 thru P8	19C303506P1	Connector, phen: 20 contacts.
P9		Connector. Includes:
	19B209288P4	Shell.
	5496809P18	Contact, electrical: male; sim to Molex 1380-T. (Quantity 1).
	19B209288P2	Contact, electrical: male; sim to Molex 1190-T. (Quantity 1).
P12	19A115793P1	Contact, electrical: sim to Malco 2700.
P13	19B219534P1	Plug: 9 pins.
		- - - - - - - - TERMINAL BOARDS - - - - - - - -
TB1	19A130031G1	Plate.

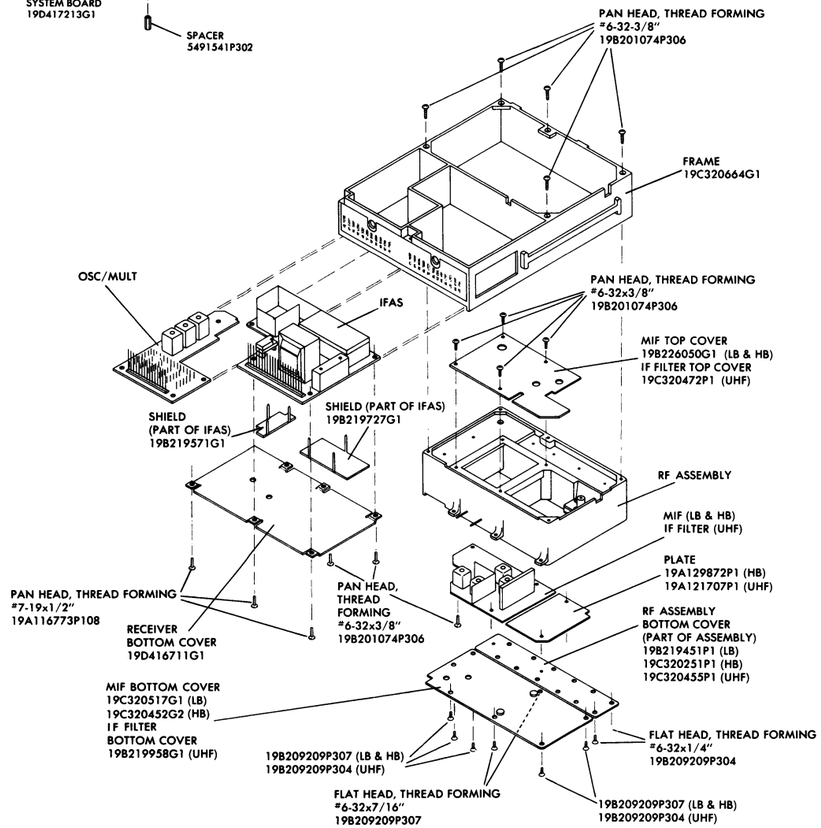
*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



RC-2619B



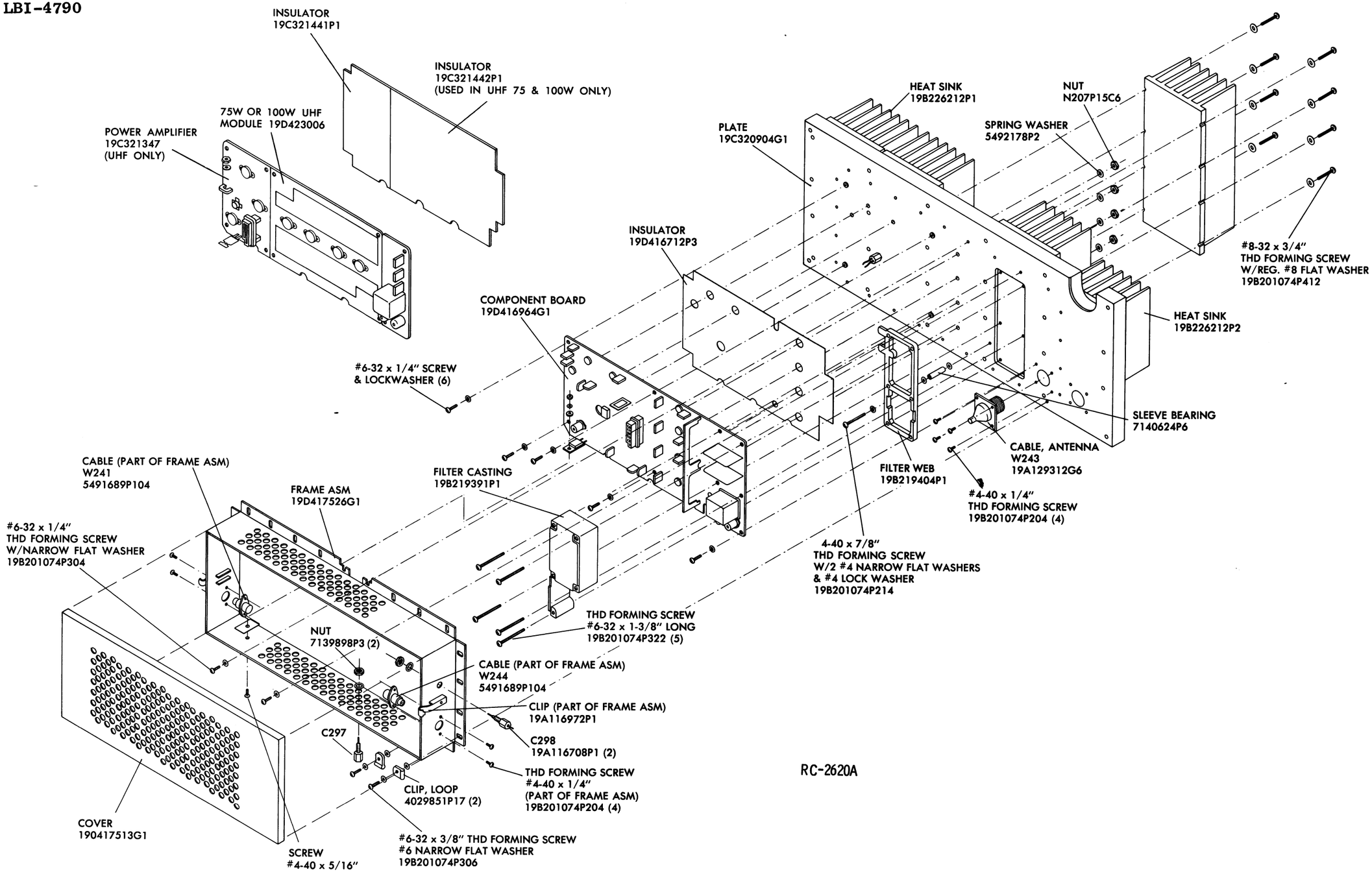
RC-2618



RC-2762A

MECHANICAL PARTS BREAKDOWN

RADIO PANEL FRONT DOOR



RC-2620A

MECHANICAL PARTS BREAKDOWN

TRANSMITTER POWER AMPLIFIER

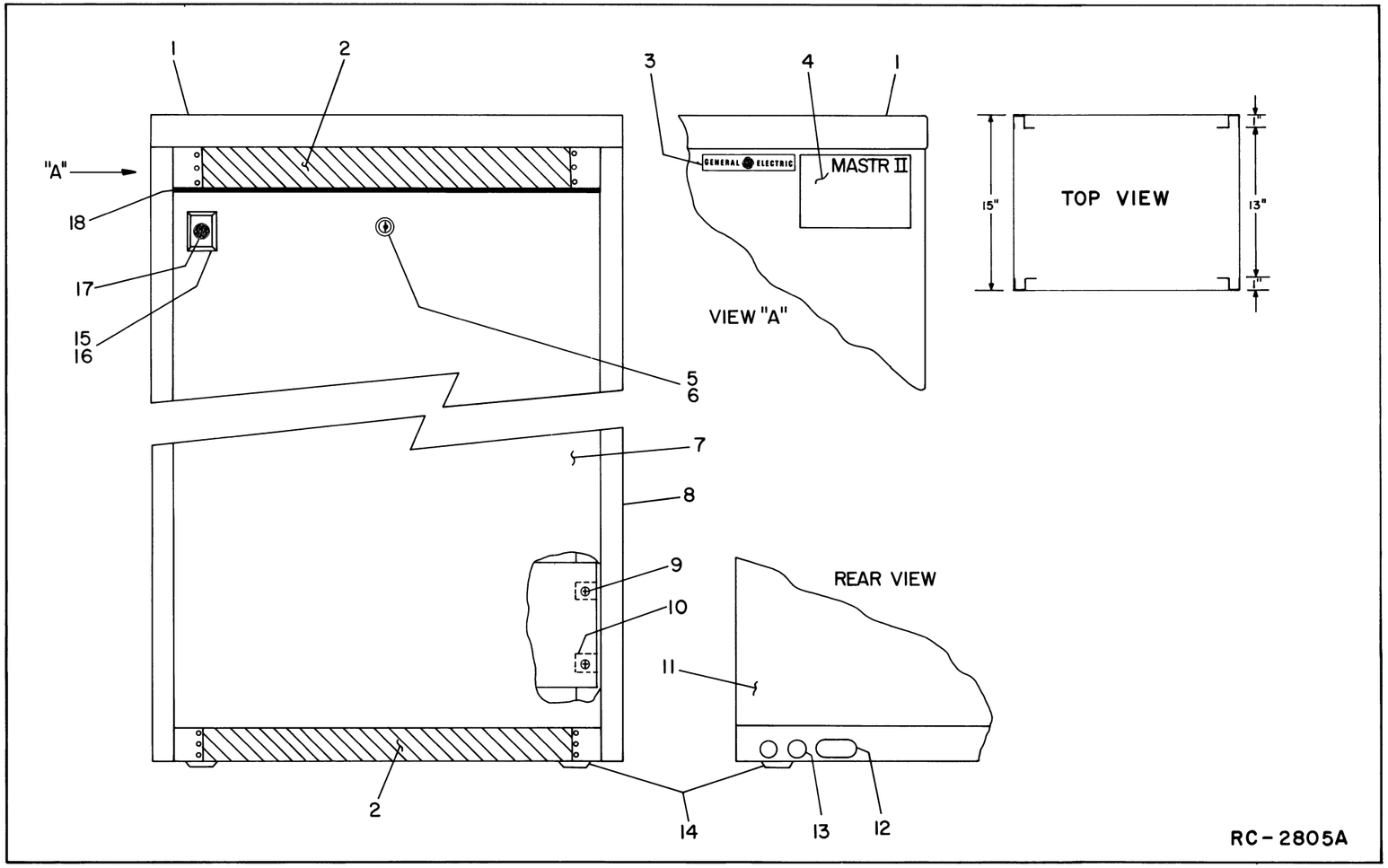
PARTS LIST

LBI-4975A

DESK MATE STATION CABINET
CONTINUOUS AND INTERMITTANT DUTY
(SEE RC-2805)

SYMBOL	GE PART NO.	DESCRIPTION
		30 INCH CABINET
	19C320655P1	Top.
2	19C320654P1	Screen.
3	NP196405	Nameplate.
4	NP270697	Nameplate.
5	5491682P23	Lock. Yale and Towne F6557DX1.
6	5491682P4	Key. Yale and Towne BF-10A.
7	19C320744G7	Front door.
8	19D417231G3	Cabinet. (LESS DOORS). (Includes items 1 and 2).
9	19A134011P1	Tap screw: No. 10-16 x 1-1/8. (Quantity 52).
10	7160861P32	Nut, sheet spring; sim to Tinnerman C1794-10Z-24. (Quantity 52).
11	19C320744G8	Rear door.
12	19A134032P1	Protective plug. (Quantity 1).
13	19A134014P6	Bushing, strain relief.
14	19A134015P1	Protective plug: sim to Caplug BPF-1/2. (Quantity 4).
15	19C311298P1	Frame. (Used with monogram).
16	4031053P7	Nut, sheet spring: sim to Tinnerman C12046-012-67. (Quantity 1).
17	NP257660	Nameplate.
18	NP276429	Nameplate. (GENERAL ELECTRIC).
		44 INCH CABINET
	19C320655P1	Top.
2	19C320654P1	Screen.
3	NP196405	Nameplate.
4	NP270697	Nameplate.
5	5491682P23	Lock. Yale and Towne F6557DX1.
6	5491682P4	Key. Yale and Towne BF-10A.
7	19C320744G9	Front door.
8	19D417231G4	Cabinet. (LESS DOORS). (Includes items 1 and 2).
9	19A134011P1	Tap screw: No. 10-16 x 1-1/8. (Quantity 52).
10	7160861P32	Nut, sheet spring; sim to Tinnerman C1794-10Z-24. (Quantity 52).
11	19C320744G10	Rear door.
12	19A134032P1	Protective plug. (Quantity 1).
13	19A134014P6	Bushing, strain relief.
14	19A134015P1	Protective plug: sim to Caplug BPF-1/2. (Quantity 4).
15	19C311298P1	Frame. (Used with monogram).
16	4031053P7	Nut, sheet spring: sim to Tinnerman C12046-012-67. (Quantity 1).
17	NP257660	Nameplate.
18	NP276429	Nameplate. (GENERAL ELECTRIC).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



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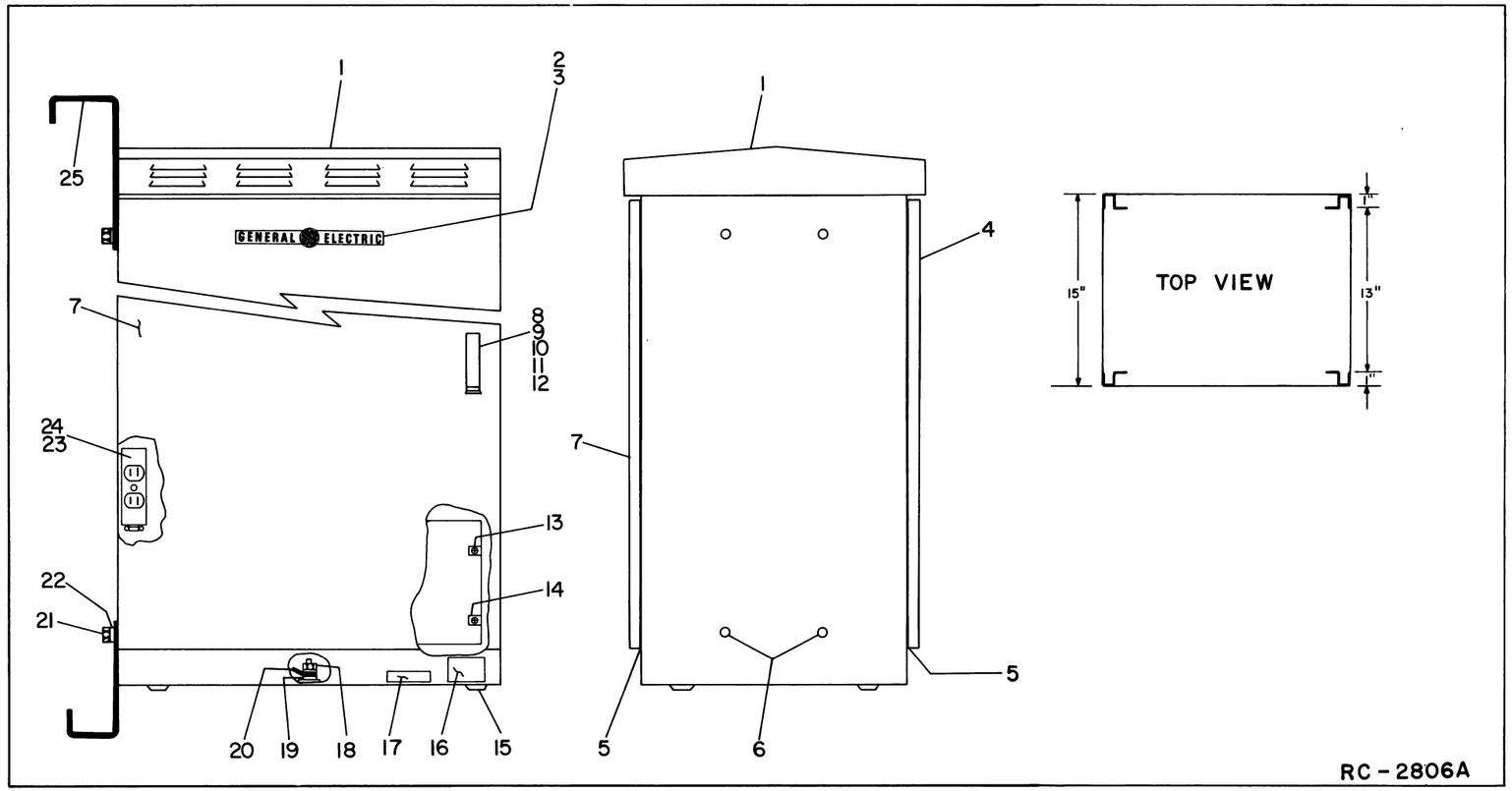

RC-2806A

PARTS LIST

LBI-4976A

POLE MOUNT STATION CABINET
CONTINUOUS AND INTERMITTANT DUTY
19D417550G1
(SEE RC-2806)

SYMBOL	GE PART NO.	DESCRIPTION
1	19D417550G1	Cabinet.
2	19B209531P1	Nameplate. (GENERAL ELECTRIC).
3	4031310P7	Nut, push on: sim to Tinnerman C610-012-24.
4	19D417543G2	Door, left hand.
5	19A134128P1	Door seal. (Front and rear).
6	19A134059P1	Protective plug.
7	19D417543G1	Door, right hand.
8	19A134049P1	Door handle.
9	19A130554P1	Strike catch.
10	N84P15008C6	Machine screw: No. 8-32 x 1/2.
11	N403P16C6	Lockwasher, external tooth: No. 8.
12	N210P15C6	Hex nut: No. 8-32.
13	19A134011P1	Tap screw: No. 10-16 x 1-1/8. (Quantity 52).
14	7160861P33	Nut, sheet spring: sim to Tinnerman C19640-10AB-600. (Quantity 52).
15	19A134015P2	Protective plug.
16	NP270697	Nameplate.
17	NP196405	Nameplate.
18	N210P21C6	Hex nut: No. 1/4-20.
19	N403P25C6	Lockwasher, external tooth: 1/4 inch.
20	19A115141P2	Solderless terminal: sim to ILSCO SLU70.
21	N22P25016C6	Cap screw: No. 3/8-16 x 1.
22	N405P43C6	Lockwasher: 3/8 inch.
23	19B226350G1	Outlet strip.
24	19B209103P506	Tap screw: No. 10-32 x 3/8. (Secures outlet strip).
25	19C320942P1	Mounting bracket.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

PARTS LIST

LBI-4977

FLOOR MOUNT STATION CABINET
CONTINUOUS AND INTERMITTANT DUTY
19D417358G1
(SEE RC-2804)

SYMBOL	GE PART NO.	DESCRIPTION
1	19D417623G1	Grille.
2	19B226318P1	Grille plate. (Located under grille).
3	19B219744G2	Strain relief.
4	N80P15008C6	Machine screw: No. 8-32 x 1/2.
5	N210P15C6	Hexnut: No. 8-32.
6	N403P16C6	Lockwasher, external tooth: No. 8.
7	19A126220P1	Gasket, door.
8	19B209539P2	Lock, rear door: sim to Chicago Lock Co. 1703-6T.
9	19B209539P3	Key. Sim to Chicago Lock Co. 1000 GE.
10	19C320756G2	Door, rear. 64 inch.
11	19C320756G1	Door, front. 59 inch.
12	19A134011P1	Tap screw: No. 10-16 x 1-1/8. (Quantity 52).
13	7160861P32	Nut, sheet spring: sim to Tinnerman C1794-10Z-24. (Quantity 16).
14	19B226160P2	Support.
15	N80P16008C6	Machine screw: No. 10-32 x 1/2.
16	N403P19C6	Lockwasher: No. 10.
17	19B226094P2	Support.
18	N80P21012C6	Machine screw: No. 1/4-20 x 3/4.
19	N403P25C6	Lockwasher: No. 1/4.
20	N402P41C6	Flatwasher: No. 1/4.
21	N80P15006C6	Machine screw: No. 8-32 x 3/8.
22	7160861P5	Nut, sheet spring: sim to Tinnerman C1505-1032-157.
23	19B226094P1	Support.
24	19A129902P1	Spring.
25	19B226088P1	Pin hinge.
26	19B226092G1	Frame.
27	19B209539P1	Lock, front. Sim to Chicago Lock Co. 4260-1.
28	N80P16007C6	Machine screw: No. 10-32 x 7/16.
29	N210P16C6	Hexnut: No. 10-32.
30	7160861P31	Nut, sheet spring: sim to Tinnerman C18610-031.
31	NP257660	Nameplate. (GE).
32	4031053P7	Nut, sheet spring: sim to Tinnerman C12046-012-67.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES