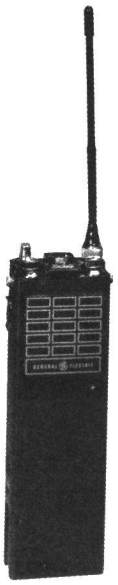
MOBILE RADIO

MASTR® Personal Series
PROGRESS LINE

MPE MODELS
SYSTEMS BOARD AND CASE ASSEMBLY 19D433412G2, G7 & G9



SPECIFICATIONS *

MODEL NUMBERS

19D433412G2	450-470 MHz
19D433412G7	470-512 MHz
19D433412G9	406-450 MHz

CONTROLS

Volume ON-OFF Switch
Squelch Control
Two-Frequency Selector Switch
PTT Switch
Tone Option Switch
Collapsible Antenna
Accessory Jack

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

GENERAL ELECTRIC

TABLE OF CONTENTS

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.

GENERAL ELECTRIC COMPANY • MOBILE COMMUNICATIONS DIVISION
WORLD HEADQUARTERS • LYNCHBURG, VIRGINIA 24502 U.S.A.

GENERAL ELECTRIC*
U.S.A.

DESCRIPTION

System Board A702/A707 provides system interconnections for the transmitter, receiver, tone options and operating controls. In addition to the regulator and compensator modules, the system board also contains the transmitter audio and modulator modules, system relay and DC switching circuitry.

Jacks J702 and J703 are connected to the system board and provide contacts for an external antenna, speaker, and microphone. J702 provides contacts for the external antenna and speaker, and J703 provides contacts for an external microphone.

Placing the radio into the vehicular charger automatically connects the jack contacts to the external circuitry. The radio is also connected to the external antenna when placed in the desk charger.

CIRCUIT ANALYSIS

AUDIO CIRCUITS

Audio from internal microphone MK1 is coupled through C3 and R3 directly to audio module A1.

An optional external microphone can be connected to external microphone jack J703.

Keying the external microphone permits audio to be applied directly to the transmitter audio module.

DC SWITCHING

Operation of system relay K1 is controlled by diode CR2 (see Figure 1).

Pressing S701 forward biases CR2, completing the relay path to ground. This energizes relay K1, and switches the battery voltage to the transmitter audio and regulator modules. Energizing K1 also connects the transmitter output to the antenna.

PTT SWITCH (A719)

Solid State PTT switch S701 forward biases diode CR2 to energize relay K1 and key the radio. When S701 is pressed, PNP transistor Q1 conducts. Transistor Q1 conducting provides a conduction path to ground for diode CR2. Relay K1 is energized and the radio is keyed.

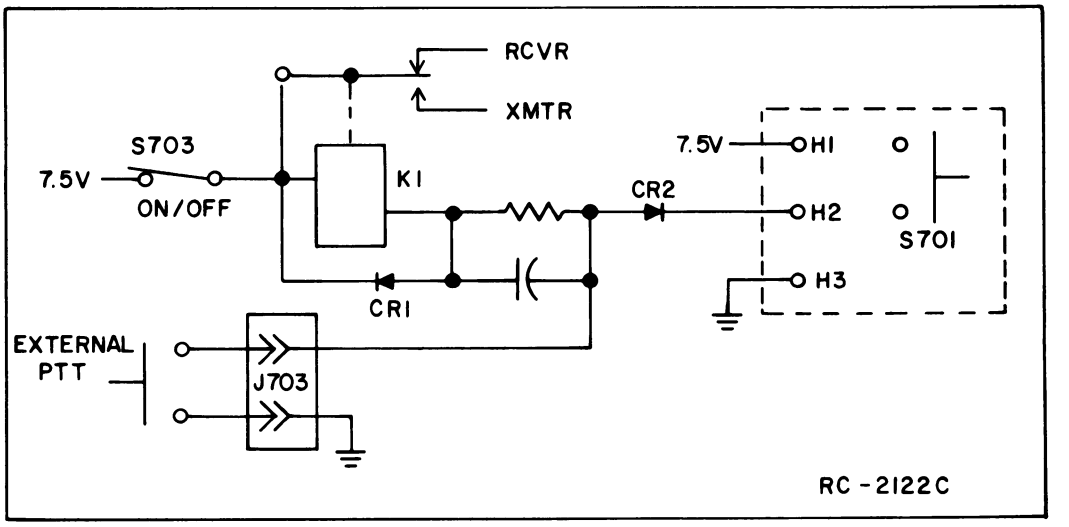
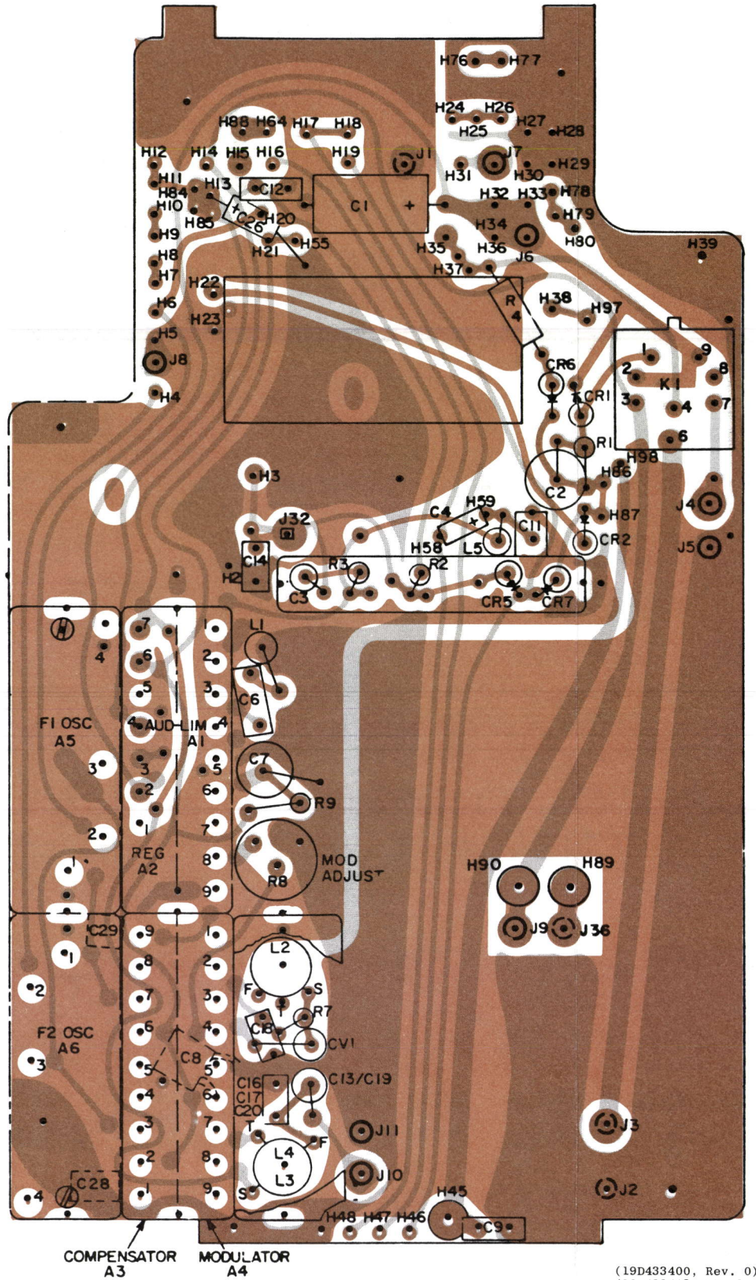


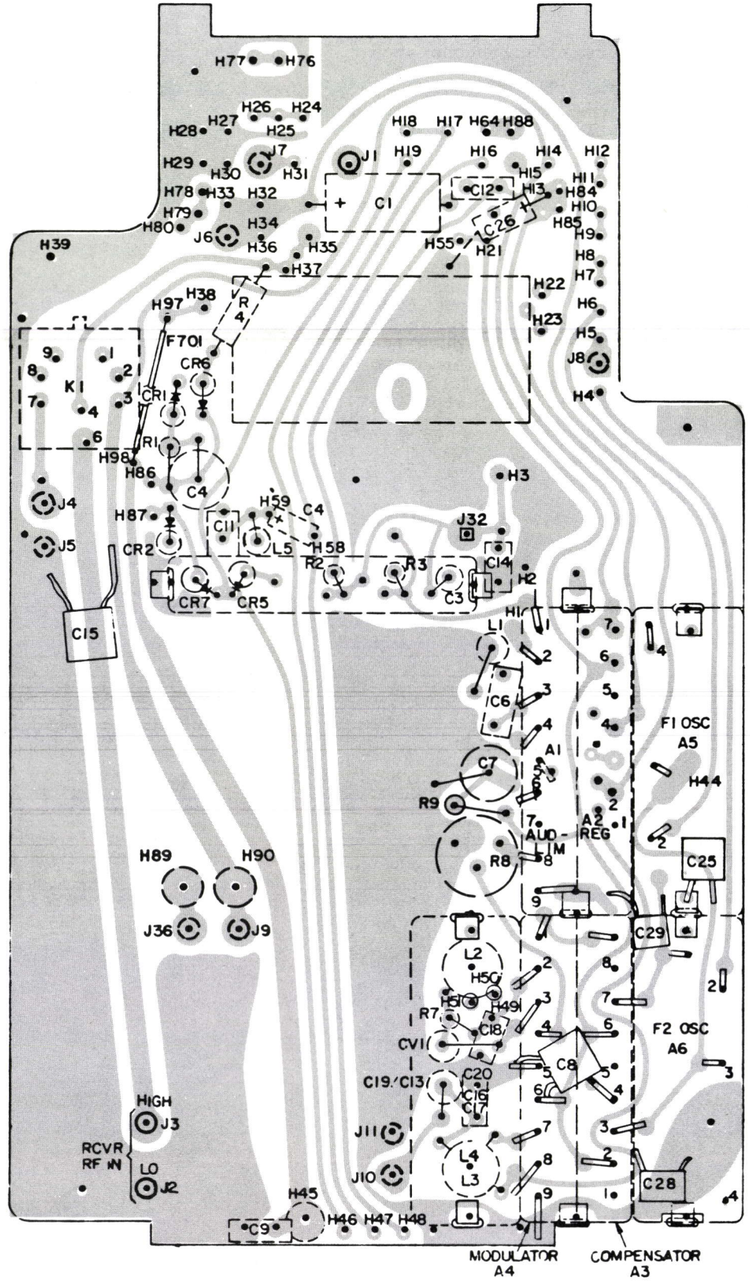
Figure 1 - DC Switching Circuit

COMPONENT SIDE

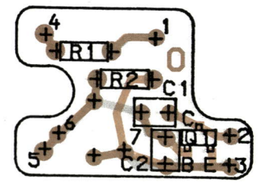


(19D433400, Rev. 0)
(19D433402, Sh. 1, Rev. 0)
(19D433402, Sh. 2, Rev. 0)

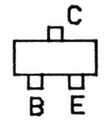
SOLDER SIDE



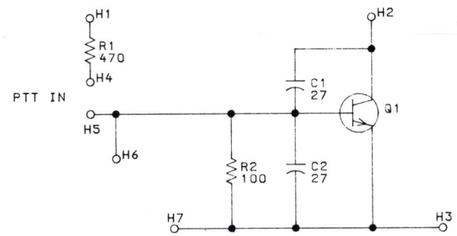
(19D433400, Rev. 0)
(19D433402, Sh. 2, Rev. 1)



LEAD IDENTIFICATION FOR Q1



(19B233822, Rev. 0)
(19A143811, Sh. 1, Rev. 0)
(19A143811, Sh. 2, Rev. 0)

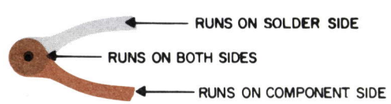


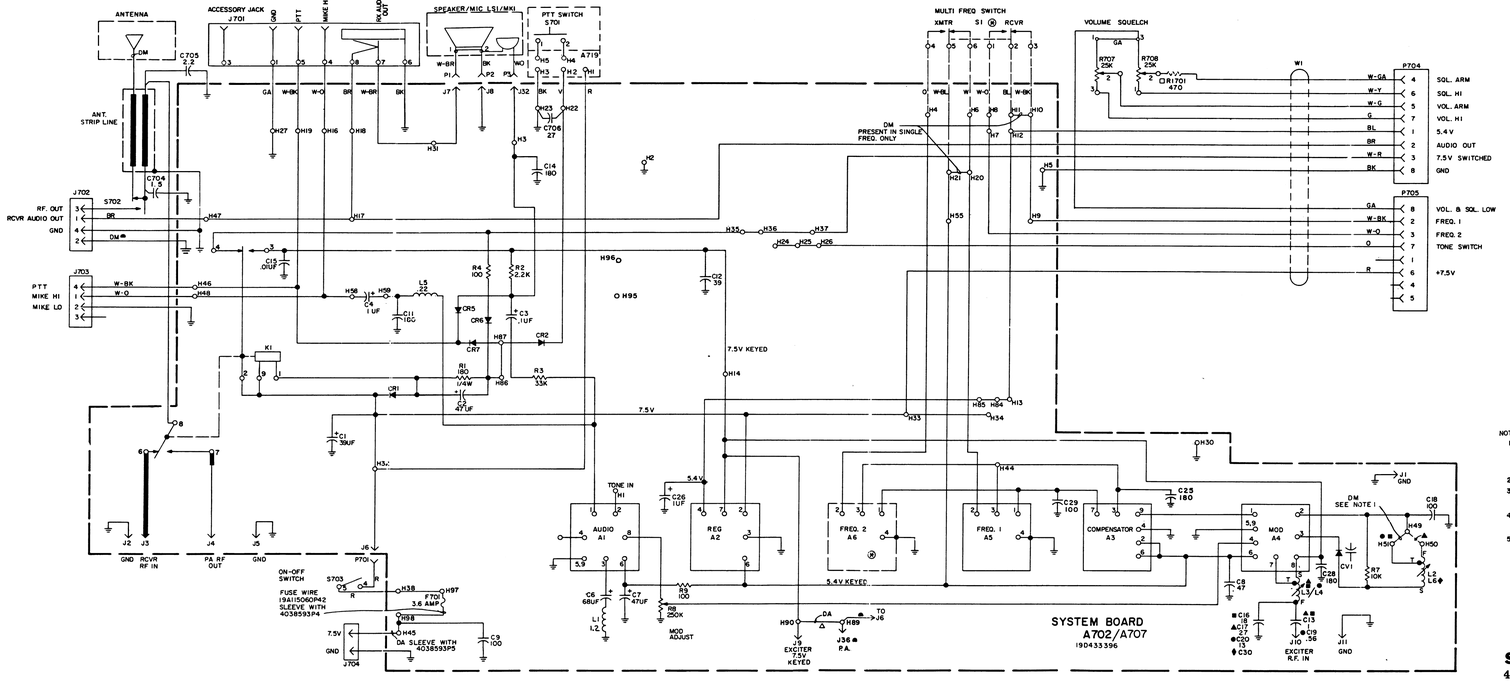
ALL RESISTORS ARE 1/8 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K-1000 OHMS OR MEG-1,000,000 OHMS. CAPACITOR VALUES IN PICOFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF-MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH-MILLIHENRYS OR H-HENRYS.

(19B233837, Rev. 1)

OUTLINE DIAGRAM

406—470 MHz SYSTEM BOARD 19D413548G2
470—512 MHz SYSTEM BOARD 19D413548G7





MODEL NO	REV LETTER
PLI904334I2G2	
PLI904334I2G7	
PLI904334I2J09	
PLI9043339BG4	
PLI9043339BG4	
PLI9043339BG5	
PLI9C331637G1	
PLI9C331637G3	

ALL RESISTORS ARE 1/8 WATT UNLESS OTHERWISE SPECIFIED. ΩΩ RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG=1,000,000 OHMS. CAPACITOR VALUES IN PICOFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF= MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH= MILLIHENRYS OR H=HENRYS.

NOTES:
1. ◆ USED IN 420-450MHz
   ● USED IN HI POWER UNITS ONLY
   ● USED IN 450 EXT. 470-512 MHZ
   ▲ USED IN LO SPLIT 406-420MHZ
   ■ USED IN HI SPLIT 450-470MHZ
2. 0A = #22 AWG
3. Ⓜ THESE ITEMS ARE PART OF SWITCH KIT 19A127828G1
   □ R1701 IS PART OF KIT PLI9A130602G1
4. GND MAY BE MADE THROUGH CAN ONLY, ON SICOMS.
5. △ NOT USED IN HI POWER UNITS.

SCHEMATIC DIAGRAM

406—470 MHz SYSTEM BOARD 19D413548G2
470—512 MHz SYSTEM BOARD 19D413548G7

(19B622498, Rev. 0)

PARTS LIST

SYSTEM BOARD/CASE ASSEMBLY
19D433612G2 450-470 MHz - 2 FREQUENCY
19D433612G4 450-470 MHz - 8 FREQUENCY
19D433612G6 470-512 MHz - 8 FREQ EXT
19D433612G8 470-512 MHz - 2 FREQUENCY
19D433612G9 470-512 MHz - 8 FREQUENCY
19D433612G10 406-450 MHz - 8 FREQUENCY
ISSUE 1

SYMBOL	GE PART NO.	DESCRIPTION
		SYSTEM BOARD A702 19D433596G1 A703 19D433596G2 A704 19D433596G3 A707 19D433596G4 A720 19D433596G5 A721 19D433596G6
A1	19C320062G1	Transmitter Audio Module.
A2	19C328570G1	Regulator Module.
A3	19C320060G1	Oscillator Compensator Module.
A4	19C320084G1	Modulator Module.
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1	5491674P30	Tantalum: 39 uF ±20%, 10 VDCW; sim to Sprague Type 162D.
C2	5491674P42	Tantalum: 47 uF ±20%, 6 VDCW; sim to Sprague Type 162D.
C3	5491674P43	Tantalum: 0.1 uF ±20%, 35 VDCW; sim to Sprague Type 162D.
C4	5491674P1	Tantalum: 1 uF +40-20%, 10 VDCW; sim to Sprague Type 162D.
C6	19C307102P19	Tantalum: 68 uF ±20%, 4 VDCW.
C7	5491674P42	Tantalum: 47 uF ±20%, 6 VDCW; sim to Sprague Type 162D.
C8	19A700226P53	Ceramic: 47 pF ±5%, 100 VDCW, temp coef -750 PPM.
C9	19A700226P65	Ceramic: 100 pF ±5%, 100 VDCW, temp coef -750 PPM.
C11	19A700229P73	Ceramic: 180 pF ±10%, 100 VDCW, temp coef -3300 PPM.
C12	19A700231P49	Ceramic: 39 pF ±10%, 100 VDCW, temp coef -80 PPM.
C13	19A700013P13	Phenolic: 1.00 pF ±5%, 500 VDCW.
C14	19A700229P73	Ceramic: 180 pF ±10%, 100 VDCW, temp coef -3300 PPM.
C15	19A116192P1	Ceramic: 0.01 uF ±20%, 50 VDCW; sim to Erie 8121 Special.
C18	19A700227P65	Ceramic: 100 pF ±5%, 100 VDCW, temp coef -1500 PPM.
C19	19A700013P10	Phenolic: 0.56 pF ±5%, 500 VDCW.
C20	19A700231P33	Ceramic: 13 pF ±5%, 100 VDCW, temp coef -80 PPM.
C21	19A700231P44	Ceramic: 27 pF ±5%, 100 VDCW, temp coef -80 PPM.
C25	19A700229P73	Ceramic: 180 pF ±10%, 100 VDCW, temp coef -3300 PPM.
C26	5491674P1	Tantalum: 1 uF +40-20%, 10 VDCW; sim to Sprague Type 162D.
C27 and C28	19A700229P73	Ceramic: 180 pF ±10%, 100 VDCW, temp coef -3300 PPM.
C29	19A700229P65	Ceramic: 100 pF ±5%, 100 VDCW, temp coef -1500 PPM.
C30	19A700231P41	Ceramic: 22 pF ±5%, 100 VDCW, temp coef -80 PPM.
		- - - - - - - - DIODES AND RECTIFIERS - - - - - - - -
CR1 and CR2	19A115100P1	Silicon: sim to Type 1N458A.
CR5	19A115100P1	Silicon: sim to Type 1N458A.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

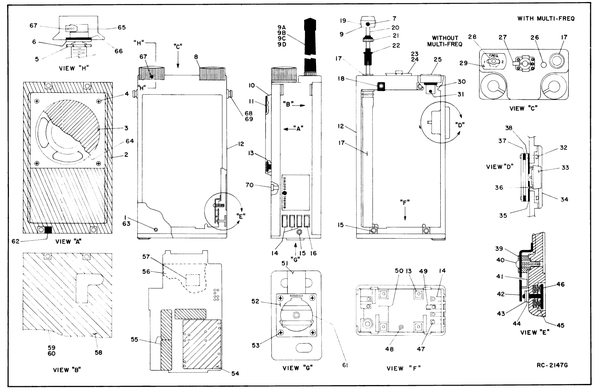
SYMBOL	GE PART NO.	DESCRIPTION
CR6	19A115250P1	Silicon, fast recovery, 225 mA, 50 PIV.
CR7	19A115100P1	Silicon: sim to Type 1N458A.
CV1	5495769P9	Silicon, capacitive.
		- - - - - - - - - - FUSES - - - - - - - - - -
F701	19A127884G1	Fuse Kit.
		- - - - - - - - JACKS AND RECEPTACLES - - - - - - - -
J1 thru J5	19A116366P4	Contact, electrical: sim to Concord 10-891-1.
J6 thru J8	19A116366P2	Contact, electrical: sim to Cambion 460-3233-01-03.
J9 thru J11	19A116366P4	Contact, electrical: sim to Concord 10-891-1.
J1R thru J3R	19A116366P4	Contact, electrical: sim to Concord 10-891-1.
J32	19A701329P1	Contact, electrical.
J33 and J34	19A116366P2	Contact, electrical: sim to Cambion 460-3233-01-03.
J35	19A116366P4	Contact, electrical: sim to Concord 10-891-1.
		- - - - - - - - - - RELAYS - - - - - - - - - -
K1	19B208562P2	Relay, hermetic sealed: 45 to 110 ohms coil res, 5 VDC nominal, 1 w max, 2 form C contacts; sim to Teledyne 720-244.
		- - - - - - - - - - INDUCTORS - - - - - - - - - -
L1	19B209420P114	Coil, RF: 1.2 uH ±10%, .18 ohms DC res max; sim to Jeffers 4436-1K.
L2	19A127798G2	Coil. Includes:
	19B209434P1	Tuning slug.
L3	19B219527G1	Coil.
L4	19B219527G3	Coil.
L5	19B209420P105	Coil, RF: .22 uH ±10%, .14 ohms DC res max; sim to Jeffers 4416-5K.
L6	19A134633G1	Coil.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	19A700106P45	Composition: 180 ohms ±5%, 1/4 w.
R2	3R151P222J	Composition: 2.2K ohms ±5%, 1/8 w.
R3	3R151P333J	Composition: 33K ohms ±5%, 1/8 w.
R4	3R151P101J	Composition: 100 ohms ±5%, 1/8 w.
R7	3R151P103J	Composition: 10K ohms ±5%, 1/8 w.
R8	19A116412P4	Variable, cermet: 250K ohms ±10%, 1/2 w; sim to Beitpot Model 62 PR.
R9	3R151P101J	Composition: 100 ohms ±5%, 1/8 w.
A719		PUSH TO TALK SWITCH BOARD 19B233821G1
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1 and C2	19A700221P44	Ceramic: 27 pF ±5%, 100 VDCW, temp coef -80 PPM.
		- - - - - - - - - - TRANSISTORS - - - - - - - - - -
Q1	19A134739P1	Silicon, NPN.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	3R151P471J	Composition: 470 ohms ±5%, 1/8 w.
R2	3R151P101J	Composition: 100 ohms ±5%, 1/8 w.

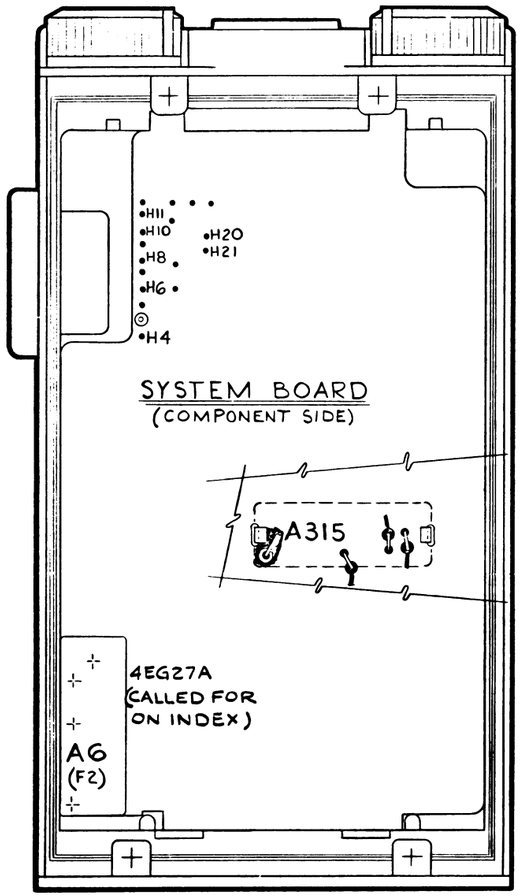
SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C701	19A700221P9	Ceramic: 2.2 pF ±10%, 100 VDCW, temp coef -80 PPM.
C702	19A700219P14	Ceramic: 3.3 pF ±5%, 100 VDCW, temp coef 0 PPM.
C704	19A700221P6	Ceramic: 1.5 pF ±5%, 100 VDCW, temp coef -80 PPM.
C705	19A700221P10	Ceramic: 2.2 pF ±5%, 100 VDCW, temp coef -80 PPM.
C706	19A700221P44	Ceramic: 27 pF ±5%, 100 VDCW, temp coef -80 PPM.
		- - - - - - - - JACKS AND RECEPTACLES - - - - - - - -
J701	19B216594G2	Connector, female: 6 contacts.
J702		(See Mechanical Parts RC2438, items 14 & 16).
J703		(See Mechanical Parts RC2438, item 14).
J704		(See Mechanical Parts RC2438, items 48-50, 66,67)
		- - - - - - - - - - PLUGS - - - - - - - - - -
P701	19A115834P4	Contact, electrical: sim to AMP 2-332070-9.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R707	19A116227P1	Resistor/Switch: variable, carbon film, 25K ohms ±20%, 1/8 w, (Includes S703), SPST, 3 amps at 125 VAC; sim to Mallory Type M2C.
R708	19A116227P2	Variable, carbon film: 25K ohms ±10%, 1/8 w; sim to Mallory Type M2C.
		- - - - - - - - - - SWITCHES - - - - - - - - - -
S701		(See Mechanical Parts RC2438, items 30-36).
S702		(See Mechanical Parts RC2438, items 37-44).
S703		(Part of R707).
		- - - - - - - - - - CABLES - - - - - - - - - -
W1		CABLE ASSEMBLY 19C320826G1
		- - - - - - - - - - PLUGS - - - - - - - - - -
P704 and P705	19A116137P3	Socket, crystal: 8 contacts; sim to Cinch 133-98-92-081 special.
		ASSOCIATED ASSEMBLIES
		NOTE: When reordering A5-A12, give GE Part Number and exact crystal frequency.
		Crystal Freq = Operating Freq / 24
A5 thru A12	4EG27A11	Transmitter Oscillator Module.
		FRONT COVER ASSEMBLY 19C331637G1 LOW POWER - 2 FREQ 19C331637G2 LOW POWER - 8 FREQ 19C331637G3 HI POWER - 2 FREQ 19C331637G5 HI POWER - 8 FREQ
		- - - - - - - - - - LOUDSPEAKERS - - - - - - - - - -
LS1	19A134949P2	Permanent magnet: 8 ohms ±15% voice coil imp, 500 Hz ±50 Hz resonat, 500 mW; sim to Oaktron Sample P-7410.
		- - - - - - - - - - MICROPHONES - - - - - - - - - -
MK1	19A701301P1	Microphone cartridge: 2000 ±30% ohms imp, 1-1/2 - 10 VDC; sim to Prime EM-7K.
		- - - - - - - - - - PLUGS - - - - - - - - - -
P1 and P2	19A115834P4	Contact, electrical: sim to AMP 2-332070-9.
P3	19A134825P3	Receptacle: contact rated @ 3 amps; sim to Berg 47650.

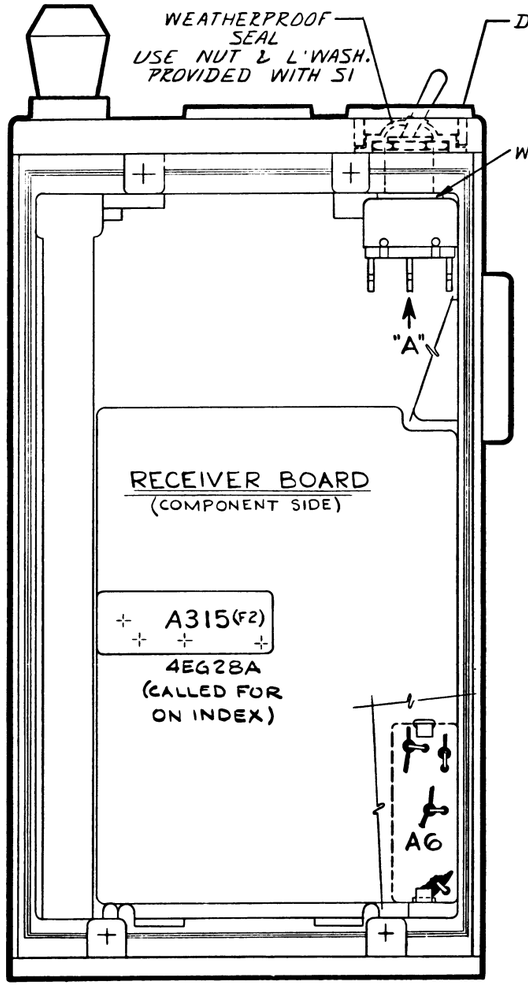
SYMBOL	GE PART NO.	DESCRIPTION
		HI/LOW SPLIT MODIFICATION KIT 19A127838G3 HI SPLIT 19A127838G4 LOW SPLIT
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C16	19A700221P38	Ceramic: 18 pF ±5%, 100 VDCW, temp coef -80 PPM.
C17	19A700221P44	Ceramic: 27 pF ±5%, 100 VDCW, temp coef -80 PPM.
		MULTI-FREQUENCY MODIFICATION KIT 19A129268G1
		- - - - - - - - - - SWITCHES - - - - - - - - - -
S1	19B219515G1	Rotary: 1 section, 1 pole, (adj, 2-10 position) non-shorting; sim to Grayhill 50MT23155-1-8N.
		RECEIVER KIT 19A130043G2 STD 19A130043G4 EXT
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C310	5495323P12	Ceramic: 0.001 uF +100% -20%, 75 VDCW.
C317	19A700226P45	Ceramic: 30 pF ±5%, 100 VDCW, temp coef -750 PPM.
C318	19A116192P1	Ceramic: 0.01 uF ±20%, 50 VDCW; sim to Erie 8121 Special.
C320	19A116192P1	Ceramic: 0.01 uF ±20%, 50 VDCW; sim to Erie 8121 Special.
C321 and C322	5495323P12	Ceramic: 0.001 uF +100% -20%, 75 VDCW.
C323	19A700227P53	Ceramic: 47 pF ±5%, 100 VDCW, temp coef -1500 PPM.
C324 and C325	19A700221P42	Ceramic: 24 pF ±5%, 100 VDCW, temp coef -80 PPM.
C326	5495323P12	Ceramic: 0.001 uF +100% -20%, 75 VDCW.
C329	5495323P17	Ceramic: 0.001 uF +100% -20%, 75 VDCW.
		- - - - - - - - - - MISCELLANEOUS - - - - - - - - - -
	19B216897G1	Rear Cover Assembly.
	19B216897G2	Rear Cover Assembly, clip type.
	19B216897G3	Rear Cover Assembly. (See RC2438, items 54, 55).
	19B216897G4	Rear Cover Assembly, clip type. (See RC2438, items 54, 55).
	19B219953G4	Antenna Assembly. (See RC2438, items 19-22, 57).
	19041353G4	Battery, rechargeable. Nickel Cadmium.
	19B219079G1	Alignment tool. Allen tip.
	19B209548P1	Antenna Assembly.
	19B219887P1	Insulated spring whip antenna.
	7150729P4	Key, socket head. (Removes front cover).
		MECHANICAL PARTS (SEE RC2438)
1	19A134425P1	Machine screw, Hex head: No. 2-56 x 3/16.
2	19C317394P4	Gasket. (8 FREQ).
	19C317394P3	Gasket. (2 FREQ).
3	19A143483P2	Diaphragm: No. 2 inch dia.
4	MS81P5002C6	Screw, phillips head: No. 2-56 x 1/8.
5	19A127319P1	Nut: No. thd. size 1/4-32.
6	4037086P18	Washer, non-metallic.
7	19A134535P2	Set screw, self locking: 3-48 x 3/16.
8	19B233278G1	Knob Assembly. (SQUELCH, ON-OFF-VOLUME).
9	19B219953G4	Antenna Assembly, Telescopic. (Includes items 19-22, 57).

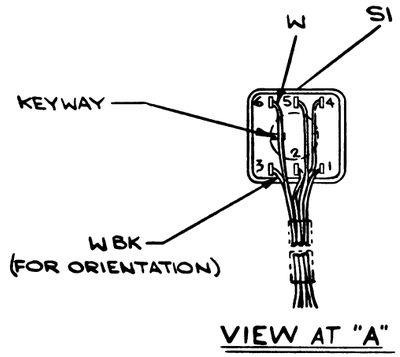
SYMBOL	GE PART NO.	DESCRIPTION
9A	19B209548P1	Antenna, flexible wire.
9B	19B219887P1	Insulated spring whip antenna.
10	19041353P2	Grille. (STD).
	19041780T93	Grille. (HI POWER).
11	19B234256P1	Nameplate. (GE monogram).
12	19041354GB	Case assembly. 8 FREQ. (Includes items 14, 15, 18, 26, 45, & 63, 64).
	19041354G7	Case assembly. 2 FREQ. (Includes items 14, 15, 18, 26, 45, & 63, 64).
13	19B216858P1	Insert.
14	19A127753P1	Contact. (Part of J702 & J703).
15		NOT USED.
16	19B216862P2	Contact.
17	19A127779G8	Antenna tube. 8 FREQ.
	19A127779G6	Antenna tube. 2 FREQ.
18	19B216875P1	Support.
19	19A129649P1	Antenna Cap. (Part of item 9).
20	19B219850P1	Antenna rod. (Part of item 9).
21	19C320353P1	Bushing. (Part of item 9).
22	19A129652P1	Nut, knurled: thd size 7/16-40. (Part of item 9).
23	19C317050P1	Protective cover.
24	19A129309P1	Disc. (Located in item 23).
25	19A130426G2	Knob Assembly.
26	19A129723P1	Rivet.
27	19B219564P1	Support.
28	19A143880P1	Washer, non metal.
29	19A127319P2	Nut: No. thd. size 1/4-28.
30	19A137625P2	Spring. (Part of S701).
31	19C328406P1	Button assembly.
32	4035306P71	Fiber washer.
33	MS5P1006	Machine screw, steel: No. 0-80 x 3/8. (Part of S701).
34	19C328407P1	Collar. (Part of S701).
35	19C331441P1	Plate. (Part of S701).
36	19A144259G1	Switch, push. (Part of S702).
37	19B216865P1	Insulator. (Part of S702).
38	MS47P5004C	Cap screw: 2-56 x 1/4. (Part of S702).
39	19B216864P1	Contact. (Part of S702).
40	19B216863P1	Spring contact. (Part of S702).
41	MS10P8C6	Retaining ring. (Part of S702).
42	19A127754P1	Gasket. (Part of S702).
43	19A127755P1	Spring. (Part of S702).
44	19B216862P1	Contact. (Part of S702).
45	MS3P2605F22	Eyelet, brass: 1/16 x 5/32.
46	MS3P2602F22	Eyelet, brass: 1/16 x 1/16. (NOT USED).
47	19A127726P1	Strap.
48	19B216891G1	Spring assembly. (Part of S704).
49	19D413467P1	Fastener. (Part of S704).
50	19A115784P5	Flat head screw: 2-56 x 5/16. (Part of S704).
51	19A115834P5	(NOT USED).
52	19B219510P1	Insulator, FXT. (Located between System & Receiver Boards).
	19B216912P1	Insulator, STD. (Located between System & Receiver Boards).
53	19A116270P1	Tape, pressure sensitive. (Specify length).

SYMBOL	GE PART NO.	DESCRIPTION
54	19C317394P6	Gasket. (6 FREQ).
	19C317394P5	Gasket. (2 FREQ).
55	19B216897G3	Rear Cover Assembly. 8 FREQ. (without clip).
	19B216897G1	Rear Cover Assembly. 2 FREQ. (without clip).
56	19B216897G4	Rear Cover Assembly. 8 FREQ. (with clip).
	19B216897G2	Rear Cover Assembly. 2 FREQ. (with clip).
57	N70P703C6	Set screw: No. 3-48 x 3/16. (HI BAND ANTENNA).
58	19B219443P1	Insulator. (NOT USED).
59	19A130393P1	Strap.
60	19A130393P3	Gasket. (NOT USED).
61	19A137254P1	Insert, tap: No. 3-48.
62	4035630P1	Washer: teflon, 1/4 inch.
63	19A127802P1	Rivet, shield.
64	19A116773PR05	Tap screw, Phillips POZIDRIVE: No. 4-24 x 5/16.
65	N17D9004C17	Cap screw: No. 4-40 x 1/4.
66	19B232109P1	Button plug.
67	19A130568P1	Insulator.
68	19A130517P1	Insert, threaded: No. 3-48. (Part of 19A130426G2 knob assembly).
69	19B233581P1	Spacer. (Part of S701).
70	19B219443P1	Printed Board.
71	19A137844G1	Shield, insulator.
72	19C311761P8	Can.
73	19A121175P43	Insulator.
74	19B216866G1	Can.









VIEW AT "A"

THESE INSTRUCTIONS COVER THE INSTALLATION OF MODIFICATION KIT PL19A127828G1 FOR APPLICATION OF MULTI FREQUECY TO PERSONAL P.E

HI BAND, MID BAND & 450 MHZ

CONNECTION CHART		
FROM	TO	WIRE COLOR
S1-1	H8	WO
S1-2	H11	BL
S1-3	H10	WBK
S1-4	H4	O
S1-5	H21	WBL
S1-6	H6	W

INSTRUCTIONS FOR 2 FREQUENCY TX AND 2 FREQUENCY RX:
1. SOLDER ALL ELECTRICAL CONNECTIONS.
2. NO JUMPERS ARE TO BE PRESENT BETWEEN H10 & H11 AND H20 & H21.
3. ASSEMBLE THE MULTI-FREQUENCY SWITCH - S1 (PL19A127824G1) USING WEATHER PROOF SEAL (19C320721P1) AS SHOWN.
4. MAKE ELECTRICAL CONNECTIONS FROM S1 TO COMPONENT SIDE OF SYSTEM BOARD PER "CONNECTION CHART" SHOWN ABOVE.
5. SNAP DECORATIVE CAP (19B216926P5) IN PLACE AS SHOWN.
6. TABS ON CANS OF A6 & A315 (INDEXED ITEMS) ARE TO BE BENT OVER IN DIRECTION SHOWN AND SOLDERED TO ADJACENT PADS.
7. LEADS OF A6 & A315 ARE TO BE BENT OVER IN DIRECTION SHOWN AND SOLDERED TO ADJACENT PADS. PIN 4 LEAD ON 4EG27A AND 4EG28A HAS BEEN OMITTED IN NEWER PRIDUCTION SICOMS. GROUND IS MADE THROUGH SICOM CAN TABS.

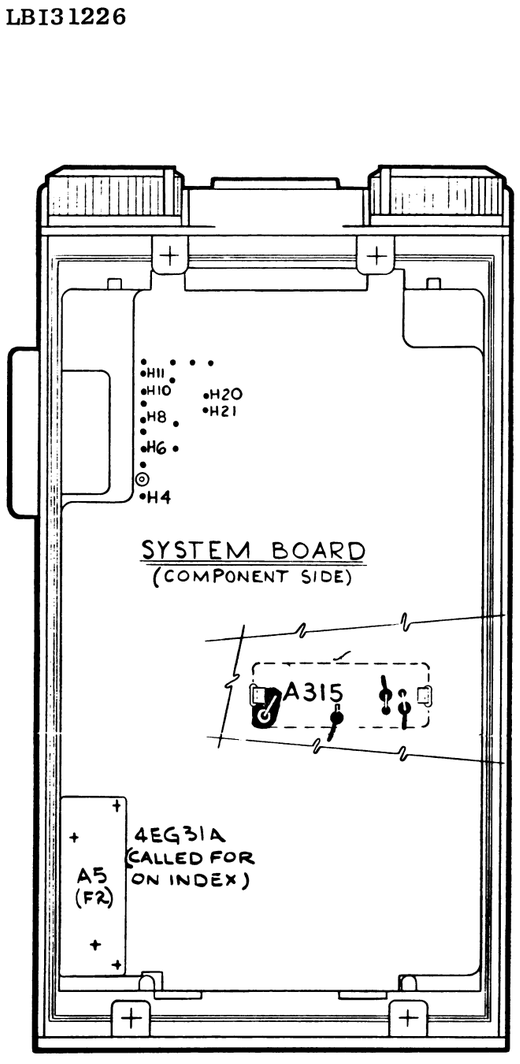
INSTRUCTIONS FOR 2 FREQUENCY TX AND 1 FREQUENCY RX:
8. SAME AS 1 THRU 7 PLUS ADD JUMPER 19A115060P30 FROM S1-1 TO S1-3.

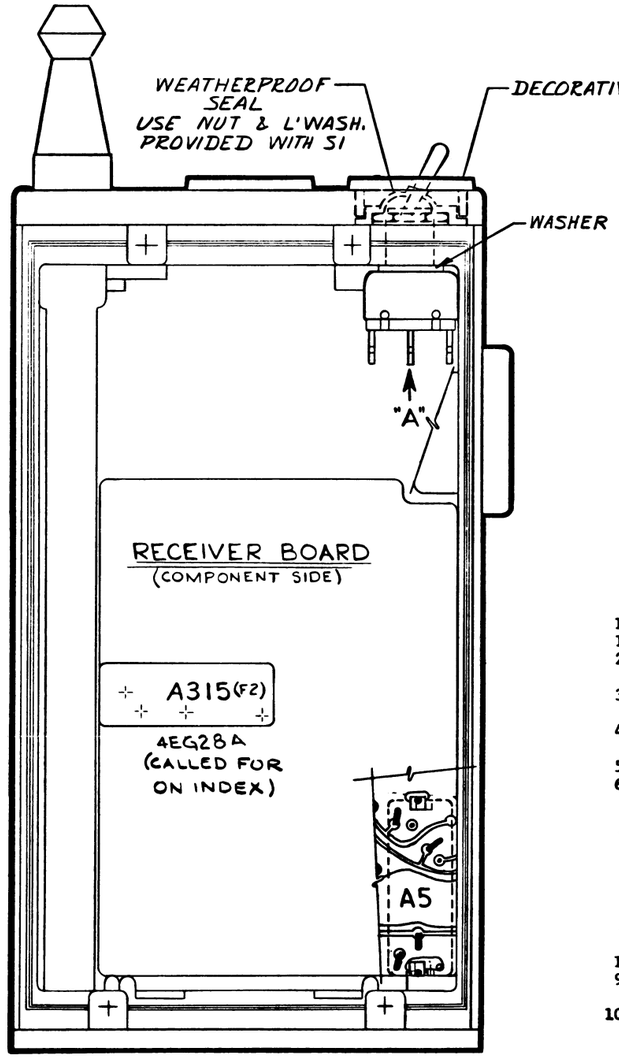
INSTRUCTIONS FOR 1 FREQUENCY TX AND 2 FREQUENCY RX:
9. SAME AS 1 THRU 7 PLUS ADD JUMPER 19A115060P30 FROM S1-4 TO S1-6.
10. AFTER SOLDERING (4EG27 & 4EG28), CLEAN FOLLOWING AREA PER PROCESS P4C-EA101P3. SOLDER SIDE OF BOARD, ON THE 1/2 OF THE BOARD WHICH CONTAINS THE OSCILLATORS, AND ASSOCIATED P.W. RUNS.
HOLD P.W. BOARD IN SUCH A MANNER THAT SOLVENT DOES NOT RUN INTO TUNING HOLES AND SATURATE COMPONENT SIDE OF BOARD.

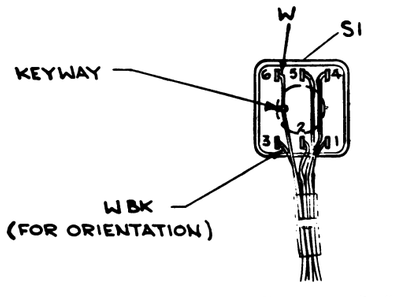
(1) ASM OF MULTI FREQ SWITCH KIT (SEE NOTE 1)
(2) ASM OF 2ND TX SICOM & 2ND RX SICOM AND MULTI-FREQ SWITCH

NOTE: 1-REFER TO 19D413584 FOR ASM OF 1 TX & 1 RX SICOM

(19C317434, Sh. 1, Rev. 9)







VIEW AT "A"

THESE INSTRUCTIONS COVER THE INSTALLATION OF MODIFICATION KIT PL19A127828G1 FOR APPLICATION OF MULTI FREQUECY TO PERSONAL P. E

LOW BAND

CONNECTION CHART		
FROM	TO	WIRE COLOR
S1-1	H8	WO
S1-2	H11	BL
S1-3	H10	WBK
S1-4	H4	O
S1-5	H21	WBL
S1-6	H6	W

INSTRUCTIONS FOR 2 FREQUENCY TX AND 2 FREQUENCY RX:

1. SOLDER ALL ELECTRICAL CONNECTIONS.
2. NO JUMPERS ARE TO BE PRESENT BETWEEN H10 & H11 AND H20 & H21.
3. ASSEMBLE THE MULTI-FREQUENCY SWITCH - S1 (PL19A127824G1) USING WEATHER PROOF SEAL (19C320721P1) AS SHOWN.
4. MAKE ELECTRICAL CONNECTIONS FROM S1 TO COMPONENT SIDE OF SYSTEM BOARD PER "CONNECTION CHART" SHOWN ABOVE.
5. SNAP DECORATIVE CAP (19B216926P5) IN PLACE AS SHOWN.
6. TABS ON CANS OF A5 & A315 (INDEXED ITEMS) ARE TO BE BENT OVER IN DIRECTION SHOWN AND SOLDERED TO ADJACENT PADS.
7. LEADS OF A5 & A315 ARE TO BE BENT OVER IN DIRECTION SHOWN AND SOLDERED TO ADJACENT PADS. PIN 4 LEAD ON 4EG28A HAS BEEN OMITTED IN NEWER PRODUCTION SICOMS. GROUND IS MADE THROUGH SICOM CAN TABS.

INSTRUCTIONS FOR 2 FREQUENCY TX AND 1 FREQUENCY RX:

8. SAME AS 1 THRU 7 PLUS ADD JUMPER 19A115060P30 FROM S1-1 TO S1-3.

INSTRUCTIONS FOR 1 FREQUENCY TX AND 2 FREQUENCY RX:

9. SAME AS 1 THRU 7 PLUS ADD JUMPER 19A115060P30 FROM S1-4 TO S1-6.
10. AFTER SOLDERING (4EG31 & 4EG28), CLEAN FOLLOWING AREA PER PROCESS P4C-EA101P3. SOLDER SIDE OF BOARD, ON THE 1/2 OF THE BOARD WHICH CONTAINS THE OSCILLATORS, AND ASSOCIATED P.W. RUNS. HOLD P.W. BOARD IN SUCH A MANNER THAT SOLVENT DOES NOT RUN INTO TUNING HOLES AND SATURATE COMPONENT SIDE OF BOARD.

(19C317434, Sh. 2, Rev. 8)

ADDENDUM TO LBI31226

This addendum describes Revision Letter changes that are not yet included in the publication.

REV.A-SYSTEM BOARD 19D433412G2,7,9

To eliminate RFI in microphone circuit. Added C1 (19A700219P44; Ceramic, 27pF plus or minus 5%, 100 VDCW, 0 PPM temp coef.) across terminals of MK1.

ADDENDUM NO.2 TO LBI31226

This addendum describes Revision Letter changes that are not yet included in the publication.

REV.A- FRONT COVER ASSEMBLY 19C331637G7-12
REV.B- FRONT COVER ASSEMBLY 19C331637G1-6

To eliminate RFI in the microphone circuit. Added C2 across the microphone terminals.

C2 is: 19A700229P73, Ceramic,180pF ±10%, 100 VDCW, temp coef -3300PPM.

ADDENDUM NO.3 TO LBI31226

This addendum describes Revision Letter changes that are not yet included in the publication.

REV.A- SYSTEM BOARD 19D433396G1-6

To improve Channel Guard encode tone rise time.Changed regulator module A2, deleted C26 and added C22, C23 and C24.
A2 is: 19C311905G2, Regulator Module.
C22,C23 and C24 are:19A700229P73, ceramic, 180 pF ± 10%, 100 VDCW; -3300 PPM temp coef.

ADDENDUM NO. 4 TO LBI31226
PCP6

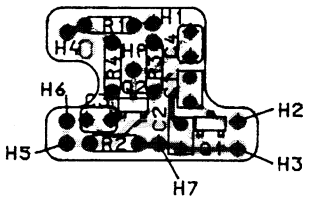
This addendum describes Revision Letter changes that are not yet included in the publication.

Rev. A- System Board and Case assembly 19D433412G2,7,9

To improve audio quality when transmitting. Changed PTT assembly A719 to 19B234653G1, deleted R2 and CR5, and changed R2 and C3.

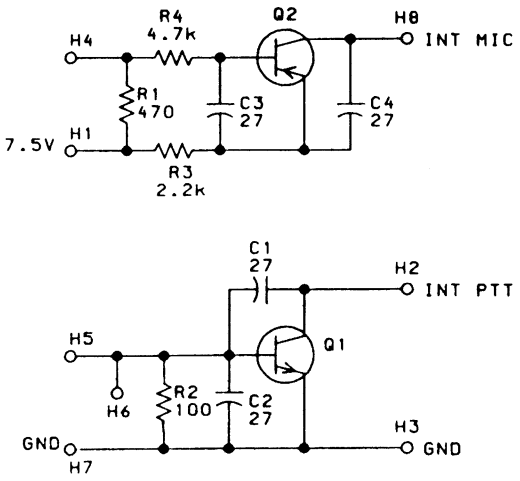
Components Are:
R2: C3R151P683J, Composition, 68K-ohms ±5%, 1/8 w.
C3: 19A700121P2, Ceramic, 0.01 uF ±20%, 50 VDCW.

Outline Diagram is:



(19B234654, Rev. 0)
(19A148695, Sh. 1, Rev. 0)
(19A148695, Sh. 2, Rev. 0)

Schematic Diagram is:



(19B234656, Rev. 0)