

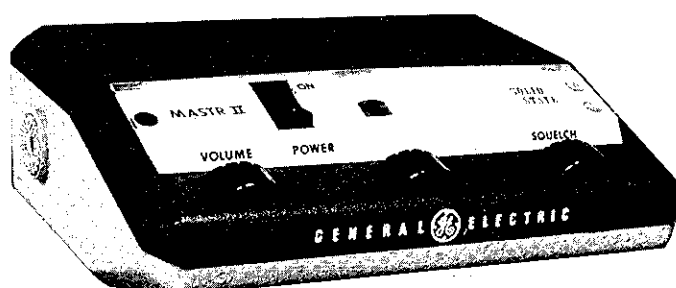
**GE MOBILE RADIO**

# MASTR<sup>®</sup> II MAINTENANCE MANUAL

C-500 SERIES

1-FREQUENCY CONTROL UNIT - 19D423590G1

2-FREQUENCY CONTROL UNIT - 19D423590G2



## SPECIFICATIONS \*

### Controls

Power-On  
Volume  
Squelch  
Channel Selector Switch (G2 only)

### Indicators

Power On Light  
Transmit Light

\*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

SPECIFICATIONS .....	Cover
COMBINATION NOMENCLATURE .....	iii
DESCRIPTION .....	1
CIRCUIT ANALYSIS .....	1
MAINTENANCE .....	1
TRANSMITTER KEYING & POWER DISTRIBUTION DIAGRAM .....	5
OUTLINE DIAGRAM .....	6
SCHEMATIC DIAGRAMS	
1 & 2 Frequency Control Unit .....	7
MASTR II/EXEC II Interface-Power/Control Cable .....	12
PARTS LIST .....	8
MICROPHONE & HOOKSWITCH .....	9
HANDSET & HOOKSWITCH .....	10
SPEAKER .....	11

## OPTIONS

DESCRIPTION	MODEL NUMBER
Window Mount Speaker Kit (Option 9053)	19A130023G1
Ignition Switch Standby Cable (Option 9065)	19B219537G1
Control Hump Mount Bracket (Option 9079)	19A130889G1
33 Foot Ground Cable (Option 9081)	19A136690G1

## WARNING

Although the highest DC voltage in the radio is supplied by the vehicle battery, high current may be drawn under short circuit conditions. These currents can possibly heat metal objects such as tools, rings, watchbands, etc. enough to cause burns. Be careful when working near energized 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!

## COMBINATION NOMENCLATURE

1st Digit	2nd Digit	3rd Digit	4th Digit	5th Digit	6th & 7th Digits	8th Digit
Mechanical Package	System Voltage	Channel Capacity	No. of operating Channels	Microphone or Handset	Options	Control Unit Series
<b>F</b> Control Unit w/Mounting Bracket only	<b>1</b> ±12 VDC MASTR II App.	<b>A</b> 1-Channel	<b>A</b> One	<b>1</b> None	<b>AA</b> Standard May apply four digit options that require no Control Unit Internal Jumper modifications	<b>5</b> C-500
<b>G</b> Control Unit w/Mounting Bracket, Cables and Speaker MASTR II App	<b>3</b> +12 VDC (Neg Gnd Only) EXEC II App.	<b>C</b> 2-Channel	<b>C</b> Two	<b>2</b> Standard Microphone		
<b>H</b> Control Unit w/Mounting Bracket, Cables and Speaker Exec II App.				<b>3</b> Standard Microphone w/CG Hook- switch		
				<b>5</b> Noise Canceling Microphone		
				<b>6</b> Noise Canceling Microphone w/CG Hook- switch		
				<b>8</b> Handset (Decoder App)		



## DESCRIPTION

MASTR® II Control Units are attractively styled, highly functional units that are enclosed in a two-piece molded Lexan® housing for durability and ease of disassembly. The Control Units are mounted to the vehicle with a Safety Release Lexan® mounting bracket assembly for passenger safety.

The Control Unit uses a printed wiring board to provide a minimum of wiring. The only internal wires used are on the POWER-ON switch and indicator lights.

Cable plugs are secured to the back of the Control Unit by plastic locking clips. The plugs are equipped with indexing tabs to assure connection to the correct jack. The cable is equipped with a strain relief hook that attaches to a steel plate on the bottom rear of the Control Unit.

The microphone plug is secured to a jack on the bottom of the unit by means of a captive locking screw.

All indicator lights are light-emitting diodes (LEDs) for reliability, long life, and low power consumption.

In addition to MASTR II applications, the Control Unit can be applied to EXEC II applications through the use of the MASTR II/EXEC II Interface Power/Control cable.

## CIRCUIT ANALYSIS

The Control Units are equipped with a VOLUME control, SQUELCH control and a POWER-ON rocker switch. The two-frequency Control Unit is also equipped with a frequency selector switch.

When the POWER-ON switch (S701) is in the OFF position, power is removed from the radio except for the transmitter PA, which is connected to the vehicle battery at all times. Pushing the switch to the ON position applies power to the radio, provides power for the push-to-talk (PTT) circuit and lights the power-on LED in the Power-ON/Frequency Indicator window.

Pressing the PTT switch on the microphone energizes the antenna switch, keys the transmitter, mutes the receiver, and lights the transmit indicator LED.

Releasing the PTT switch turns off the transmitter and transmit indicator, de-energizes the antenna switch and un-mutes the receiver. Refer to the Table of Contents for a simplified Transmitter Keying and Power Distribution Diagram.

CR701 and CR708 are protective diodes. CR701 will cause the fuse in the yellow lead to blow if the polarity is reversed. CR708 inhibits the PTT circuit if the polarity is reversed.

## TWO-FREQUENCY SWITCH (S702)

The frequency select switch is a 12-position switch with a mechanical stop that limits rotation to two positions.

In two-frequency radios, the frequency selector switch selects the desired channel (1 or 2) for both transmitting and receiving. The switch connects A- to the selected transmitter and receiver ICOM so that the radio operates on the selected channel.

## IGNITION SWITCH CONNECTIONS

The Control Unit may be connected for two different modes of operation, depending on the way the ignition switch cables are connected in the vehicle system. The black cable provides the system ground connection. The yellow fused lead provides the receiver hot connections, and the transmitter Push-To-Talk hot connection. The two types of operation are:

1. Ignition Switch Control - For ignition switch control, the yellow fused lead connects to the ACCESSORY or ON terminal of the ignition switch. The transmitter and receiver will operate only when the ignition switch is in the ACCESSORY or ON position. Turning the ignition switch OFF removes all power from the Control Unit.
2. Ignition Switch Bypass - For ignition switch bypass, the yellow fused lead connects to the "hot" side of the ignition switch or the vehicle fuse block assembly. Both the transmitter and receiver operate independently of the ignition switch and are turned on and off only by the POWER-ON switch on the Control Unit.

## MAINTENANCE

### DISASSEMBLY

To gain access to the inside of the Control Unit, simply remove the two screws on the bottom of the front edge of the unit, and lift off the top cover.

To remove the printed wiring board from the control unit housing:

1. Remove the two screws holding the microphone jack.
2. Remove the screws between J701 and J702, and remove the screw between J702 and J703.
3. Remove the screw at each end of the switch and control mounting bracket.

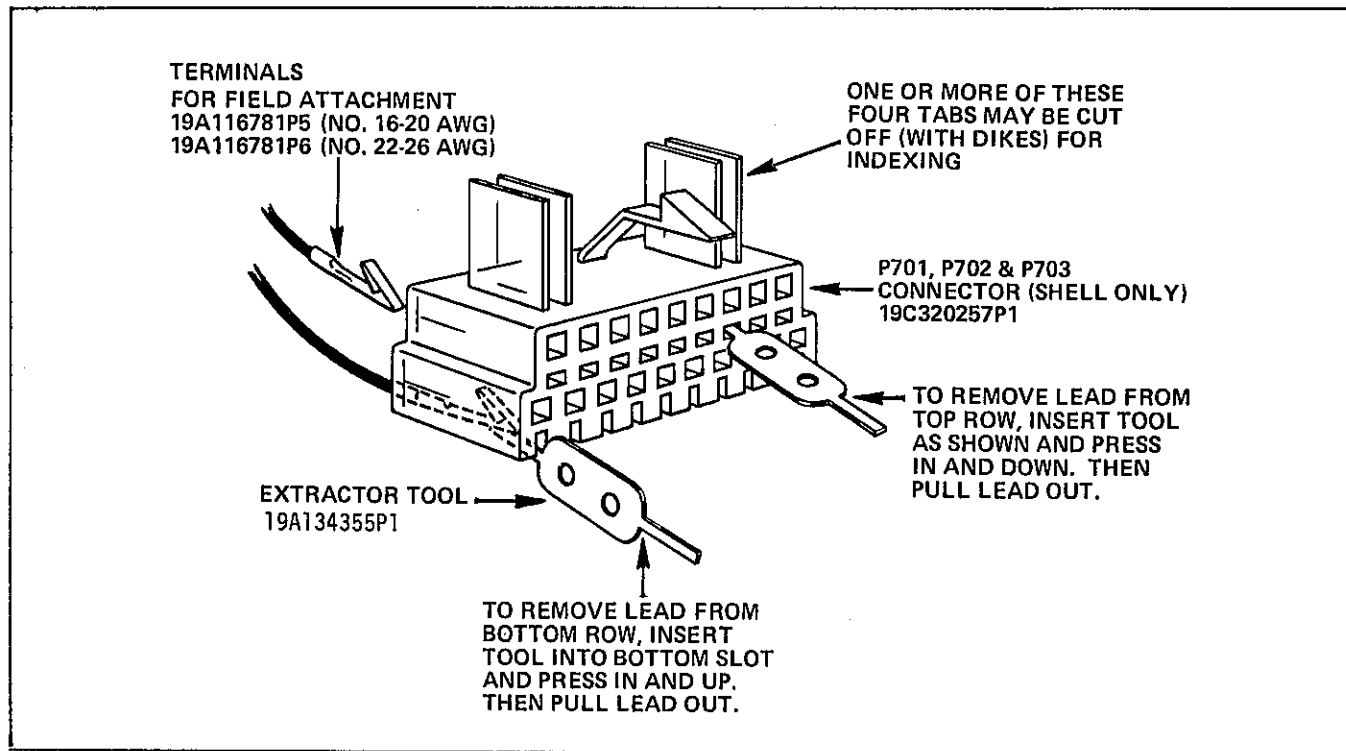


Figure 1 - Using Extraction Tool

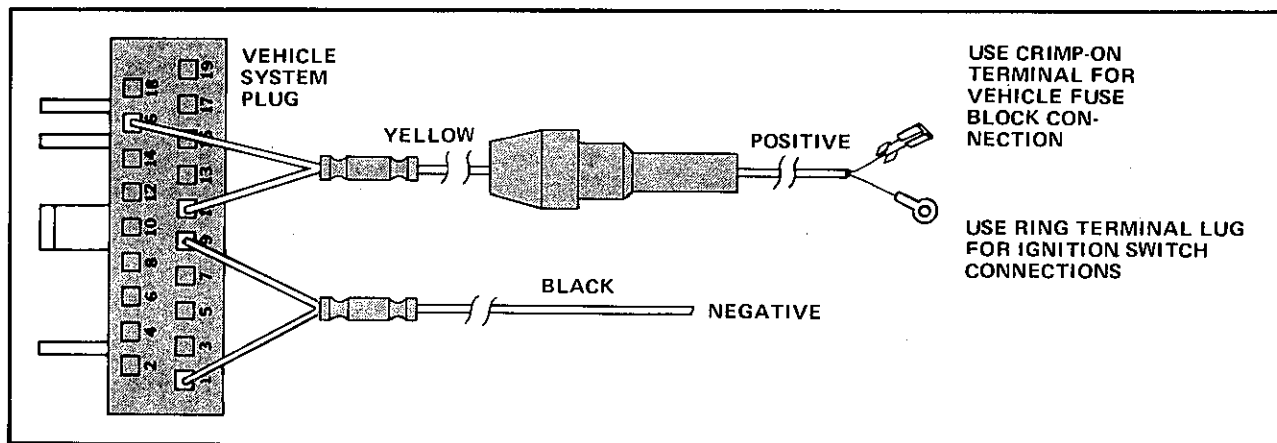


Figure 2 - 12-Volt, Negative Ground Connections

4. Remove the screw holding Power-On switch S701 to the bottom housing. Then swing the printed wiring board up from the front and lift the board out.

#### RE-INSTALLATION

Standard MASTR II mobile combinations operate in  $\pm 12$ -Volt systems. EXEC II mobile combinations operate in  $\pm 12$ -Volt (negative

ground) systems only. If the radio is moved to a different vehicle, always check the battery polarity and voltage of the new system before using the radio.

If the radio is moved to a vehicle with different battery polarity, it will be necessary to change the ignition switch leads to the vehicle systems plug (MASTR II only). Use the extraction tool as shown in Figure 1, and change the leads as shown in Figures 2 or 3 as required.

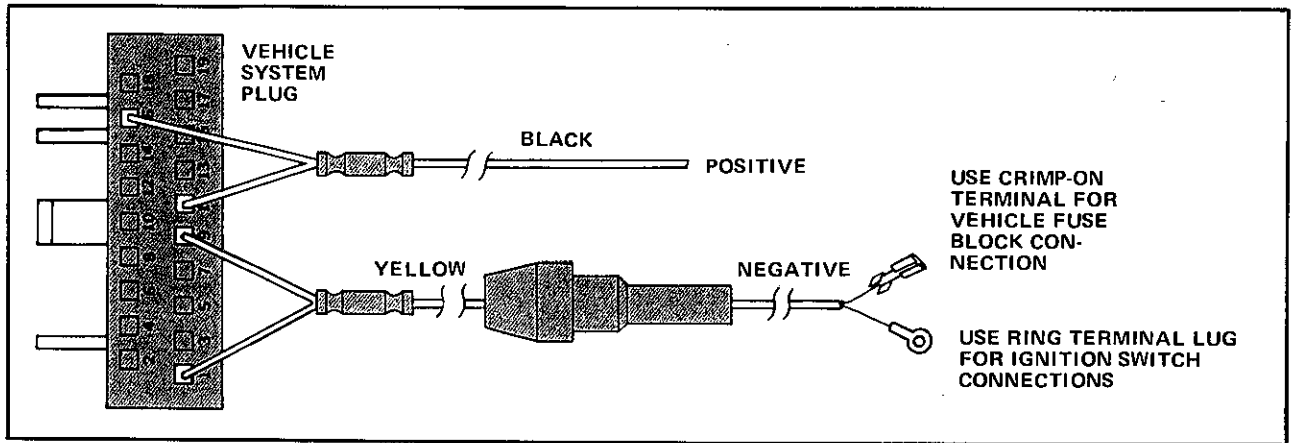


Figure 3 - 12-Volt, Positive Ground Connections (MASTR II only)

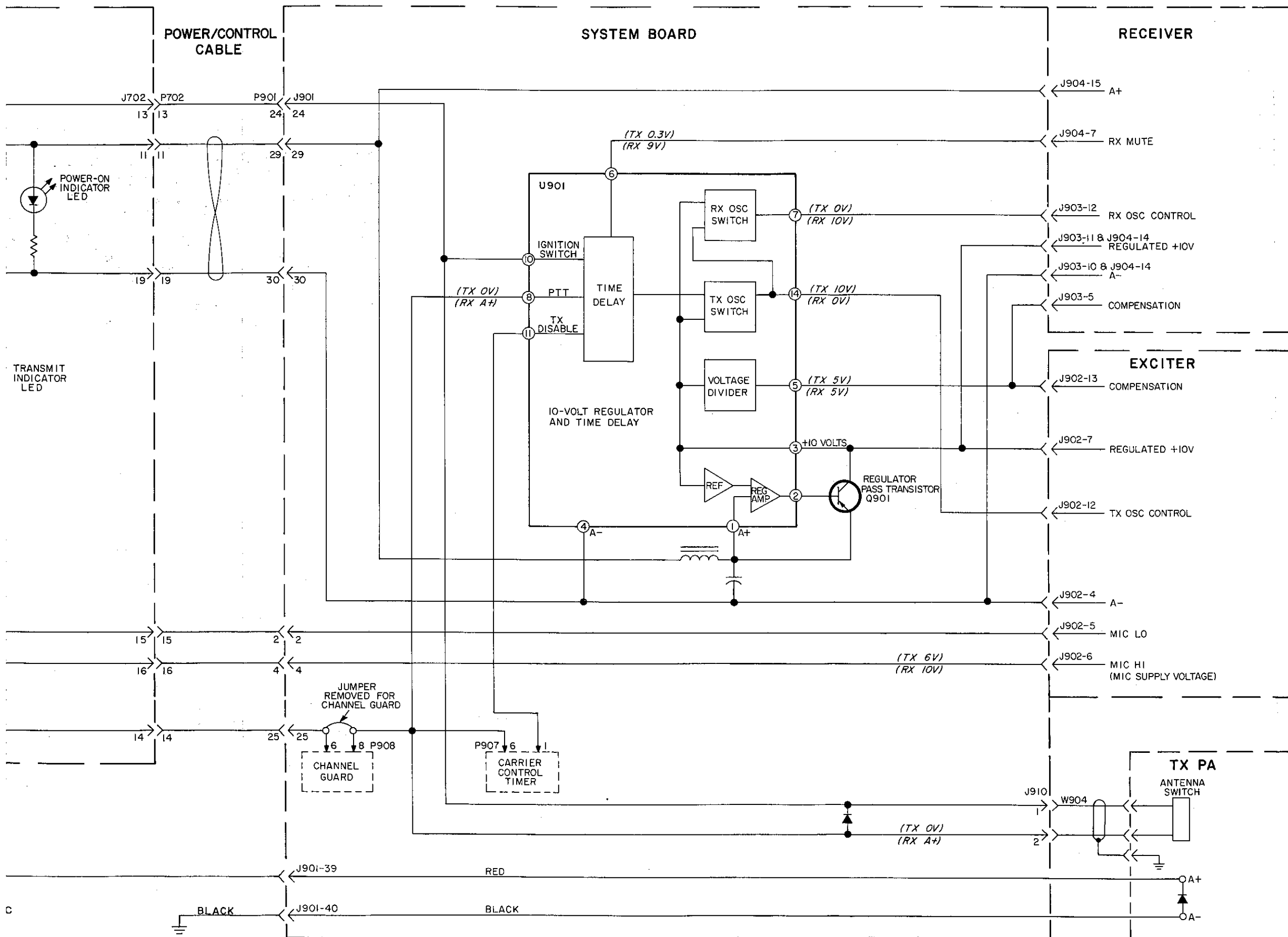
GENERAL ELECTRIC COMPANY • MOBILE COMMUNICATIONS DIVISION  
WORLD HEADQUARTERS • LYNCHBURG, VIRGINIA 24502 U.S.A.

GENERAL  ELECTRIC<sup>®</sup>  
U.S.A.

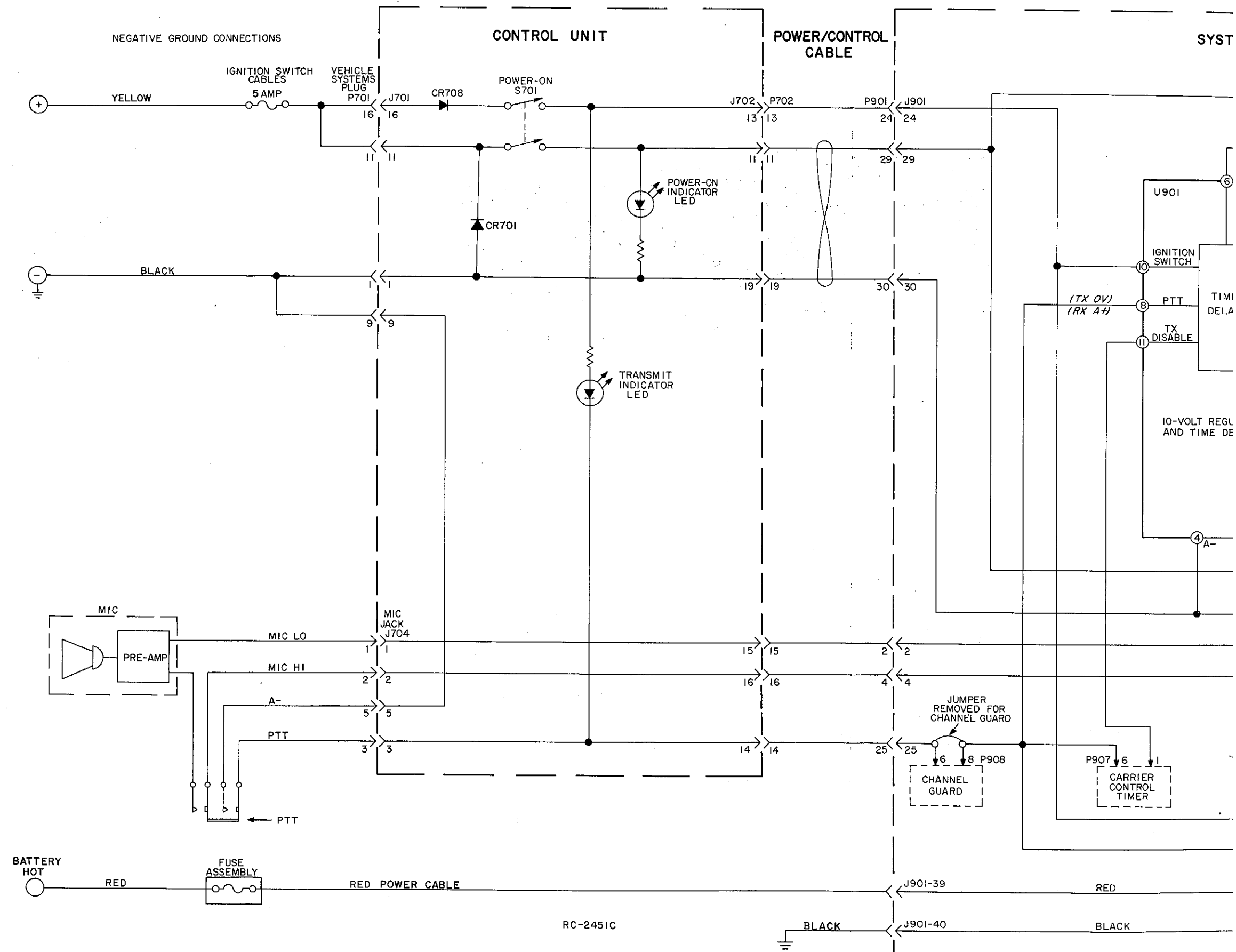
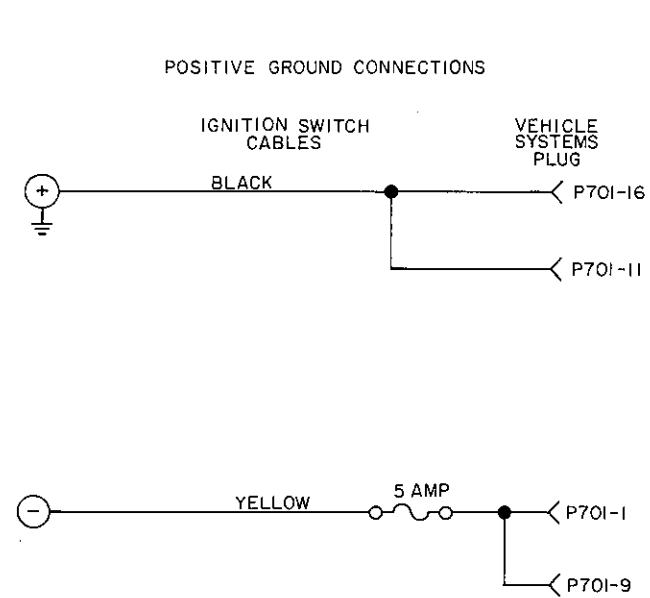
\* Trademark of General Electric Company U.S.A.  
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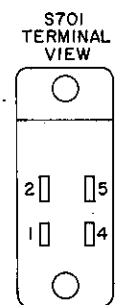
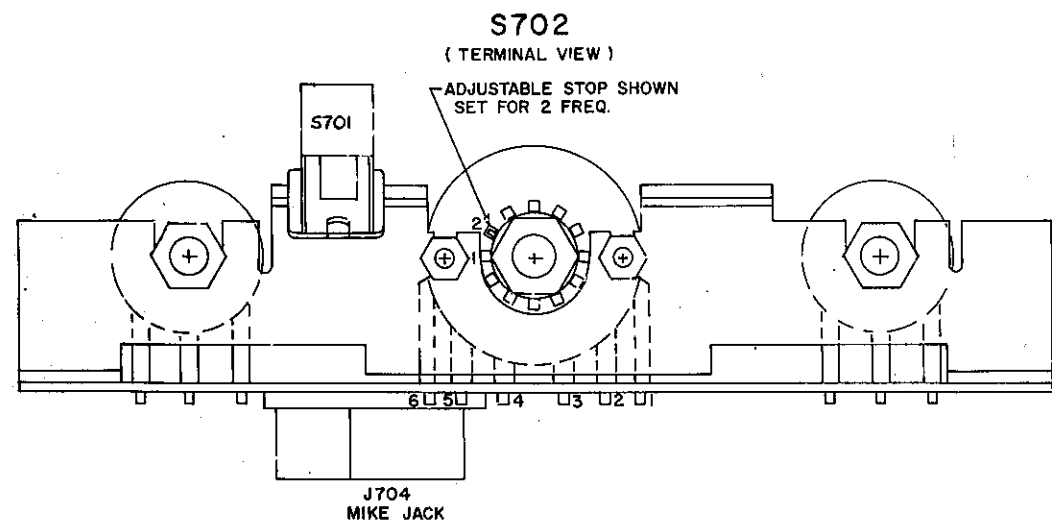
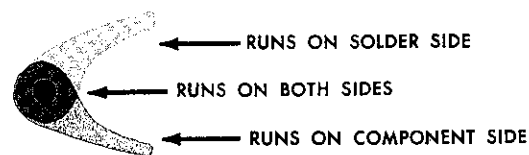
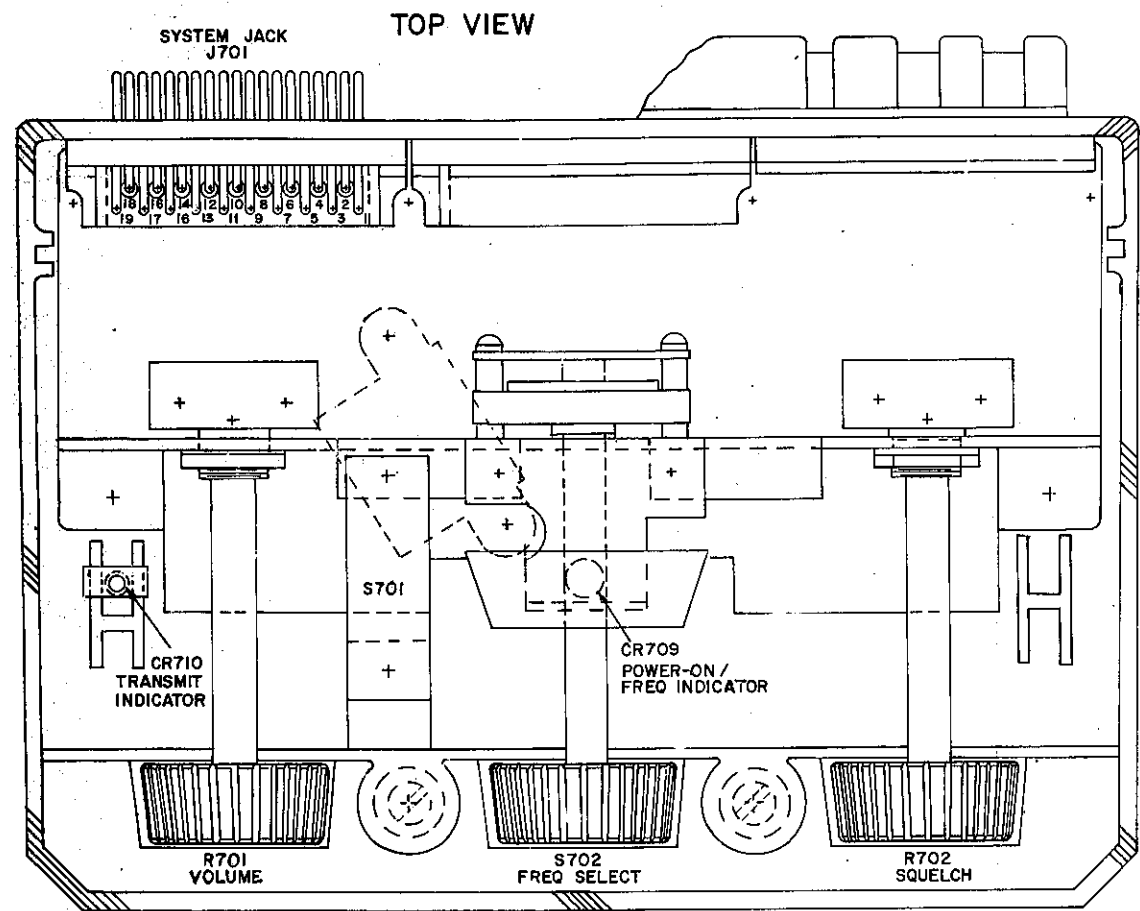






### TRANSMITTER KEYING & POWER DISTRIBUTION DIAGRAM

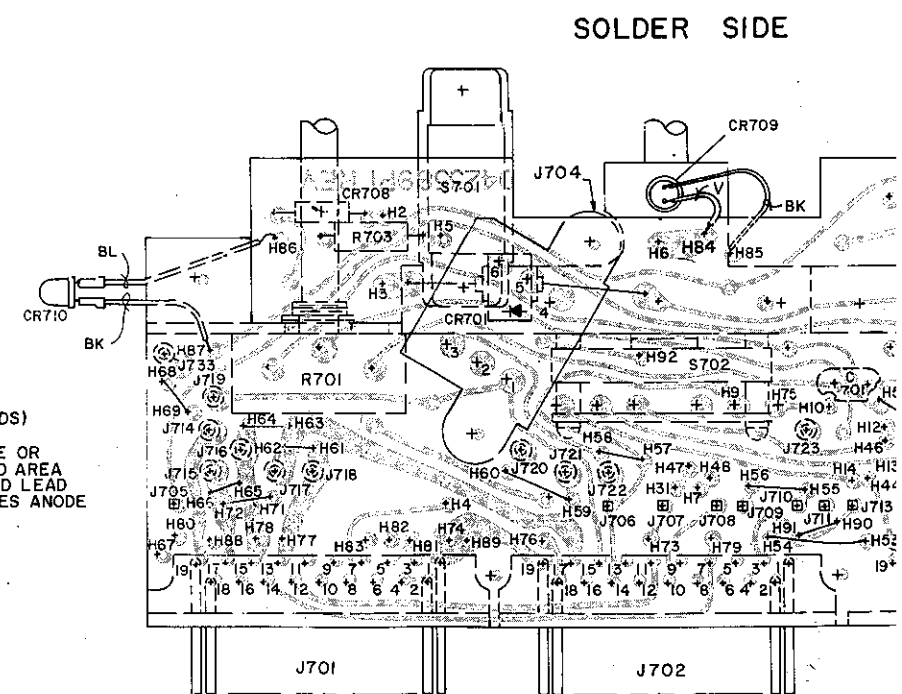
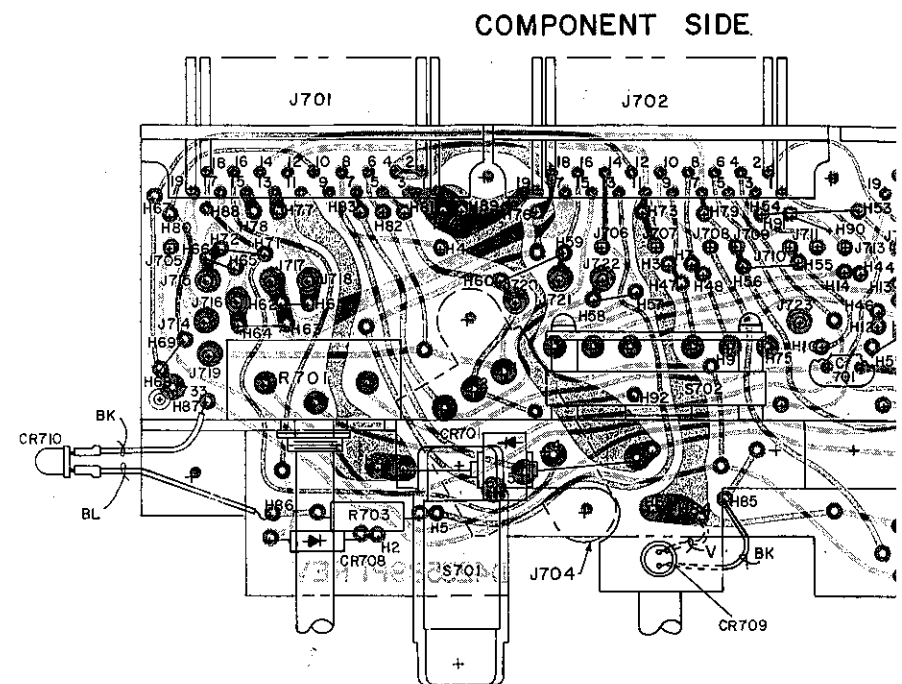




LEAD IDENTIFICATION FOR  
LIGHT-EMITTING DIODES (LEDS)

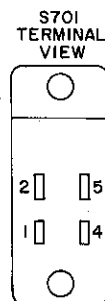
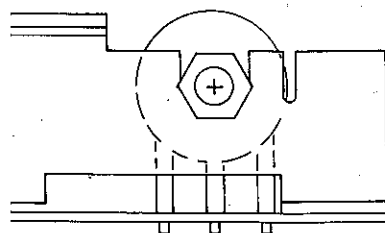
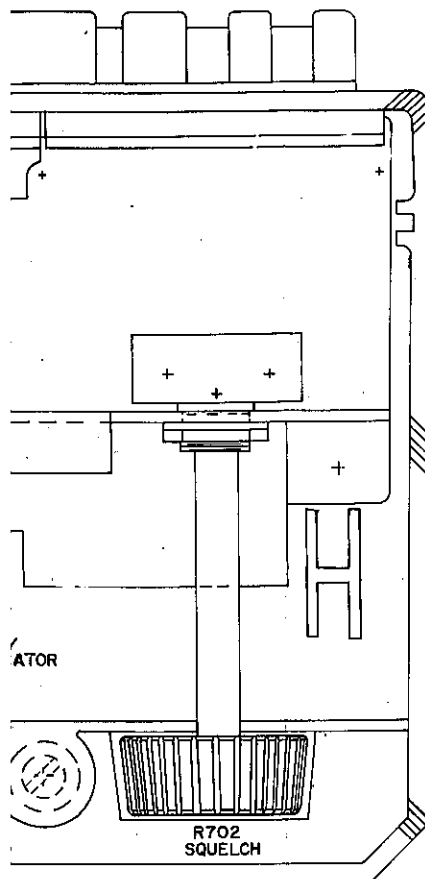
NOTCH OR  
FLAT SIDE  
DENOTES  
CATHODE

CIRCLE OR  
SHADED AREA  
AROUND LEAD  
DENOTES ANODE



OUTLINE DIAGRAM

1 & 2 FREQUENCY CONTROL UNIT  
19D423590G1 & G2

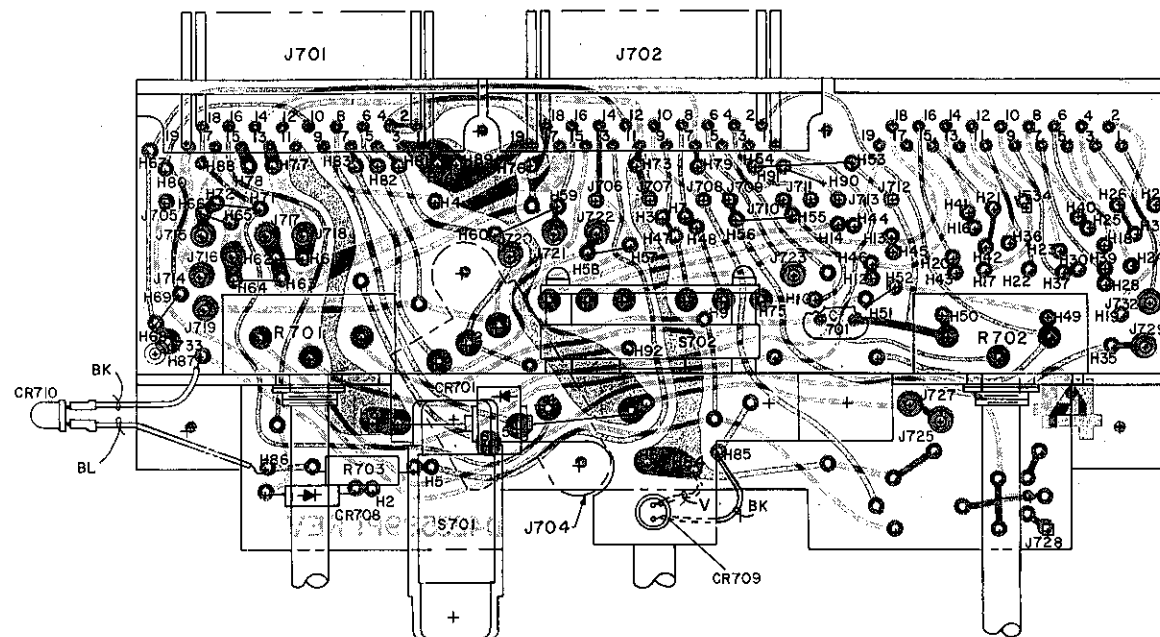


LEAD IDENTIFICATION FOR LIGHT-EMITTING DIODES (LEDs)

NOTCH OR FLAT SIDE DENOTES CATHODE

CIRCLE OR SHADED AREA AROUND LEAD DENOTES ANODE

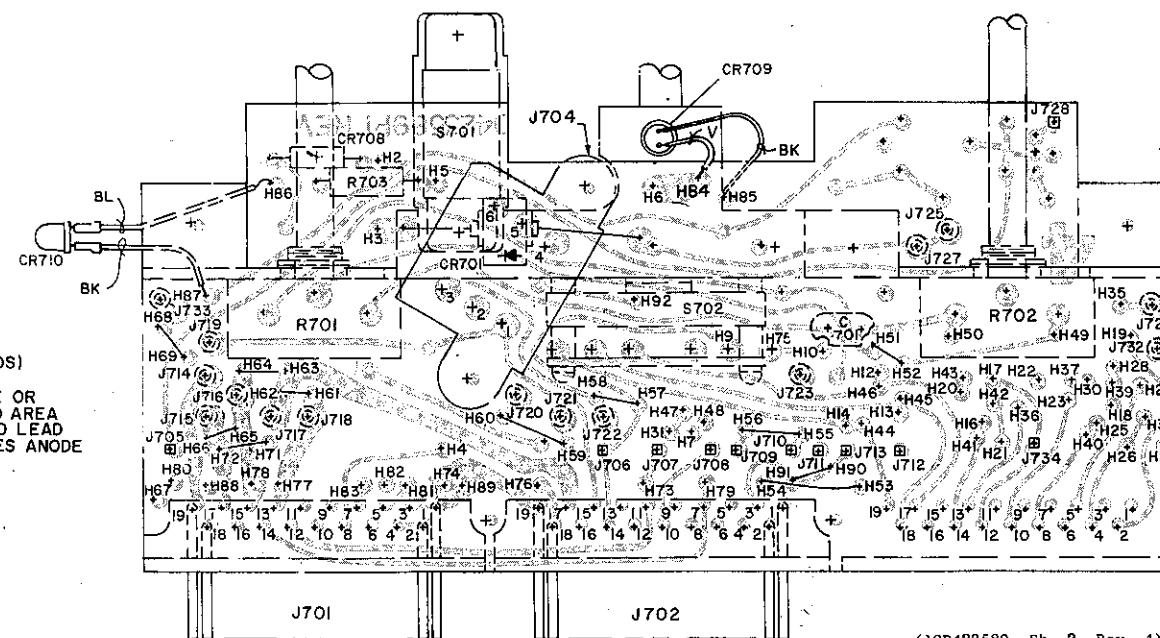
## COMPONENT SIDE



(19D423589, Sh. 2, Rev. 4)

(19D423589, Sh. 3, Rev. 4)

## SOLDER SIDE

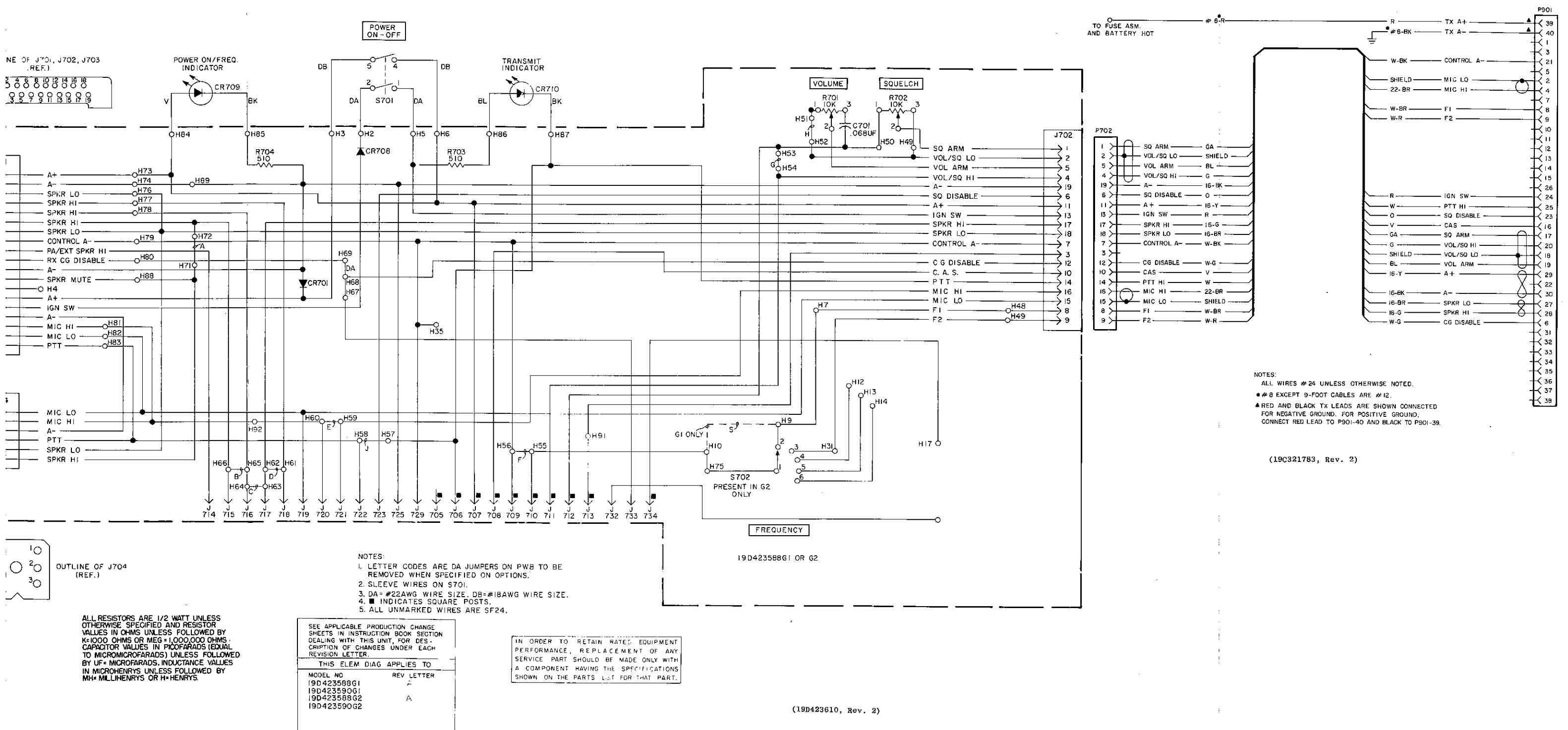


(19D423589, Sh. 2, Rev. 4)

## FREQUENCY SELECTOR SWITCH STOP SETTING

IF THE NUMBER OF OPERATING FREQUENCIES ARE CHANGED, IT WILL BE NECESSARY TO CHANGE THE STOP SETTING ON THE FREQUENCY SELECTOR SWITCH. TO SET THE STOP:

1. REMOVE THE TWO SCREWS ON THE BOTTOM OF THE FRONT EDGE OF THE CONTROL UNIT, AND LIFT THE TOP COVER OFF.
2. REMOVE THE TWO MOUNTING SCREWS ON THE POWER-ON/FREQUENCY INDICATOR (CR709) RETAINER AND MOVE THE INDICATOR AND RETAINER TO ONE SIDE.
3. LOOSEN AND SLIDE BACK ON THE FREQUENCY SELECTOR SWITCH SHAFT THE 3/8-INCH NUT AND WASHER HOLDING THE STOP IN PLACE.
4. ROTATE THE FREQUENCY SELECTOR SWITCH FULLY COUNTER-CLOCKWISE TO THE FIXED STOP (CHANNEL 1-ON THE FREQUENCY SELECTOR SWITCH INDICATOR).
5. PLACE THE ADJUSTMENT STOP IN THE STOP POSITION CORRESPONDING TO THE DESIRED NUMBER ON OPERATING FREQUENCIES.
6. REPLACE THE 3/8-INCH NUT AND WASHER, THE POWER-ON/FREQUENCY INDICATOR RETAINER AND MOUNTING SCREWS, AND THE CONTROL UNIT TOP COVER AND RETAINING SCREWS.
7. CHECK THE FREQUENCY SELECTOR SWITCH FOR PROPER OPERATION.



### SCHEMATIC DIAGRAM

1 & 2 FREQUENCY CONTROL UNIT  
19D423590G1 & G2

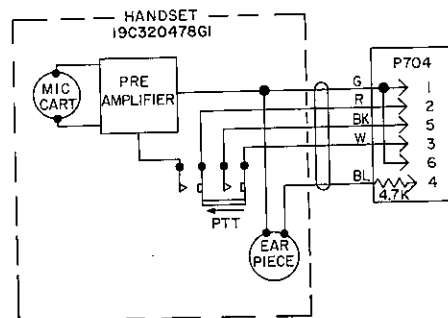
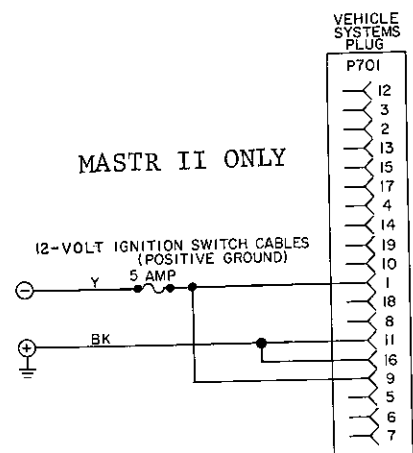
## PARTS LIST

LB130255D

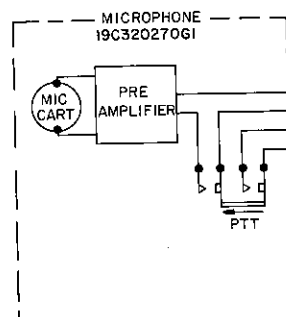
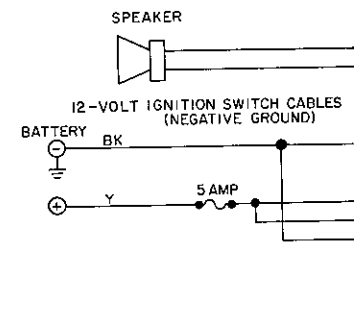
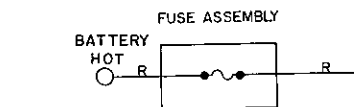
C-500 SERIES CONTROL UNIT  
 19D42358G1 (1-FREQ)  
 19D42358G2 (2-FREQ)  
 AND  
 ASSOCIATED ASSEMBLIES

SYMBOL	GE PART NO.	DESCRIPTION
		<p>COMPONENT BOARD            19D42358G1 (1-FREQ)            19D42358G2 (2-FREQ)</p> <p>----- CAPACITORS -----</p> <p>C701 19A143477P24 Polyester: 0.068 <math>\mu</math>f <math>\pm</math>10%, 50 VDCW.</p> <p>----- DIODES AND RECTIFIERS -----</p> <p>CR701 19A116783P1 Rectifier, silicon: 100 VDC blocking, 6 amps.            CR708 4037822P1 Silicon, 1000 mA, 400 PIV.            CR710 19B219800G3 Diode, red light emitting.</p> <p>----- JACKS AND RECEPTACLES -----</p> <p>J701 and J702 19C320257P2 Pin wafer assembly: 19 contacts.            J704 19B219627G1 Connector: 6 contacts.            J705 thru J713 19A701785P1 Contact, electrical.            J714 thru J723 4033513P4 Contact, electrical: sim to Bead Chain L93-3.            J725 4033513P4 Contact, electrical: sim to Bead Chain L93-3.</p> <p>J727 4033513P4 Contact, electrical: sim to Bead Chain L93-3.            J728 19A701785P1 Contact, electrical.            J729 4033513P4 Contact, electrical: sim to Bead Chain L93-3.            J732 and J733 4033513P4 Contact, electrical: sim to Bead Chain L93-3.            J734 19A701785P1 Contact, electrical.</p> <p>----- RESISTORS -----</p> <p>R701 19A116687P2 Variable, carbon film: 10K ohms <math>\pm</math>20%, 1/4 w; sim to Mallory M204.            R702 19A116687P1 Variable, carbon film: 10K ohms <math>\pm</math>20%, 1/2 w; sim to Mallory M101.            R703 and R704 3R77P511J Composition: 510 ohms <math>\pm</math>5%, 1/2 w.</p> <p>----- SWITCHES -----</p> <p>S701 19A116622P5 Push: DPST, 0.5 amp VDC or 3.0 amps at 125 v; sim to Switchcraft 11K1040.            S702 19A116697P1 Rotary: 1 section, 1 pole, 8 positions (supplied with adj stop), non-shorting contacts, 2 amps at 28 VDC or 1 amp at 110 VRMS; sim to Oak Mfg Type "F".</p> <p>FREQUENCY INDICATOR LIGHT ASSEMBLY            19B219696G3</p> <p>----- DIODES AND RECTIFIERS -----</p> <p>CR709 19A134354P4 Diode, optoelectronic: green; sim to Hew. Packard 5082-4992.</p> <p>MECHANICAL PARTS            (SEE RC2447)</p> <p>1 19A116807P1 Clip, spring tension.            2 19A116773P106 Tap screw: thd size No. 7-19 x 3/8.            3 19B201074P204 Tap screw, Phillips POZIDRIV®: No. 4-40 x 1/4.            4 M402P8C6 Flatwasher: No. 8.</p>

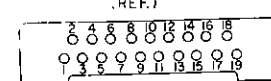
\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.



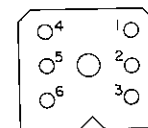
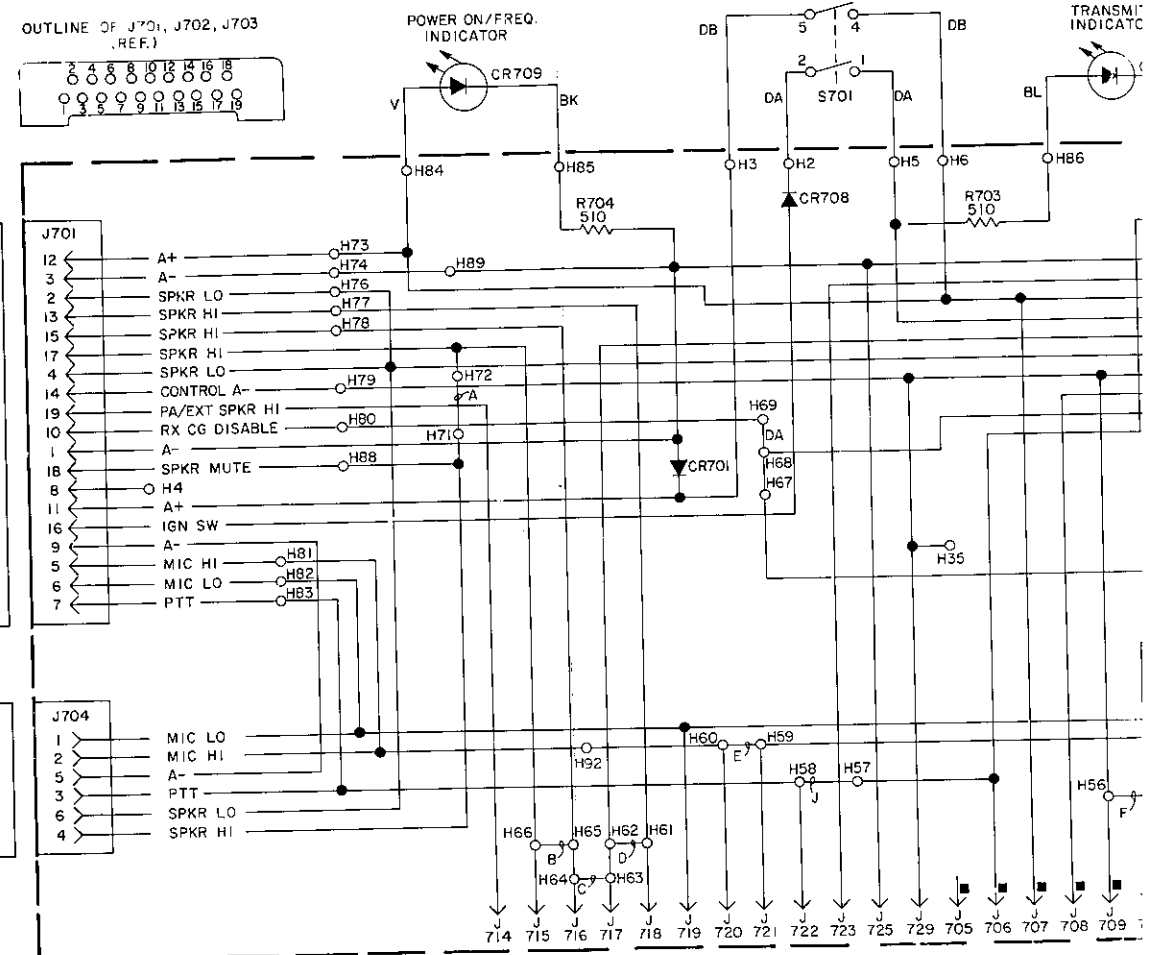
(RC-2440D)



OUTLINE OF J701, J702, J703 (REF.)



POWER ON/FREQ. INDICATOR



OUTLINE OF J704 (REF.)

ALL RESISTORS ARE 1/2 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG=1,000,000 OHMS. CAPACITOR VALUES IN PICO FARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF= MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH= MILLIHENRYS OR H= HENRYS.

## NOTES:

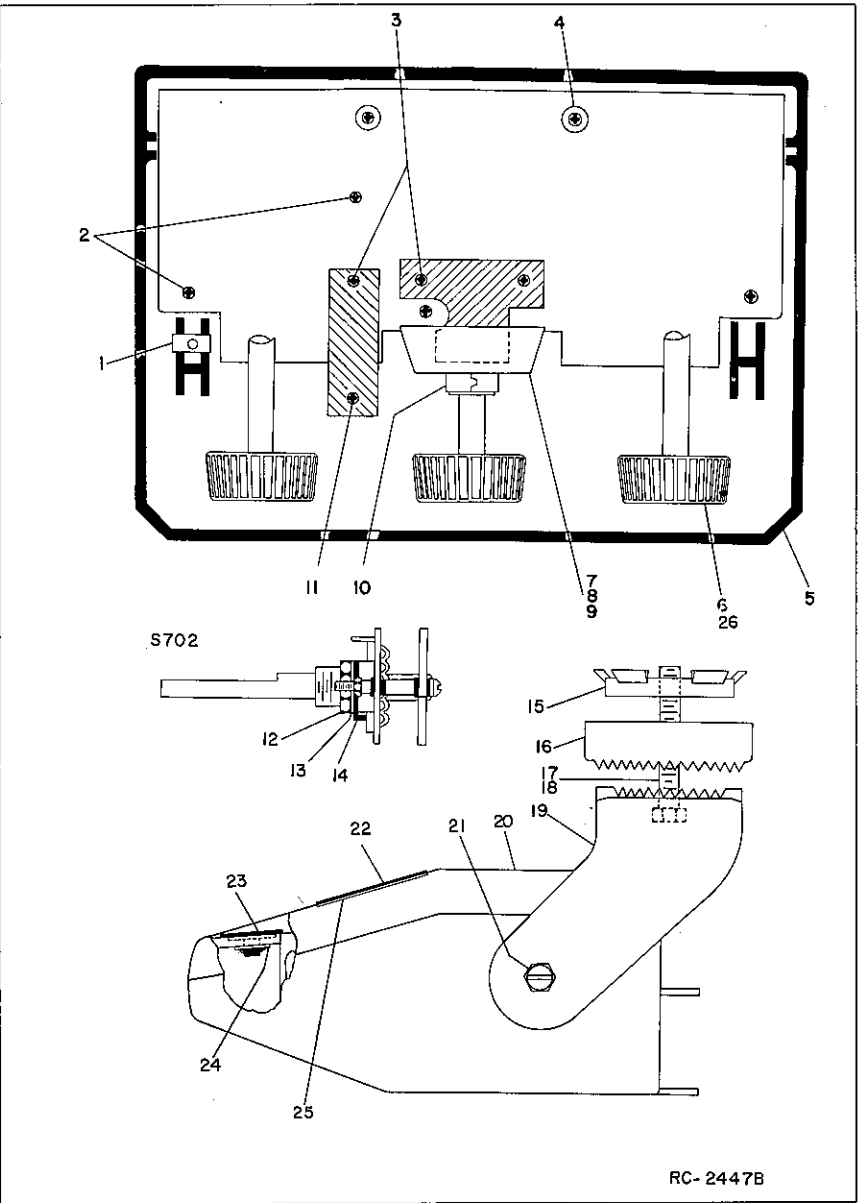
1. LETTER CODES ARE DA JUMPERS ON PWB REMOVED WHEN SPECIFIED ON OPTIONS
2. SLEEVE WIRES ON S701.
3. DA = #22AWG WIRE SIZE. DB = #18AWG W
4. ■ INDICATES SQUARE POSTS.
5. ALL UNMARKED WIRES ARE SF24.

THIS ELEM DIAG APPLIES TO	
MODEL NO	REV LETTER
19D42358G1	A
19D42358G2	A
19D42358G3	
19D42358G4	

IN  
PE  
SEI  
A  
SHI

SYMBOL	GE PART NO.	DESCRIPTION	SYMBOL	GE PART NO.	DESCRIPTION	SYMBOL	GE PART NO.	DESCRIPTION	SYMBOL	GE PART NO.	DESCRIPTION
5	19C320389G1	Housing.									
6	19B219825G1	Knob.									
7	19B219699G1	Frequency indicator.									
8	NP270754A	Nameplate. (1-12).									
9	NP270754B	Nameplate. (OFF, A-H).									
10	4029006P1	Retainer strap: sim to Tinnerman C2386-020-1.									
11	N117P9004C13	Tap screw: No. 4-40 x 1/4.									
12	7165075P2	Hex nut, brass; No. 3/8-32.									
13	7115130P9	Lockwasher: sim to Shakeproof 1220-2.									
14	19A134017P1	Adjustable stop.									
15	19B219578G1	Safety release disc.									
16	19C320022P1	Retaining bracket.									
17	N187P16010C6	Screw, hexhead, slotted: No. 10-32 x 5/8. (Quantity 1, used with safety release disc and retaining bracket).									
18	N710P16012C6	Screw, hexhead, slotted: No. 10-16 x 3/4. (Quantity 3, used without safety release disc and retaining bracket).									
19	19D416594P1	Mounting bracket.									
20	19E500988P1	Cover.									
21	N187P16010C6	Screw, hex head slotted: No. 10-32 x 5/8.									
	N402P39C6	Washer: No. 10.									
	N403P9C6	Lockwasher, external: steel.									
22	NP270753P1	Nameplate. (MASTR II SOLID STATE).									
23	19B219626P1	Knob plug. (Frequency switch S702).									
24	7140578P6	Nut, push on: sim to Tinnerman C318-012-67. (Used with item 23).									
25	19A130009P1	Diffuser.									
26	7160815P4	(Not Used).									
		ASSOCIATED ASSEMBLIES									
		POWER/CONTROL CABLE 18 CONDUCTOR 19D423424G2									
		----- PLUGS -----									
P702		Connector. Includes: Shell. Contact, electrical: wire size No. 18-24 AWG; sim to Molex 08-50-0106. (Quantity 4). Contact, electrical: wire size No. 22-26 AWG; sim to Molex 08-50-0108. (Quantity 14). Connector. Includes: Shell. Contact, electrical: sim to AMP 350657-1. (Quantity 14). Contact, electrical: sim to AMP 350656-1. (Quantity 4). Contact, electrical: sim to AMP 350655-1. (Quantity 2). Adaptor. (Snaps to shell).  ----- MISCELLANEOUS ----- Cable: 16 conductor, 20 feet. Clip loop (strain relief). Jackscrew. (Part of P901). Terminal, solderless: sim to AMP 33460. (Quantity 2).	P702		POWER/CONTROL CABLE 30 CONDUCTOR 19D423424G8  ----- PLUGS ----- Connector. Includes: Shell. Contact, electrical: wire size No. 18-24 AWG; sim to Molex 08-50-0106. Contact, electrical: wire size No. 22-26 AWG; sim to Molex 08-50-0108. Connector. Includes: Shell. Contact, electrical: wire size No. 22-26 AWG; sim to Molex 08-50-0108.  ----- MISCELLANEOUS ----- Cable: 27 conductor, 20 feet. Clip loop (strain relief). Terminal, solderless: sim to AMP 33460. (Quantity 2). Connector. Includes: Shell. Contact, electrical: wire size 24-20 AWG; sim to AMP 350657-1. (Quantity 34). Contact, electrical: wire size 20-16 AWG; sim to AMP 350656-1. (Quantity 4). Contact, electrical: wire size 12-8 AWG; sim to AMP 350655-1. (Quantity 2). Jackscrew.  POWER/CONTROL CABLE NEGATIVE GRD EXECUTIVE II INTERFACE 19C321890G1 NEGATIVE GND 19C321890G2 POSITIVE GND  ----- PLUGS ----- Connector. Includes: Shell. Connector cover. Connector. Includes: Shell. Contact, electrical: wire range No. 18-24 AWG; sim to Molex 08-50-0106. Contact, electrical: wire range No. 22-26 AWG; sim to Molex 08-50-0108. Connector. Includes: Shell. Contact, electrical: wire range No. 18-24 AWG; sim to Molex 08-50-0106. Contact, electrical: wire range No. 22-26 AWG; sim to Molex 08-50-0108. Clip loop. (strain relief). Solderless terminal: wire size No. 12-10 AWG; sim to AMP 35772. Terminal, solderless: wire range No. 12-10; sim to AMP 31828- LOOSE PC.  12-VOLT 2-WIRE IGNITION SWITCH CABLE 19B219537G4  ----- PLUGS ----- Connector. Includes: Shell. Y Cable. (BLACK).	P701		FUSED LEAD ASSEMBLY 19A129480G2 5 AMP (RED) (Used with 19B219537G1)  FUSED LEAD ASSEMBLY 19A129480G3 (Used with 19B219537G4) Fuse, quick blowing: 5 amps at 250 v; sim to Littelfuse 312005 or Bussmann MTH-5. Fuseholder: sim to Bussmann Type 9835. Knob assembly; sim to Bussmann 9953 1/2. (Mates with fuseholder). Spring: sim to Bussmann 1A1853. Contact, electrical: sim to Littelfuse 904-88. (Located inside fuseholder). Ring terminal, solderless; wire size No. 16-14 AWG. Ring terminal, solderless; wire size No. 16-14 AWG. Terminal, quick connect: wire size 14-18 AWG, fits 1/4 x .032 tab; sim to AMP 41274. Insulated splice. Contact, electrical: wire size No. 18-24 AWG; sim to Molex 08-50-0106.  OPTIONAL 12-VOLT 3-WIRE IGNITION SWITCH CABLE 19B219537G1  ----- PLUGS ----- Connector. Includes: Shell. Y Cable. (BLACK).  FUSED LEAD ASSEMBLY 19A129480G1 1 AMP (RED) (Used with 19B219537G1) Fuse, quick blowing: 1 amp 250 v; sim to Littelfuse 312001 or Bussmann AGC-1. Fuseholder: sim to Bussmann Type 9835. Knob assembly; sim to Bussmann 9953 1/2. (Mates with fuseholder). Spring: sim to Bussmann 1A1853. Contact, electrical: sim to Littelfuse 904-88. (Located inside fuseholder). Ring terminal, solderless; wire size No. 16-14 AWG. Ring terminal, solderless; wire size No. 16-14 AWG. Terminal, quick connect: wire size 14-18 AWG, fits 1/4 x .032 tab; sim to AMP 41274. Insulated splice. Contact, electrical: wire size No. 18-24 AWG; sim to Molex 08-50-0106.  FUSED LEAD ASSEMBLY 19A129480G2 5 AMP (YELLOW) (Used with 19B219537G1) Fuse, quick blowing: 5 amp 250 v; sim to Littelfuse 312005 or Bussmann MTH-5. Fuseholder: sim to Bussmann Type 9835. Knob assembly; sim to Bussmann 9953 1/2. (Mates with fuseholder). Spring: sim to Bussmann 1A1853. Contact, electrical: sim to Littelfuse 904-88. (Located inside fuseholder). Ring terminal, solderless; wire size No. 16-14 AWG. Ring terminal, solderless; wire size No. 16-14 AWG. Terminal, quick connect: wire size 14-18 AWG, fits 1/4 x .032 tab; sim to AMP 41274. Insulated splice. Contact, electrical: wire size No. 18-24 AWG; sim to Molex 08-50-0106.			
	19B226516G1	Shell.		19B226516G1	Shell.		19B226516G3	Shell.		19B209018P5	Plug, Type N. sim to UG53
	19A116781P5	Contact, electrical: wire size No. 18-24 AWG; sim to Molex 08-50-0106. (Quantity 4).		19A116781P5	Contact, electrical: wire size No. 18-24 AWG; sim to Molex 08-50-0106.		19A129504G1	Y Cable. (BLACK).			Cable. (Included as part of assembly only).
	19A116781P6	Contact, electrical: wire size No. 22-26 AWG; sim to Molex 08-50-0108. (Quantity 14).		19A116781P6	Contact, electrical: wire size No. 22-26 AWG; sim to Molex 08-50-0108.						
	19C307162P1	Shell.		19C307162P1	Shell.						
	19A134240P1	Contact, electrical: sim to AMP 350657-1. (Quantity 14).		19A134240P1	Contact, electrical: wire size 24-20 AWG; sim to AMP 350657-1. (Quantity 34).						
	19A134240P2	Contact, electrical: sim to AMP 350656-1. (Quantity 4).		19A134240P2	Contact, electrical: wire size 20-16 AWG; sim to AMP 350656-1. (Quantity 4).						
	19A134240P3	Contact, electrical: sim to AMP 350655-1. (Quantity 2).		19A134240P3	Contact, electrical: wire size 12-8 AWG; sim to AMP 350655-1. (Quantity 2).						
	19C328122P1	Adaptor. (Snaps to shell).		19A134241P1	Jackscrew.						
		----- MISCELLANEOUS -----									
	7139880P13	Cable: 16 conductor, 20 feet.		7139880P14	Cable: 27 conductor, 20 feet.						
	7142878G1	Clip loop (strain relief).		7142878G1	Clip loop (strain relief).						
	19A134241P1	Jackscrew. (Part of P901).		19A115799P1	Terminal, solderless: wire size No. 12-10 AWG; sim to AMP 35772.						
	19A115799P1	Terminal, solderless: sim to AMP 33460. (Quantity 2).		19B209260P27	Terminal, solderless: wire range No. 12-10; sim to AMP 31828- LOOSE PC.						

DESCRIPTION	SYMBOL	GE PART NO.	DESCRIPTION	SYMBOL	GE PART NO.	DESCRIPTION
<p>FUSED LEAD ASSEMBLY 19A129480G3 (Used with 19B219537G4)</p> <p>quick blowing: 5 amps at 250 v; sim to Littelfuse 312005 or Bussmann MTH-5.</p> <p>holder: sim to Bussmann Type 9835.</p> <p>assembly; sim to Bussmann 9953 1/2. (Mates fuseholder).</p> <p>g: sim to Bussmann 1A1853.</p> <p>ct, electrical: sim to Littelfuse 904-88. (Located inside fuseholder).</p> <p>terminal, solderless; wire size No. 16-14 AWG.</p> <p>terminal, solderless; wire size No. 16-14 AWG.</p> <p>nal, quick connect: wire size 14-18 AWG, 1/4 x .032 tab; sim to AMP 41274.</p> <p>lated splice.</p> <p>ct, electrical: wire size No. 18-24 AWG; to Molex 08-50-0106.</p> <p>OPTIONAL 12-VOLT 3-WIRE IGNITION SWITCH CABLE 19B219537G1</p> <p>----- PLUGS -----</p> <p>ector. Includes:</p> <p>l.</p> <p>le. (BLACK).</p> <p>FUSED LEAD ASSEMBLY 19A129480G1 1 AMP (RED) (Used with 19B219537G1)</p> <p>quick blowing: 1 amp 250 v; sim to Littelfuse 312001 or Bussmann AGC-1.</p> <p>holder: sim to Bussmann Type 9835.</p> <p>assembly; sim to Bussmann 9953 1/2. (Mates fuseholder).</p> <p>g: sim to Bussmann 1A1853.</p> <p>ct, electrical: sim to Littelfuse 904-88. (Located inside fuseholder).</p> <p>terminal, solderless; wire size No. 16-14 AWG.</p> <p>terminal, solderless; wire size No. 16-14 AWG.</p> <p>inal, quick connect: wire size 14-18 AWG, 1/4 x .032 tab; sim to AMP 41274.</p> <p>lated splice.</p> <p>ct, electrical: wire size No. 18-24 AWG; to Molex 08-50-0106.</p> <p>FUSED LEAD ASSEMBLY 19A129480G2 5 AMP (YELLOW) (Used with 19B219537G1)</p> <p>quick blowing: 5 amp 250 v; sim to Littelfuse 312005 or Bussmann MTH-5.</p> <p>holder: sim to Bussmann Type 9835.</p> <p>assembly; sim to Bussmann 9953 1/2. (Mates fuseholder).</p> <p>g: sim to Bussmann 1A1853.</p> <p>ct, electrical: sim to Littelfuse 904-88. (Located inside fuseholder).</p> <p>terminal, solderless; wire size No. 16-14 AWG.</p> <p>terminal, solderless; wire size No. 16-14 AWG.</p> <p>inal, quick connect: wire size 14-18 AWG, 1/4 x .032 tab; sim to AMP 41274.</p> <p>lated splice.</p> <p>ct, electrical: wire size No. 18-24 AWG; to Molex 08-50-0106.</p>			<p>FUSED LEAD ASSEMBLY 19A129480G2 5 AMP (YELLOW) (Used with 19B219537G1)</p> <p>Fuse, quick blowing: 5 amp 250 v; sim to Littelfuse 312005 or Bussmann MTH-5.</p> <p>Fuseholder: sim to Bussmann Type 9835.</p> <p>Knob assembly; sim to Bussmann 9953 1/2. (Mates with fuseholder).</p> <p>Spring: sim to Bussmann 1A1853.</p> <p>Contact, electrical: sim to Littelfuse 904-88. (Located inside fuseholder).</p> <p>Ring terminal, solderless; wire size No. 16-14 AWG.</p> <p>Ring terminal, solderless; wire size No. 16-14 AWG.</p> <p>Terminal, quick connect: wire size 14-18 AWG, fits 1/4 x .032 tab; sim to AMP 41274.</p> <p>Insulated splice.</p> <p>Contact, electrical: wire size No. 18-24 AWG; sim to Molex 08-50-0106.</p> <p>25 - 50 MHz ANTENNA</p> <p>Antenna: includes stainless steel rod approx 96-1/2 inches long; ball tip; lockwasher; No. 10-32 hex socket set screw; sim to Antenna Specialists ASPA3BGE. (30-50 MHz).</p> <p>Antenna: includes stainless steel rod approx 102 inches long; ball tip; No. 10-32 hex socket set screw; sim to Antenna Specialists ASPA3BGE. (25-30 MHz).</p> <p>Adapter, antenna: approx 2-5/16 inches long. (Used with GE Dwg 7491074P1).</p> <p>Loading coil: 25-33 MHz; sim to Antenna Specialists ASPA87.</p> <p>Antenna hook kit.</p> <p>Antenna hook.</p> <p>Antenna Package: Includes base &amp; ball assembly, adapter spring assembly, cable assembly, horseshoe plate, and rubber gasket.</p> <p>Base and ball assembly. Newtronics 5495.</p> <p>Adapter spring assembly. Newtronics 3327.</p> <p>Cable assembly. Newtronics 183-RAO.</p> <p>Horseshoe plate. Newtronics 3323-3.</p> <p>Rubber gasket. Newtronics 3320.</p> <p>132-512 MHz ANTENNA 19B209568P1</p> <p>Whip assembly. 068110-001.</p> <p>Whip nut assembly. 068047-001.</p> <p>Base nut assembly. 068048-001.</p> <p>"O" Ring (LARGE). 007059-122.</p> <p>Stud assembly. 068046-001.</p> <p>RG58/U Cable, 15 ft. 068115-001.</p> <p>800-870 MHz ANTENNA 19B209568P4</p> <p>Whip assembly. 068110-001.</p> <p>Whip nut assembly. 068047-001.</p> <p>Base nut assembly. 068048-001.</p> <p>"O" Ring (LARGE). 007059-122.</p> <p>Stud assembly. 068046-001.</p> <p>Plug, Type N. sim to UG536B/U.</p> <p>Cable. (Included as part of complete antenna assembly only).</p>			<p>66-88 MHz ANTENNA 19C320111P3</p> <p>Antenna base: 15 ft. cable with M2R22P1 connector with 7105381P1 adaptor; sim to Decibel Products DB719.</p> <p>Antenna whip and Spring base: sim to Decibel Products DB670A.</p> <p>12 VOLT FUSE ASSEMBLY 19B216021G4 (Fuses must be ordered separately)</p> <p>----- FUSES -----</p> <p>Quick blowing: 15 amps, 250 v; sim to Bussmann NON15. (Used with 16-38 w MASTR II Mobiles).</p> <p>Quick blowing: 30 amps, 250 v; sim to Bussmann NON30. (Used with 66-128 w MASTR II and EXECUTIVE II Mobiles).</p> <p>Quick blowing: 20 amps, 250 v; sim to Bussmann NON20. (Used with 38-66 w MASTR II and 35-66 w EXECUTIVE II Mobiles).</p>
		1R16P8		F1	1R11P4	
		19A115776P6		F3	1R11P7	
		19A115776P5		F4	1R11P5	
		19A115776P7				
		19A115776P3				
		7491823P7				
		7491823P8				
		4029484P2				
		19A116849P1				
		19A116781P5				
		7491074P1				
		7491074P2				
		7102930P3				
		4KY9A1				
		19A121577G1				
		7134724P1				
		19C307172P1				
		19B209018P5				



PRODUCTION CHANGES

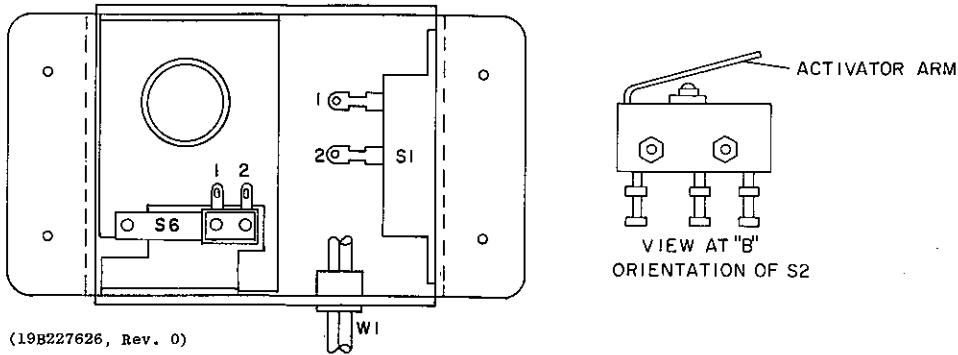
Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter", which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the Parts List for descriptions of parts affected by these revisions.

Component Board 19D423588G1, 2

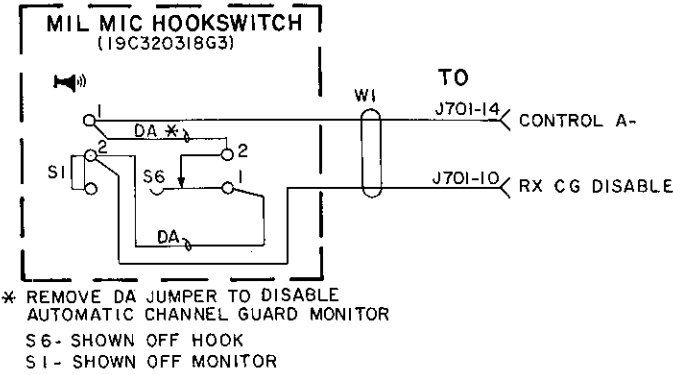
REV. A - Replace DA jumper between H90-H91 with printed wire run.



OUTLINE DIAGRAM



SCHEMATIC DIAGRAM



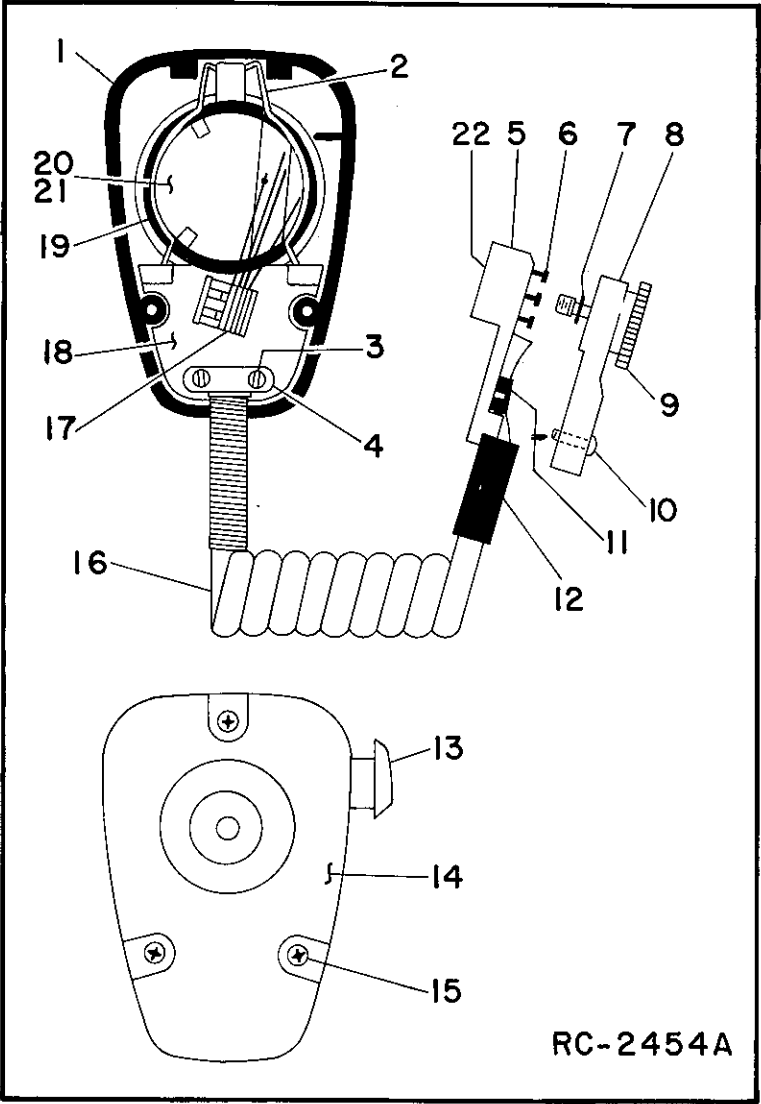
MODEL NO.	REV LETTER

(19A136836, Rev. 1)

PARTS LIST

LBI4481C  
TRANSISTORIZED DYNAMIC MICROPHONE  
19C320270G1, G2  
(SEE RC2454)

SYMBOL	GE PART NO.	DESCRIPTION
1	RP127	Front Case Assembly. (Includes items 14, 15).
2		Retaining spring. (Part of item 18).
3		Tap screw, phillips. (Part of item 16).
4		Retaining bar. (Part of item 16).
5	19D416766P1	Connector base.
6	19A129435P1	Contact.
7	7109043P1	Retaining ring.
8	19D416767P1	Connector cover.
9	19B219723G1	Thumb screw: Lexan.
10	N136AP905Y6	Tap screw, phillips: No. 4 x 5/16.
11	19A116937P1	Cable clip.
12	19B219749P1	Strain relief.
13	RP126	Switch button kit.
14		Rear Case Assembly. (Part of item 1).
15		Tap screw, phillips. (Part of item 1).
16	19C321016G1	Cable assembly: Includes items 3-12 & cable RP129.
17	RP128	Switch Assembly.
18	RP130	Grille Assembly. (includes items 2, 19, 21).
19		"O" Ring. (Part of item 18).
20	RP117	Transistorized Cartridge.
21		Washer. (Located under cartridge- part of item 18).
22	19C321016G3	Connector assembly: Includes items 5-12.



LBI30238

SERVICE SHEET

MICROPHONE & HOOKSWITCH

Issue 5

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

CTION

HES -----  
as, 0.5 amp VDC or 3 amp  
heraft 46202LM.  
tch S-1527-1.  
LES -----  
ox 5 feet long, includes

NEOUS -----

sim to Heyco SR-3P-4.  
B. (Secures base plate  
S6).  
d with S1).  
E).

RODUCTION CHANGES.

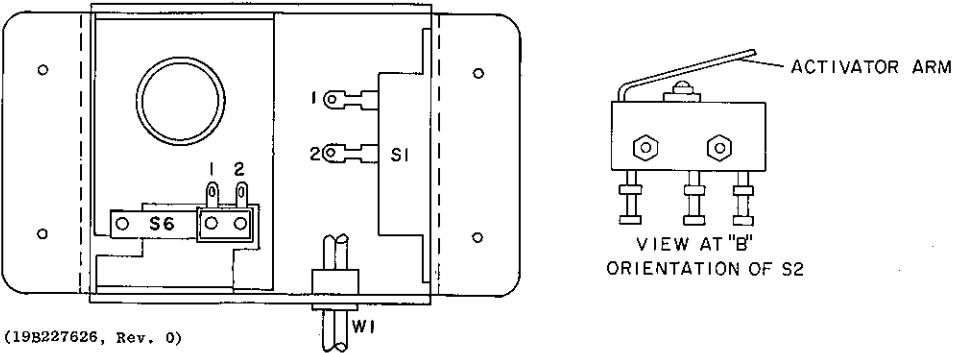
PARTS LIST

LB130449C  
MICROPHONE HOOKSWITCH  
19C320318G3

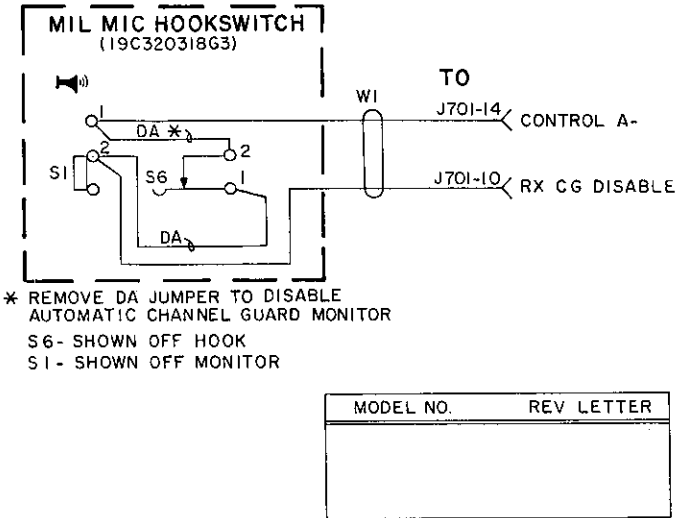
SYMBOL	GE PART NO.	DESCRIPTION
		----- SWITCHES -----
S1	19B209261P18	Slide: 1 pole, 2 positions, 0.5 amp VDC or 3 amp VAC at 125 v; sim to Switchcraft 46202LH.
S6	19A134398P1	Push: sim to Chicago Switch S-1527-1.
		----- CABLES -----
W1	19A129414G1	Cable: 2 conductor; approx 5 feet long, includes (2) 19A116781P5 contacts.
		----- MISCELLANEOUS -----
	19B219698G4	Housing.
	19B219694P1	Base plate.
	19A116768P6	Bushing, strain relief: sim to Heyco SR-3P-4.
	N193P1410C	Tap screw: No. 8-18 x 5/8. (Secures base plate to mounting surface).
	19A134398P101	Metal plate. (Used with S6).
	19C320301P1	Support. (S1).
	19B219693P2	Spring, hookswitch. (Used with S1).
	19B200525P227	Rivet. (Secures S1 spring).
	19B200525P177	Rivet. (Secures S1).

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

OUTLINE DIAGRAM



SCHEMATIC DIAGRAM



(19A136836, Rev. 1)

PARTS LIST

LB14481C  
TRANSISTORIZED DYNAMIC MICROPHONE  
19C320210G1, G2  
(SEE RC2454)

SYMBOL	GE PART NO.	DESCRIPTION
1	RP127	Front Case Assembly. (Includes items 14, 15).
2		Retaining spring. (Part of item 18).
3		Tap screw, phillips. (Part of item 16).
4		Retaining bar. (Part of item 16).
5	19D416766P1	Connector base.
6	19A129435P1	Contact.
7	7109043P1	Retaining ring.
8	19D416767P1	Connector cover.
9	19B219723G1	Thumb screw: Lexan.
10	N136AP905Y6	Tap screw, phillips: No. 4 x 5/16.
11	19A116937P1	Cable clip.
12	19B219749P1	Strain relief.
13	RP126	Switch button kit.
14		Rear Case Assembly. (Part of item 1).
15		Tap screw, phillips. (Part of item 1).
16	19C321016G1	Cable assembly: Includes items 3-12 & cable RP129.
17	RP128	Switch Assembly.
18	RP130	Grille Assembly. (includes items 2, 19, 21).
19		"O" Ring. (Part of item 18).
20	RP117	Transistorized Cartridge.
21		Washer. (Located under cartridge- part of item 18).
22	19C321016G3	Connector assembly: Includes items 5-12.

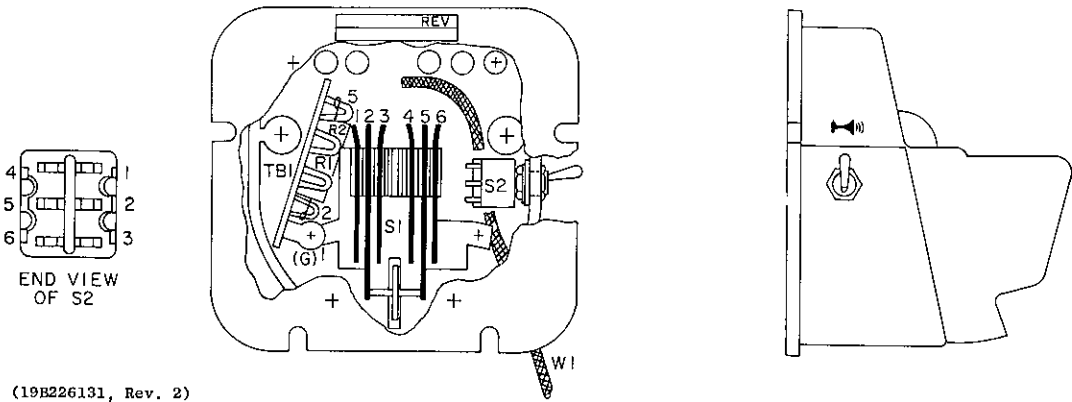
\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

PARTS LIST

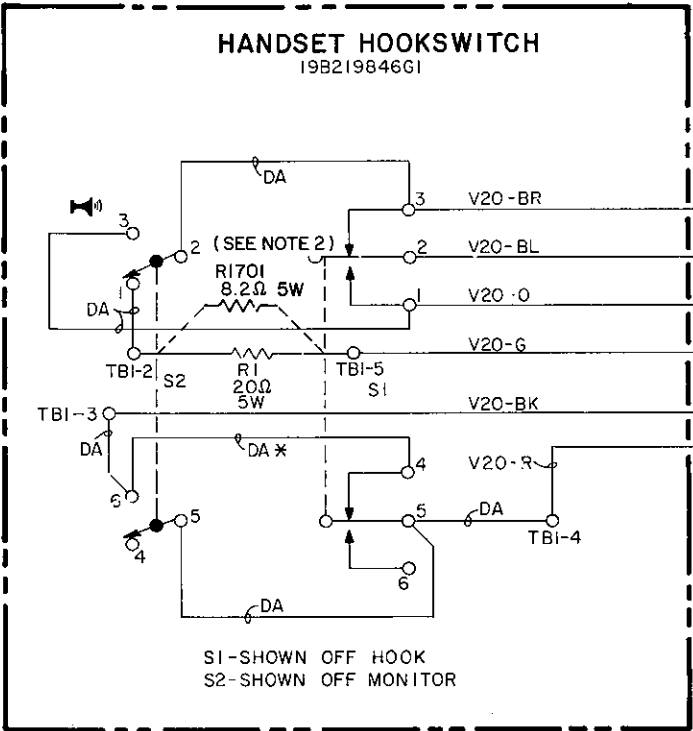
LBI4484H

HANDSET HOOKSWITCH  
19B219846G1

TRA



SCHEMATIC DIAGRAM



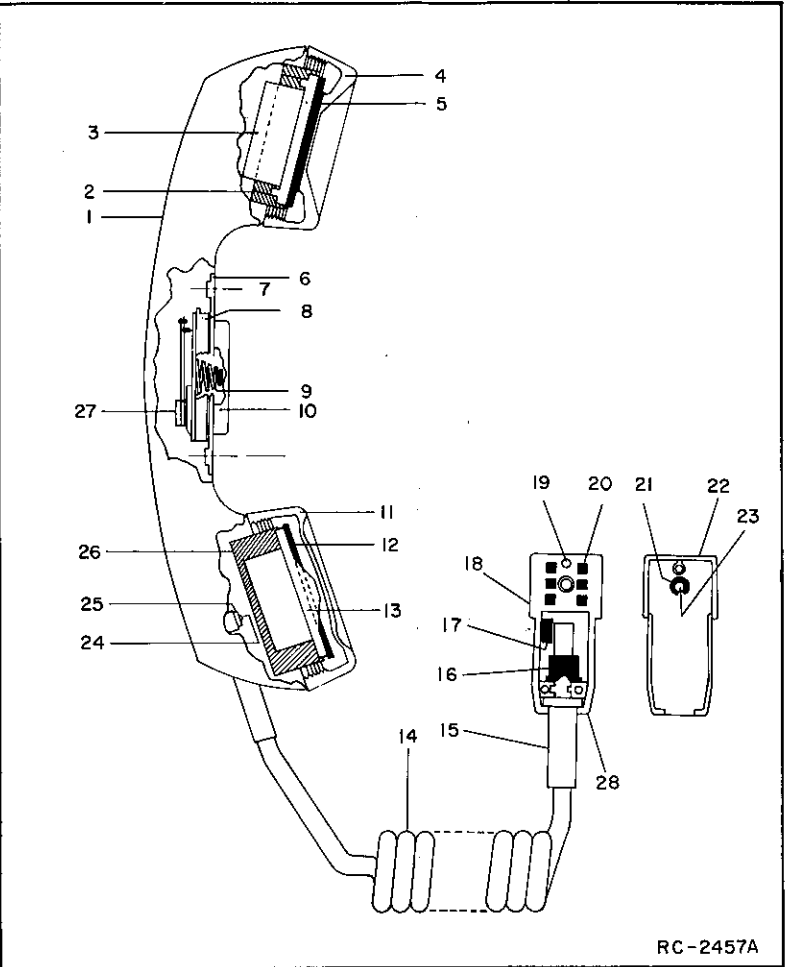
(19B219842, Rev. 8)

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 PL19B219846G1  
REV LETTER B

- NOTES:
1. CUT PRINTED WIRE BOARD JUMPERS A & C IN CONTROL UNIT.
  2. WHEN APPLIED TO EXECUTIVE II MOBILE REPLACE RI WITH RI70I.

SYMBOL	GE PART NO.	DESCRIPTION
R1*	5493035P55	Wirewound: 20 ohms $\pm 5\%$ , 5 w; sim to Hamilton Hall Type HR.
	5493035P11	In REV A: Wirewound: 40 ohms $\pm 5\%$ , 5 w; sim to Hamilton Hall Type HR.
	5493035P12	Earlier than REV A: Wirewound: 60 ohms $\pm 5\%$ , 5 w; sim to Hamilton Hall Type HR.
S1	19A129585G1	Holder and switch: Thermoplastic case, contact rating 1 amp at 125 v.
	19A700189P6	Toggle: DPDT, 5 amps at 28 VDC or 115 VAC; sim to C & K Components 7201G. (CHANNEL GUARD DISABLE).
TB1	7775500P203	Phen: 5 terminals.
W1	19B219841G1	Cable: 6 conductor; approx 5 feet long.
RI70I	N190P1312C	Tap screw, phillips: No. 6-20 x 3/4. (Secures housing to base plate).
	N101P1510P	Tap screw, phillips: No. 8-15 x 5/8. (Used for mounting base plate).
	19A129586G1	Bumper, rubber. (2).
	19B219852P1	Base plate.
R170I	5493035P52	Resistor, wirewound: 8.2 ohms $\pm 10\%$ , 5 w; sim to Hamilton Hall Type HR.
	19A136775P1	Label.

\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



PRODUCTION CHANGES

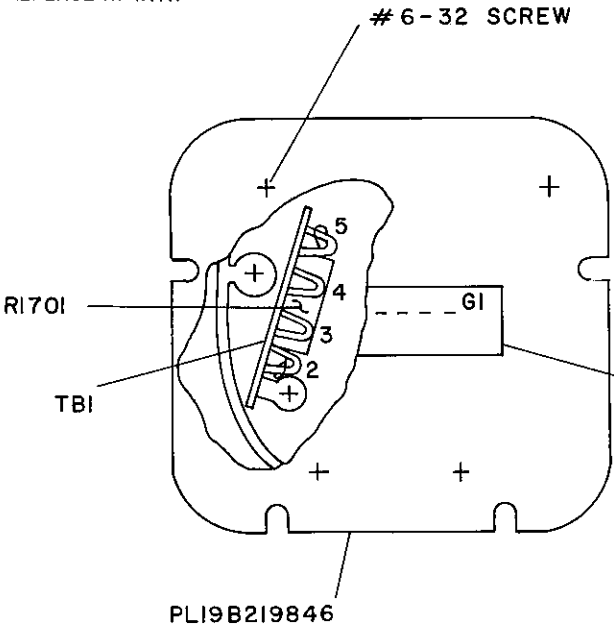
Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter," which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the Parts List for descriptions of parts affected by these revisions.

REV. A - Handset Hookswitch 19B219846G1  
Incorporated in initial shipment.

REV. B - Eliminate audio oscillation in handset (with speaker out of circuit). Changed R1.

SERVICE SHEET

HANDSET & HOOKSWITCH



THESE INSTRUCTIONS COVER THE MODIFICATION OF MASTR II HANDSET HOOKSWITCH TO BE APPLIED TO EXEC II

INSTRUCTIONS:

1. REMOVE FOUR #6-32 SCREWS AND COVER.
2. REMOVE RI RESISTOR (40 OHM) AND DISCARD. REPLACE WITH RI70I RESISTOR (8.2 OHM) AND SOLDER TO TBI-5 AND TBI-2 AS SHOWN.
3. REPLACE COVER AND SCREWS.
4. ADD LABEL (19A136775) AS SHOWN.

(19B227530, Rev. 2)

SYMBOL	GE PART NO.
1	RP142
2	
3	RP140
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	RP139
14	19C321016G2
15	19B219749P1
16	19A116937P1
17	3R77P472K
18	19D416766P1
19	N136AP905Y6
20	19A129435P1
21	7109043P1
22	19D416767P1
23	19B219723G1
24	
25	
26	
27	RP143
28	19C321016G3

\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

PARTS LIST

LBI4484H

HANDSET HOOKSWITCH  
19B219846G1

SYMBOL	GE PART NO.	DESCRIPTION
R1*	5493035P55	----- RESISTORS ----- Wirewound: 20 ohms $\pm 5\%$ , 5 w; sim to Hamilton Hall Type HR.
	5493035P11	In REV A: Wirewound: 40 ohms $\pm 5\%$ , 5 w; sim to Hamilton Hall Type HR.
	5493035P12	Earlier than REV A: Wirewound: 60 ohms $\pm 5\%$ , 5 w; sim to Hamilton Hall Type HR.
		----- SWITCHES -----
S1	19A129585G1	Holder and switch: Thermoplastic case, contact rating 1 amp at 125 v.
S2	19A700189P6	Toggle: DPDT, 5 amps at 28 VDC or 115 VAC; sim to C & K Components 7201G. (CHANNEL GUARD DIS-ABLE).
TBI	7775500P203	----- TERMINAL BOARDS ----- Phen: 5 terminals.
		----- CABLES -----
W1	19B219841G1	Cable: 6 conductor; approx 5 feet long.
	N190P1312C	----- MISCELLANEOUS ----- Tap screw, phillips: No. 6-20 x 3/4. (Secures housing to base plate).
	N101P1510P	Tap screw, phillips: No. 8-15 x 5/8. (Used for mounting base plate).
	19A129586G1	Bumper, rubber. (2).
	19B219852P1	Base plate.
R1701	5493035P52	EXECUTIVE II MODIFICATION KIT 19A136767G1 Resistor, wirewound: 8.2 ohms $\pm 10\%$ , 5 w; sim to Hamilton Hall Type HR.
	19A136775P1	Label.

\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

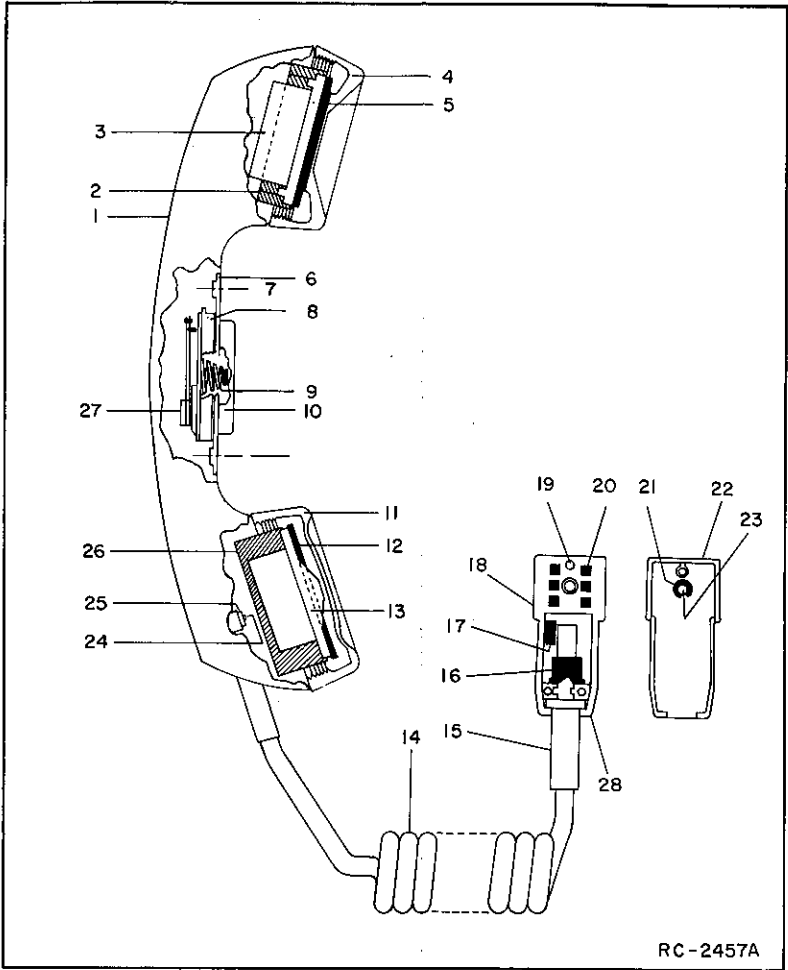
PARTS LIST

LBI4482C

TRANSISTORIZED DYNAMIC HANDSET  
19C320478G1

SYMBOL	GE PART NO.	DESCRIPTION
1	RP142	Case Assembly. Includes items 1, 2, 4, 5, 11, 12, 26.
2		Adapter. Part of item 1.
3	RP140	Receiver Cartridge.
4		Receiver Cap. Part of item 1.
5		Washer. Part of item 1.
6		Escutcheon. Part of item 27.
7		Flat head screw, socket cap: No. 4-40 x 1/4. Part of item 27.
8		Actuator. Part of item 27.
9		Spring. Part of item 27.
10		Plunger bar. Part of item 27.
11		Transmitter cap. Part of item 1.
12		Washer. Part of item 1.
13	RP139	Transmitter cartridge.
14	19C321016G2	Cable assembly: Includes items 14-25 and cable RP141.
15	19B219749P1	Flex relief.
16	19A116937P1	Cable clamp: sim to Malco 21012-3.
17	3R77P472K	Resistor, (R1) Composition, 4700 ohms $\pm 10\%$ , 1/2 w.
18	19D416766P1	Connector case.
19	N136AP905Y6	Tap screw: No. 4-24 x 5/16.
20	19A129435P1	Pin contact.
21	7109043P1	Retaining ring. 3/16 inch, sim to National Lockwasher WA 510.
22	19D416767P1	Connector Cover.
23	19B219723G1	Thumb screw: lexan. (Secures cover, item 22 to case, item 18).
24		Screw. Part of item 14.
25		Cable clamp. Part of item 14.
26		Shield. Part of item 1.
27	RP143	Switch Assembly. Includes items 6-10.
28	19C321016G3	Connector assembly: Includes items 15, 16, 18-23. Does not include resistor, item 17.

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



PRODUCTION CHANGES

Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter," which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the Parts List for descriptions of parts affected by these revisions.

REV. A - Handset Hookswitch 19B219846G1

Incorporated in initial shipment.

REV. B - Eliminate audio oscillation in handset (with speaker out of circuit). Changed R1.

THESE INSTRUCTIONS COVER THE MODIFICATION OF MASTR II HANDSET HOOKSWITCH TO BE APPLIED TO EXEC II

INSTRUCTIONS:

1. REMOVE FOUR #6-32 SCREWS AND COVER.
2. REMOVE R1 RESISTOR (40 OHM) AND DISCARD. REPLACE WITH R1701 RESISTOR (8.2 OHM) AND SOLDER TO TBI-5 AND TBI-2 AS SHOWN.
3. REPLACE COVER AND SCREWS.
4. ADD LABEL (19A136775) AS SHOWN.

19A136775  
( LABEL )

(19B227530, Rev. 2)

BLE PRODUCTION CHANGE  
NSTRUCTION BOOK SECTION  
H THIS UNIT, FOR DES-  
CHANGES UNDER EACH  
TTER.

EM DIAG APPLIES TO

46G1 REV LETTER  
B

< SPKR MUTE (TO HANDSET EARPIECE)

< SPKR HI (FROM CONTROL UNIT)

< SPKR HI (TO CONTROL UNIT)

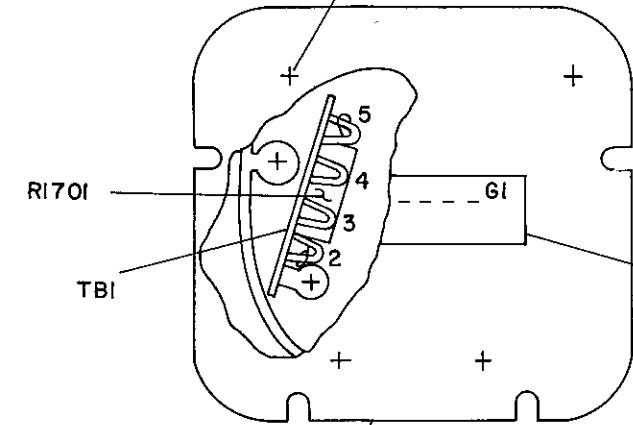
< SPKR LO

< CONTROL A-  
< RX CG DISABLE

ITED WIRE BOARD  
A&C IN CONTROL

PLIED TO EXECUTIVE  
E REPLACE R1 WITH

# 6-32 SCREW



PL19B219846

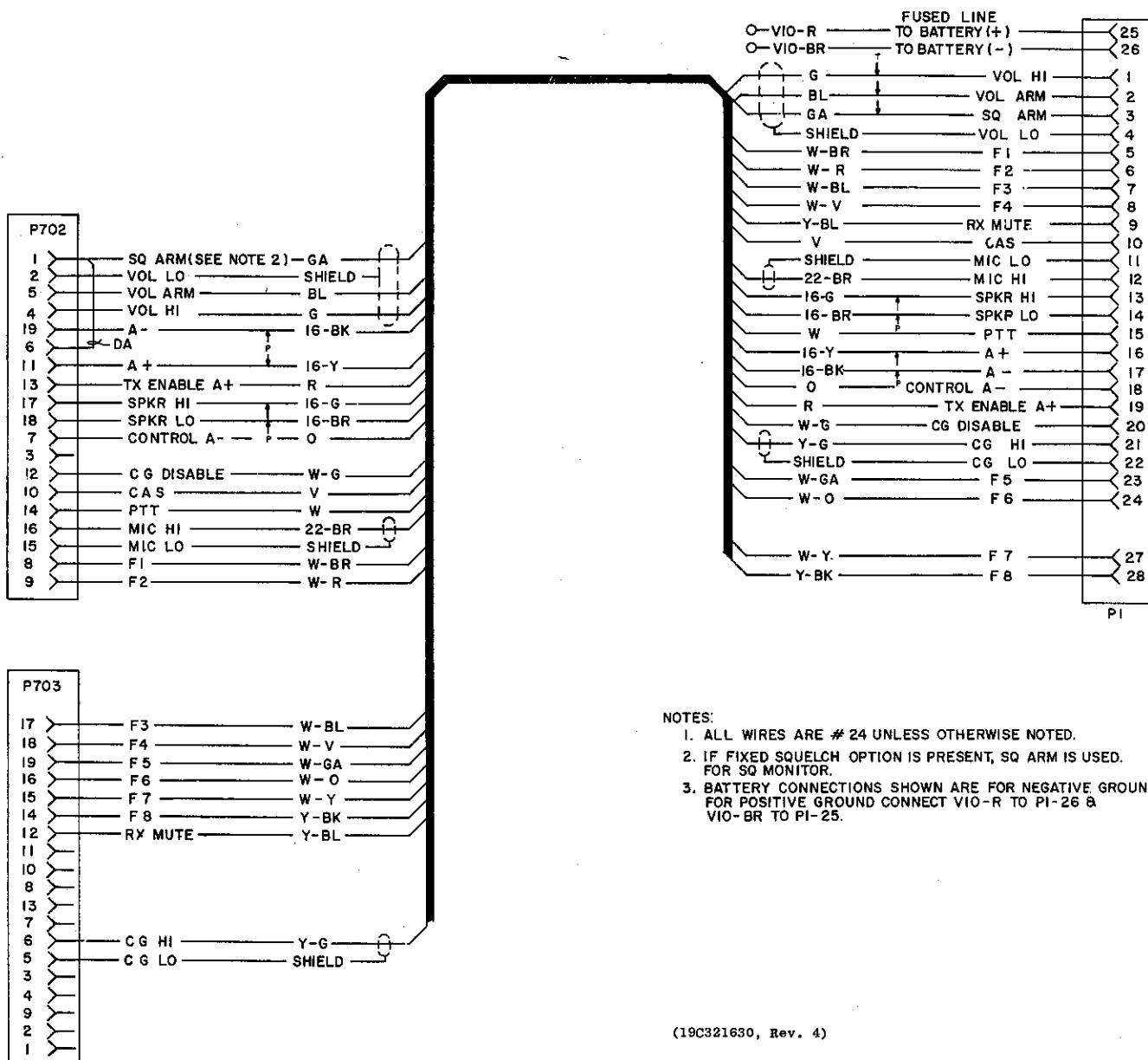
## PARTS LIST

LBI4488C

SPEAKER  
19C320302G1

SYMBOL	GE PART NO.	DESCRIPTION
LS1	19A116694P1	----- LOUDSPEAKERS ----- Permanent magnet, 5 inch: 20 watts, 8 ohms ±10% imp, 100 to 10,000 Hz response; sim to Oaktron 5EU2189-2.
	19A129414G1	----- CABLES ----- 2 conductor cable: approx 5 feet long, includes (2) 19A116781P5 contacts.
W1	19B219692G1	----- MISCELLANEOUS ----- Grille.
	19B227593G1	Housing.
	19C320016P1	Mounting bracket. (Located between housing & retaining bracket).
	19C320022P1	Retaining bracket. (Located between mounting bracket & safety release disc).
	19B219578G1	Safety Release Disc.
	19A116986P108	Tap screw, with lockwasher: No. 7-19 x 1/2. (Secures speaker to housing).
	19A116986P1112	Tap screw, with lockwasher: No. 7-19 x 3/4. (Secures grille to housing).
	N187P16010C6	Machine screw: No. 10-32 x 5/8. (Secures mount- ing bracket to housing- used with safety release disc, retaining bracket).
	N710P16012C6	Screw, hexhead, slotted: No. 10-16 x 3/4. (Quantity 3- used without safety release disc & retaining bracket).
	N187P16010C6	Machine screw, slotted: No. 10-32 x 5/8. (Used with safety release disc & retaining bracket).
	N130P16012C6	Tap screw, thd. forming: No. 10-16 x 3/4. (When mounting to regular surface).
	N130P16024C6	Tap screw, thd. forming: No. 10-16 x 1-1/2. (When mounting to extra thick mounting surface).

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



## SCHEMATIC DIAGRAM

POWER/CONTROL CABLE  
MASTR II/EXEC II INTERFACE  
19C321890G1