MOBILE RADIO

COMMAND CONTROL CENTER

SINGLE- OR DUAL-STATION CONTROL CONSOLES

(With Type EC-76-A Control Panels)

Maintenance Manual LBI-4174A

DF-4083

SPECIFICATIONS*

DIMENSIONS	42" H x 60" W x 30" D (Includes Desk and Turret)
TEMPERATURE RANGE	—30°C to 60°C (—22°F to 140°F)
MAXIMUM POWER REQUIREMENTS	130 watts at 117 VAC, 50/60 Hz

*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

TABLES

FIGURES

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.

TABLE 1 — COMBINATION NOMENCLATURE

1st & 2nd Digit	3rd Digit	4th Digit	5th Digit	6th Digit	7th Digit	8th & 9th Digits
DC DESK CONSOLE	**1** SINGLE-STATION CONTROL	**1** STANDARD	**A** STANDARD	**A** 1-FREQUENCY TRANSMITTER & RECEIVER	**T** DC CONTROL	**11** STANDARD
	9 DUAL-STATION CONTROL		**B** CHANNEL GUARD	**B** 2-FREQ. TRANS. & 1-FREQ. RCVR.		
				C 2-FREQ. TRANS. & 2-FREQ. RCVR.		
				D 1-FREQ. TRANS. & 2-FREQ. RCVR.		
				R* 1-FREQ. TRANS. & SEARCH LOCK MONITOR (OR 2 RECEIVERS)		
				S* 2-FREQ. TRANS. & SEARCH LOCK MONITOR (OR 2 RECEIVERS)		

* Not applicable to Dual-Station Radio Contol Center.

OPTION CHART

5014	Footswitch (19B201488P4)
5136	Swivel Chair (Vinyl Seat)
5137	Swivel Chair (Fabric Seat)
5138	Straight Chair (Vinyl Seat)
5139	Straight Chair (Fabric Seat)
5142	Boom Microphone (Model 4EM13A1)
5148	Left Pedestal Desk
5149	Right Pedestal Desk
5150	Two Pedestal Desk
5152	Left Pedestal Desk with Typewriter Platform
5153	Right Pedestal Desk with Typewriter Platform
5154	220 to 117-VAC Step-Down Transformer (19C307131P1)
5156	Desk Microphone (Model 4EM28A10)
5157	Desk Microphone (Model 4EM28B10 - used with Channel Guard

DESCRIPTION

The General Electric Radio Control Center provides dispatching, monitoring, and supervisory control functions required in modern two-way radio remote control systems. Control Centers described in this manual are for controlling one base stations (dual-station control). They are capable of providing up to five remote control functions for each base station. The control Centers are compatible with radio systems that use remote control panel Types KC-7-A or KC-16-A at the remote station location. DC control and audio voltages are connected to the associated radio equipment over wire (telephone) lines.

The basic control center consists of an attractively styled desk with a three-section turret assembly. The cabinet is finished with a tan metallic enamel, providing a finish that is highly scratch resistant. A beige laminated plastic desk top provides a writing surface that harmonizes with the cabinet finish. The desk may have one or two pedestals which contain sliding storage drawers for filing logs, reports and other items. A swing-down back panel provides access to wiring on the distribution block at the rear of the desk. Optional office furniture includes a typewriter platform and straight or swivel-base arm chairs.

The three-section turret assembly mounts at the rear of the desk top. Each turret section can accommodate a 19-inch panel drawer assembly which may be pulled forward for routine inspection and maintenance. Three duplex AC power receptacles, located at the rear of the turret, provide power connections for the drawer assemblies and miscellaneous test equipment.

In single-station control applications, the center section of the turret contains a Model 4EC76A23 Control Panel (see MAINTENANCE MANUAL LBI-4175). In dual-station control applications, the center section of the turret contains a Model 4EC76A24 Control Panel (see MAINTENANCE MANUAL LBI-4176). These control panels provide up to 10-watts audio output to the speaker.

Optional Control Panel Model 4EC76A22 provides 3-watts audio output to the speaker, and is available for use in single-station control applications.

The front of all the panels includes illuminated pushbutton switches for selecting the remote control functions, a volume control, speaker, compression meter, clock and swivel microphone supported by a flexible chrome tubing. Audio and DC power

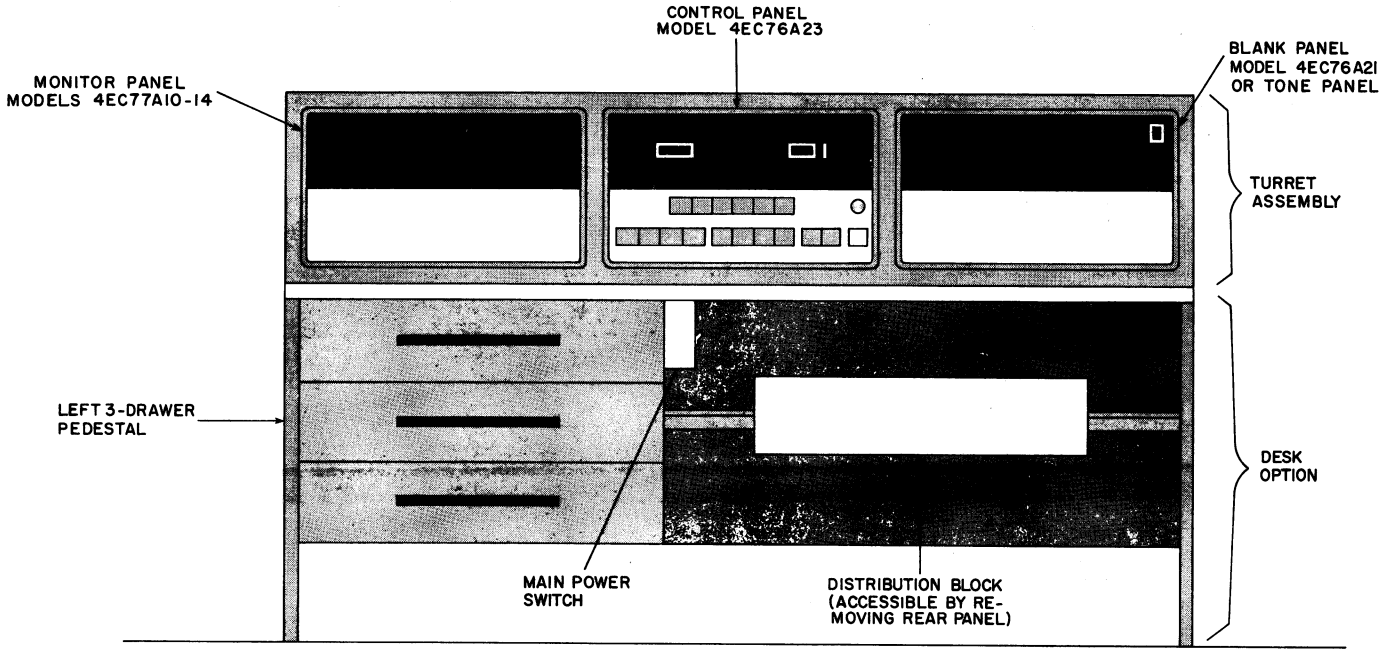


Figure 1 - Typical Radio Control Center

circuits are located on the chassis of the panel.

Blank 19-inch panel frame assemblies, which match the color of the control panel front, are installed in the left and right sections of the console turret (see Figure 1).

Refer to the Combination Nomenclature and Option Index Chart (Table 1) for a complete listing of available accessory application kits and options which are designed to meet the different requirements of individual two-way radio systems.

CONNECTIONS

All connections to the control center except microphone and power connections are made at terminal board TB1 (and TB2 if for dual station control), located on the distribution block at the rear of the console desk. Access to the distribution block is gained by inserting a screwdriver in the dimple in the center (top edge) of the rear panel and prying the panel outward.

TELEPHONE LINES

Three types of telephone line connections are commonly used in remote control applications. The three connection methods and their individual characteristics are shown in Table 2 and Figure 2. The single-station control center may use any of the methods. However, a dual-station control center cannot be connected according to Method 2.

For proper operation of the DC control circuit, the polarity of the telephone pair carrying the control voltages must be the same at both the control center and the remote control panel (at the base station). Make sure that each control line is connected to corresponding terminals on the control center and the remote control panel (i.e., TB1-1 to TB701-1 and TB1-2 to TB701-2). To identify the wires at each location, remove them from the equipment and temporarily connect one of the wires at the remote control panel to a good earth ground. Then, measure the resistance of each wire to earth ground at the control center. The ungrounded wire will appear as an open circuit, while the grounded wire will show a resistance. After determining line polarity, make the following connections:

1. Connect the telephone lines to TB1 and TB2 (on the distribution block) and make jumper connections to TB801 and TB851 (on the rear of the Control Panel Chassis) according to the control method selected.

Method 1 - Single Telephone Pair (Control Voltage Simplexed Line-to-Line)

a. Connect the telephone pair to TB1-1 and TB1-2. For dual-station control centers, connect a second telephone pair (for Station #2) to TB2-1 and TB2-2.

b. Connect a jumper between TB801-3 and TB801-5. For dual-station control centers, also connect a jumper between TB851-3 and TB851-5.

c. Connect a jumper between TB801-4 and TB801-6. For dual-station control centers, also connect jumper between TB851-4 and TB851-6.

Method 2 - Single Telephone Pair (Control Voltage Simplexed Line-to-Ground). This method is not compatible with dual-station control centers.

a. Connect the telephone pair to TB-1 and TB1-2.

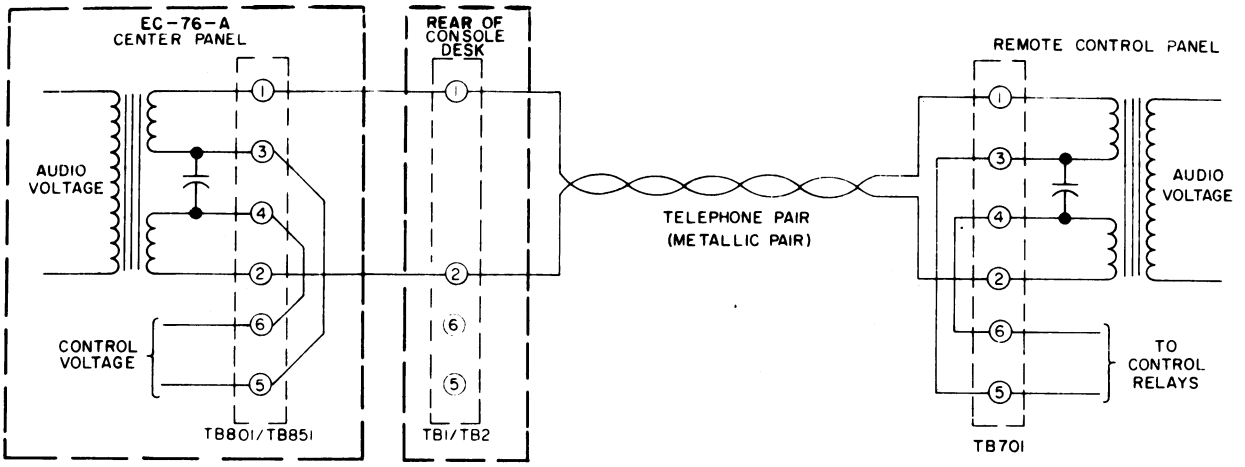
b. Connect a jumper between TB801-3 and TB801-4.

c. Connect a jumper between TB801-4 and TB801-5.

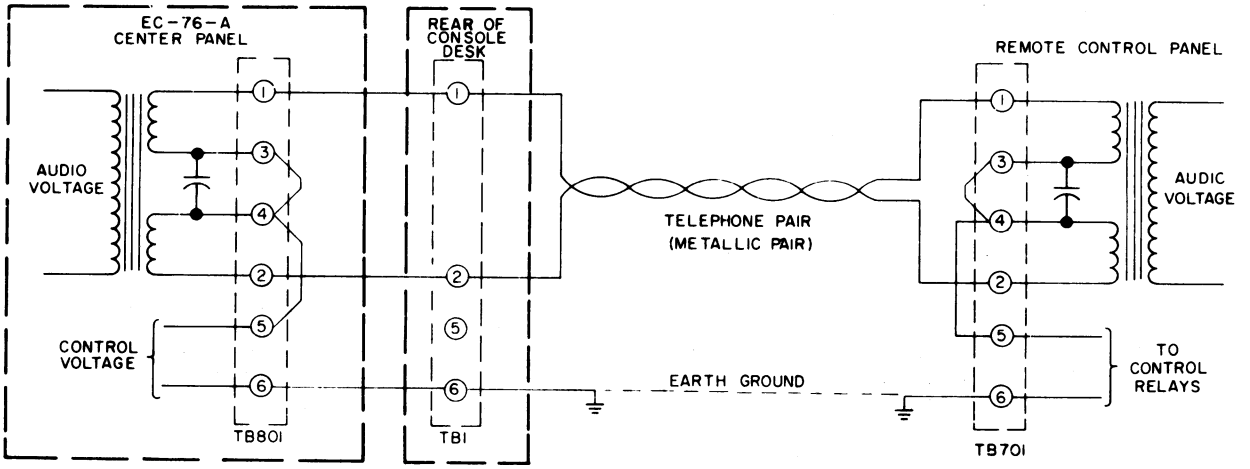
d. Connect a jumper between TB1-6 and TB1-8.

Method	Description	Advantages or Disadvantages
1	One metallic pair: for both audio and control voltages with control voltage simplexed from line to line.	Economical; dependable where earth currents may be large, or where a good earth ground cannot be obtained; keying clicks will be heard in paralleled control facilities.
2	One metallic pair: for both audio and control voltages with control voltages simplexed from line to ground.	Economical; earth ground current (encountered near power company sub-stations) may interfere with control functions; keying clicks minimized.
3	Two telephone pairs; one for audio voltages and one for control voltage (metallic pair).	Provides best performance; keying clicks will not be heard; least susceptible to earth ground currents which may interfere with control functions.

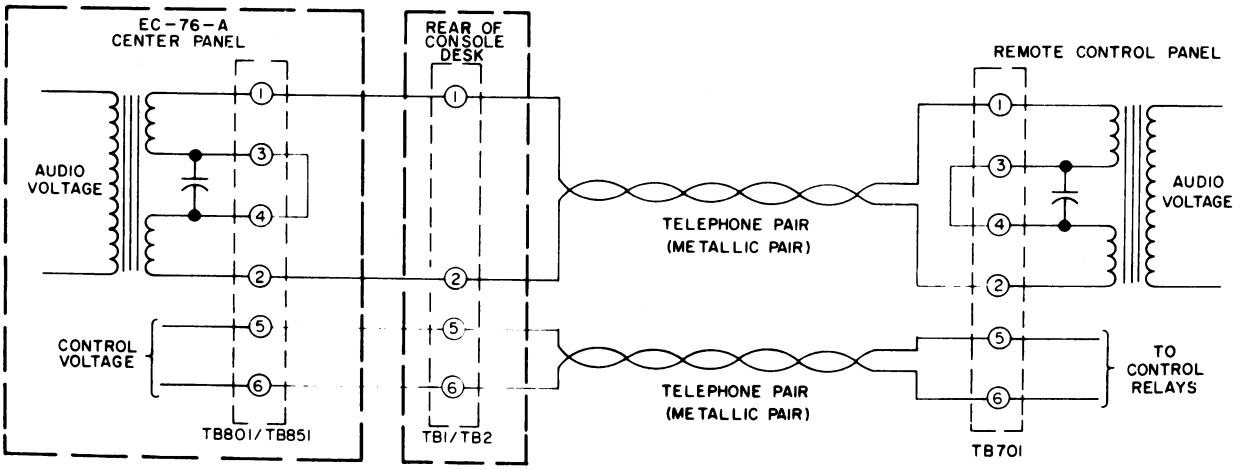
Table 2 - Telephone Line Connection Methods



METHOD 1 - SINGLE TELEPHONE PAIR WITH CONTROL SIMPLEXED LINE TO LINE



METHOD 2 - SINGLE TELEPHONE PAIR WITH CONTROL SIMPLEXED BETWEEN CENTER TAP AND GROUND (SINGLE STATION CONTROL ONLY)



METHOD 3 - SEPARATE CONTROL AND AUDIO PAIRS

RC-1636

Figure 2 - Telephone Line Connections

Method 3 - Separate Control and Audio Pairs

a. Connect the audio pair to TB1-1 and TB1-2. For dual-station control centers, connect a second audio pair (for Station #2) to TB2-1 and TB2-2.

b. Connect the control pair to TB1-5 and TB1-6. For dual-station control centers, connect a second control pair (for Station #2) to TB2-5 and TB2-6.

c. Connect a jumper between TB801-3 and TB801-4. For dual-station control centers, also connect a jumper between TB851-3 and TB851-4.

2. Connect terminal 8 of terminal board TB1 to a good earth ground, such as a cold water pipe or an electrical conduit. It is essential to have a good ground, regardless of the method of telephone line control used, as a safety measure for the dispatcher.

AC POWER

When the AC Power Junction Box with Switch S1 has been installed and wired as described in Installation Instruction LBI-3891, connect the control center to a 117-volt, 50/60 Hz source. An optional 220/117-volt AC stepdown transformer is available for operation from a 220-volt, 50/60 Hz source.

The main power switch (S1) is located on the distribution block at the rear of the desk, or on the metal divider wall if front access is desired. S1 connects power to the duplex AC power receptacles at the rear of the turret. Cable connections between S1 and the AC power receptacles are shown on page 9 (for single-station control center) or page 11 (for dual-station control center).

The control panel power cable connects to one of the AC receptacles in the turret. S801 (located on the rear of the control panel) turns the control panel power ON and OFF.

ACCESSORIES

DESK MICROPHONE MODEL 4EM28A10 or B10

When the desk microphone is used, make connections as follows:

1. Route the microphone cable through a slot in the bottom of the control panel frame and secure with clamp and screw provided.

2. Plug cable connector into J801.

3. For 4EM28B10 only: Remove the black wire between J801-4 & TB806-2.

FOOTSWITCH MODEL 4KC1C1

When the footswitch is used, make connections to terminals TB1-7 and TB1-8 on the distribution block at the rear of the desk.

ADJUSTMENT

After the necessary connections have been made to the control center, a few adjustments to the control panel are required before placing it in service. These adjustments are described in the control panel Maintenance Manual.

OPERATION

Before attempting to operate the Radio Control Center, be sure that AC power switches S1 and S801 are turned ON (the lamp behind the clock serves as the power ON indicator). S1 is located on the distribution block or on the metal divider wall (see Figure 1). S801 is located on the back of the control panel chassis.

Switches and controls requires for remote control operation are located on the front of the control panel. The switches are illuminated, pushbutton type, with either momentary or alternate (push-to-operate, push-to-release) switching action. Typical control procedures for transmit and receive operation and a table describing pushbutton switch functions follow.

TO RECEIVE A MESSAGE

Single-Station Control Center

1. Select the desired receive channel by pressing the RECEIVE 1/RECEIVE 2 switch. (Lighted half of the switch indicates channel selected). When separate RECEIVE 1 and RECEIVE 2 switches are used, pressing both switches provides simultaneous monitoring (of two receivers) or search-lock monitoring (of a two-frequency receiver).

2. When the first call is received, adjust the VOLUME control for the desired listening level.

3. After monitoring a secondary channel, switch back to the main operating channel.

Dual-Station Control Center

1. Select the CALL function for the desired station with the CALL/MUTE switch. (Switch is not lighted in the CALL position, except by flasher while call is

being received). To monitor the stations simultaneously, select the CALL function for both stations.

2. Select the desired receive channel by pressing the RECEIVE 1/RECEIVE 2 switch. (Lighted half of the switch indicated the channel selected.)

3. When the first call is received, adjust the VOLUME control for the desired listening level.

4. After monitoring a secondary channel, switch back to the main operating channel.

TO TRANSMIT A MESSAGE

Single-Station Control Center

1. Select the desired transmit channel by pressing the XMIT 1/XMIT 2 switch. (Lighted half of the switch indicates the channel selected.)

2. Listen briefly to make sure no one is using the channel. Operate the CHANNEL GUARD MONITOR switch if your remote control station is equipped with Channel Guard.

3. Press the TRANSMIT switch on the front panel to key the station transmitter. If an optional desk microphone or footswitch is used, the transmitter may be keyed by the microphone transmit button or by the footswitch.

Dual-Station Control Center

1. Select the desired station by pressing the STATION 1 or STATION 2 push-button switch. For simultaneous transmission, select both stations.

2. Select the desired transmit channel by pressing the XMIT 1/XMIT 2 switch. (Lighted half of the switch indicates the channel selected.)

3. Listen briefly to make sure no one is using the channel. Operate the CHANNEL GUARD MONITOR switch if your remote control station is equipped with Channel Guard.

4. Press the TRANSMIT switch on the front panel to key the station transmitter. If an optional desk microphone or footswitch is used, the transmitter may be keyed by the microphone transmit button or by the footswitch.

SWITCHES AND CONTROLS ON THE CONTROL PANEL

Individual system requirements will determine the number of switches that are installed on the control panel and the functions provided by the control center. Table 3 describes the available switches and controls and gives the function of each.

Table 3 - Switch and Control Functions

CONTROL	FUNCTION
XMIT 1/XMIT 2	Alternate-action pushbutton switch for transmit channel selection. When XMIT 1 is selected, operation is on transmit channel #1 and the upper half of the switch is lighted. When XMIT 2 is selected, operation is on transmit channel #2 and the lower half of the switch is lighted.
REPEATER DISABLE	Alternate-action, pushbutton switch. Lights when operated to disable the repeat mode of operation at the base station. When the switch is not lighted, the station will operate as a repeater.
CHANNEL GUARD MONITOR	Alternate-action, pushbutton switch. Lights when operated to disable Channel Guard at the base station. This position permits monitoring of all communications on the base station frequency. When the switch is not lighted, only Channel Guard coded signals are monitored.
RECEIVE 1/ RECEIVE 2	Alternate-action, pushbutton switch, for receive channel selection. When RECEIVE 1 is selected, operation is on receive channel #1 and the upper half of the switch is lighted. When RECEIVE 2 is selected, operation is on receive channel #2 and the lower half of the switch if lighted.

Table 3 (Continued)

CONTROL	FUNCTION
RECEIVE 1 RECEIVE 2	Alternate-action, pushbutton switch. Lights when channel 1 receiver is selected (see following note). Alternate-action, pushbutton switch. Lights when channel 2 receiver is selected (see following note). — NOTE — Separate switches for RECEIVE 1 and RECEIVE 2 are used when simultaneous monitoring of two single-frequency receivers or search lock monitor of a two-frequency receiver is required. Pressing both switches provides the simultaneous monitoring or search lock monitor function.
SUPV CONTROL	Alternate-action, pushbutton switch. Lights when SUPV CONTROL is selected to provide supervisory control over all transmissions from other control consoles. This permits an operator to terminate unauthorized or unwanted transmissions. The switch places a short across the control pair, thus, no transmission can be initiated while the switch is lighted.
INTERCOM	Momentary-action, pushbutton switch. Lights when pressed. Allows communication with persons at base station or at other consoles without energizing the transmitter. Simply press the INTERCOM swtich and talk into the microphone. Do not press the TRANSMIT switch. To listen, release the INTERCOM switch.
MUTE (single-station control consoles)	Alternate-action, pushbutton switch. Lights in the MUTE position. The switch permits the operator to temporarily reduce the speaker volume for business discussions, telephone calls, etc., without changing the VOLUME control setting.
CALL/MUTE (dual-station control consoles)	Alternate-action, pushbutton switch. When MUTE is selected, the bottom half of the switch lights and audio volume from the associated station is reduced. The CALL position permits full audio volume from the station. A flashing CALL lamp in the upper half of the switch operates whenever an incoming call is received, regardless of the switch position.
TONE	Momentary-action, pushbutton switch. Lights when pressed. The switch activates the tone alert oscillator which transmits an alerting tone signal for designating messages of special importance.
TRANSMIT	Momentary-action, pushbutton switch. Lights when pressed and keys the base station transmitter.
Station Select Switches (dual-station control) STATION 1 STATION 2	 Alternate-action, pushbutton switch. Lights when STATION 1 is selected. Enables the Station 1 transmitter keying circuit to operate when the TRANSMIT switch is pressed. Alternate-action, pushbutton switch. Lights when STATION 2 is selected. Enables the Station 2 transmitter keying circuit to operate when the TRANSMIT switch is pressed.
VOLUME CONTROL	Adjustable resistor. Aduio level of speaker is varied by this control.
VU Meter and Compression Meter	The VU meter or Compression meter enables the operator to check the line level. At normal voice levels, the VU meter should occasionally swing up to zero (0). With the Compression meter, the needle should be in the green area.

Table 3 (Continued)

CONTROL	FUNCTION
Digital Clock	The console may be equipped with a 12 or 12/24-hour digital clock. The clock is connected so that it operates with power switch S801 (on back of the center Panel Chassis) in the ON or OFF position. However S1 on the console distribution block must be ON.

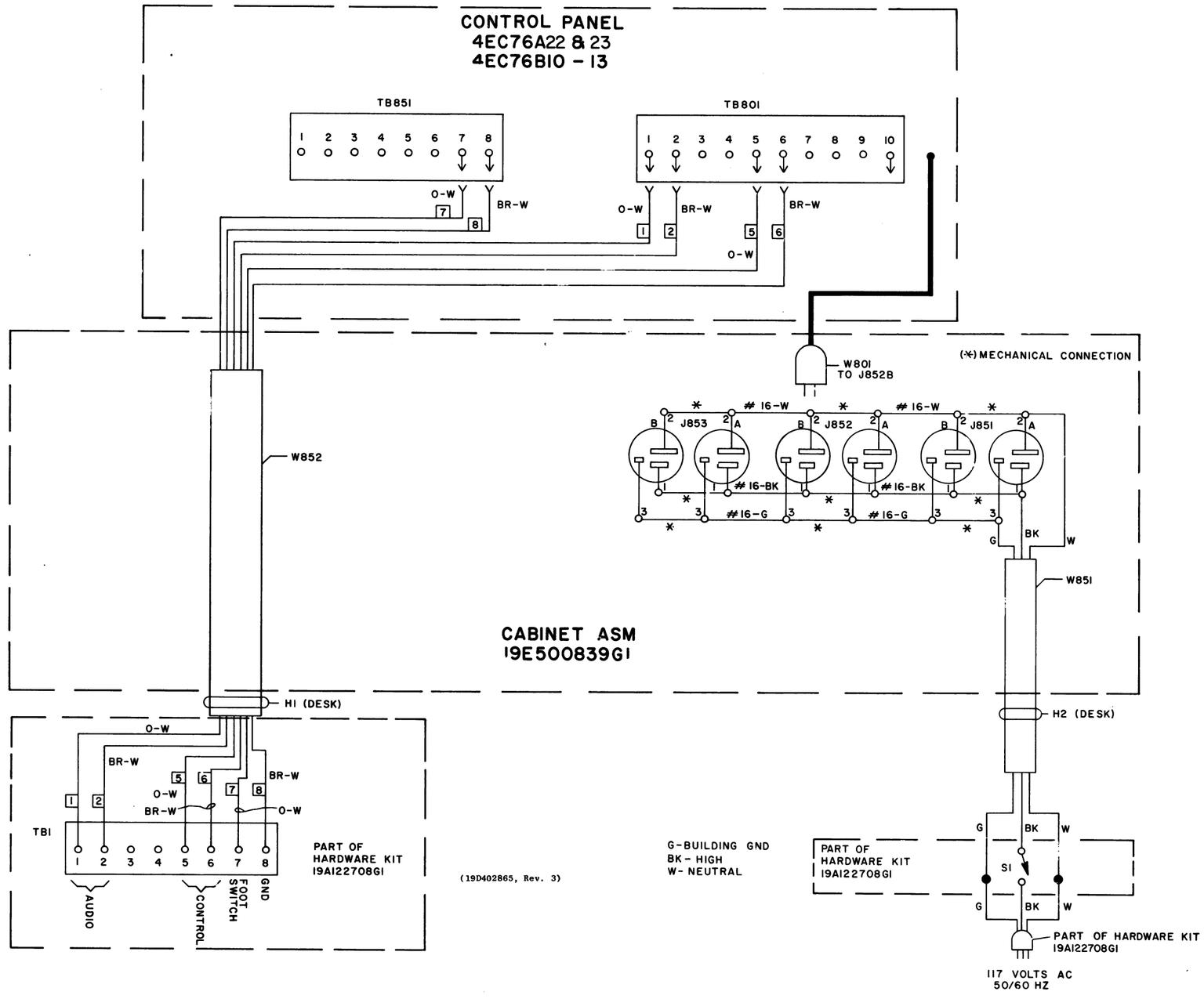
MAINTENANCE

The Radio Control Center is designed for ease of servicing and minimum maintenance. The control panel in the console turret may be pulled forward for routine inspection and maintenance in the following manner:

1. Grasp the control panel frame and pull the panel forward until the stop is reached.
2. To completely remove the panel from the turret, lift the panel to clear the stop and pull forward. No electrical disconnections are required to set the panel on the desk top.

Circuits on the power distribution block are accessible from the rear of the control center. Insert a screwdriver blade in the dimple in the center (top edge) of the rear panel of the desk. Then, pry outward to release the panel and expose the distribution block.

Refer to the appropriate until Maintenance Manual for detailed troubleshooting and servicing information.


CONTROL PANEL
4EC76A22 & 23
4EC76B10 - 13
TB851
1 2 3 4 5 6 7 8
O-W
BR-W
7
8
TB801
1 2 3 4 5 6 7 8 9 10
O-W
BR-W
BR-W
O-W
1
2
5
6
W801
TO J852B
(*) MECHANICAL CONNECTION
* # 16-W * # 16-W *
J853
J852
J851
B 2 A
16-BK
16-G
3
BK
W
G
W851
W852
CABINET ASM
19E500839G1
H1 (DESK)
H2 (DESK)
O-W
BR-W
BR-W
O-W
BR-W
O-W
1
2
5
6
7
8
TB1
1 2 3 4 5 6 7 8
AUDIO
CONTROL
FOOT SWITCH
GND
PART OF
HARDWARE KIT
19A122708G1
G
BK
W
S1
PART OF
HARDWARE KIT
19A122708G1
PART OF HARDWARE KIT
19A122708G1
117 VOLTS AC
50/60 HZ
G-BUILDING GND
BK- HIGH
W- NEUTRAL
(19D402865, Rev. 3)

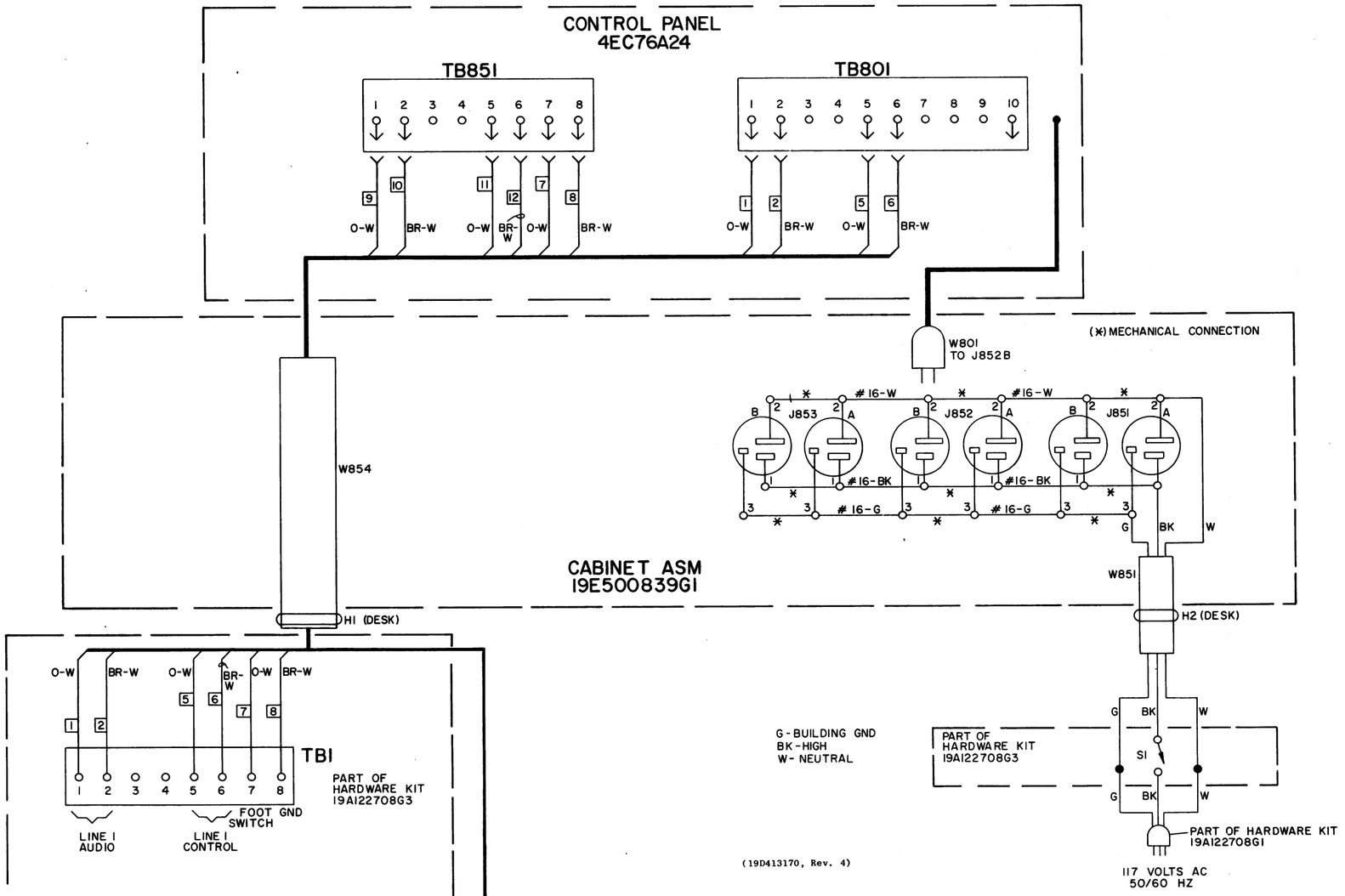
PARTS LIST

LBI-3908A

CABINET ASSEMBLY - 19E500839G1
HARDWARE KIT - 19A122708G1

SYMBOL	GE PART NO.	DESCRIPTION
		CABINET ASSEMBLY 19E500839G1
		- - - - - - - JACKS AND RECEPTACLES - - - - - - -
J851 thru J853	19B209395P1	Receptacle, power: 3 wire grounding type, 15 amps at 125 v; sim to Circle F Mfg. 1517-2.
		- - - - - - - - - - - CABLES - - - - - - - - - - -
W851	19B205814G1	Cable assembly: approx 30 inches long.
W852	19B205823G1	Cable assembly. Includes:
	19B209260P103	Terminals (12).
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19A115874P1	Friction catch. (Used to secure drawers).
	4035267P1	Button plug. (Drawer slides).
		HARDWARE KIT 19A122708G1
		- - - - - - - - - - SWITCHES - - - - - - - - - -
S1	19B209396P1	Toggle: 15 amps, 120 VAC; sim to GE 5941.
		- - - - - - - - TERMINAL BOARDS - - - - - - - -
TB1	19C301087P4	Phen: 8 terminals; sim to GE CR151D75108AB.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.


CONTROL PANEL
4EC76A24
TB851
1 2 3 4 5 6 7 8
9 10 11 12 7 8
O-W BR-W O-W BR-W O-W BR-W
TB801
1 2 3 4 5 6 7 8 9 10
1 2 5 6
O-W BR-W O-W BR-W
(*) MECHANICAL CONNECTION
W801
TO J852B
#16-W
#16-W
J853
J852
J851
#16-BK
#16-BK
#16-G
#16-G
BK
W
G
W851
W854
CABINET ASM
19E500839G1
H1 (DESK)
H2 (DESK)
O-W BR-W O-W BR-W O-W BR-W
1 2 5 6 7 8
TB1
1 2 3 4 5 6 7 8
PART OF
HARDWARE KIT
19A122708G3
FOOT GND
SWITCH
LINE 1
AUDIO
LINE 1
CONTROL
9 10 11 12
O-W BR-W O-W BR-W
TB2
1 2 3 4 5 6 7 8
LINE 2
AUDIO
LINE 2
CONTROL
G - BUILDING GND
BK - HIGH
W - NEUTRAL
PART OF
HARDWARE KIT
19A122708G3
G BK W
S1
G BK W
PART OF HARDWARE KIT
19A122708G1
117 VOLTS AC
50/60 HZ
(19D413170, Rev. 4)

PARTS LIST

LBI-3909A

CABINET ASSEMBLY - 19E500839G1
HARDWARE KIT - 19A122708G3

SYMBOL	GE PART NO.	DESCRIPTION
		CABINET ASSEMBLY 19E500839G1
		- - - - - - - JACKS AND RECEPTACLES - - - - - - -
J851 thru J853	19B209395P1	Receptacle, power: 3 wire grounding type, 15 amps at 125 v; sim to Circle F Mfg. 1517-2.
		- - - - - - - - - - - CABLES - - - - - - - - - -
W851	19B205814G1	Cable assembly: approx 30 inches long.
W852	19B205823G1	Cable assembly. Includes:
	19B209260P103	Terminals (12).
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19A115874P1	Friction catch. (Used to secure drawers).
	4035267P1	Button plug. (Drawer slides).
		HARDWARE KIT 19A122708G3
		- - - - - - - - - - SWITCHES - - - - - - - - - - -
S1	19B209396P1	Toggle: 15 amps, 120 VAC; sim to GE 5941.
		- - - - - - - - TERMINAL BOARDS - - - - - - - -
TB1 and TB2	19C301087P4	Phen: 8 terminals; sim to GE CR151D75108AB.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

PARTS LIST

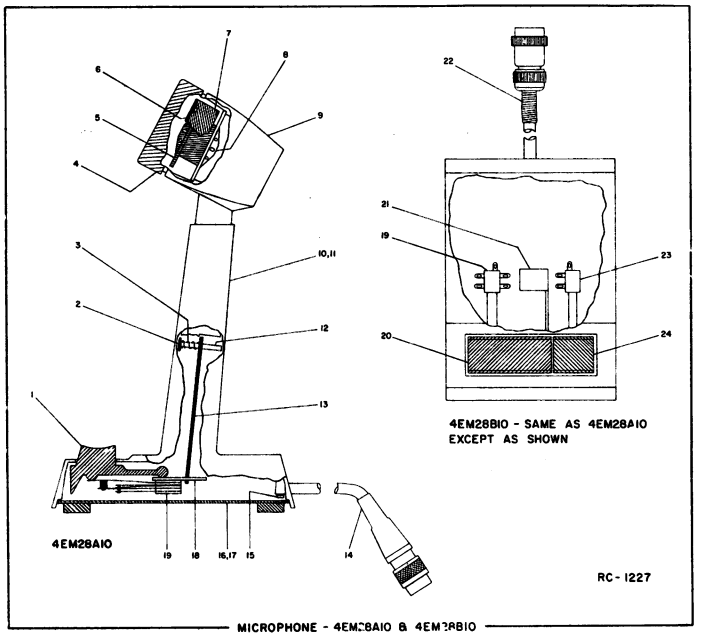
LBI-3623B

MAGNETIC CONTROLLED DESK MICROPHONE

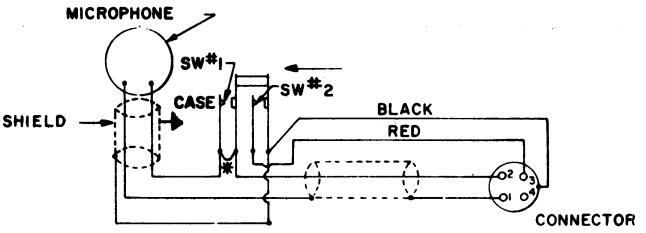
MODEL 4EM28A10 (19C307105-P1)
MODEL 4EM28B10 (19C307106-P1)
(SEE RC-1227)

SYMBOL	G-E PART NO.	DESCRIPTION
		MECHANICAL PARTS
		MODEL 4EM28A10
1		Pushbutton. Shure Brothers RP-68.
2		Washer. Shure Brothers 30A697.
3		Spring. Shure Brothers 44A149.
4		Cap and grille. Shure Brothers RP-72.
5		Magnetic controlled cartridge. Shure Brothers RP-13.
6		Washer. Shure Brothers 34A223.
7		Shield. Shure Brothers 53A528.
8		Damping pad. Shure Brothers 20B33.
9		Housing. (Part of item 4).
10		Base. (Part of item 4).
11		(Not used).
12		Pin. Shure Brothers 31A848.
13		Bracket. Shure Brothers 53A637.
14		Cable and plug. Shure Brothers RP-65.
15		Cable clamp. Shure Brothers 53A532.
16		Bottom plate. Shure Brothers 90A1015.
17		(Not used).
18		Mounting bracket. Shure Brothers 53A633.
19		Switch. Shure Brothers RP-70.
		MODEL 4EM28B10
1		(Not used).
2		Washer. Shure Brothers 30A697.
3		Spring. Shure Brothers 44A149.
4		Cap and grille. Shure Brothers RP-72.
5		Magnetic controlled cartridge. Shure Brothers RP-13.
6		Washer. Shure Brothers 34A223.
7		Shield. Shure Brothers 53A528.
8		Damping pad. Shure Brothers 20B33.
9		Housing. (Part of item 4).
10		(Not used).
11		Base. (Part of item 4).
12		Pin. Shure Brothers 31A848.
13		Bracket. Shure Brothers 53A637.
14		(Not used).
15		Cable clamp. Shure Brothers 53A532.
16		(Not used).
17		Bottom plate. Shure Brothers 90B1015.
18		Mounting bracket. Shure Brothers 53A633.
19		Switch. Shure Brothers RP-71.
20		Pushbutton (Transmit). Shure Brothers RP-69.
21		Locking arm. Shure Brothers 53A667.
22		Cable and plug. Shure Brothers RP-66.
23		Switch. (Part of item 19).
24		Pushbutton (Monitor). (Part of item 20).

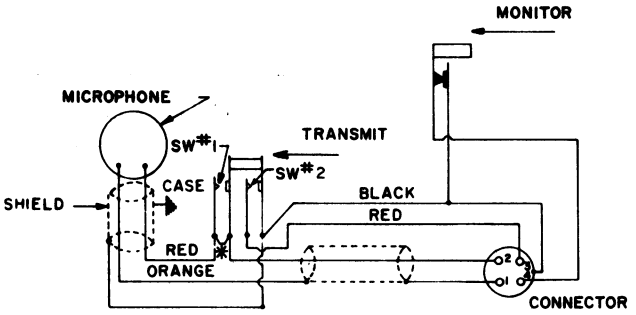
*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.



MICROPHONE - 4EM28A10 & 4EM28B10



CIRCUIT DIAGRAM
4EM28A10



CIRCUIT DIAGRAM
4EM28B10

(RC-302, Sh. 2)

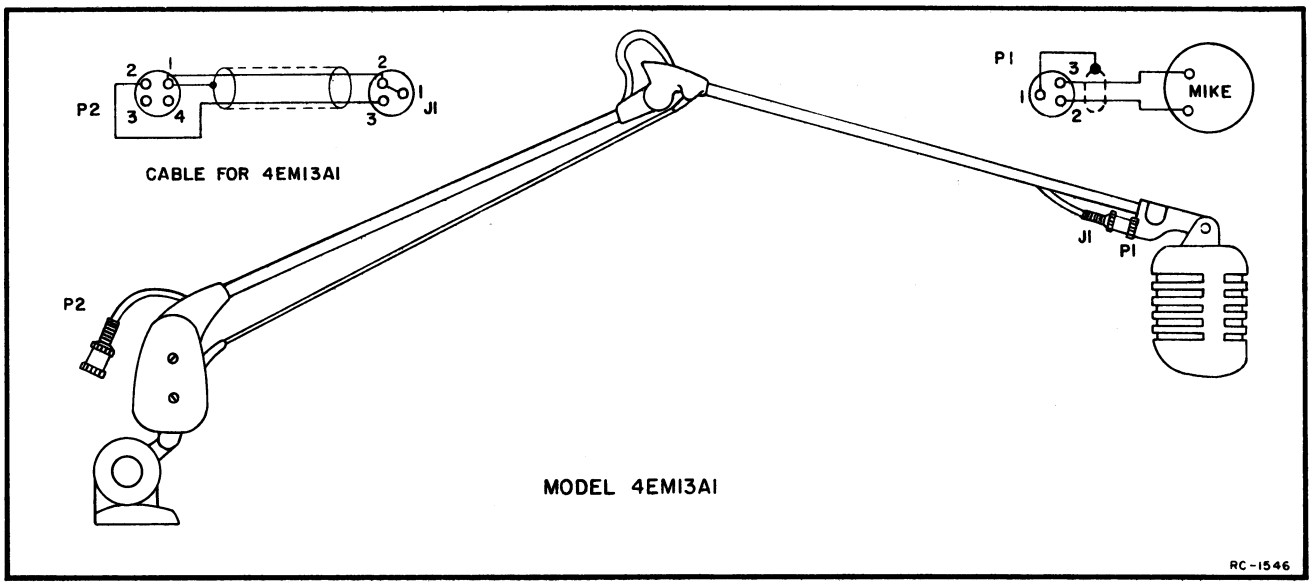
* JUMPER MAY BE REMOVED FOR PARALLEL OR SPECIAL OPERATION

NOTES:

1. SWITCH #1 OF THE MICROPHONE CIRCUIT MUST CLOSE FIRST AND OPEN LAST.
2. MONITOR AND TRANSMIT BUTTONS ARE MECHANICALLY INTERLOCKED, MAKING IT NECESSARY TO PRESS MONITOR BUTTON BEFORE TRANSMITTING. TO MONITOR CONTINUOUSLY, PRESS MONITOR BUTTON DOWN AND SLIDE FORWARD TO "LOCK" POSITION. PRESS AND PUSH BACK BUTTON TO RELEASE. TO OPERATE MONITOR AND TRANSMIT FUNCTIONS INDEPENDENTLY, REMOVE LOCKING ARM BRACKET (PART 21 SHOWN ABOVE AND IN PARTS LIST).

SERVICE SHEET

DESK MICROPHONES
MODELS 4EM28A10 & B10
(Options 5156 & 5157)



PARTS LIST

LBI-4678

MIKE BOOM
4EM13A1
(SEE RC-1546)

SYMBOL	GE PART NO.	DESCRIPTION
		Cartridge. RP51.
		Cable and plug. (Includes J1, P2) RP52.
		Swivel hardware. RP53.
		Connector assembly. (Includes P1) RP54.
		Microphone housing. RP55.
		Transformer and switch assembly. RP56.
	7774934P2	Floating arm.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

SERVICE SHEET

BOOM MICROPHONE MODEL 4EM13A1

(OPTION 5142)

ORDERING SERVICE PARTS

Each component appearing on the schematic diagram is identified by a symbol number, to simplify locating it in the parts list. Each component is listed by symbol number, followed by its description and GE Part Number.

Service parts may be obtained from Authorized GE Communication Equipment Service Stations or through any GE Radio Communication Equipment Sales Office. When ordering a part, be sure to give:

1. GE Part Number for component
2. Description of part
3. Model number of equipment
4. Revision letter stamped on unit

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance.

Should further information be desired, or should particular problems arise which are not covered sufficiently for the purchaser's purposes, contact the nearest Radio Communication Equipment Sales Office of the General Electric Company.

MAINTENANCE MANUAL

LBI-4174

MOBILE RADIO DEPARTMENT
GENERAL ELECTRIC COMPANY • LYNCHBURG, VIRGINIA 24502

GENERAL ELECTRIC

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