

**Models 101C; 101E; 102C; 102E; 103**

**General:** Model "100" series Communications type Microphones are pressure-actuated diaphragm type carbon microphones designed especially for efficient reproduction of speech.

The microphones fit naturally and comfortably in the palm of the hand. They are light and compact, take minimum space in portable equipment. The sturdy die cast case has a durable baked enamel finish.

The Model "100" series microphones are equipped with a heavy-duty, push-to-talk switch and are available in a variety of switching circuits. (See Figure A). The Models 101C, 102C and 103 are supplied with a stranded copper conductor "Coiled-Cord" cable. The Models 101E and 102E are supplied with a tinsel conductor "Coiled-Cord" cable.

**Application:** Model "100" series microphones are especially designed for military, police, mobile equipment, and other uses where ruggedness and dependability are vital factors. The frequency response is designed to produce clear, crisp, voice response.

**Installation:** The microphones are provided with a bracket for permanent placement in portable or mobile equipment. The bracket has mounting holes with clearance for No. 6 screws. (See Figure C).

**Connection:** Internal switch connection and cable connections of Model "100" series microphones are shown in Figure A. Models 101C, 101E and 103 have a single pole normally open switch in the relay circuit. Models 102C and 102E have a double pole normally open switch to control both the cartridge circuit and the relay circuit.

**Operation:** A typical operating circuit is shown in Figure D. Also shown in Figure D is a table of voltages and corresponding resistances to limit the operating current through the carbon button to 50 milliamperes. The resistance value shown in the table includes the D.C. resistance of the transformer primary and other wiring components. The microphone will operate satisfactorily with currents up to 50 milliamperes. However, no damage will result if currents rise to 100 milliamperes. The resistance of the carbon button is 70 to 100 ohms with 50 milliamperes flowing through button.

The Model "100" series microphone will operate satisfactorily in all ordinary conditions of temperature and humidity.



**Specification:** Voltage sensitivity 5 db. below 1 volt for 100 microbar signal at microphone grill. Voltage measured across 100 ohm load.

MODELS 101C; 101E; 102C; 102E; 103	
Dimensions.....	See Fig. B.
Finish.....	Baked Enamel
Net Weight .....	1 lb.
Shipping Weight .....	1 lb. 6 oz.
Code Words .....	101C — RUCEG 101E — RUCAD 102C — RUCAM 102E — RUCAF 103 — RUCAM

**Recommended Load Impedance:**  
50 to 100 ohms.

**Guarantee:** Each microphone is guaranteed to be free from electrical and mechanical defects for a period of one year from date of shipment from the factory, provided all instructions are complied with fully. In case of damage, return the microphone to the factory for repairs. Our guarantee is voided if the microphone case is opened.

# FIG A. INTERNAL CONNECTIONS

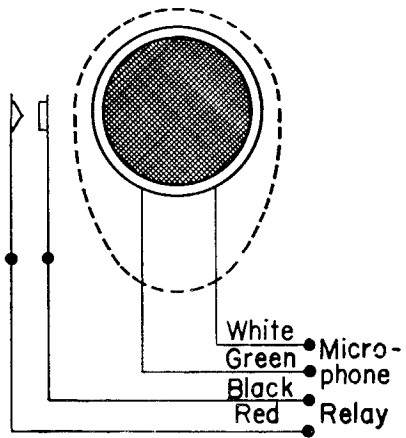


FIG. A-1

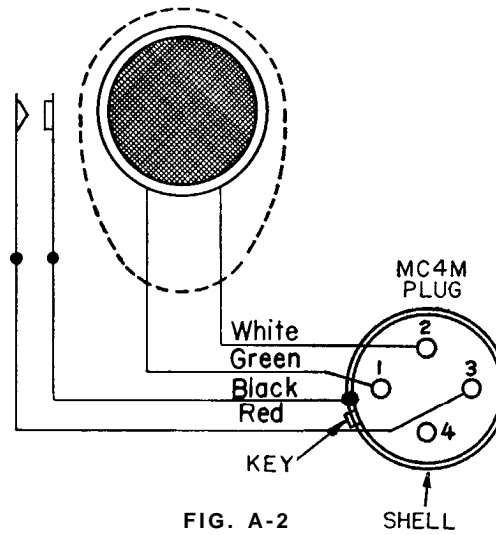


FIG. A-2

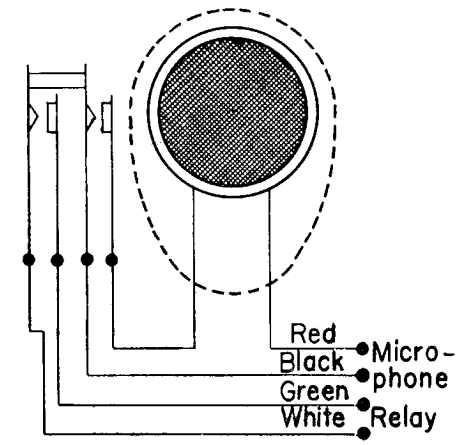


FIG. A-3

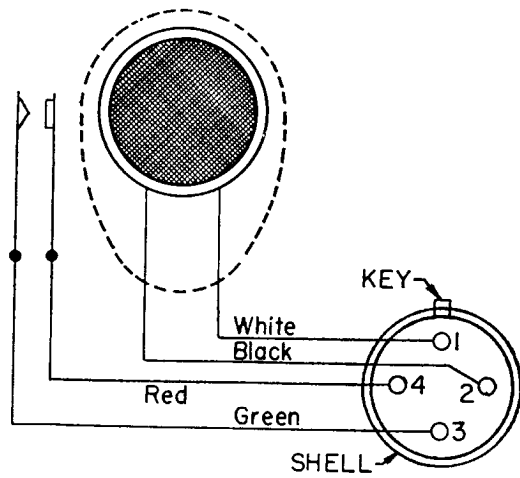


FIG. A-4

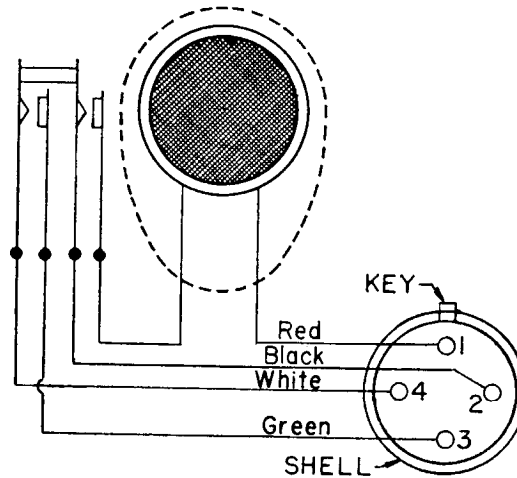


FIG. A-5

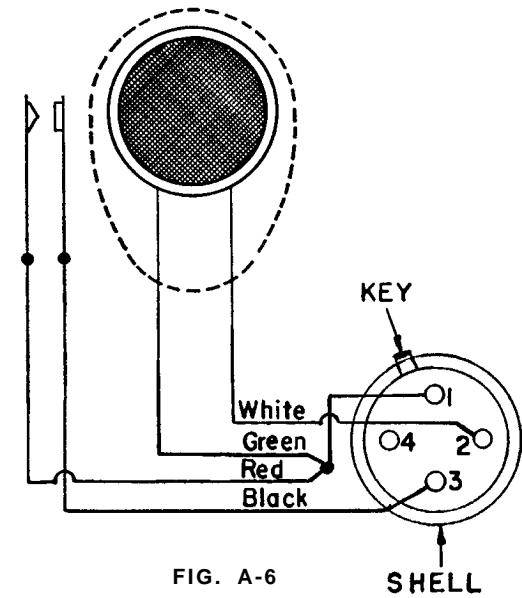


FIG. A-6

## Model 100 Series Carbon Communication Hand Microphones

MODEL No.	INTERNAL CONNECTIONS	TYPE OF CABLE
MODEL 101C:	(See Fig. A-1)	Stranded coil cord.
MODEL 101E:	(See Fig. A-2)	Tinsel coil cord with Amphenol MC4M plug (offset keying).
MODEL 102C:	(See Fig. A-3)	Stranded coil cord.
MODEL 102E:	(See Fig. A-3)	Tinsel coil cord with spade lugs.
MODEL 103:	(See Fig. A-4)	Stranded coil cord with Amphenol MC4M plug (in line keying).

**Shure Carbon Hand Microphones are widely used with mobile communication equipment. Listed below are several communication equipment manufacturers, the Shure microphone used by them, and the recommended replacement, with wiring instructions.**

EQUIPMENT MANUFACTURER	SHURE MODEL No. USED	EQUIPMENT MANU-FACTURER MODEL No.	TYPE OF CABLE USED	SHURE REPLACEMENT MICROPHONE AND METHOD OF WIRING TO MATCH ORIGINAL INSTALLATION	
				REPLACEMENT MODEL No.	CONNECT AS INDICATED BELOW
GENERAL ELECTRIC	CB10B	4MKA2A2	Stranded Coiled Cord	101C	Attach Amphenol MC4M plug as shown in Fig. A-2*
GENERAL ELECTRIC	CB10D	4MKA2A4	Stranded Coiled Cord	101C	Attach Amphenol MC4M plug as shown in Fig. A-2*
GENERAL ELECTRIC	CB10E	4MKA2A5	Tinsel Coiled Cord	101E	Direct Replacement—Use as Supplied. See Fig. A-2*
PLATT MFG. CO.	CB10F	180-1133	Stranded Coiled Cord	101C	Attach Amphenol MC4M plug as shown in Fig. A-6*
MOTOROLA	CB12D	59B84298 and Kit No. P255A	Stranded Coiled Cord	102C	Attach Amphenol MC4M plug as shown in Fig. A-5*
MOTOROLA	CB12E	50B890923	Tinsel Coiled Cord	102E	Direct Replacement—Use as Supplied. See Fig. A-3
MOTOROLA	CB12F	50C822727	Tinsel Coiled Cord	CB12F	Not illustrated. Use as supplied
LINK RADIO	CB14	CB14	Straight Cord	None — See Note	
LINK RADIO	CB14A	CB14A		None — See Note	
LINK RADIO	I-393	N-48A10376	Stranded Coiled Cord	None — See Note	
R. C. A.	CB15D	MI-31544	Stranded Coiled Cord	101C	Attach Spade Lugs Supplied. See Fig. A-1
R. C. A.	CB15F	MI-31544A	Stranded Coiled Cord	103	Direct Replacement, Use as Supplied. Fig. A-4

NOTE: Special Assembly. Available only from Link Radio

\*IMPORTANT — Observe Location of No. 1 Pin with Respect to Key on Plug Shell

**Cable and switch replacements for Shure "100" and "CB" Series Microphones vary from model to model. For specific models see listing below.**

MODEL	CABLE	SWITCH	MODEL	CABLE	SWITCH
CB10	C15C	94-08	CB15C	C15C	94-08
CB10B	C15C	94-08	CB15D	C15C	94-08
CB10D	C15C	94-08	CB15F	C18C	94-08
CB10E	C16C	94-08	101A	C15C	94-08
CB10F	C15C	94-08	101B	C15C	94-08
CB12	C15C	90A235	101C	C15C	94-08
CB12A	C15C	90A235	101E	C16C	94-08
CB12C	C15C	90A235	102A	C15C	90A235
CB12D	C18C	90A235	102B	C15C	90A235
CB12E	C17C	90A235	102C	C15C	90A235
CB12F	C19C	90A235	102E	C17C	90A235
CB15	C15C	94-08	103	C18C	94-08
CB15B	C15C	94-08			

FIG. B.

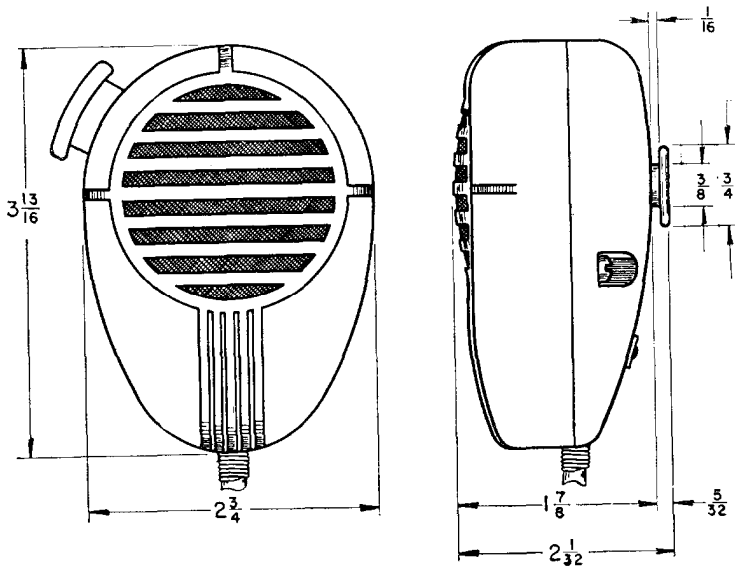


FIG. C. MOUNTING BRACKET

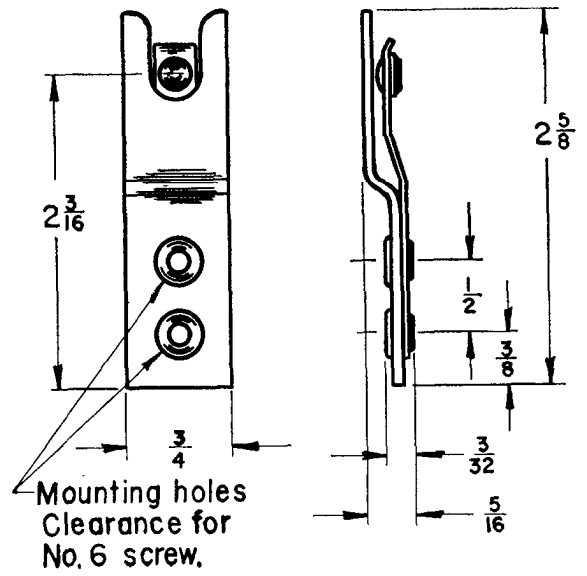
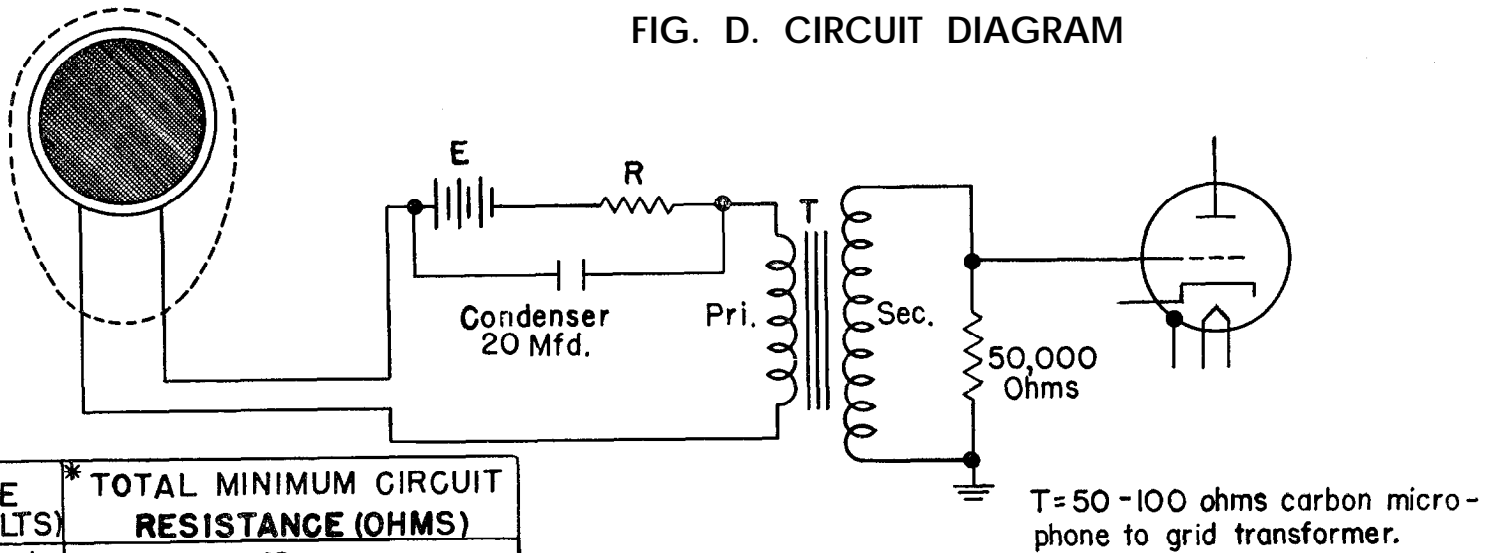


FIG. D. CIRCUIT DIAGRAM



E (VOLTS)	* TOTAL MINIMUM CIRCUIT RESISTANCE (OHMS)
4 1/2	10
6	40
12	160
24	400

\*Resistance R plus other circuit d.c. resistance.