PRESSURE MICROPHONE

MI-3044-B without Connector Plug
MI-3044-D with Three Prong Plug
MI-3044-E with Six Prong Plug

TECHNICAL DATA

OUTPUT LEVEL*

At 1000 cycles when terminated into a matched load.
- 55 db (0 db = .001 watts)
- 63 db (0 db = .006 watts)

OPEN CIRCUIT VOLTAGES*

2540×10^{-3} volts (500 ohm tap)
1800×10^{-6} volts (250 ohm tap)
805×10^{-6} volts (50 ohm tap)
570×10^{-6} volts (25 ohm tap)

OUTPUT IMPEDANCE

Connected for 250 ohms as shipped.
May be changed to 25, 50, or 500 ohms.

DIRECTIONAL CHARACTERISTIC

See Figure 2

PHYSICAL CHARACTERISTICS

Overall Dimensions

Width	2 3/16 inches
Depth	4⅛ inches
Height	3⅞ inches
Weight	1 pound, 14 ounces (including 24-inch cable and plug)

FREQUENCY RESPONSE

60 to 10,000 cycles
(See Figure 3)

DESCRIPTION

GENERAL —The MI-3044-B (and MI-3044-D, -E) Microphone is of the pressure operated type. The motor assembly consists of a thin molded diaphragm to which is fastened an annular coil assembly. Coupled to the diaphragm is an acoustic circuit so proportioned that the velocity of the diaphragm will remain essentially constant for a constant sound pressure over the frequency range of the microphone. The coil is suspended in the air gap of a magnetic structure and is connected to a microphone transformer that provides output impedances of 25, 50, 250 and 500 ohms. The microphone is connected for an impedance of 250 ohms as shipped from the factory.

RESPONSE —The response of this microphone is essentially uniform over its useful range from 60 to 10,000 cycles but varies with the direction of incident sound at the higher frequencies. At the lower frequencies the response is practically unaffected by the direction of the sound source. This is similar to the response to be expected from any other well made pressure operated microphone of comparable size. See Figure 3.

SENSITIVITY—The sensitivity of this microphone is of the same order as that of other high-quality microphones that are used in sound film recording. By connecting the microphone output for twice the impedance for which the amplifier input was designed (open circuit) the microphone output level may be raised an additional 3 db.

INSTALLATION

MOUNTING—The microphone is designed for mounting either on a stand or by means of a suspension fitting or may be positioned above the pickup area by means of a handboom or a mechanical boom. The ball and socket mounting on the microphone is threaded to fit a ½-inch pipe thread. Figure 5 shows the MI-3060 handboom and bag. MI-3066 and MI-3067 handbooms are similar except the former consists of three 4-foot duralumin sections and the latter of two 6-foot duralumin sections.

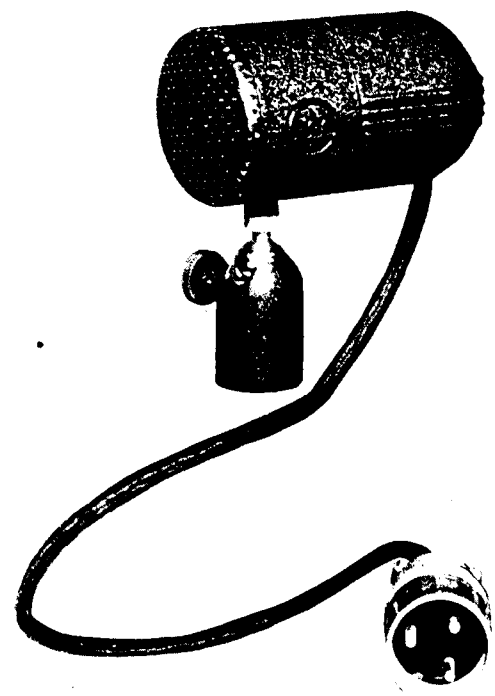

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Figure 1—MI-3044-D Microphone

* *Input Sound Pressure of 10 dynes per square centimeter.*

CONNECTIONS—As shipped, this microphone is connected for an impedance of 250 ohms. By changing connections to the transformer, impedances of 25, 50, or 500 ohms may also be obtained. (See Figure 8.)

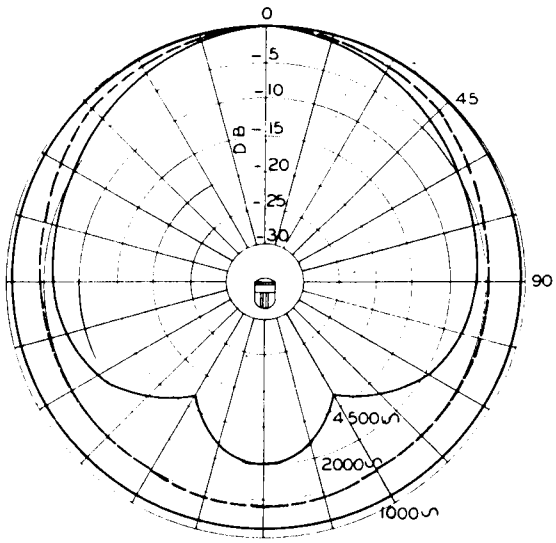

Figure 2—Directional Characteristic of MI-3044-B, -D, -E Microphone

PHASING—When more than one microphone is connected to a mixing circuit it is possible that the output of the various microphones may not be in phase. It is necessary that the output of such microphones be in phase or a reduction in overall output will result. To check the phasing of two or more microphones, select one microphone as a reference unit and place it and the microphone to be checked close together near a sound source and facing in the same direction. Connect the microphones one at a time to the mixing system and adjust the gain settings of the respective channel so that the indicated output reading is the same for either microphone. Then connect both microphones and note the combined output. If the combined output is less than the output of the individual microphones, one of the microphones is out of phase. If several microphones are being phased, check the entire group before making any changes in wiring, then reverse the connections of the smaller group at the microphone plugs.

Any microphone that has been repaired or replaced should be tested for phasing before being placed in service. Microphones that have been repaired by the manufacturer are always connected in the same phase relation when returned as when received from the customer.

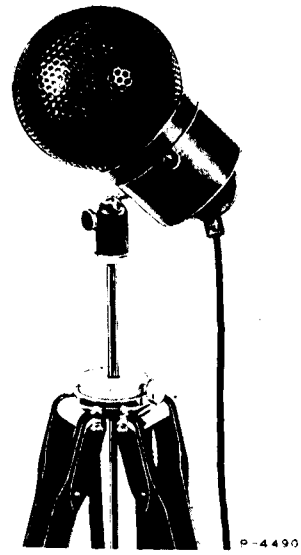

Figure 4—MI-3062 Windscreen Used With MI-3044-B, -D, -E Microphones

OPERATION

This microphone may be suspended with the diaphragm parallel to the floor or making an angle of 45 degrees with it. The latter arrangement requires more movement (or "facing") during a large action scene than is required when the diaphragm is parallel with the floor. The advantage of the 45 degree position is that the microphone exhibits an increased high frequency response as compared with the horizontal placement, assuming a normal posture on the part of the actor.

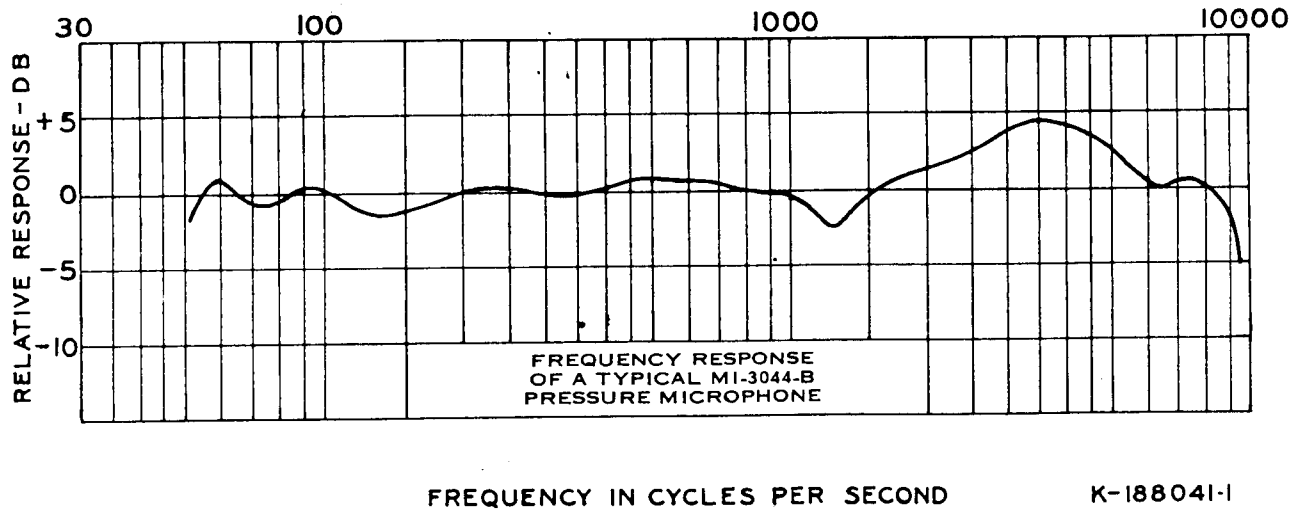

Figure 3—Frequency Response of MI-3044-B, -D, -E Microphone

For outdoor use the microphone may be fitted with an MI-3062 windscreen to reduce the undersirable noise caused by wind. This permits more intelligible recording on an outdoor set. (See Figure 4.)

When this microphone is used with an MI-3040 suspension hanger, the ball joint mounting hole should be closed to prevent undesirable resonance effects.

For further information on the use of microphones the reader is referred to the booklet entitled, "Microphone Technique in Sound Film Recording." (RCA Instructions IB-24316.)

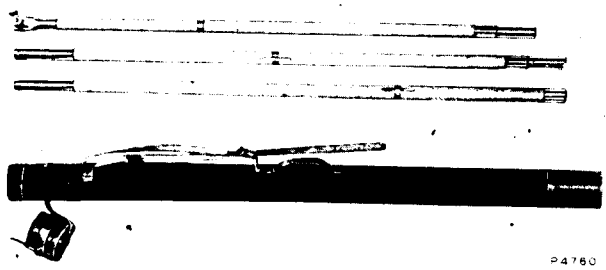

Figure 5—MI-3060 Microphone Handboom With MI-3061 Handboom Bag

MAINTENANCE

It is recommended that microphones be returned to the factory for all but minor repairs. Transformers, cables, and mounting parts may be replaced in the field.

When returning a microphone for replacement or repair make certain that the trouble is in the microphone and not elsewhere in the circuit, then write to the RADIO CORPORATION OF AMERICA, RCA VICTOR DIVISION, Camden, N. J., for a "Returned Goods" tag and "Report Blank," before returning the microphone.

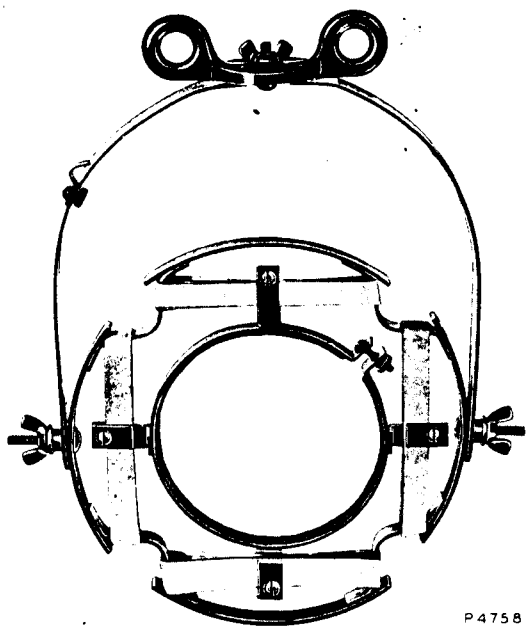

Figure 6—MI-3040 Microphone Hanger for Use With MI-3044-B, -D, -E Microphones

REPLACEMENT PARTS LIST

The following parts list is included to provide proper identification when ordering replacement parts. When ordering, specify the items by stock number and description.

STOCK NO.	DESCRIPTION
*18908	Ball joint
28728	Cable—Microphone cable
28727	Cover—Perforated front cover
19280	Gasket—Motor gasket (Diaphragm end)
18927	Gasket—End case gasket
*18910	Housing—Ball joint housing
*18911	Plug—Ball joint plug
*18909	Seat—Ball joint plug
18545	Spring—Spiral spring for ball joint seat
*18401	Thumbscrew
*18928	Thumbnut
19279	Transformer—Microphone transformer
MI-4630-A	Receptacle—3 contact male receptacle. (MI-3044-D)
MI-10821-A	Receptacle—6 contact male receptacle. (MI-3044-E)

(*) Parts marked thus are stocked in chromium finish only. Other finishes may be had by special order.

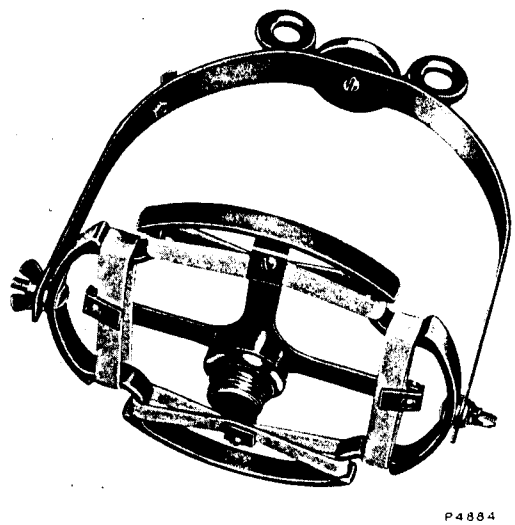

Figure 7—MI-3041-A Microphone Hanger for Use With MI-3044-B, -D, -E Microphones

LIST OF ACCESSORIES

STOCK NO.	DESCRIPTION
MI-3066	Duralumin Handboom (3 section 12 ft.)
MI-3067	Duralumin Handboom (2 section 12 ft.)
MI-3062	Windscreen
MI-3060	Microphone Handboom
MI-3061	Microphone Handboom Bag
*MI-3040	Microphone Hanger
**MI-3041-A	Microphone Hanger
MI-62	Extension Cable

* May be used with MI-3062 Windscreen.
** May be used with or without MI-3062 Windscreen.

OTHER RCA RECORDING MICROPHONES

RCA TYPE NO.	DESCRIPTION	USE
MI-3027-E	Velocity Microphone	Music and indoor recording.
MI-3043-B, -C	Uni-Directional Microphone	Speech and Music indoors or out.

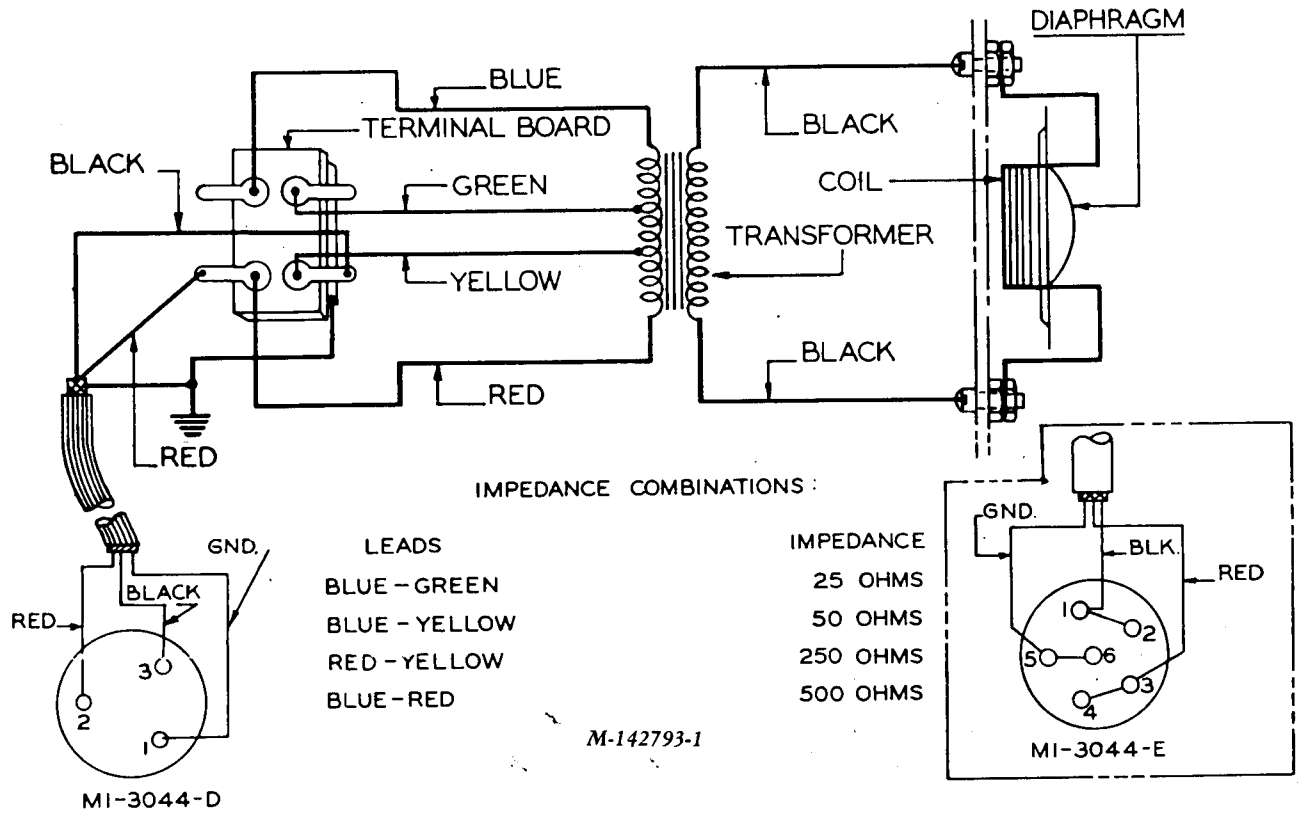

Figure 8—Connection Diagram for MI-3044-B, -D, -E Microphones

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