

PRESSURE MICROPHONE

TYPE 88-A

MI-4048

MI-4048A

DESCRIPTION

The Type 88-A Microphone is of the pressure actuated type. The moving system consists of a thin molded diaphragm to which an annular coil assembly is attached. Coupled to the diaphragm is an acoustic circuit so proportioned that the diaphragm velocity will remain essentially constant for a constant sound pressure over the frequency range of 60-10,000 cycles. The coil is placed in the air gap of a magnetic structure and the ends connected to a suitable transformer providing an output impedance of 50 or 250 ohms.

SENSITIVITY - With an input sound pressure of 10 dynes per square centimeter the following output levels will be obtained.

Output in volts = 2540×10^{-6} , 250-ohm output terminals

-57 db	12.5 mw	zero level
-54 db	6 mw	zero level
-47 db	1 mw	zero level

If the microphone is operated into a matched load these levels should be reduced 6 db.

RESPONSE - The frequency response of the microphone is essentially uniform over its useful range, from 60 to 10,000 cycles.

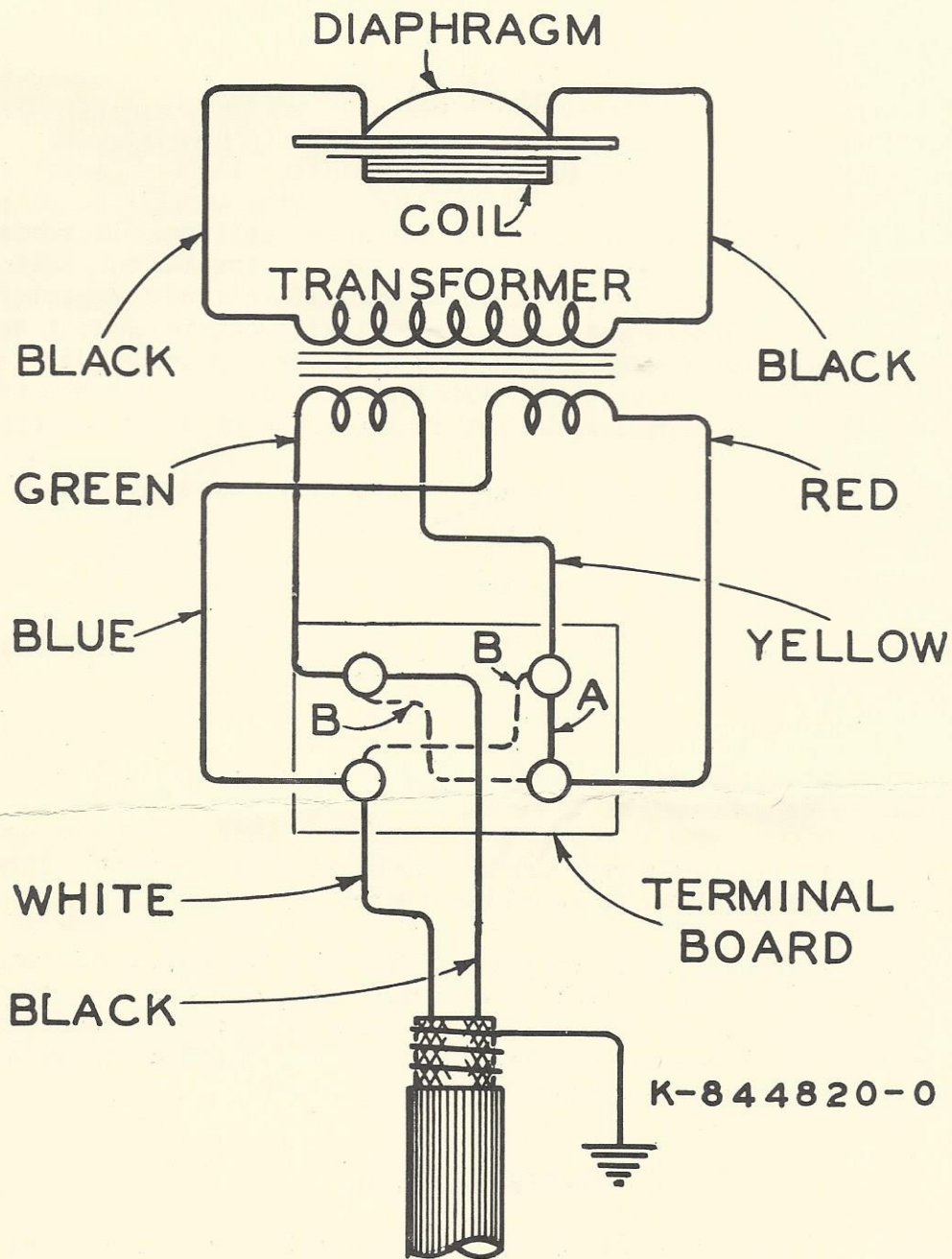
The variation of the frequency response characteristic with the direction of incident sound is similar to that of any other pressure operated microphone of comparable size, in that the response to the higher frequencies is attenuated as the angle between the direction of the incident sound and the normal to the diaphragm is increased.

INSTALLATION

MOUNTING - The microphone is provided with a ball and socket mounting designed for use with stands having a 1/2-inch pipe thread.

CABLE CONNECTIONS - The microphone is shipped connected for 250 ohms output. The output impedance may be changed to 50 ohms by removing the back half of the case and making connections as indicated in Figure 1. In reassembling the case, care must be taken to make sure that it is air tight. Any leakage will result in a loss of low frequency response.

PHASING - When the outputs of two or more microphones are fed into a common mixing circuit, it is important that their respective output currents be in phase with respect to each other; otherwise, the output of one microphone will cancel that of the other, resulting in a reduction in output instead of



A ————— 250 Ω OUTPUT
 B-B - - - - - 50 Ω OUTPUT

MICROPHONE CIRCUIT
 (Schematic K-844820)

a gain.

To check the phasing of two microphones or more, first turn their respective attenuators to zero. Place two microphones side by side and adjust the attenuator of one, while speaking into the microphone, to a normal output level as indicated by a volume indicator, if no indicator is available note the volume level from the speakers, by ear. Next turn up the attenuator of the second microphone to approximately the same position as that of the first and note whether the output level increases or diminishes. If it increases, the two microphones are in phase; if it decreases, the two microphones are out of phase. If the microphones are out of phase, remove the back cover of one microphone and reverse the cable connections at the terminals.

If more than two microphones are to be used in the same mixing circuit, the phasing test should be repeated with each microphone, using the first microphone as a reference for each of the others. After each microphone is phased, its attenuator should be returned to zero so that it will not affect the testing of the next microphone. When more than two microphones are being phased, it is a pretty good idea to check the phasing of all of the microphones before changing the connections of any, then reverse the connections of the minority group to save unnecessary labor.

REPLACING DIAPHRAGMS - It is not recommended that the customer attempt repairs of microphones other than the replacement of transformers and mounting parts. For new diaphragms, etc., it is recommended that the unit be returned to the RCA Manufacturing Company for repair. Diaphragms are carried in stock to cover special cases.

Before returning apparatus write to the RCA Manufacturing Company, Inc., for a "Returned Apparatus" tag and "Report Blank." Before doing this, however, make absolutely certain that the trouble is in the microphone and not elsewhere in the circuit.

39-24-1

PARTS LIST

Description	Stock No.
Pressure Microphone (6 foot cable)	MI-4048
Pressure Microphone (30 foot cable)	MI-4048A
Program Stand	MI-4056
Program Stand (Chrome & Black)	MI-4090
Light Program Stand (Chrome & Black)	MI-4068A
Boom Stand	MI-4091
Portable Microphone Stand	MI-4059
Cable (6 foot)	18400
Cable (30 foot)	32583
Cable (Bulk)	MI-59
Transformer	18399
Diaphragm	18402
Thumb Screw	18401
Microphone Plug	MI-4630
Female Cord Connector	MI-4620
Flush Type Wall Receptacle	MI-4622A
Surface Wall Receptacle	MI-4621
Flush Wall Receptacle (In Switch Plate)	MI-4625
Desk Stand	MI-4092
Suspension Fitting	18475
Spring, Ball joint seat spring	18545
Ball Joint	18908
Ball Joint Seat	18909
Ball Joint Housing	18910
Ball Joint Housing Plug	18911

Manufactured by
 RCA MANUFACTURING COMPANY, INC.
 Camden, N.J., U.S.A.