



INSTRUCTIONS

TYPE KB-2A, -2B MICROPHONES

TECHNICAL DATA

Effective Output Level

At 1000 Cycles

**MI-12002: -56 dbm

***MI-12003: -55 db

Voltage Output*

MI-12002:

- 30-ohm tap 460×10^{-6} volts
- 150-ohm tap 1.08×10^{-3} volts
- 250-ohm tap 1.54×10^{-3} volts

MI-12003:

30,000-ohm tap 18×10^{-3} volts

Output for Speech at Two Feet

**MI-12002: (250-ohm tap) -63 VU

***MI-12003: (30,000-ohm tap) -62 VU

Output Impedance

MI-12002: 250 ohms, may be changed
to 30 or 150 ohms

MI-12003: 30,000 ohms

*Sound Pressure 10 dynes per square centimeter

**0 db = .001 watt

***0 db = 1 volt/dyne/cm²

Frequency Range

80 to 8,000 cycles

See figure 2

Recommended Load Impedance

MI-12002: Unloaded input
transformer

MI-12003: 100,000 ohms
minimum

Physical Specifications

Height $8\frac{7}{8}$ inches

Width $1\frac{7}{8}$ inches

Depth 1 inch

Weight 12 ounces

Stand Fitting

$\frac{1}{8}$ inch -27 fixture thread

Cable

None supplied

See *Accessories*

DESCRIPTION

The Type KB-2A Low-Impedance (MI-12002) and Type KB-2B High-Impedance (MI-12003) Program Velocity Microphones are ribbon microphones of the pressure-gradient operated type. They are designed for public address and in-

dustrial sound applications. A screwdriver-operated switch is provided to permit adjustment of the frequency response for either music or speech. (See fig. 2.)

The directional response of these microphones is very nearly uniform for all frequencies from 80 to 8,000 cycles. As shown in figure 1, the response is bidirectional in both the vertical and horizontal planes.

The shank of the microphone may be opened at the back so that the microphone cable may be connected. Cables must be ordered separately as they are not supplied with the microphones. The MI-12097 and MI-12098 series of cables are recommended. They may be ordered in the two lengths specified under *Accessories*.

OPERATION

Phasing

When several microphones are to be operated in parallel, they must be connected so that their outputs are in phase. To check the phasing of two microphones, connect one microphone to an amplifier, speak into the microphone, and adjust the volume control until the output is at the desired level. Then connect the second microphone in parallel with the first, hold both microphones together and speak into them. Do not change the volume control setting. If the volume has decreased, reverse the connections of one of the microphone cables at the amplifier. Repeat this procedure for each additional microphone.

It is possible to reverse the phase of a microphone by rotating the microphone 180 degrees about its vertical axis.

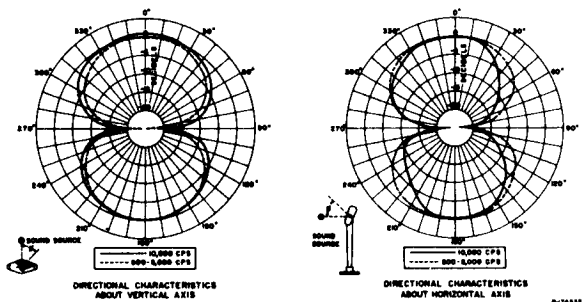


Figure 1—Directional Characteristics

Since it is desirable to have all microphones facing the same direction, this procedure is not recommended.

Connections

The Type KB-2A Low-Impedance Program Velocity Microphone (MI-12002) may be reconnected for 30 or 150 ohms by changing connections to the plug insert in the shank as follows:

- a. Remove the two pivot screws in the shank and pull the shank cover away until the plug insert connections are accessible.
- b. Unsolder the leads to the plug insert and resolder them to obtain the desired output impedance, as shown in figure 3. Tape the unused lead to prevent short circuits.
- c. Replace the cover and the pivot screws.

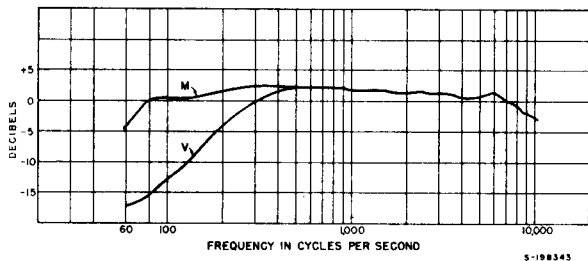


Figure 2—Frequency Response

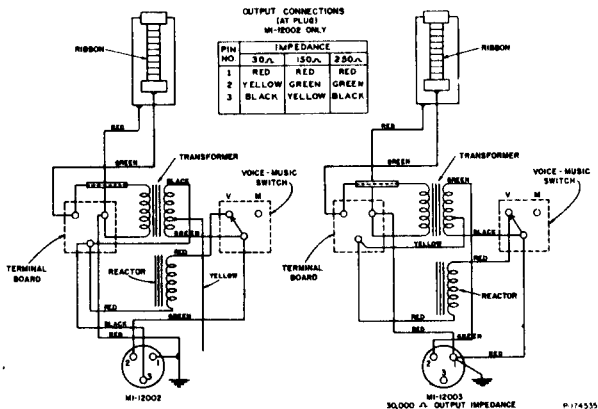


Figure 3—Schematic Diagram

ACCESSORIES

CABLES FOR MI-12002

<i>MI Number</i>	<i>Description</i>	<i>Length</i>
MI-12097-B	Two-conductor shielded with plug	15 feet
MI-12097-C	Two-conductor shielded with plug	30 feet

CABLES FOR MI-12003

MI-12098-B	Single-conductor shielded with plug	15 feet
MI-12098-C	Single-conductor shielded with plug	30 feet

CABLE ACCESSORIES

<i>MI Number</i>	<i>Description</i>
MI-12058	Cannon XL-3-11 female cable connector
MI-12059	Cannon XL-3-12 male cable connector
MI-11087	Cannon XL-3-14-N male wall receptacle (screw-ring mounting)
MI-11088	Cannon XL-3-13-N female wall receptacle (screw-ring mounting)

STANDS

<i>MI Number</i>	<i>Description</i>
MI-12065	Floor stand
MI-12066	Desk stand

MAINTENANCE

It is not recommended that the customer attempt repairs other than replacement of screens, transformers, and mounting parts. For microphone mechanism repairs, return the unit to the factory. Obtain a *Repair Order* and *Returned Apparatus* tag from your RCA dealer or write to *Radio Corporation of America, RCA Victor Division, Camden, New Jersey*. Attach the tag, properly filled out, to the damaged equipment and enclose the repair order in the package.

CAUTION: To prevent permanent damage to the ribbon, do not test continuity of the microphone with a circuit checker.

To replace the transformer, reactor, or voice-music switch, proceed as follows:

a. Place a mark on the part of the microphone head that contains the screen (ribbon and magnet assembly). Note the position of the mark with respect to the yoke and the shank so that it will be possible to reassemble the microphone properly.

b. Insert a small pointed instrument into the hole above each of the RCA monograms on the microphone head and pry the monograms out.

c. Remove the flat springs and the spring-retaining washers exposed by the removal of the monograms.

d. Lift the ribbon and magnet assembly from the yoke so that the connections are accessible. Note the color coding of the leads to the ribbon and magnet assembly and unsolder them from the terminal board at the top of the yoke.

e. Detach the cover at the back of the shank as directed under *Connections*.

f. Note the color coding of the leads from the yoke and unsolder them from the plug insert.

g. Pry out the flat springs above the switch, transformer and terminal board, then carefully pull all the components out of the yoke as a unit.

h. Unsolder the connections to the defective part. Replace it with a new part and solder the connections to conform with the original wiring.

i. Replace the components in the yoke. Resolder the leads to the plug insert and the ribbon and magnet assembly, and reassemble the microphone.

REPLACEMENT PARTS

The following parts list is included to provide identification when ordering replacement parts. Order from *RCA Replacement Parts Department, Camden, N. J.*, giving the *Description* and *Stock Number* of the parts wanted. Replacement parts supplied may be slightly different in form or size from the original parts, but will be completely interchangeable with them.

LIST OF PARTS

<i>Description</i>	<i>Stock No.</i>
Band, emblem	71716
Block, friction; for swivel	72726
Board, terminal	71723
Clamp, ribbon	71729
Cover and spring assembly	71717
Cushion, shock	71715

LIST OF PARTS (Cont.)

<i>Description</i>	<i>Stock No.</i>
Escutcheon, swivel	71712
Insert, cable-plug; 3 contact male	71722
Magnet and yoke assembly	71727
Nut, ribbon clamp (pkg. of 4)	67764
Reactor	71721
Retainer, swivel spring	72725
Ribbon	71728
Screen	71706
Screw, shank cover (pkg. of 2)	71718
Screw, screen (pkg. of 2)	71707
Shank and latch assembly	71709
Spring, swivel (pkg. of 2)	71711
Spring, switch	71719
Spring, transformer	71713
Switch, voice-music	71720
Terminal, ground; for plug insert	71710
Terminal, ribbon-clamp	71730
Transformer (MI-12003 only)	71724
Transformer (MI-12002 only)	71714
Yoke, base of microphone head	71708