

# Electro-Voice®

ELECTRO-VOICE, INC.  
BUCHANAN, MICHIGAN



## Specifications

### Model 664 Microphone



Fig. 1 — Model 664 Microphone

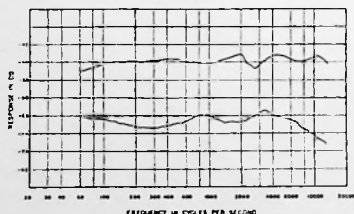


Fig. 2 — Response

The Model 664 is a cardioid microphone of the dynamic type with only one moving element. It is designed specifically for public address applications. The cardioid pattern is obtained through use of three sound entrances located in the microphone case at different distances in back of the diaphragm. These three sound entrances, each utilizing the proper acoustical impedance, combine to form one effective back entrance which varies in distance from the diaphragm inversely with frequency. The resulting phase and amplitude conditions produce a uniform cardioid pattern over a wide frequency range. This variable front-to-back distance along with dynamic-type construction affords high resistance to mechanical shock and produces virtually no proximity effect.

The Model 664 is an all-purpose public address microphone designed to fulfill requirements of wide-range reproduction under a great variety of conditions. Because of its excellent and uniform polar response, it is especially useful in locations where ambient noise and severe reverberation exist. It is equipped with a pop-proof wire mesh grille which minimizes wind and breath blasts. The Model 664 can be used on a floor or desk stand or carried in the hand.

This microphone features the exclusive Electro-Voice Acoustalloy diaphragm. This nonmetallic diaphragm permits smooth response over a wide frequency range and withstands high humidity, temperature extremes, corrosive effects of salt air, and severe mechanical shocks. It is practically indestructible with normal use.

## SPECIFICATIONS

**Type:** Cardioid dynamic

**Frequency Response:** Uniform from 40 to 15,000 cps. See fig. 2

**Impedance:** 150-ohm and high impedance. Microphone is wired for high impedance unless 150-ohm impedance is requested.

**Impedance Selection:** Selection made at cable plug. To change from high to 150-ohm impedance, move white lead from terminal No. 2 to terminal No. 3. 150-ohm impedance is balanced to ground.

**Output Level:**

150-ohm impedance: -55 db<sup>1</sup>; RETMA sensitivity rating, -149 db

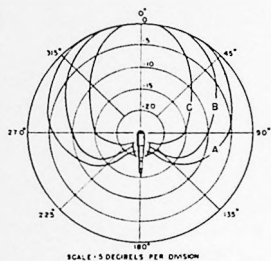
High impedance: -55 db<sup>2</sup>; RETMA sensitivity rating, -151 db

<sup>1</sup> 0 db = 1 mw/10 dynes/cm<sup>2</sup>

<sup>2</sup> 0 db = 1 volt/dyne/cm<sup>2</sup>



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A — 300 cps                      B — 5,000 cps  
C — 10,000 cps

Fig. 3 — Polar Pattern

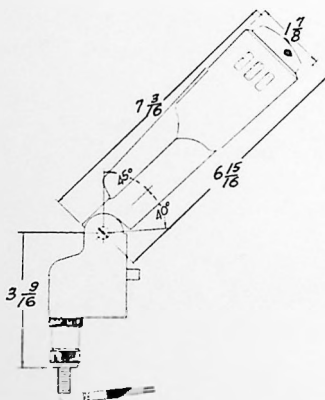


Fig. 4 — Dimensions

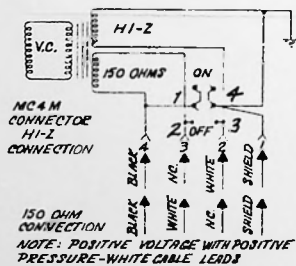


Fig. 5 — Wiring Diagram

**Polar Pattern:** Cardioid. Uniform front-to-back discrimination.

See fig. 3

**Diaphragm:** Electro-Voice Acoustalloy

**Magnetic Circuit:** Employs Alnico V and Armco magnetic iron in a nonwelded circuit.

**Case:** Pressure-cast zinc

**Finish:** Satin Chrome

**Dimensions:** Diameter:  $1\frac{1}{8}$  in. max.  
Length:  $7\frac{3}{16}$  in., not including stud  
See fig. 4

**Net Weight:** 1 lb, 10 oz, without cable

**Cable:** 18-ft, two-conductor, shielded, synthetic rubber jacketed, broadcast type. Equipped with Model MC4M Amphenol Connector.

**Stand Coupler:**  $\frac{5}{8}$  in. -27 thread on stud

**Optional Accessories:** Model 419 Desk Stand

**Warranty:** The Electro-Voice Model 664 Microphone is guaranteed against defects in workmanship and material.

## Architects' and Engineers' Specifications

The microphone shall be an Electro-Voice Model 664 or equivalent. The microphone shall be a cardioid, dynamic type, with uniform frequency response from 40 to 15,000 cps. The diaphragm shall be nonmetallic Acoustalloy and shall have a magnetic shield to prevent dust and iron particles from reaching the diaphragm. Available impedances shall be 150-ohm and high impedances. It shall be possible to obtain the impedance desired by moving one connection in microphone connector. Line shall be balanced to ground on low impedance and phased. The microphone shall be provided with three sound entrances located in the microphone case at different distances in back of the diaphragm. These three entrances, each utilizing the proper acoustical impedance, shall combine to form one effective back entrance which varies in distance from the diaphragm inversely with frequency. The resulting phase and amplitude conditions shall provide a uniform cardioid pattern at all frequencies.

The output level for 150-ohm impedance shall be -55 db with 0 db equalling  $1 \text{ mw}/10 \text{ dynes/cm}^2$ . Output level for high impedance shall be -55 db with 0 db equalling  $1 \text{ volt/dyne/cm}^2$ . RETMA sensitivity rating shall be -149 db for 150-ohm impedance and -151 db for high impedance. The magnetic circuit shall be a nonwelded circuit and employ Alnico V and Armco magnetic iron.

The case shall be made of pressure-cast zinc. The microphone shall have a maximum diameter of  $1\frac{1}{8}$  in., a length of  $7\text{-}3/16$  in., not including stud, and a net weight of 1 lb, 10 oz, less cable and stud. Finish shall be satin chrome. An 18-ft, two-conductor, shielded, synthetic rubber jacketed, broadcast-type cable shall be provided. The microphone shall have a cable connector similar or equivalent to Amphenol Model MC4M.

The microphone shall include a stand coupler with a  $\frac{5}{8}$  in. -27 thread on stud.

## Instructions for Modifying Model 664 for Use with Relay Control

### Microphone Modification:

1. Remove nameplate and switch from stud.
2. Unsolder yellow leads from switch lug. Solder both yellow leads together and insulate with tape.
3. Disconnect the green leads from the switch lug. Tape the green lead coming from the microphone head.
4. The remaining green lead, which goes to the output connection should be soldered to the switch lug vacated by the yellow leads in step 1, above.
5. Microphone rewiring is now completed. Replace switch.

The cable may now be connected to obtain relay control between pins 1 and 4 of the microphone connector. The white cable lead is microphone output and the black cable lead is relay control. Alternating current for relay control is not recommended as hum may be picked up by high impedance lead.



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