



Electro-Voice®
a gulton company

Model 658 Dynamic Cardioid Microphone

SPECIFICATIONS

Generating Element:
Dynamic

Frequency Response:
80 to 13,000 Hz. See Figure 2

Polar Pattern:
Cardioid

Impedance must be specified,
658L:

Low Z, balanced.

658H:
High Z, balanced

Output,
658L:
-61 dB
(0 dB = 1 mW/10 dynes/cm²)

658H:
-60 dB
(0 dB = 1 volt/dyne/cm²)

EIA Sensitivity,

658L:
-155 dB

658H:
-156 dB

Diaphragm:

Tough, non-metallic Acoustalloy®

Switch:

Silent on/off

Case:

Rugged pressure cast zinc body with steel screens

Finish:

Non-reflecting gray

Dimensions:

55.0 mm (2.16 in.) dia.
168.0 mm (6.63 in.) long

Net Weight:

252 g (8.9 oz) excluding cable

Cable,

658L: 4.6 m (15 ft) shielded two-conductor cable

658H: 4.6 m (15 ft) shielded, low capacitance, single conductor cable

LC FOLLOWING MODEL
NUMBER INDICATES
MICROPHONE LESS CABLE

Connector:

Standard three pin audio at mike,
none on free end of cable

Accessories Furnished:

Model 358 swivel stand adapter

Optional Accessories:

376 windscreen

379 color coded windscreens

458 zippered simulated leather bag

GENERAL

The Electro-Voice Model 658 microphone features a rugged dynamic element in a resilient internal mounting that greatly reduces output noises due to handling and mechanical shock. The smooth wide range response and cardioid pickup pattern combine to produce excellent results in especially difficult situations where feedback is a problem. A steel and die cast zinc case completes the rugged assembly of this economical microphone. From hand or stand, vocal, instrumental, or P.A. your Electro-Voice 658 is built to give you years of dependable service.

DESCRIPTION AND APPLICATIONS

The new Electro-Voice 658 series combines high output level and smooth frequency response in an economical but handsomely designed product. Available in either Hi impedance (658H) or Lo impedance (658L), these models are single-D cardioid microphones which emphasize low frequencies in the same manner most entertainer mikes do when held "close-up". A fine choice for sound reinforcement, public address and other applications where quality and price are of prime consideration. The 658 series use the broadcast standard three pin audio connector.

A new head design provides wide linear response for effective gain before feedback in sound reinforcement applications. An extremely effective shock absorber isolates the transducer assembly from mechanical noises. An internal Acoustifoam filter allows close talking without excessive "P-popping" and prevents dirt and magnetic particles from accumulating on the diaphragm.

Using The Variable Low Frequency Response

The low frequency response of the 658 varies with the distance of the sound to the microphone as shown in the response curve (Figure 2). Maximum bass response is produced in close up use with the microphone 1/4 inch from the sound source (Figure 2/A). Normal bass response is experienced at distances greater than 24 inches (Figure 2/C). Intermediate working distance shown in Figure 2B.

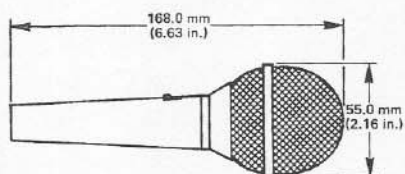


FIGURE 1 — Dimensions

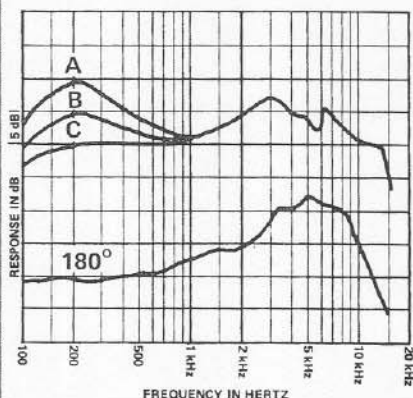


FIGURE 2 — Frequency Response

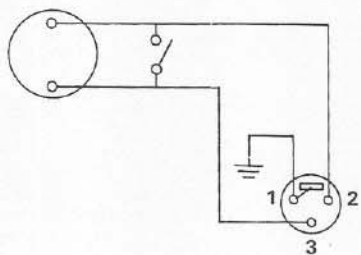


FIGURE 3 — Wiring Diagram, Lo-Z

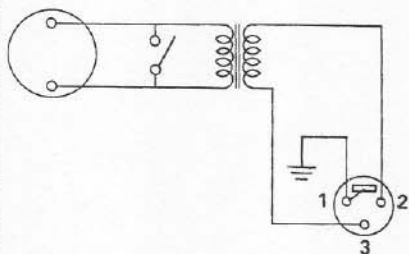


FIGURE 4 — Wiring Diagram, Hi-Z

NOTE — the Hi-Z output at the microphone is balanced. Pin 2 or pin 3 must be tied to pin 1 in the cable assembly to conform to the usual unbalanced Hi-Z input circuit. Thus, cables of various manufacture in which either pin 2 or 3 may be the hot lead may be utilized.

Useful special effects can be created by an imaginative application of the variable low frequency response:

1. By working closer to the microphone, the human voice will sound more robust, although intelligibility may be adversely affected.
2. Feedback in a public address system is sustained by reflection of sound into the microphone. For all microphones, as the artist moves closer, the level of his voice (at the microphone) increases and the microphone's signal to the amplifier is increased. For a constant volume of sound from the system, the amplifier gain setting must be proportionately reduced. This results in a reduction in the system's sensitivity to reflected sound, hence a reduction of the tendency to feedback.

The variable low frequency response provides a further feedback reducing advantage in close talking applications. At 1/4-inch low frequency response is greatly enhanced, while response to distant sound (as from sound system loudspeakers) is unaffected. The result is a reduced tendency to feedback over and above that provided by the cardioid directional characteristic alone. In short, system sensitivity reduction because of close working, added to the advantage resulting from the bass boosting low frequency characteristic of the 658, makes this instrument an exceptionally effective tool for stage and night-club use.

3. For musical pickup, the variable bass response can be utilized to achieve "clean" bass at distances of 24 inches or more. By moving the 658 to a few inches from the instrument, bass will be increased.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone shall be a cardioid dynamic type. Response shall be 80 to 13,000 Hz, specially shaped above 1000 Hz to maintain presence for vocal and musical pickups, and, below 1000 Hz, shall vary inversely with distance. 100 Hz response with sound source 24-inches from the microphone shall be nominally 10 dB lower than response with sound source one-quarter-inch from microphone. Response at front of microphone at 1,000 Hz shall be nominally 20 dB greater than response at rear.

The microphone shall be available in high impedance or low impedance, either with or without cable as specified. LC suffix on model number denotes microphone less cable. Output level for high impedance shall be -60 dB and EIA sensitivity rating shall be -156 dB (0 dB = 1 volt/dyne/cm²). Output level for low impedance shall be -61 dB and EIA sensitivity rating shall be -155 dB (0 dB = 1 mW/10 dynes/cm²). The microphone shall have a non-metallic Acoustalloy diaphragm. An On/Off switch shall be provided, so connected that transducer is "shorted" when switch is in "Off" position. A 4.56 m (15 ft), one-conductor (on Hi-Z), shielded, synthetic rubber jacketed cable with Switchcraft A3F connector installed at microphone end shall be provided. Low impedance connections shall provide balanced line configuration, with a two-conductor, shielded cable.

The case shall be pressure-cast zinc. Dimensions shall be: 55.0 mm (2.16 inches) diameter (major), 168.0 mm (6.63 inches) long, not including cable connector, with a tapered shank. Net weight (less cable) shall be 252 g (8.9 oz). Finish shall be non-reflecting gray. An Electro-Voice Model 358 stand adapter shall be furnished.

WARRANTY (Limited)

Electro-Voice Commercial/Concert Series Microphones are guaranteed for two years from date of original purchase against defects in workmanship and materials. If such malfunction occurs, microphone will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish or malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For repair information and service locations, please write: Service Dept., Electro-Voice, Inc., 600 Cecil St., Buchanan, Michigan 49107 (Phone: 616/695-6831) or Electro-Voice West, 8234 Doe Ave., P. O. Box 3297, Visalia, CA 93277 (Phone: 209/651-7777).

Electro-Voice also maintains complete facilities for non-warranty service of EV products.

Specifications subject to change without notice.