



DESCRIPTION AND APPLICATIONS

The Electro-Voice Model 670V is a newly designed Single-D cardioid microphone, with volume control, which emphasizes low frequencies when used "close up." Perfect for the exacting needs of high quality sound reinforcement, public address, and other applications, the 670V is ruggedly designed and attractively styled. The new "top brass" finish is permanently anodized and will not crack, peel, scratch or wear off.

A special thumb-actuated volume control is provided for performer convenience. Output level from the microphone is variable from "off" to full on (-58 dB). Effective use of this control allows for a perfect vocal or instrumental blend with other instruments.

The 670V uses the broadcast standard three-pin "XLR" type connector. (See instructions for changing impedance for further information on the connector.)

A new head design and an exclusive Volumetric-Hologram designed diaphragm provide exceptionally wide, linear response at all angles of incidence for high gain-before-feedback in sound reinforcement applications, and virtual elimination of off-axis coloration. The head subassembly is user replaceable. As part of this assembly, a newly designed 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.

The machined case, with its new "top brass" anodized finish, is constructed of a high strength aluminum alloy and is designed for balanced and unobtrusive hand-held use.

SPECIFICATIONS

Element:	Dynamic
Frequency Response:	60-14,000 Hz
Polar Pattern:	Cardioid
Impedance:	150 ohms/Hi-Z, Selectable
Impedance Change:	Rear of connector insert
Output Level,	
Low impedance:	-60 dB (0 dB = 1 mw/10 dyne/cm ²).
High impedance:	-61 dB (0 dB = 1 v/dyne/cm ²).
EIA Sensitivity Rating,	
150 ohms:	-154 dB
Hi-Z:	-156 dB
Diaphragm:	Laminated Mylar/Acoustalloy®
Volume Control:	Continuously variable
Case:	Machined aluminum alloy
Finish:	"Top Brass"
Accessories Included:	Model 301 stand adapter
Dimensions:	7¼" long, without cable connector 1½" largest diameter, 1" shank diameter
Net Weight:	6 ounces, without cable
Cable:	15', 2-conductor, shielded, synthetic rubber-jacketed with Switchcraft A3F connector.

Impedance Change Instructions:

The 670V output may be changed from balanced low impedance to high impedance. This may be accom-

plished by the following means: Turn the setscrew in the connector insert counterclockwise (it is a reverse-threaded screw and will not come out, but rather disappear into the insert). Pull the insert out from the end of the microphone, exposing the wires which are connected to it (See Figure 2). For high impedance, be sure that the black wire is attached to Pin 2 of the connector insert (A small connector sleeve slides over Pin 2 to assure firm connection.) For balanced Lo-Z (150 ohms) remove the black wire from Pin 2 and attach the red wire to Pin 2 by means of the sleeve type connector provided. (See Figure 2)

Using the Variable Low-Frequency Response:

The 670V's low-frequency response varies with the distance from the sound to the microphone as shown in the response curve (Figure 3). Maximum bass response is produced in close-up use with the microphone ¼-inch from the sound source (Figure 3A). Minimum bass response is experienced at distances greater than 24-inches (Figure 3C).

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

1. By working closer to the microphone than might otherwise be natural, 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 of the system's sensitivity to reflected sound, hence a reduction of the tendency to feedback.

The variable low-frequency response of the 670V provides a further feedback reducing advantage in close talking applications. At ¼-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 670V, makes this instrument an exceptionally effective tool for stage and nightclub use.

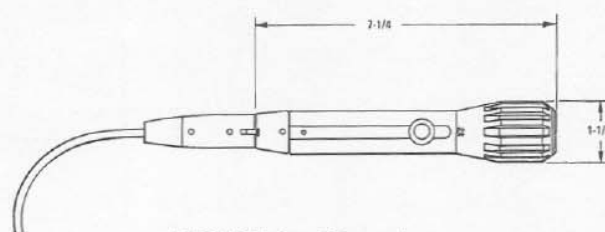


FIGURE 1 — Dimensions

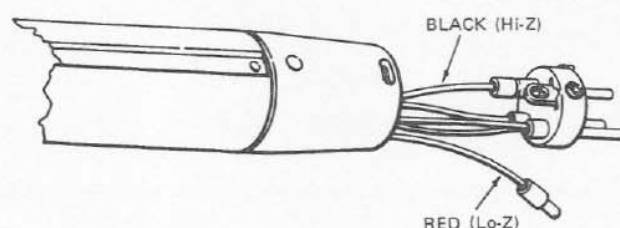


FIGURE 2 — Changing Impedance

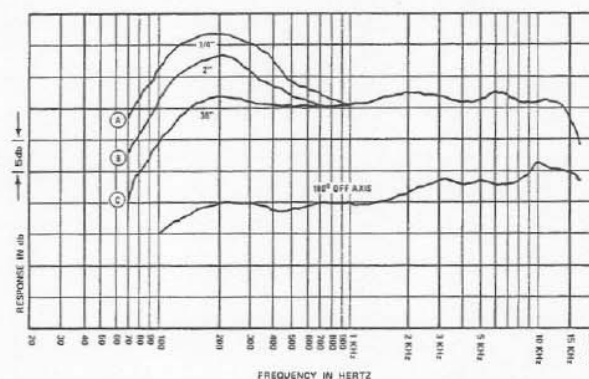


FIGURE 3 — Frequency Response

3. For musical pickup, the variable bass response can be utilized to achieve "clean" bass pickup at distances of 12-inches or more. By moving the 670V to a few inches from the instrument, bass will be increased.

Caution Notes: With the sound source (lips) closer than 2-inches, bass response is increased dramatically (as shown in Figure 3/A/B). If too much signal is generated at the microphone, overloading in the amplifier input circuits may occur, causing severe distortion.

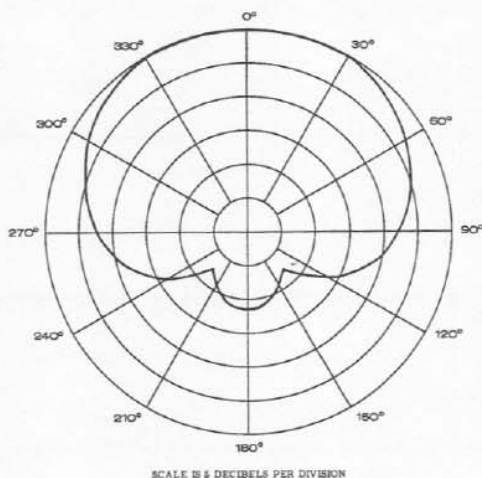


FIGURE 4 – Polar Response

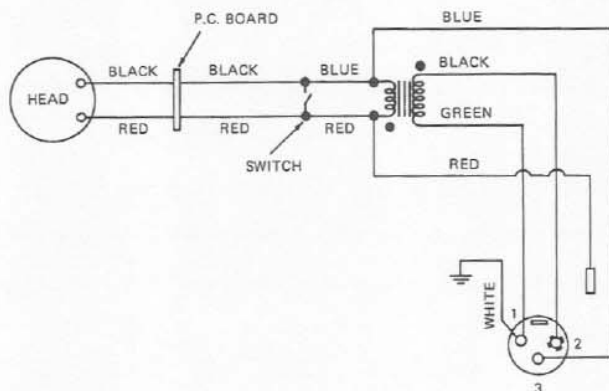


FIGURE 5 – Wiring Diagram

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone shall be a cardioid dynamic type. Frequency response shall be 60–14,000 Hz, specially shaped above 1,000 Hz to maintain presence for vocal and musical pickups, and below 1,000 Hz shall vary inversely with distance. Response at the front of the microphone at 1,000 Hz shall be nominally 20 dB greater than response at the rear.

The microphone shall be a switchable impedance type (high impedance of 150 ohms balanced low). Output level for high impedance shall be –61 dB (0 dB equaling 1 volt/dyne/cm²). Output level for low impedance shall be –60 dB (0 dB equaling 1 mw/10 dynes/cm²). Microphone shall have a laminated

Mylar/Acoustalloid diaphragm. A thumb-actuated volume control shall be provided, providing continuously variable volume control at the microphone. A 15-foot, two-conductor, shielded, synthetic rubber-jacketed cable with Switchcraft A3F connector installed at the microphone end shall be provided. Low-impedance connection shall provide balanced line configuration.

The case shall be machined aluminum alloy. Dimensions shall be 7¼-inches long, 1½-inches diameter, with a 1-inch shank diameter. Net weight (less cable) shall be 6 ounces. Finish shall be anodized "top brass." A model 301 stand adapter shall be furnished. The Electro-Voice Model 670V is specified.

WARRANTY (Limited)

Electro-Voice microphones are guaranteed for the life of the microphone against malfunction due to 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, appearance items, cables, cable connectors, or switches and does not cover 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.

Factory repair department for this product is located at: Electro-Voice, Inc./Sevierville, Tennessee 37862.

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