

Figure 1 - Dimensions

DESCRIPTION & APPLICATIONS

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

The 670 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:** -58 dB (0 dB=1 mw/10 dyne/cm²).
- High impedance:** -58 dB (0 dB=1 v/dyne/cm²).

EIA Sensitivity Rating,

- 150 ohms:** -150 dB
- Hi-Z:** -152 dB

Diaphragm: Laminated Mylar/Acoustalloy®

Switch: On-off

Case: Machined aluminum alloy

Finish: "Top brass"

Accessories Included: 301 stand adapter

Dimensions: 7¼"L. (excluding cable connector),
1½" largest diameter,
1" shank diameter

Net Weight: 6 oz. (excluding cable)

Cable: 15 foot, two-conductor, shielded, synthetic rubber-jacketed, with Switchcraft A3F connector.

Impedance Change Instructions:

The 670 output may be changed from balanced low impedance to high impedance. This may be accomplished by the following means: Turn the setscrew in the connector insert counter-clockwise (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 Fig. 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 low-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 Fig. 2).

Using The Variable Low-Frequency Response:

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

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 670 provides a further feedback reducing advantage in close talking applications. At 1/4," 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 670, makes this instrument an exceptionally effective tool for stage and nightclub use.

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

Caution notes: With the sound source (lips) closer than 2," bass response is increased dramatically (as shown in Fig. 3/A/B). If too much signal is generated

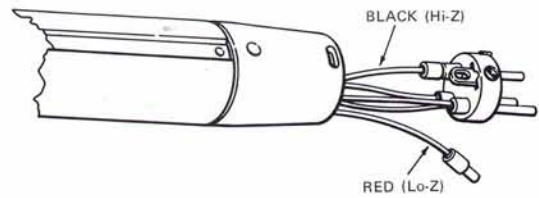


Figure 2 - Changing Impedance

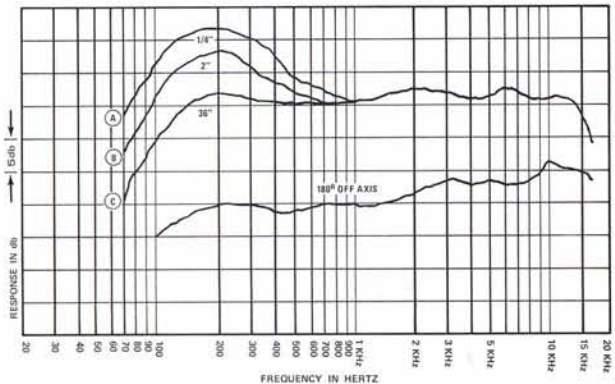


Figure 3 - Frequency Response

at the microphone, overloading a microphone input circuits may occur, causing severe distortion.

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 rear.

The microphone shall be a switchable impedance type (high impedance or 150 ohms balanced low). Output level for high impedance shall be -57 dB (0 dB equaling 1v/dyne/cm²). Output level for low impedance shall be -58 dB (0 dB equals 1mw/10 dynes/cm²). Microphone shall have a laminated Mylar/Acoustalloy[®] diaphragm. An on-off switch shall be provided and so connected that the transducer is "shorted" when switch is in off position. 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 7 1/4" long, 1 1/2" diameter, with a 1" shank diameter. Net weight (less cable) shall be 6 oz. Finish shall be anodized "top brass." A Model 301 stand adapter shall be furnished.

The Electro-Voice Model 670 is specified.

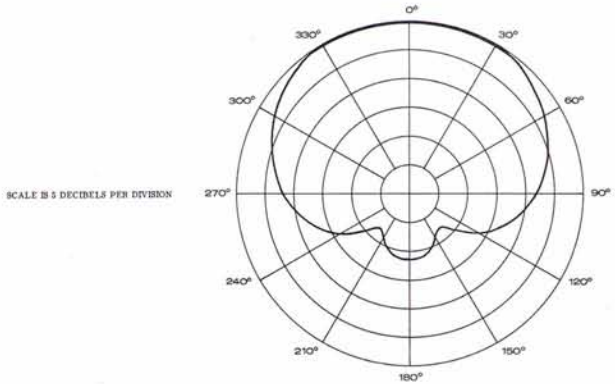


Figure 4 - Polar Response

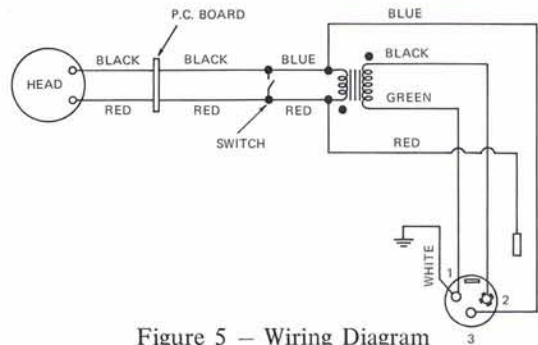


Figure 5 - Wiring Diagram

