627A DYNAMIC CARDIOID MICROPHONE

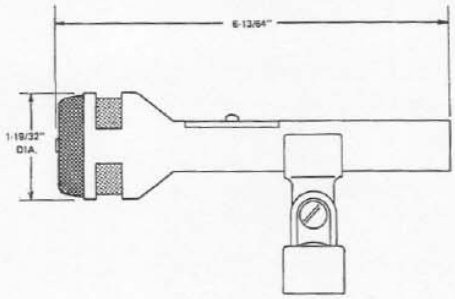

Figure 1 – Dimensions

DESCRIPTION

The Electro-Voice Model 627A is a "single-D" dynamic cardioid microphone that *emphasizes* low frequencies when used "close up." The 627A was created especially for those public address and recording applications where this specialized low-frequency characteristic is desired. Compared to its predecessor, the 627, the 627A features improved response at both frequency extremes and increased output level when used close to the mouth. In addition, the new 627A has greatly strengthened cable connector threads, side port screen, and grille-screen retention.

The 627A features the exclusive non-metallic Electro-Voice Acoustalloy® diaphragm that assures smooth frequency response yet is virtually impervious to damage from extremes of temperature and humidity. The transducer assembly utilizes a mechanical nesting design. The internal parts are nested, one within another, resulting in a nearly "solid" mechanical structure that is highly resistant to damage from mechanical shock. As part of this assembly, an integral shock absorber isolates the transducer assembly from mechanical noises to reduce transmission of these noises to the microphone signal. An internal Acoustifoam filter allows close talking without excessive "breath popping" and prevents dirt and magnetic particles from accumulating on the diaphragm.

The case, finished in black satin chrome, is constructed of high-strength, pressure-cast zinc and is designed for balanced and unobtrusive hand-held use.

SPECIFICATIONS

Element:	Dynamic
Frequency Response:	60 to 13,000 Hz
Polar Pattern:	Cardioid
Impedance:	Available as 150 ohms (balanced to ground) or Hi-Z
Output Level,	
Low Impedance:	−58 db (0 db = 1 mw/10 dynes/cm²)
High Impedance:	−58 db (0 db = 1 V/dyne/cm²)
EIA Sensitivity Rating:	−151 db for 150 ohms −153 db for Hi-Z
Diaphragm:	Electro-Voice Acoustalloy®
Switch:	On/Off
Case:	Pressure die-cast zinc
Finish:	Black satin chrome
Accessories Included:	312 stand adapter
Dimensions:	1-19/32" dia., 6-13/64" long (excluding cable connector), 3/4" shank diameter
Net Weight:	7.5 oz. (excluding cable)
Cable,	
Low Impedance:	15-foot, two-conductor, shielded, synthetic rubber jacketed, with Amphenol 80-MC2M connector
High Impedance:	15-foot, single conductor, shielded, synthetic rubber jacketed, with Amphenol 80-M connector
Optional Accessories:	311 Snap-Out stand adapter

APPLICATIONS

GENERAL: The cardioid directional characteristic of the 627A, with reduced pickup at the sides and rear of the microphone, decreases the likelihood of feedback in public address applications. Radiation of sound-system loudspeakers should strike the 627A from its relatively "dead" rear in order to take maximum advantage of the cardioid directional pattern. Speaker radiation striking the front of the 627A will not be cancelled, and feedback is more likely to result.

USING THE VARIABLE LOW-FREQUENCY RESPONSE: The 627A's low-frequency response varies with distance from sound to the microphone as shown in the response curve (Figure 3). Maximum bass response is produced in close-up use with the microphone one-quarter inch from the sound source (Figure 3/A). Minimum bass response is experienced at distances greater than 24 inches (Figure 3/C).

Useful special effects can be created by 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 back 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 system's sensitivity to reflected sound, hence a reduction of the tendency to feedback.

   The variable low-frequency response of the 627A provides a further feedback-reducing advantage in close-talking applications. At one-quarter 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 627A, make 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 pickup at distances of twelve inches or more. By moving the 627A to a few inches from the instrument, bass will be increased.

CAUTION NOTES

With the sound source (lips) closer than two 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.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone shall be a cardioid dynamic type. Response shall be 60 – 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" from microphone shall be nominally 14 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. Output level for high impedance shall be −58 db and EIA sensitivity rating shall be −153 db (0 db = 1 volt/dyne/cm^2). Output level for low impedance shall be −58 db and EIA sensitivity rating shall be −151 db (0 db = 1 mw/10 dynes/cm^2). 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 fifteen-foot (single-conductor for Hi-Z, or two-conductor for Lo-Z) shielded, synthetic rubber jacketed cable with Amphenol (80-MC2M for Lo-Z or 80-M for Hi-Z) connector installed at microphone end shall be provided. Low impedance connections shall provide balanced line configuration.

The case shall be pressure-cast zinc. Dimensions shall be: 1-19/32 inch diameter (major), 6-13/64 inches long, not including cable connector, with shank diameter ¾ inch. Net weight (less cable) shall be 7.5 oz. Finish shall be black satin chrome. An Electro-Voice Model 312 stand adapter shall be furnished.

The Electro-Voice Model 627A (high or low impedance, specify one) is specified.

WARRANTY

Each Electro-Voice microphone is guaranteed for its life to be free of factory defects in materials and workmanship and will be repaired or replaced, at our option, if exhibiting malfunction from this cause. Microphones for warranty repair must be shipped prepaid to Electro-Voice, Inc., Sevierville, Tennessee. They will be returned prepaid. This warranty does not cover finish or appearance.

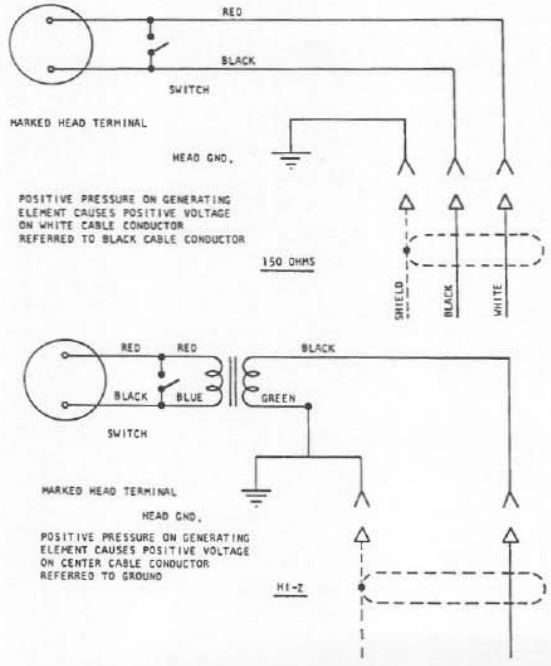

Figure 2 – Wiring Diagrams

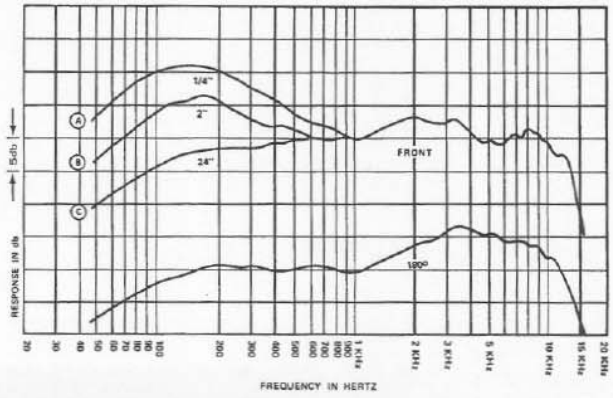

Figure 3 – Frequency Response Characteristics