



Electro-Voice®
a gulton company

Model 1777 Cardioid Electret Condenser Microphone

SPECIFICATIONS

Generating Element:
Electret condenser

Frequency Response:
60-18,000 Hz

Polar Pattern:
Cardioid

Impedance:
150 ohms balanced

Output Level:
-54 dB
(0 dB = 1 mW/10 dynes/cm²)

EIA Sensitivity:
-144 dB

Dynamic Range:
100 dB

Equivalent Noise Level:
Less than 26 dB
(0 dB = .0002 dynes/cm²)
A weighted

Power Supply:
4.5 Volt Internal Battery
(Not included)
or 24 to 48 Volt phantom supply

Battery Selection Guide,
Carbon Zinc:
Eveready No. 333

Alkaline:
Mallory PX-21
Eveready 523
Burgess AL-523
Panasonic PX-21

***Mercury:**
Mallory TR-133
Eveready E-133
Burgess H-133
Panasonic H3P

Current Drain:
3.5 mA

Battery Life,
Carbon Zinc:
150 hours

Alkaline:
175 hours

Mercury:
350 hours

Switch:
On/Off (battery only)

Pop Filter:
Built-in-Acoustifoam™ Filter

Cable:
4.6 m (15 feet),
two-conductor, shielded, brown
rubber-jacketed, with
Switchcraft A3F connector

Case Material:
Diecast zinc & aluminum

Dimensions:
190.5 mm long (7½")
50 mm (1.97") maximum diameter

Weight:
343 grams, (12 ozs)
(With battery but not including cable)

Finish:
Non-reflecting gray

Accessories Furnished:
301 Stand adapter

Optional Accessories:
456 Carrying case
380 Attenuator
AC24M Power supply

DESCRIPTION & APPLICATIONS

The Electro-Voice 1777 is a Single-D electret condenser cardioid microphone. The Model 1777 is similar to the Model 1776, except the 1777 also offers the option of external phantom powering or internal battery powering. The rugged construction of the Model 1777 makes it unique among other condenser microphones. Frequency response, sensitivity and polar response uniformity are all tailored to the needs of the discriminating professional user. The highest quality results can be achieved by using this electret condenser microphone in professional recording, serious home recording, and high quality sound reinforcement. The Model 1777 is especially suited for the professional performer who demands the finest.

The 1777 case is constructed of rugged diecast zinc and the battery compartment sleeve is made of aluminum. The on/off switch (for battery operation only) is recessed so it cannot be accidentally turned off at a crucial moment during a performance. The 1777 features a built-in blast filter which enables close talking or singing without worry of "P-popping" or other excessive breath and sibilant noises. The very low mass of the generating element acts as an effective shock mount which keeps handling noise and other mechanically-transmitted noises to a minimum.

The 1777 uses the professional standard three pin type connector.

*Do not use below 4.5° C (40° F).

Using The Variable Low-Frequency Response:

The 1777 low-frequency response varies with the distance from the sound to the microphone as shown in the response curve (Fig. 2). Maximum bass response is produced in close-up use with the microphone $\frac{1}{4}$ " from the sound source (Fig. 2/A). Minimum bass response is experienced at distances greater than 24" (Fig. 2/C).

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 of the system's sensitivity to reflected sound, hence a reduction of the tendency to feedback.

The variable low-frequency response of the 1777 provides a further feedback reducing advantage in close talking applications. At $\frac{1}{4}$ ", 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 1777, 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 distance of 24" or more. By moving the 1777 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. 2/A/B). If too much signal is generated at the microphone, overloading in the amplifier input circuits may occur, causing severe distortion.

MAINTENANCE INSTRUCTIONS

You have purchased one of the finest electret condenser microphones available. A little care will allow you continued use of this precision instrument for many years.

Your electret condenser microphone should not be left in the open sun or other hot environments where temperatures may approach or exceed 54.4° C (130° F) for any period of time. Following this suggestion will prolong the life of the generating element.

If you feel your unit is malfunctioning, have it examined and repaired only by an Electro-Voice authorized repair service station.

POWERING THE 1777

Unlike normal condenser microphones, the electret condenser does not need a polarizing voltage because a permanent charge is captured in the diaphragm material. However, a small voltage with low current drain is necessary to power the FET impedance converter which must be used to lower the extremely high impedance of the electret head. Powering the 1777 may be accomplished by use of any external DC phantom power source within the range of 24 to 48 volts. The Electro-Voice Model AC24M is designed for this purpose. Also, the 1777 may be powered by use of an internal battery. You may gain access to the battery compartment by unscrewing and pulling away the rear sleeve of the microphone, exposing the battery clips (see Figure 5). A 4½-volt battery should be inserted, being sure to follow the polarization label. The very small current drain of 3.5 mA ensures many hours of use between battery changes. (See Battery and Battery Life information on front of data sheet).

Alkaline and Mercury Batteries are recommended because of much greater shelf life and less likelihood of leakage.

However, with regular usage a fresh carbon zinc-type battery will give nearly as long a service life due to the low current drain.

A noticeable reduction in output gradually occurs well before complete failure usually, allowing replacement of the battery without program interruption.

The 1777 with the internal battery supply can be used as a back-up when the microphone is being powered by an external power source. The 1777, when faced with a failure of the external power supply, will automatically switch over to internal battery power. This will happen without interruption of audio signal as long as the recessed on/off switch is in the "on" position.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone shall be a Single-D cardioid electret condenser type with frequency response of 60 to 18,000 Hz.

The microphone shall have an 150-ohm balanced output, with an output level of -54 dB (0 dB = 1 mW/10 dynes/cm²), and EIA sensitivity rating of -144 dB. The microphone shall have an electret condenser generating element whose output shall not be appreciably affected by temperature extremes from -17.8° C (0° F) to 54.4° C (130° F) and/or humidity extremes. Powering is to be by internal 4.5 volt battery or external phantom supply. A recessed on/off switch (battery only) shall be provided. A 4.6 m (15 ft), two-conductor shielded, brown, rubber-jacketed cable with Switchcraft A3F connector installed at the microphone end shall be provided.

The case shall be zinc diecast with an aluminum battery compartment cover. The finish will be non-reflecting gray paint. Dimensions shall be 190.5 mm (7½") long, not including cable connector, with shank diameter of 25.4 mm (1"). Net weight (including battery, but less cable) shall be 343 grams (12 ozs). The Electro-Voice Model 301 stand adapter shall be furnished.

The Electro-Voice Model 1777 is specified.

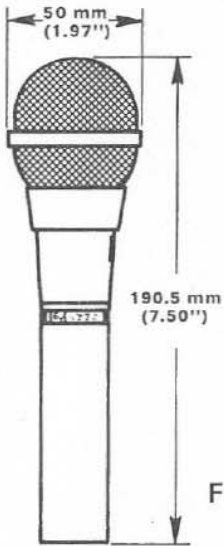


FIGURE 1 – Dimensions

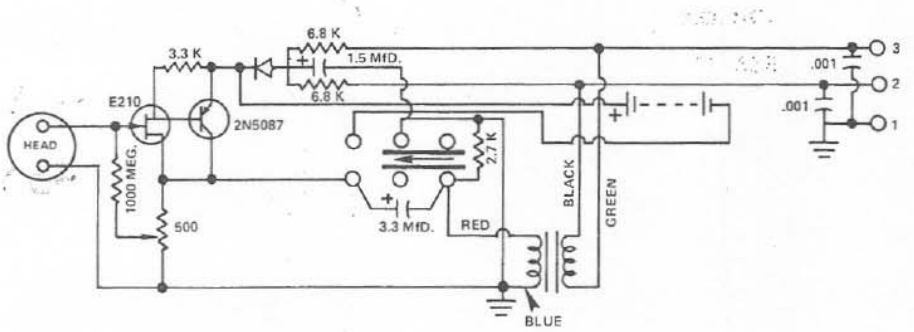


FIGURE 2 – Wiring Diagram

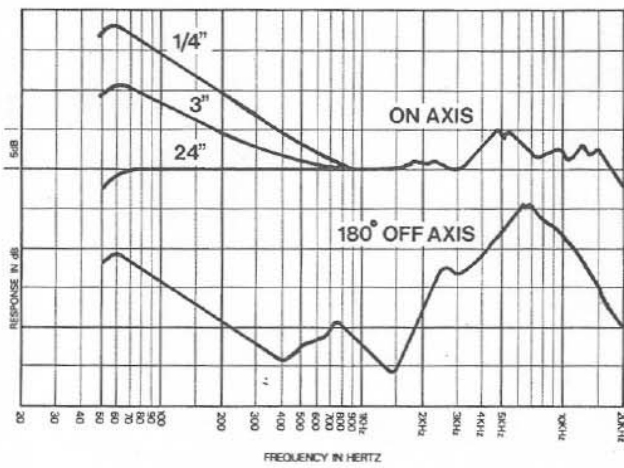


FIGURE 3 – Frequency Response

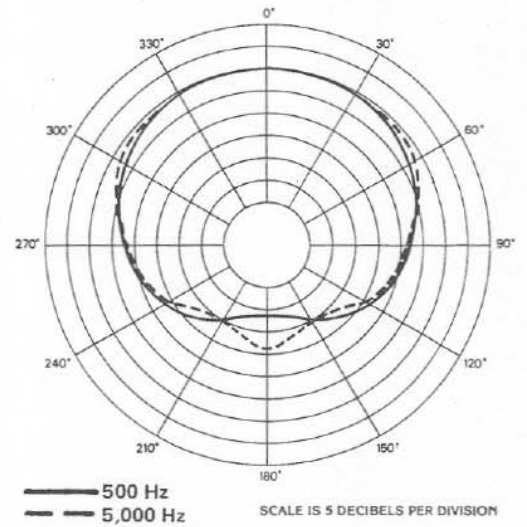


FIGURE 4 – Polar Response

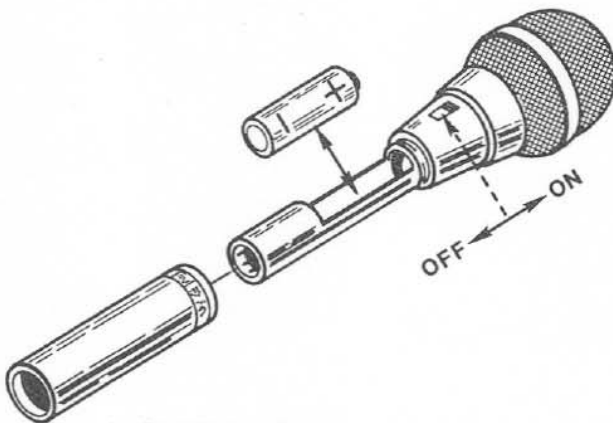


FIGURE 5 – Battery Replacement

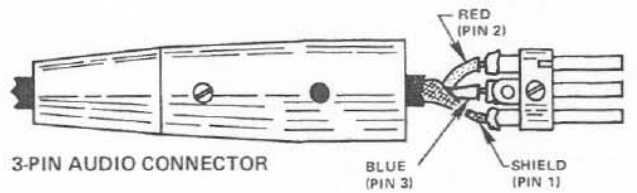


FIGURE 6 – 3-Pin Connector Wiring Connections