

Electro-Voice

MICROPHONES

ELECTRO-VOICE, INC.,
1239 South Bend Ave., South Bend 24, Indiana

TECHNICAL DATA SHEET NO. 24

MODEL — 610

TYPE — DYNAMIC

The ELECTRO-VOICE Model 610 (Figure 1) is a dynamic or pressure type microphone. A moving coil attached to the diaphragm is moved in a fixed magnetic field in accordance with the variations in the applied sound pressure.

Excellent fidelity, high level and pleasing appearance make the 610 ideal for music and speech pickup. It is especially designed for public address work, all types of dispatching and call systems, paging systems, churches, auditoriums, hotels, theaters, and recording studios. Its rugged construction permits indoor and outdoor use without damage by hard usage, temperature or humidity.

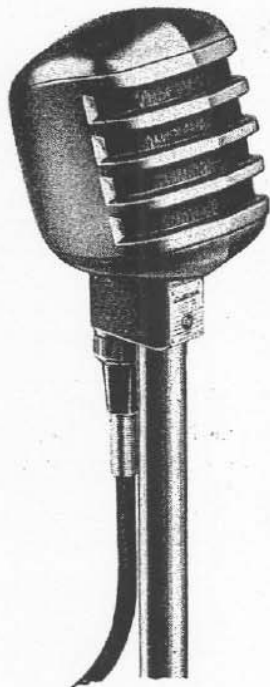


Fig. 1. Model 610

ACOUSTICAL:

At low frequencies this microphone has a non-directional pick-up pattern which becomes directional with increase in frequency (see Figure 2). This characteristic is a function of the diameter of the micro-

phone case and does not class the Model 610 as a directional microphone but it does provide a means for minimizing high frequency acoustic feedback.

The Acoustalloy diaphragm is an exclusive E-V non-metallic diaphragm. It aids in providing smoother response over a wider frequency range. In addition it is practically indestructible, stands high humidity, extremes of temperature, corrosive effects of salt air and severe mechanical shock.

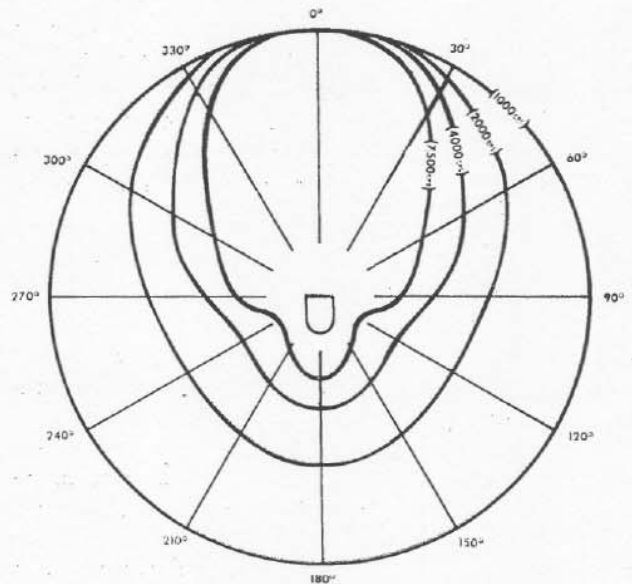


Fig. 2. Directivity Pattern of Model 610

PHYSICAL:

The E-V Model 610 is of sturdy construction which will withstand a maximum of hard usage. The unit is enclosed in a high quality, pressure cast metal case, of modern design having a 15° fixed tilt for effective aiming at the sound sources. The cable connector is a pressure type, easily replaceable in the field.

ELECTRICAL:

High impedance (Hi-Z) models match a standard grid input resistance of from .5 to 5 megohms. Low impedance models should be coupled by a suitable

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matching transformer (E-V Model 502 or equivalent) having the same input impedance as the microphone.

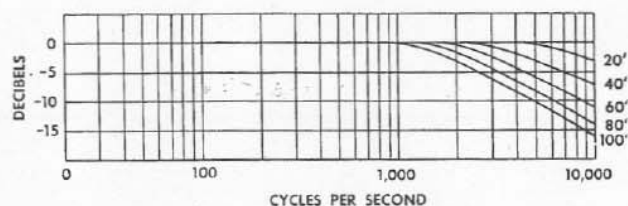


Fig. 3. Attenuation Effect of Extra Cable Length when Installed on 25,000 ohm (Hi-Z) Microphones. Based on cable capacity of .0007 Mfd/20 ft. (DB loss = $20 \log_{10} \sqrt{(RC \omega)^2 + 1}$).

Alnico V and Armco magnetic iron are combined in a non-welded magnetic circuit and give the Model 610 an output level which is well suited for modern amplifiers.

APPLICATION:

The Model 610 is designed for all types of voice and music reproduction, indoors and outdoors. The Acoustalloy diaphragm permits rough usage, withstands high humidity, extremes of temperature, corrosive effects of salt air. This instrument is especially suited for auditorium use, stage, paging, church pulpit, fixed emergency, inter-communicating systems, amateur, professional or home recordings, and dictating equipment.

MECHANICAL:

CABLE: Supplied with 8 or 20 feet of well-shielded, synthetic rubber jacketed cable. Additional cable attenuates the higher frequencies according to the data in Figure 3.

CASE: The microphone case is fabricated from the highest purity (99.99%) pressure cast metal.

FINISH: The Model 610 is finished in durable satin chromium. Wiping with a soft cloth is all that is necessary to maintain its rich lustre.

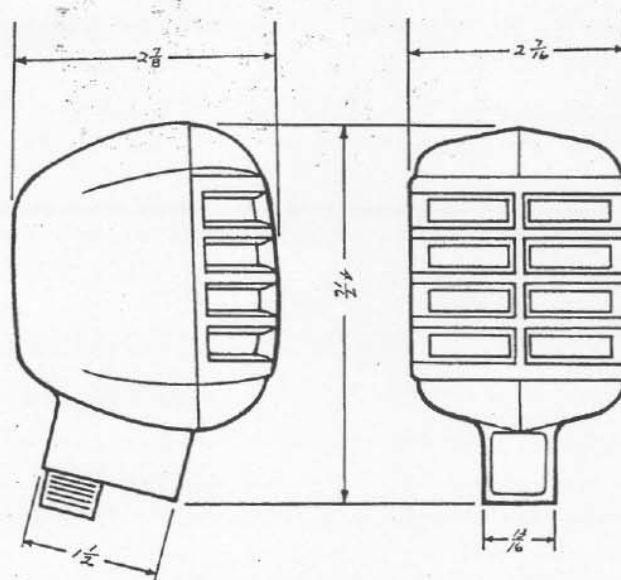


Fig. 4. Mechanical Dimensions Model 610

NET WEIGHT: 1 1/4 pounds.

DIMENSIONS: See Figure 4.

SPECIFICATIONS:

OUTPUT LEVEL RATING: Voltage (High Impedance): 53 db below 1 volt/dyne/cm², open circuit. Voltage developed by normal speech: (10 dynes/cm²): .0224 volt across Hi-Z output.

OUTPUT IMPEDANCE: (Optional) 50, 250, 500 and Hi-Z (direct-to-grid, 25,000 ohms). Low impedances are not balanced to ground.

FREQUENCY RESPONSE: 50 to 8,000 c.p.s., substantially flat.

CONNECTOR: MC-1 pressure type.

POLAR PATTERN: See Figure 2.

WARRANTY: The Model 610 is guaranteed against defects in workmanship and material.