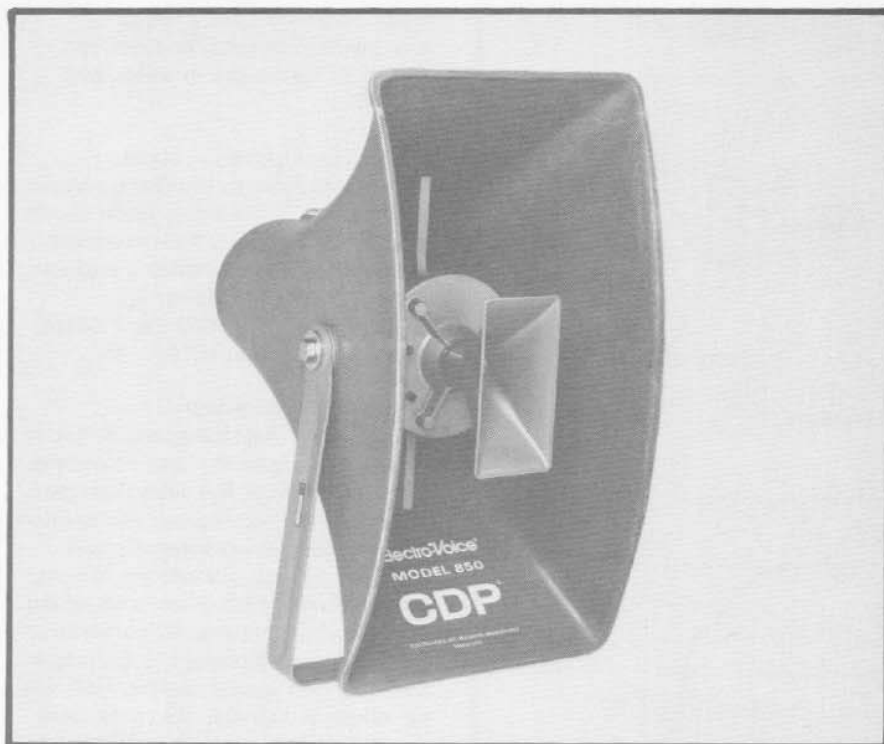


Electro-Voice®
a gulton company



Model 850 Compound Diffraction Horn

SPECIFICATIONS

Frequency Response, 4 Feet on Axis,
Swept 1/3-octave Random Noise.

(See Figure 2 for curves)

150-11.5 kHz Nominal
(± 5 dB 300-6 kHz)

Power Handling Capacity
(Shaped random noise input):
60 watts

Dispersion Angle Included by
6-dB-Down-Points, Octave Bands
of random noise (See Figure 3):
Center

Frequency		
500 Hz	149°	84°
1000 Hz	109°	114°
2000 Hz	130°	110°
4000 Hz	82°	56°
8000 Hz	54°	66°

Sound Pressure Level, ~~45 Watts at 4 ft~~ ^{1m/1w}
on Axis, Octave Band of Random Noise
~~Centered on 2000 Hz: 500-5 kHz~~
115 dB

EIA Sensitivity, 1 mW at 30 ft on Axis
Per EIA Std. SE-103:
56.5 dB

Color:

Niles brown

Finish:

Molded fiberglass

Dimensions:

52.0 cm (20.5 in.) high
26.5 cm (10.5 in.) wide
51.0 cm (20 in.) deep

Mounting:

Steel "U" bracket with three 1/2 in.
holes spaced 2 inches apart

Net Weight:

8.4 kg (18.5 lbs)

DESCRIPTION AND APPLICATION

The Electro-Voice Model 850 Compound Diffraction Projector is a wide range, integrated horn and driver system using a single high efficiency driver unit with two coaxial horns coupled to opposite sides of the driver diaphragm. The folded construction of the rear horn and the smaller dimensions of the front horn together, provide a 1000 Hz acoustic crossover. This separation of frequencies yields an extended high frequency response with a resultant improvement in intelligibility.

Using the diffraction principle, the elongated shape of the two horns broadens the polar response in a direction at right angles to the longest dimension. The smaller horn, because of its small size, allows the 850 to maintain a broad polar response into the higher frequency ranges. Thus, the 850 has a more uniform polar (vs. frequency) response than would be achieved with the single large horn alone.

The materials used in the 850, including the fiberglass large horn, die cast front horn and phenolic inner horns have been selected for their strength and durability. The 850 is specially suited for outdoor use and in harsh environments.

DISPERSION

The dispersion of the Model 850 is determined by the physical size and shape of its two horns, and is detailed in the polar plots shown in Figure 3. These measurements were made using octave band random noise signals centered on the frequencies indicated (10 ft in an anechoic chamber).

FREQUENCY RESPONSE

The frequency response of the Model 850 is shown in Figure 2 (using a swept 1/3-octave random noise).

INSTALLATION

The 850 is shipped with the "U" bracket assembled for mounting in the normal vertical position (Figure 1). This bracket may be moved to the rear mounting position for 90° rotation of the horns, or for mounts where the mounting holes must be vertical. Using these two mounting positions and the swivel connection of the bracket to the horn allows a wide variety of mounting arrangements.

Electrical connection to the 850 is made using the two push terminals on the 1829 driver. A rubber grommet is provided at the rear of the horn for cable entry to the driver.

When frequencies below the low frequency cut-off of the horn are fed

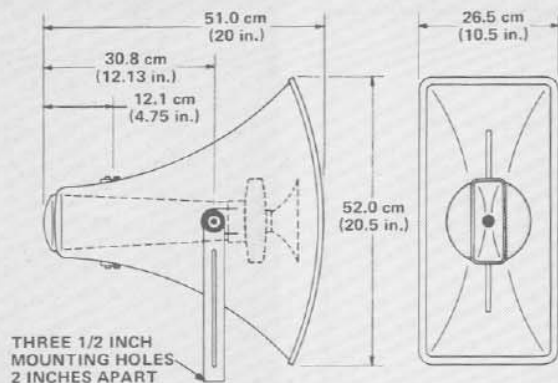


FIGURE 1 — Dimensions

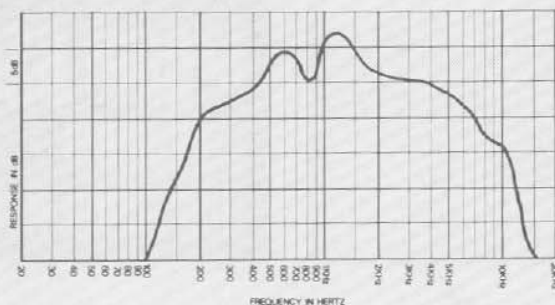


FIGURE 2 — Frequency Response

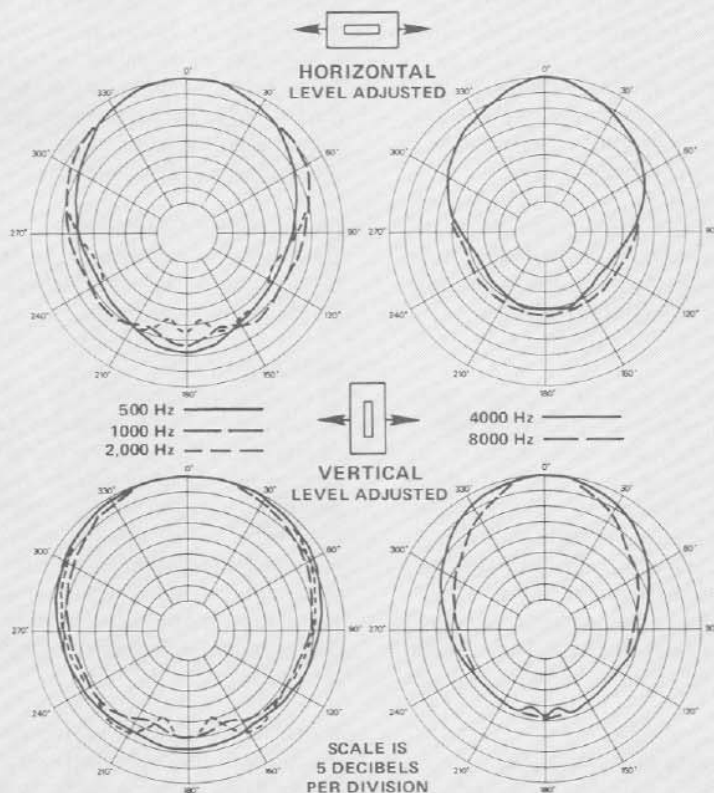


FIGURE 3 — Polar Patterns

to the driver, excessive current may result. To prevent this a 100 μ f non-polarized electrolytic capacitor should be connected in series with the 850.

For further information about applications refer to the Electro-Voice publication, "The Electro-Voice Guide to Commercial Sound Reinforcement and Public Address Systems", available without charge by writing: Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107.

WARRANTY (Limited)

Electro-Voice Reinforcement & Public Address Loudspeakers and accessories are guaranteed for five years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, unit 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 or appearance items or 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.

For correct shipping address and instructions on return of Electro-Voice products for repair and locations of authorized service agencies, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone: 616/695-6831) or Electro-Voice West, 8234 Doe Avenue, P.O. Box 3297, Visalia, CA 93277 (Phone: 209/651-7777).

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

Specifications subject to change without notice.