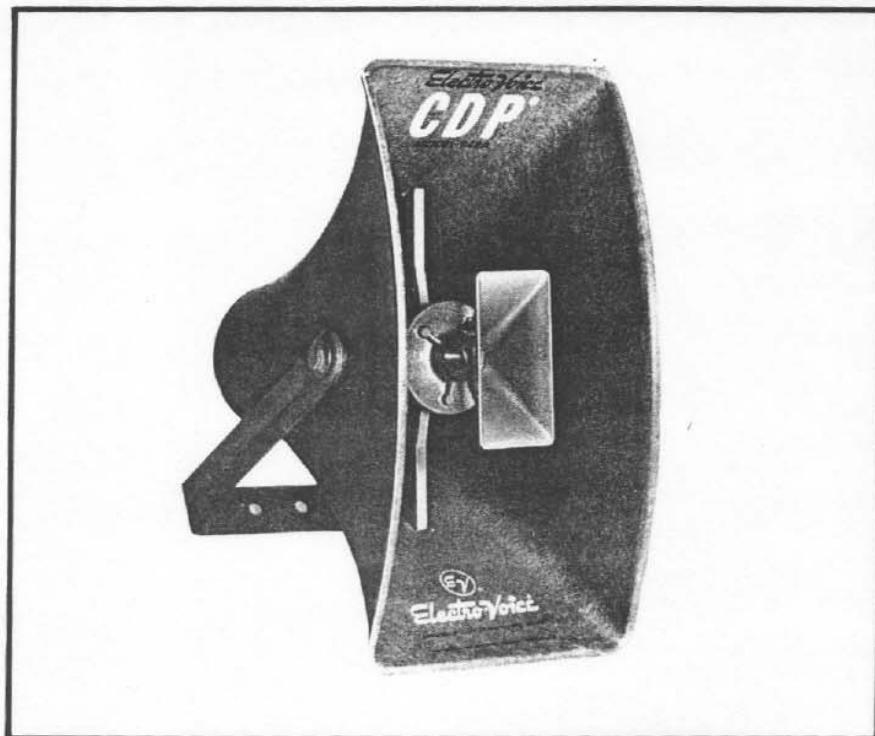




**Electro-Voice®**  
a gulton company

## Model 848A Compound Diffraction Projector

### SPECIFICATIONS

Frequency Response, 4 ft on Axis,  
Swept 1/3-Octave Random Noise,  
(See Figure 2 for Curve):

195-14 kHz nominal  
( $\pm 5$  dB 430-6 kHz)

Power Handling Capacity (Shaped  
Random Noise Input):  
30 watts

Dispersion Angle Included by 6 dB  
Down Points, Octave Bands of Random  
Noise (See Figure 3):

Center

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

Sound Pressure Level, 15 Watts at  
4 ft on Axis, Octave Band of Random  
Noise Centered on 2000 Hz:

~~100~~ dB

115.7

30 Watts

118.7

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

40 dB

Terminal Connection:

Push terminals, phased

Color:

Niles brown

Finish:

Molded fiberglass

Dimensions (See Figure 1):

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. diameter holes spaced  
2 inches apart

Net Weight:

7 kg (15.5 lbs)

105.7 dB @ 1m/1W

### DESCRIPTION AND APPLICATION

The Electro-Voice Model 848A Compound Diffraction Projector is a wide range, integrated horn and driver system using a single 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 848A to maintain a broad polar response into the higher frequency ranges. Thus, the 848A has a more uniform polar (vs. frequency) response than would be achieved with the single large horn alone.

The materials used in the 848A, including the fiberglass large horn, die cast front horn and phenolic inner horns have been selected for their strength and durability. The 848A is specially suited for outdoor use and in harsh environments.

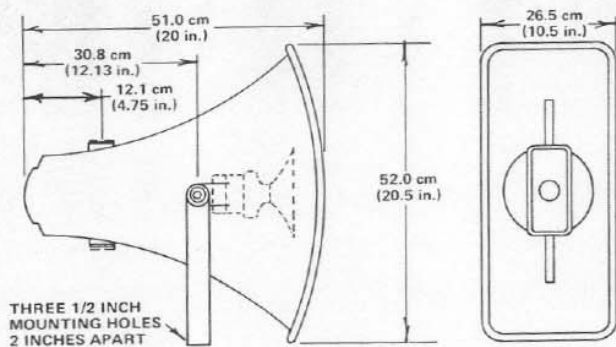


FIGURE 1 – Dimensions

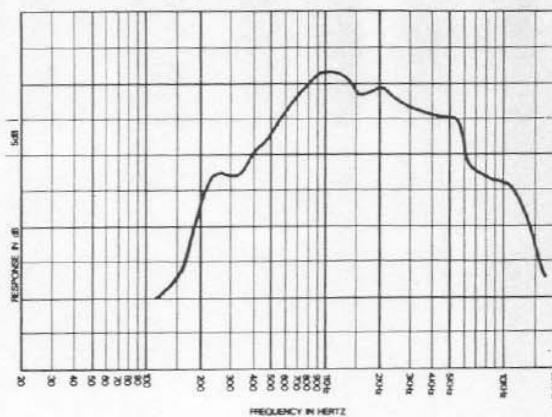


FIGURE 2 – Frequency Response

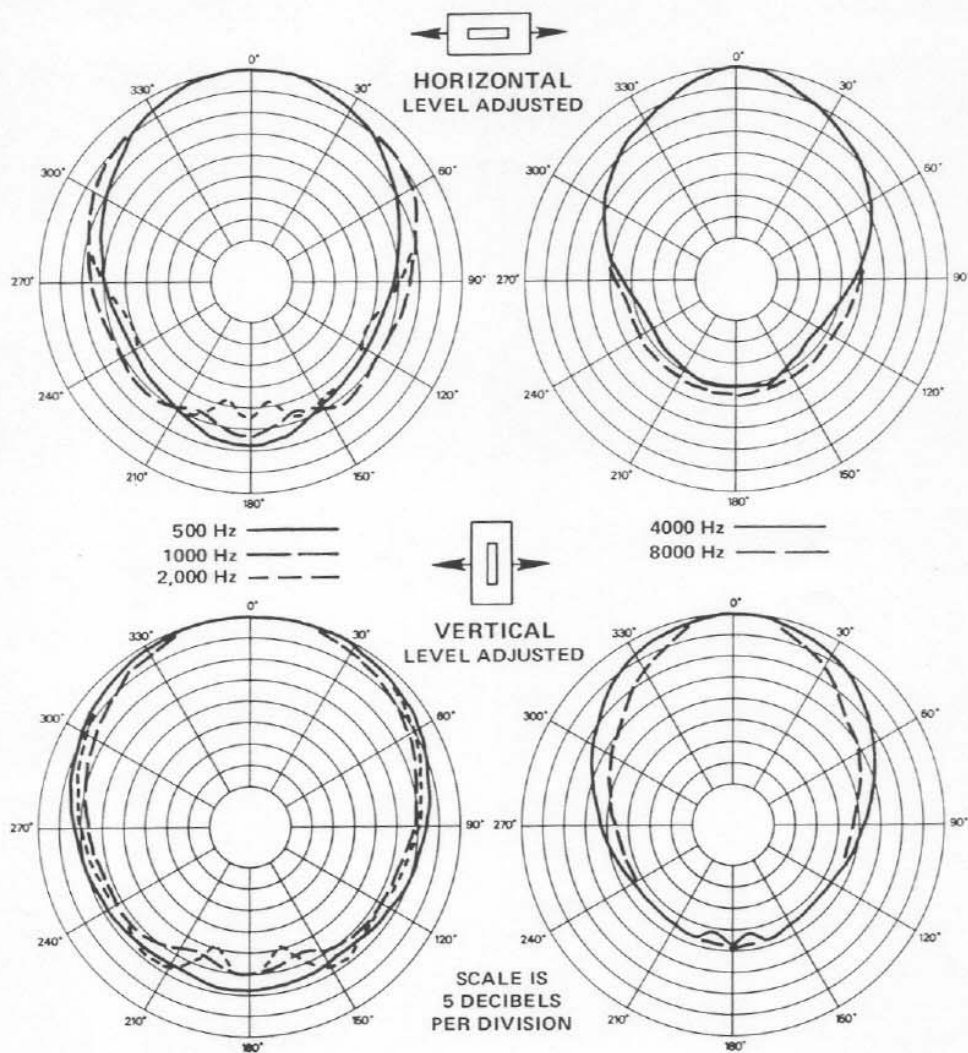


FIGURE 3 – Polar Patterns

### DISPERSION

The dispersion of the 848A is determined by the physical size and shape of the 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 848A has an extended high frequency response making it especially useful for highly intelligible speech. A plot of the frequency response using swept 1/3-octave random noise is shown in Figure 2.

### INSTALLATION

The 848A is shipped with the "U" bracket assembled for mounting in the normal vertical direction (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 in the bracket 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 848A is made using the two push terminals on the 1828C 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 to the driver, excessive current may result. To prevent this a 100  $\mu$ f non-polarized electrolytic capacitor should be connected in series with the 848A.

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, P.O. Box 186, 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, P.O. Box 186, Buchanan, Michigan 49107 (Phone: 616/695-6831) or Electro-Voice West, 8234 Doe Avenue, P.O. Box 3297, Visalia, CA 93277 (209/625-1330,-1).

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

Specifications subject to change without notice.