

**FEATURES**

- Exclusive Diffraction principle for wide angle coverage
- Rigid, non-resonant die-cast construction
- For use with any driver having 1-3/8" x 18 thread

**INTRODUCTION**

The Electro-Voice Model 8HD Diffraction Horn is an exponentially flared horn designed for use with recommended treble driver units such as the Electro-Voice Models T250 and T25A.

**GENERAL DESCRIPTION**

The Model 8HD unit employs the Diffraction principle in combination with the correct exponential flare to provide smooth and adequate dispersion of the "presence" or "treble" range. The result is a "spread" of sound that affords adequate coverage of the entire listening area—this is especially important in stereophonic installations. The 8HD horn is of rugged die-cast construction and is finished in non-halation matte black to obviate "shine-through". The horn is designed for crossover at 800 cps with an appropriate crossover network such as the Electro-Voice Model X8; actual horn cutoff is 600 cps. This overlap eliminates disturbances often caused by operating horn crossover points too close to cutoff points.

**RECOMMENDATIONS FOR USE**

The 8HD horn is recommended for use with all Electro-Voice treble drivers, but will enhance the performance of alternate drivers with a throat which will accept a 1-3/8"-18 thread.

**SPECIFICATIONS**

**Dispersion:**

(Horn's long axis vertical)

Horizontal: 120°

Vertical: 90°

Crossover Frequency: 800 cps

Cutoff Frequency: 600 cps

Construction: Rigid Die-casting

Size: 15" H x 4-1/2" W x 8-1/4" D

Net Weight: 2 lbs., 10 oz.

Shipping Weight: 4 lbs.

**MOUNTING ACCESSORIES**

(Packed in carton with unit)

- 1 L-shape mounting bracket
- 4 Carriage bolts, 3/16" x 1-3/4"
- 4 Nuts, 3/16" -24 square
- 4 Washers, #10 flat
- 2 Wood screws, #8 x 3/4, round head
- 2 Washers, #8 flat
- 2 Rubber damping strips
- 1 Gasket

**MOUNTING**

It is recommended that the 8HD be mounted to a sturdy baffle board, as near ear level as possible. For maximum horizontal dispersion, the horn should be mounted with its long axis

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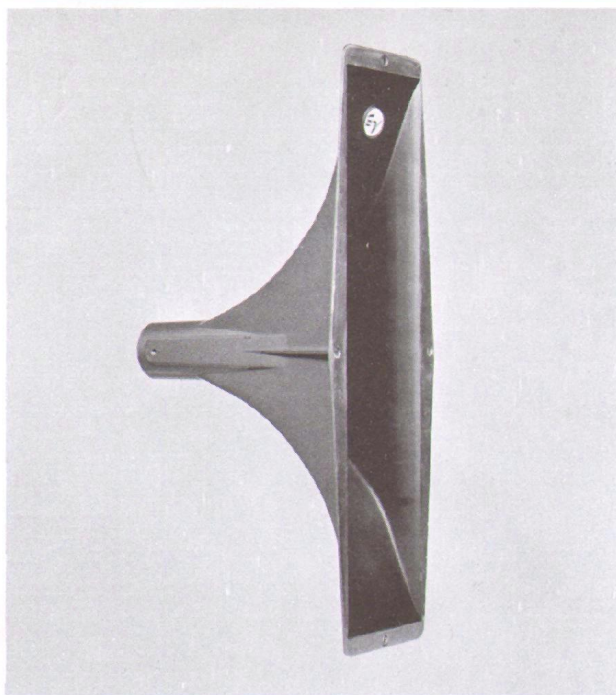
vertical. When mounting to a baffle board, cut out port and drill mounting holes. Proper port size is 3-1/8" x 14". Mounting holes are on 3-7/8" and 14-1/2" centers. Fasten horn to panel using the (4) 3/16" carriage bolts, nuts and washers provided. The gasket is placed between the horn and the panel to ensure an effective seal. Thread the driver securely into place on the horn. This mounting procedure will be quite satisfactory for use with all standard drivers, such as the Electro-Voice T25A. When an unusually heavy driver, such as the E-V T250, is employed, it is desirable to provide additional support for the driver. The Model T250 is equipped with mounting lugs for this purpose.

It is also possible to mount the 8HD without use of a baffle board. In this case, support is provided at the driver. For example, using the

mounting lugs on the T250, it may be securely suspended from the top or side of the enclosure leaving the 8HD free standing. This technique may also be employed when using a driver such as the T25A by means of the L-shaped bracket supplied. This bracket is secured to the enclosure, using the #8 wood screws and flat washers supplied, where the junction of horn and driver is desired. The mouth of the driver may now be inserted through the bracket, and the driver and horn carefully threaded together and tightened by hand.

Note that when the 8HD is left free standing (not secured directly to a baffle board) the two molded rubber strips are applied to the long sides of the horn. The purpose of these strips is to eliminate any tendency of the horn to resonate.

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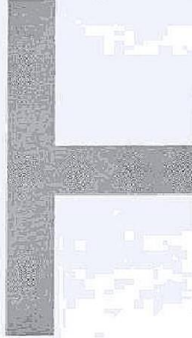
mounting lugs on the T250, it may be securely suspended from the top or side of the enclosure leaving the 8HD free standing. This technique may also be employed when using a driver such as the T25A by means of the L-shaped bracket supplied. This bracket is secured to the enclosure, using the #8 wood screws and flat washers supplied, where the junction of horn and driver is desired. The mouth of the driver may now be inserted through the bracket, and the driver and horn carefully threaded together and tightened by hand.

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# Electro-Voice

ELECTRO-VOICE, INC.  
BUCHANAN, MICHIGAN



## Specifications and Instructions

Models T10A and T25A  
High-Frequency Drivers

Models 8HD and 6HD  
Diffraction Horns

Specifications and Instructions



ELECTRO-VOICE

Models T10A, T25A, 8HD, 6HD



Model T10A



Model 8HD

**GENERAL DESCRIPTION—DRIVERS**—The Electro-Voice T10A and T25A are permanent magnet dynamic type driver units for use as mid-range and high-frequency reproducers in conjunction with suitable horns.

Both the T10A and T25A employ a molded, phenolic-impregnated, woven glass diaphragm with an edgewound aluminum voice coil. The diaphragm assembly is extremely rugged, benefiting from the extensive research program behind the Electro-Voice CDP and 848HF mid-range drivers.

The T10A has an RETMA sensitivity rating of 51 db, and is the optimum complement to medium-efficiency driver units such as the Electro-Voice SP12B, SP15B, 12BW, 15BW and T35B.

The T25A has an RETMA sensitivity rating of 53 db, and is designed for use with high-efficiency units such as the Electro-Voice SP12, SP15, 12W, 15W, 18W and T35. The frequency response of the T25A is smoother and more extended in comparison to the T10A. Harmonic distortion at identical output levels is also lower in the T25A.

**HORNS**—The Electro-Voice Models 6HD and 8HD are nonresonant, molded fiberglass exponential diffraction type horns. Operating on the principle that when a sound wave passes through a slit, it is diffused at right angles to the long axis of the slit, the Hoodwin diffraction horns possess an unusually broad polar dispersion pattern. (See Fig. 3 "Polar Response.")

The 6HD is designed for crossover at 600 cycles with an appropriate crossover network such as the Electro-Voice X6 or X2635. Actual horn cutoff is at 400 cycles, thus eliminating disturbances often caused by operating a horn crossover too close to cutoff.

The 8HD is similar in construction to the 6HD, and is designed for crossover at 800 cycles with a suitable crossover network such as the Electro-Voice X8 or X825.

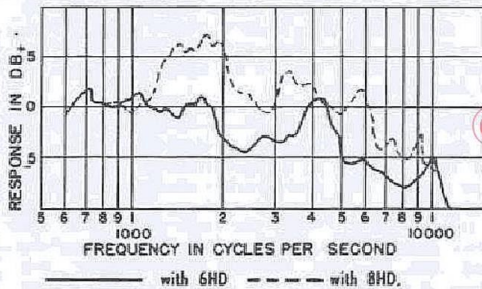


Fig. 1—Frequency Response Model T10A with Model 8HD and Model 6HD

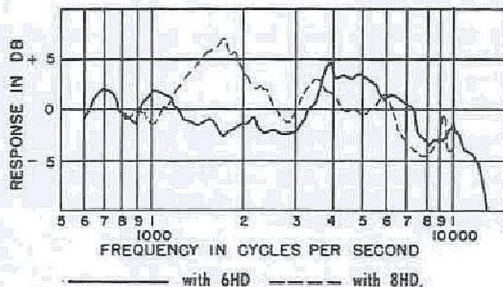


Fig. 2—Frequency Response Model T25A with Model 8HD and Model 6HD

## SPECIFICATIONS

	T10A	T25A
Impedance:	16 ohms	16 ohms
Power Rating:	25 watts	30 watts
RETMA Sensitivity:	51 db	53 db
Free Air Resonance:	700 cycles	700 cycles
Voice Coil Diameter:	2 inches	2 inches
Throat Diameter:	7/8 inch	7/8 inch
Flux Density:	8300 Gauss	11,000 Gauss
Size:	3 1/4 in. d x 3 3/4 in. dia.	4-1/16 in. d x 3 3/4 in. dia.
Magnet Weight:	8 oz	1 lb
Net Weight:	2 lbs 15 oz	4 lbs 11 oz
Shipping Weight:	4 lbs	6 lbs

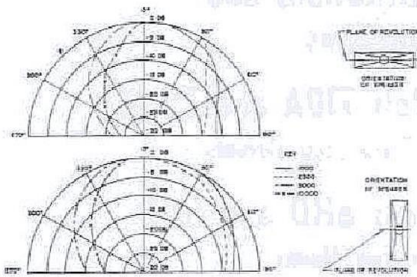


Fig. 3 - Polar Response  
Model T25A with Model 6HD

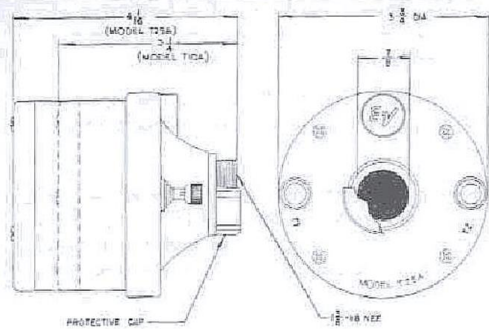
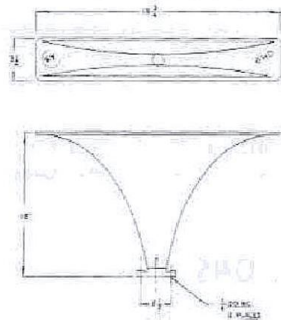
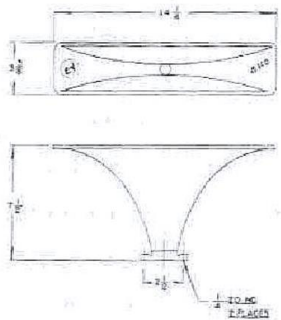


Fig. 4 - Dimensions Models T10A and T25A



Model 6HD  
Fig. 5 - Dimensions  
Model 8HD



### SPECIFICATIONS (Cont.)

	6HD	8HD
Crossover Frequency:	600 cycles	800 cycles
Cutoff Frequency:	400 cycles	500 cycles
Size:	19 3/4 in. l x 3 1/2 in. h x 12 in. d	14 1/2 in. l x 3 3/8 in. h x 7 1/2 in. d
Net Weight:	2 lbs 8 oz	1 lb 1 oz
Shipping Weight:	6 lbs	4 lbs

### MOUNTING ACCESSORIES

Packed in the 6HD or 8HD carton:

- |  |                                   |
|--|-----------------------------------|
| 2—Speaker Mounting Brackets (Steel Straps)     | 4—3/8 x 2 1/2-inch Carriage Bolts |
| 2—1/4-inch Lock Washers                        | 4—No. 10 Washers                  |
| 2—1/4-inch - 20 x 1/2-inch Hex Head Cap Screws | 2—No. 8 x 1/4-inch Woodscrews     |
| 1—"L" Bracket                                  | 2—No. 8 Washers                   |
| 1—Flange Collar Gasket                         | 4—3/16 No. 24 Square Nuts         |
|  | 2—3/16 x 24-inch Vinyl Gaskets    |
|  | 2—Wood Blocks                     |

Packed in the T10A or T25A carton:

- |                        |  |
|------------------------|--|
| 1—Flange Collar        | 2—5/16 - 18 x 1/2-inch Hex Head Cap Screws |
| 1—Flange Collar Gasket | 2—5/16-inch Lock Washers                   |

### INSTRUCTIONS AND PREPARATION FOR USE

**MOUNTING ON FLAT SURFACES**—Locate and secure the "L" bracket to the mounting surface. Insert the two 5/16-inch cap screws through the clearance holes in the horn mounting flange. Place a flange collar gasket over the screws, then the "L" bracket, then another flange collar gasket and attach the horn to the flange collar using the two 5/16-inch screws and tighten. Remove the protective plastic cap from the driver unit. Screw the driver unit to the flange collar. The flange collar should be tight, but not tight enough that it will damage the rubber ring gasket.

**MOUNTING ON PORTED BAFFLEBOARD**—Insert the two 5/16-inch cap screws through the clearance holes in the 6HD or 8HD horn mounting flange. Attach the horn using the flange collar gasket as a separator and tighten the 5/16-inch screws into the flange collar. The two speaker mounting brackets are secured to the horn mounting flange by means of two 1/4-inch hex head cap screws and two 1/4-inch lock washers. With the lock washers on the cap screws, place the cap screws through the clearance holes in each of the speaker mounting brackets and then into the threaded holes in the horn mounting flange. Do not tighten until the unit is in its final mounted position and the speaker mounting brackets are secured on the speaker mounting board. Remove the protective plastic cap from the T10A or T25A driver units. Screw the driver unit to the flange collar. Be sure that the flange collar is tight, but not tight enough that it will damage the rubber ring gasket.

The 3/16x24-inch vinyl gaskets may be stapled or tacked in place to assure an airtight seal in cabinets not having this material. The diffraction horn may be recessed into the baffle board by routing or chiseling a slot to the dimensions of the mouth of the horn, leaving 1/16-inch clearance all around. The two wooden blocks are used with the carriage bolts, nuts and washers to secure the edges of the horn in this case.

**WIRING AND PHASING**—All Electro-Voice driver units are coded in one or both of the following conventions:

- |          |             |
|----------|-------------|
| Positive | T1 or Red   |
| Negative | T2 or Black |

Upon applying a positive voltage on T1, the driver diaphragm will move compressively. Driver units should be wired in such a manner that all units are acoustically in phase. This may be determined most readily by connecting for greatest volume. If an attenuator or level control is used in the system, this should be at position of least attenuation during test.