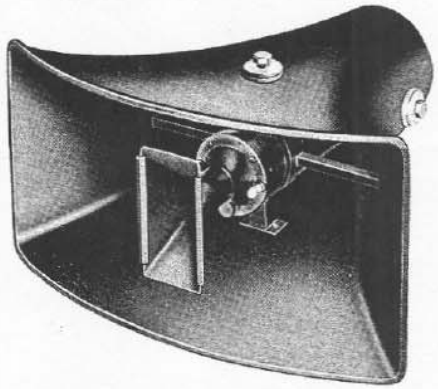
Electro-Voice®

ELECTRO-VOICE, INC.
BUCHANAN, MICHIGAN

Specifications and Instructions Model 848HF Coaxial Midrange Driver



Model 848HF

The Electro-Voice Model 848HF coaxial midrange reproducer is a wide-range, integrated horn and driver system using a single driver unit with two coaxially mounted high and low-frequency horn paths coupled to opposite sides of a single diaphragm. The bell of the 848HF, fabricated of fiberglass and polyester resin, provides an extremely strong, lightweight housing.

Because of its extended high-frequency response, the 848HF may be employed as a coaxial compression-driven midrange and high-frequency reproducer, in addition to the more conventional midrange application. As shown in Figure 2 the useful frequency response range of the 848HF extends from 200 cps to the 10,000 cps region. The curve shown for the Model 848HF is for a free-field condition. A three db improvement from 150 to 1000 cps results when the unit is placed with the long axis of the large horn parallel to a plane surface as in the E-V Georgian IV.

The 848HF provides better than twice the high-frequency polar distribution of re-entrant of multicellular reproducers of comparable size, with an increase in efficiency of three db. Both horns of the 848HF are designed to spread sound in the same manner that optical diffraction slits spread light. Therefore, the optimum polar distribution in the horizontal plane is obtained when the long dimension of the horn is vertical. The most concentrated horizontal polar pattern is obtained with the long dimension of the horn horizontal. Because there are no cells in the 848HF to beam the sound path, a pinpointing effect usually associated with multicellular design is completely absent. The elimination of multiple throats at the driver mouth permits greater high-frequency efficiency as compared to multicellular horns. The coaxial midrange reproducer disperses sound through a solid 120° angle when the projector is mounted with the long dimension of the smaller horn in a vertical position. The wide-angle dispersion of the 848HF results in equal musical audition throughout the listening area.

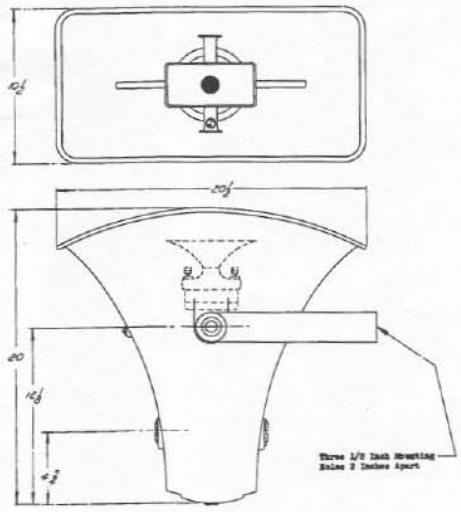


Fig. 1 — Dimensions

SPECIFICATIONS

Frequency Response:	200 to 10,000 cps
RETMA Sensitivity Rating:	52 db
Power Handling Capacity:	
Program Material:	25 watts
Peak:	50 watts
Impedance:	16 ohms
Acoustical Crossover:	1000 cps
Low-Frequency Horn Taper:	125 cycles
Mounting:	On special horn studs (Georgian IV system) or "U" bracket (Senior Centurion IV system)
Size:	10½ in. high, 20½ in. wide, 20 in. deep
Weight:	13½ lb net, 15 lb shipping

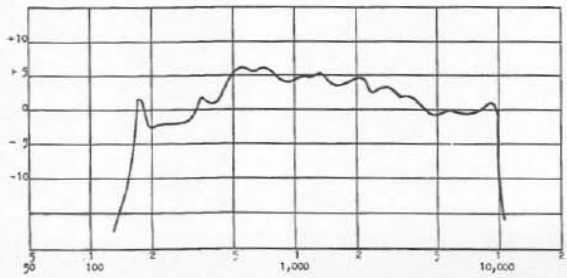
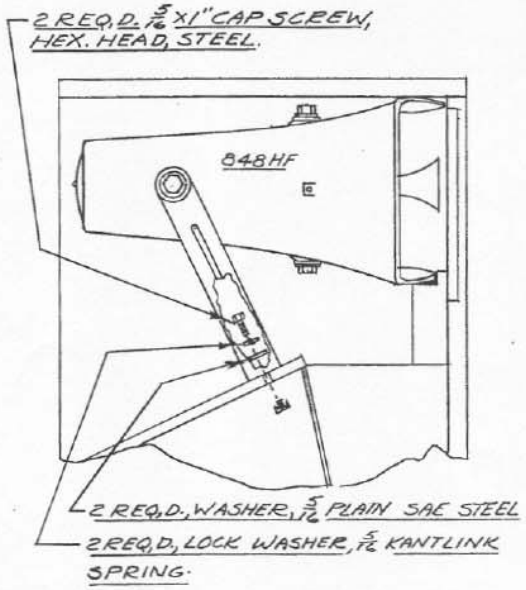


Fig. 2 — Frequency Response

MOUNTING ACCESSORIES

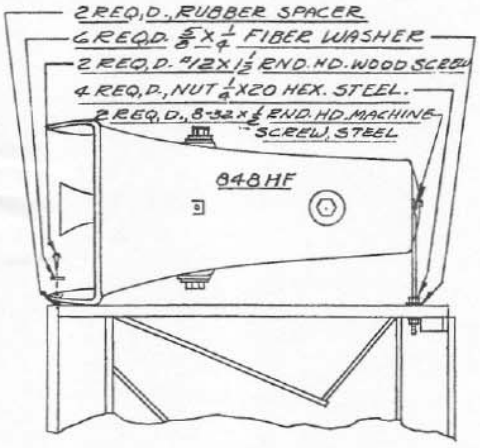
4	¼-20 hex steel nuts
2	Rubber spacers
6	⅝ x ¼ flat washers
2	#8 internal lock washers
2	8-32 x ½ binding head machine screws
2	#12 x 1½ slotted, round-head wood screws
2	Horn support
1	"U" bracket



THE GEORGIAN

Fig. 3 — Mounting Diagram

THE CENTURION



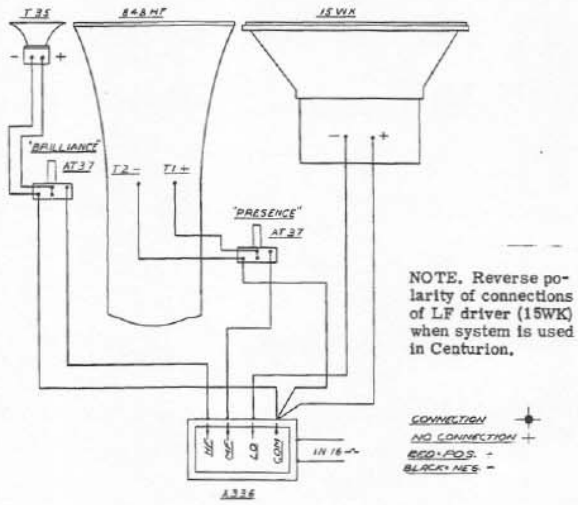


Fig. 4 — Schematic Wiring Diagram

INSTALLATION

MOUNTING IN THE GEORGIAN IV, 106 K HORN, AND KD2 GEORGIAN K HORN — Affix the two horn support rods to the threaded self-nut on the rear of the 848HF with the 8-32 binding head machine screws and internal lock washers. The horn should be oriented with the long axis parallel to the top of the K horn and with the screw holes in the front lip down for this purpose. Put two nuts and two washers on the horn supports and place the supports through the 3⅜" centered holes in the K horn top at the rear. Place two more washers and nuts on the bottom of the horn supports as they project thru the K horn top. Approximately 1/16" of threads should be visible. Tighten the *top* nuts snugly.

Put washers on the #12 x 1½ wood screws and feed the screws through the holes drilled in the bottom of the front lip of the 848HF. Slip the rubber spacers over the wood screws, and screw into the pre-drilled holes located to the front in the top of the K horn.

MOUNTING IN THE CENTURION AND KD3 CENTURION — Place the 848HF with the long axis of the bell in the horizontal direction. Attach the "U" bracket so that the horn will mount horizontally, but do not tighten the bolts. Place the 848HF in the Centurion cabinet and rest the front lip on the shelf provided. Align the holes in the "U" brackets with the threaded "T" nuts in the top of the Centurion bass speaker cavity cover, insert the cap screws and lock washers provided with the cabinet, and tighten snugly. Now tighten the "U" bracket bolts.

MOUNTING ON FLAT SURFACES — Follow the instructions detailed above for the Georgian.

MOUNTING THROUGH A BAFFLEBOARD — Either the Georgian or Centurion instructions may be followed. An airtight "tunnel" approximately 10½ x 20½ x 6 inches deep should be constructed to receive the bell of the 848HF. The tunnel may be sealed with rubber weatherstripping, mastic, undercoating, or marine glue.

OPERATION

ADJUSTMENT OF LEVEL CONTROL — A Model AT37 level control should be used to adjust the amount of energy fed to the 848HF coaxial midrange reproducer. This "Presence" control will allow balancing of that frequency range lying in the region between 800 cycles and 3500 cycles when used in the Model 105 system. Generally, because of the increased efficiency of this reproducer, the "Presence" control should be adjusted to a partially retarded setting. Exact positioning of this control will depend on room acoustics and should be adjusted for most pleasing reproduction. Rooms having heavy drapes, thick rugs, or upholstered furniture usually will require a more advanced setting than normal situations. To achieve a "front row" effect, the reproduction of the midrange reproducer may be enhanced by advancing the "Presence" control.

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. Proper wiring connections for the 848HF are shown in Fig. 4.

ELECTRO-VOICE, INC. / BUCHANAN, MICHIGAN

Part No. 53375

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