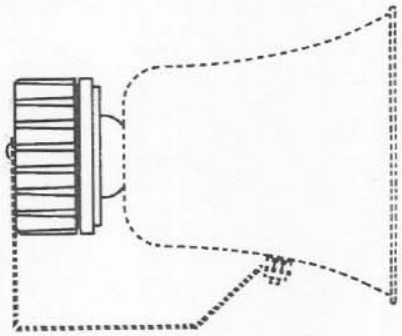
1823
110-WATT DRIVER



DESCRIPTION

The Electro-Voice Model 1823 110-watt driver is a breakthrough in design engineering employing many new and unique features which enhance its ruggedness and reliability while maintaining the highest performance standards. Designed originally for use in fixed and mobile P.A. emergency warning systems, the 1823 is capable of handling high power signals without distortion or change in frequency response.

Ideal for applications where clean, extremely high-level P.A. is essential, the 1823 has an adjusted program power handling capacity of 110 watts (90 watts continuous sine wave, 75 watts continuous square wave). Frequency response, varying with horn type, is 200 to 8,000 Hz (see specifications).

A cast ductile iron pot structure is used for highest efficiency and permits the use of heat radiating fins to reduce the operating temperature as much as 41° F. Special thermal paint used on the radiating fins assists the dissipation of excess heat.

Recently developed materials have been employed in the coil form to drastically lessen the possibility of coil failure under the extreme acceleration of high power square wave operation.

The rugged weather resistant phenolic diaphragm of the 1823 driver is virtually indestructible. The entire voice coil and diaphragm assembly is held to absolute concentricity through exclusive E-V design, precision fixturing, and construction techniques utilizing automatic thermal compensation in the voice coil assembly. Automotive type electrical terminals are used, and the mating connectors are provided.

SPECIFICATIONS

Frequency Response,

AR400 horn:	350–8,000 Hz
AR500 horn:	450–8,000 Hz
FR150 horn:	180–8,000 Hz
AR150 horn:	180–8,000 Hz

Power Handling Capacity,

Continuous Program:	110 watts
Continuous Sine Wave:	90 watts
Continuous Square Wave:	75 watts (See Note #1)

Sound Pressure Level (See Note #2),

AR400:	Sine Wave at 4', 126 dB, at 10', 118 dB
AR500:	Sine Wave at 4', 115.2 dB, at 10', 107.2 dB
FR150:	Sine Wave at 4', 126 dB, at 10', 118 dB
AR150:	Sine Wave at 4', 127.5 dB, at 10', 119.5 dB

Impedance,

DC:	4 ohms
AC (800–1300 Hz pink noise):	7 ohms
EIA Sensitivity:	(AR400 horn) 58 dB
Terminal Polarity:	T1 equals positive, T2 equals negative
Terminals:	Faston series 250 (.250 wide) mates with Faston G1205-2 (supplied) or may be soldered to lead wire
Horn Threads:	1-3/8"-18 straight thread
Finish:	Thermal black
Diameter:	4-7/64", overall length 3-7/15"
Net Weight:	4 lbs., 14 oz.

Hardware Supplied: Mounting shims, rear mounting bolts, and terminal connectors

INSTALLATION

Although the Model 1823 driver is most effective used with the horns listed or equivalent horns with 1-3/8"-18

threads, most reentrant type horns may be employed with excellent results.

To install, follow the steps outlined below:

1. Remove protective cap from opening.
2. Attach driver to horn and tighten by hand until rubber gasket is compressed. (Use additional shims if needed).
3. A rear driver bolt is provided for the AR400 and AR500 horns with open type stamped brackets. *Do not use a longer screw than the type provided.*
4. Attach mating terminals to lead wire and connect to driver terminals or solder lead wire directly to the driver terminals.
5. Make certain that all mounting bolts, screws, etc. are well secured.

NOTES:

1. Power handling is based on the continuous broad band program energy and is limited only by the range of optimum loading of the horn to air, particularly at low frequencies.

   The driver should be protected by a capacitor when sustained maximum energy at frequencies below horn cutoff exists.

   Low-Frequency Driver Protection: When frequencies at full power are fed to the driver below the horn cutoff, excessive current may be drawn by the driver. For the protection of the driver and amplifier, a series capacitor is recommended. The recommended values for 200 Hz are 50 WV, 100 mfd.

2. Sound pressure at specified distance on-axis with 1 Hz sweep from 100 to 1300 Hz at 90 watts.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The driver shall have a response shaped to complement vocal intelligibility from 180 to 8,000 Hz (depending on the horn used). The sound pressure level at 10' on-axis with 1 Hz sweep from 400 to 2,000 Hz at 90 watts sine wave shall be 118 dB when used with an AR400. (119.5 dB with an AR150).

Power handling capacity shall be 110 watts program level, 90 watts continuous sine wave, 75 watts continuous square wave. The nominal voice coil impedance shall be 7 ohms.

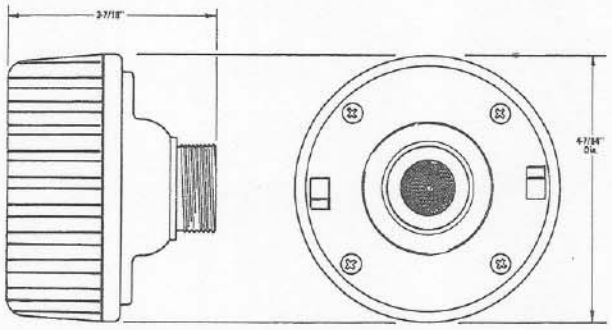


Figure 1 – Dimensions

The diaphragm shall be linen-base molded phenolic with a voice coil diameter of 2 inches. Field replacement without special tools is possible, but it is recommended that it be done by a competent service agency.

The housing shall consist of a cast ductile iron pot with a die-cast front cover. The housing shall be completely weatherproof. The pot structure shall incorporate heat radiating fins and be provided with a tapped rear mounting hole. Electrical terminals shall be flat .250 wide automotive type.

The Electro-Voice Model 1823 driver is specified.

WARRANTY

Electro-Voice public address products are guaranteed for the life of the product against malfunction due to defects in workmanship and materials. If malfunction from this cause occurs, the product will be repaired or replaced (at our option) without charge for materials or labor, if delivered to Electro-Voice or its service agency. The unit will be returned prepaid. Warranty does not cover finishes or malfunction due to abuse or operation at other than specified ratings. 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).

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

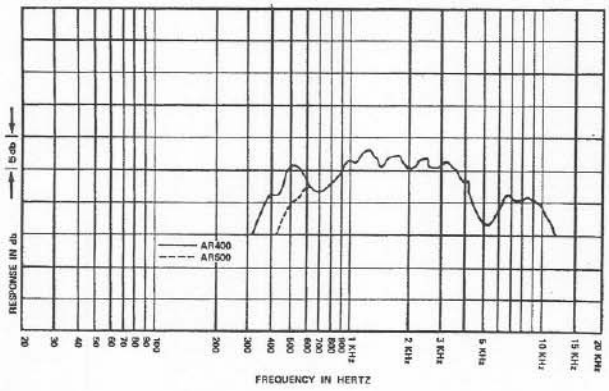


Figure 2 – Frequency Response
(AR400, AR500)

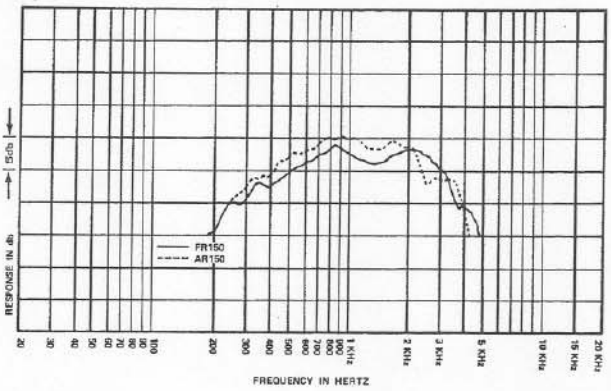


Figure 3 – Frequency Response
(FR150, AR150)

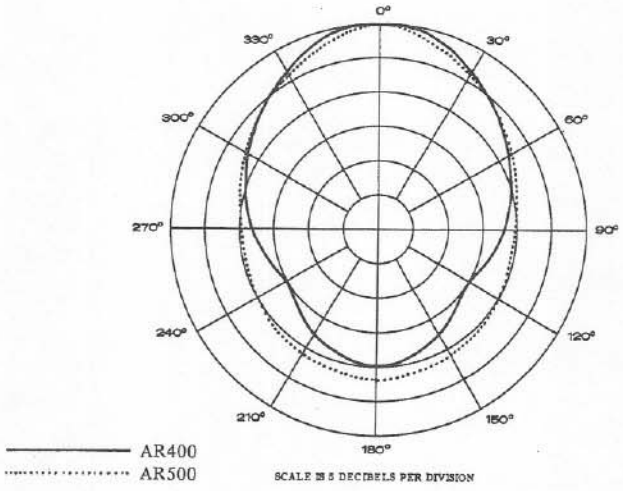


Figure 4 – Polar Response, 700–1300 Hz Sweep
Sine Wave (AR400, AR500)

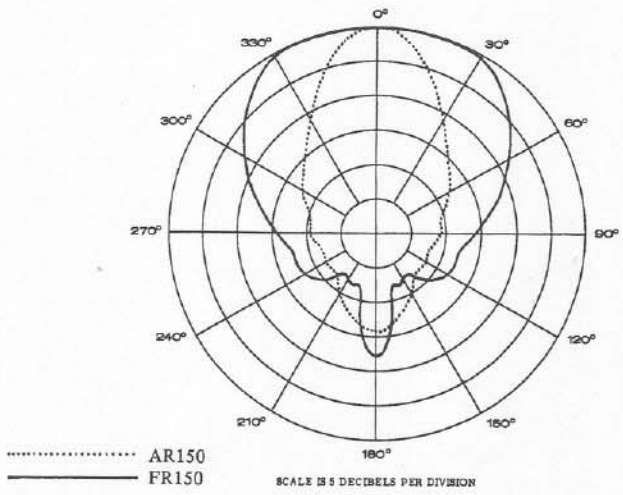


Figure 5 – Polar Response, 700–1300 Hz Sweep
Sine Wave (AR150, FR150)