

**Electro-Voice®**  
a gulton company

## Model 1824S Heavy Duty Driver

### SPECIFICATIONS

#### Frequency Response (Horn Type),

Typical 8" dia. reentrant horn:

350 – 8000 Hz

FR150:

200 – 8000 Hz

#### Power Handling (Continuous Program):

(See note 1)

75 watts

#### Sound Pressure Level, (See note 2)

Typical 8" dia. reentrant horn:

Square wave at 10 ft – 118 dB

Square wave at 100 ft – 98 dB

FR150:

Square wave at 10 ft – 118 dB

Square wave at 100 ft – 98 dB

#### Impedance:

8 ohms nominal

#### Sensitivity (1 Watt at 1 Meter Distance):

Typical 8" dia. reentrant horn

108 dB

#### Terminals:

Blade style 6.35 mm (.25 in.) wide

Push-on receptacles supplied

#### Horn Connection:

1-3/8" – 18 straight thread

#### Finish:

Thermal black

#### Diameter:

132 mm (5.2 in.)

#### Overall Length:

79.5 mm (3.13 in.)

#### Throat Diameter:

22.2 mm (.88 in.)

#### Polarity:

A positive (+) DC voltage applied to the T1 terminal produces a positive pressure at the throat of the driver

#### Net Weight:

2.9 kg (6.4 lb)

#### Hardware Supplied:

Rear mounting bolt and terminal connectors

### DESCRIPTION

The Electro-Voice Model 1824S driver has been designed for use with fixed and mobile P.A. warning systems and will handle 75-watt square wave emergency program energy. It incorporates several unique features which enhance its reliability – an all-important factor in the installation of emergency warning systems.

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 special insulated wire in the voice coil reduces high temperature insulation breakdown. Beryllium-copper lead clips reduce fatigue failure to a minimum.

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. The rugged weather-resistant phenolic diaphragm in the 1824S driver is virtually indestructible. Automotive-type terminals are used, and the mating connectors are provided.

### GENERAL SPECIFICATIONS

The Model 1824S driver shall have a response shaped to complement warning program energy from 200 – 8000 Hz (depending on the horn used).

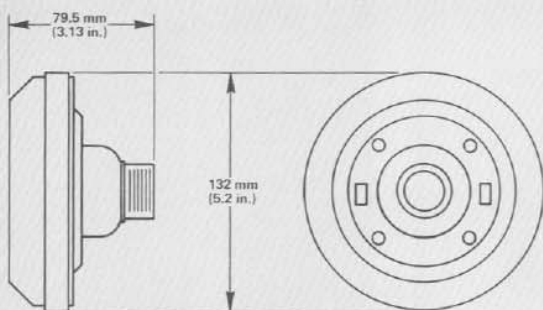
The power handling capacity shall be 75 watts of actual square wave input power over the range of 300 to 2000 Hz when coupled to an appropriate horn (100 watts if an input impedance of 8 ohms is assumed). The nominal voice coil impedance shall be 8 ohms.

The diaphragm shall be linen-base molded phenolic with a voice coil diameter of 51 mm (2 in.). Field replacement without special tools is possible, but it is recommended that it be done by a competent service agency.

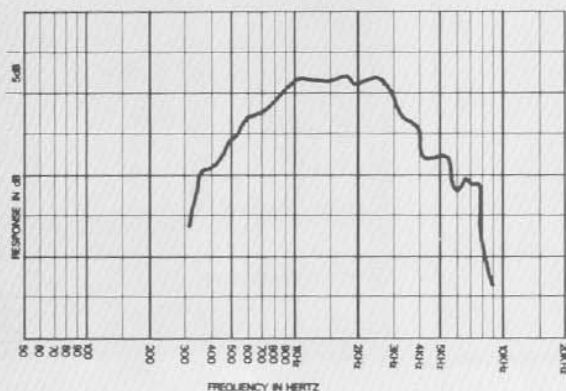
The magnetic structure shall consist of a 650 g (23 oz) ceramic magnet in conjunction with a low carbon steel magnetic return structure with provision for a tapped rear mounting hole. The terminals shall be flat 6.35 mm (.25 in.) blade-style lugs.

#### Low Frequency Driver Protection:

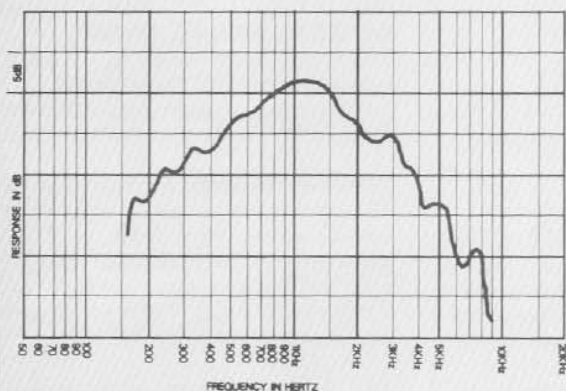
When frequencies at full power are fed to the driver below the horn cutoff, excessive current may be drawn by the driver. For the protection of the driver and amplifier, a series capacitor is recommended. The following are the recommended values for 200 Hz: 50 WV, 100 mf.



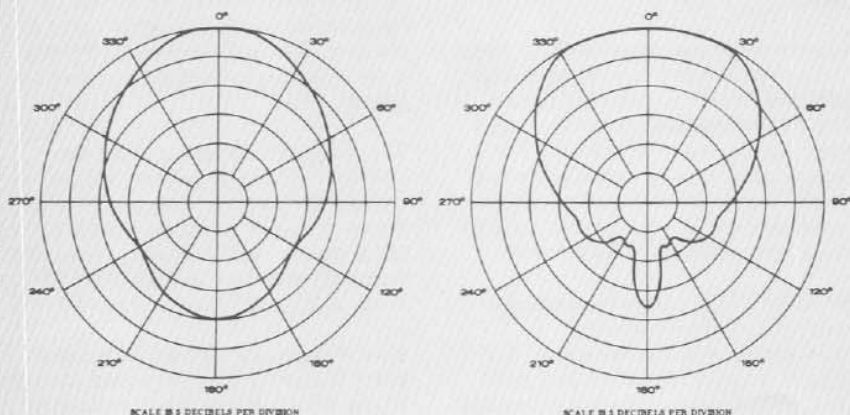
**FIGURE 1**  
Dimensions



**FIGURE 2**  
Frequency Response  
(on typical 8 in. diameter  
reentrant horn)



**FIGURE 3**  
Frequency Response  
(on FR150 horn)



**FIGURE 4**  
Polar Pattern, 700–1300 Hz Sweep  
Square Wave (on typical 8 in.  
diameter reentrant horn)

**FIGURE 5**  
Polar Pattern, 700–1300 Hz Sweep  
Square Wave  
(FR150 horn)

## INSTALLATION

To install, follow the steps outlined below:

1. Remove protective cap from opening.
2. Attach driver to horn and tighten by hand until the rubber gasket is compressed. (Use additional shims, if needed.)
3. A rear driver bolt is provided for attachment purposes. **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 continuous broadband 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 capacitor when sustained (75 watt) maximum energy at frequencies below horn cutoff may exist.

2. Sound pressure at specified distance on axis with 1 Hz sweep from 400 to 2,000 Hz at 75 watts.

## WARRANTY (Limited)

Electro-Voice Sound 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 8234 Doe Avenue, Visalia, California 93277 (209/625-1330-1).

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

Specifications subject to change without notice.

Part Number 53721-123

a **Gulton** COMPANY **ELECTRO-VOICE, Inc., 600 CECIL ST., BUCHANAN, MICH. 49107**

MANUFACTURING PLANTS AT ■ BUCHANAN, MICH. ■ NEWPORT, TENN. ■ SEVIERVILLE, TENN. ■ GANANOQUE, ONT. ■ LITHO IN U.S.A.