

1829B
1829BT



Convertible Drivers

COMMERCIAL

General Product Description

The ElectroVoice 1829B and 1829BT are heavy-duty convertible drivers for use in high-power public address installations.

The drivers have rugged phenolic diaphragms, two-inch diameter voice coils, and "rim centered" ferrite magnet structures for long life and reliability under extreme operating conditions.

The transformer model (1829BT) includes connections for 25V/70 V distributed systems and a power tap select switch.

The exterior is finished in durable waterproof paint, and all metal parts have been treated for resistance to high humidity and fungus.

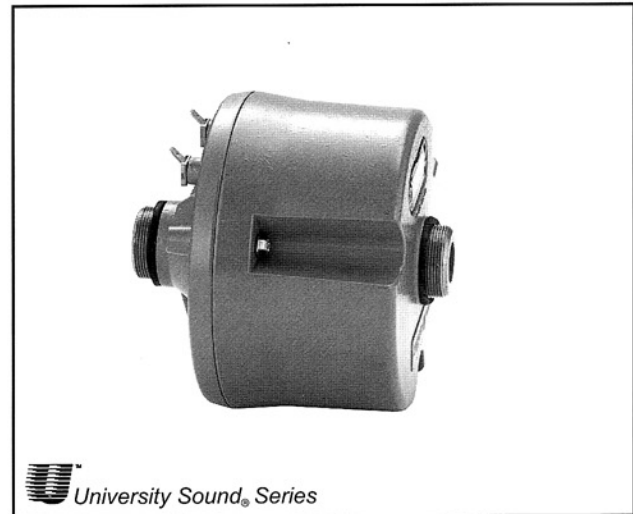
Ideal for both indoor and outdoor applications, these drivers are well suited for any installation requiring rugged high-power performance.

Architects' and Engineers' Specifications

The loudspeakers shall be of the compression-driver type having a rugged phenolic diaphragm and a high-temperature rated 5.08-cm (2.0-in.) voice coil.

The loudspeakers shall exhibit essentially flat power response from 280 to 8,000 Hz with a smoothly rolled-off response beyond. Their sensitivity, when mounted on a ElectroVoice FC100 horn, will be 105 dB (1 W/1 m) with a 500-to-5,000-Hz pink noise signal applied.

The loudspeakers will be capable of handling a 60-watt, 500-to-5,000-Hz pink noise signal with a 6-dB crest factor for a period of eight hours.



The loudspeakers shall have a diameter of 13.5 cm (5.3 in.), the 1829, a length of 10.3 cm (4.1 in.) and the 1829BT, a length of 16.2 cm (6.4 in.). Both shall have a throat opening of 3.0 cm (1.2 in.) with a 1 3/8"-18 thread for mounting.

The loudspeakers are the ElectroVoice 1829BT which includes a 70V line-matching transformer (see Table III) and weighs no more than 3.2 kg (9.8 lb), and the ElectroVoice 1829B which has a nominal impedance of 16 ohms and weighs no more than 4.5 kg (7.0 lb).

Specifications:

Frequency Response:

..... 280 - 8,000 Hz (see Figure 2)

Power Handling, 8 Hours, 6-dB Crest Factor:

..... 60 watts (500-5,000 Hz pink noise)

Impedance, Nominal: 16 ohms

Minimum: 11 ohms (FC100 horn)

Sound Pressure Level at 1 Meter, 1 Watt Input Averaged, Pink Noise Band-Limited from 300-3,000 Hz:

..... 105 dB on FC100 horn

Voice Coil Diameter: 5.08 cm (2.0 in.)

Magnet Weight: 0.45 kg (1.0 lb)

Magnet Material: Strontium ferrite

Flux Density: 1.38 Tesla

Construction:

Rugged weatherproof finish for outdoor use

Mechanical Construction of Driver:

1 3/8"-18 thread allows the 1829B to be mounted on most University Sound horns

Dimensions:

Diameter: 13.5 cm (5.3 in.)

Length:

1829B: 10.3 cm (4.1 in.)

1829BT: 16.2 cm (6.4 in.)

Net Weight:

1829B: 3.2 kg (7.0 lb)

1829BT: 4.5 kg (9.8 lb)

Shipping Weight:

1829B: 3.5 kg (7.8 lb)

1829BT 4.8 kg (10.6 lb)

Recommended Horns:

FC100 SMH Cobraflex III

Cobraflex IIB

Installation

For use with compound horns, remove both protective plastic caps and the plastic foam loading plug from the rear. Note: front end is the one with wiring terminals.

Next, screw the large horn section onto the rear of the driver and the small section onto the front. Hand tighten to slightly compress rubber gaskets.

For use with all other horn types, rear cap and foam plug are left in place and firmly handtightened with horn attached to the front directly to the driver terminals.

Transformer Model (1829BT)

The input terminal and power selection switch is installed in the base of the housing. See Figure 5 below.

Low-Frequency Driver Protection

When frequencies below the low-frequency cutoff for the horn assembly are fed to the driver, excessive current may be drawn by the driver. For protection of driver, amplifier, and transformer (if driver with built-in transformer is used), capacitor(s) in series with driver, or transformer primary are recommended. Table I indicates recommended values. The values shown are for 200 Hz. Values for other frequencies can be determined by using the formula:

$$C = \left[\frac{C_{200} \times 200}{f} \right] \quad C_{200} \text{ Values shown in the following table}$$

$f = \text{New Frequency}$

For drivers without transformers: 8-ohm driver, 25 V - 100 mf 150 Vdc or 150 V non-polarized electrolytic, or two 150 Vdc electrolytics of two times required value in series, back to back, for 70 volt lines.

Horn	SPL for 1 W @ 1 M
HC400	106 dB
SMH	109 dB
PH	108 dB
FC100	105 dB

Table I.
Sound Pressure Level for 1829 with Various Horns

Power	70-Volt Lines	
	Impedance	Capacitance
60 W	83	10
30 W	166	5
15 W	333	2
8 W	625	1

Table III. Series Protection Capacitors for 200 Hz and Below

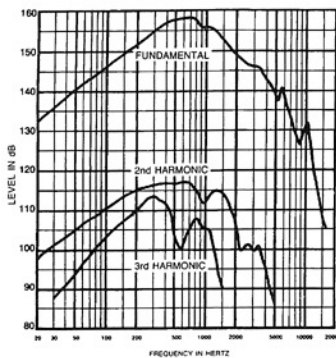


Figure 1.
Distortion Response - Plane Wave Tube (1 inch) (6 watt input)

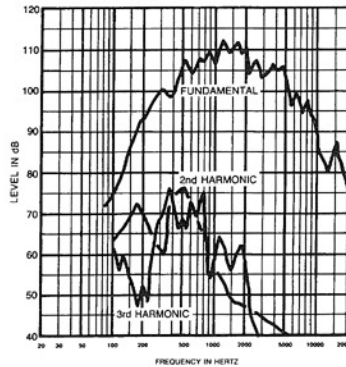


Figure 2.
Distortion Response - FC100 Horn

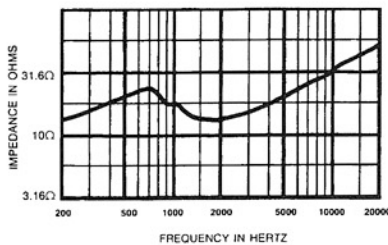


Figure 3.
Impedance Response - Plane Wave Tube (1 inch)

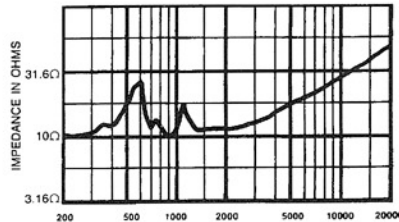


Figure 4.
Impedance Response - FC100 Horn

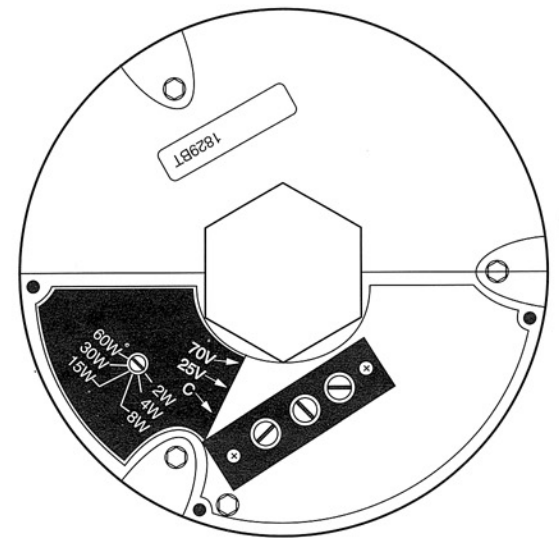


Figure 5

USA 12000 Portland Ave South, Burnsville, MN 55337, Phone: 952-884-4051, FAX: 952-884-0043
 Canada 705 Progress Avenue, Unit 46, Scarborough, Ontario, Canada, M1H2X1, Phone: 416-431-4975, 800-881-1685, FAX: 416-431-4588
 Switzerland Keltenstrasse 11, CH-2563 IPSACH, Switzerland, Phone: 41/32-331-6833, FAX: 41/32-331-1221
 Germany Hirschberger Ring 45, D94315, Straubing, Germany, Phone: 49 9421-706 392, FAX: 49 9421-706 287
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 Australia Unit 23, Block C, Slough Business Park, Slough Avenue, Silverwater, N.S.W. 2128, Australia, Phone: 61/2-9648-3455, FAX: 61/2-9648-5585
 Hong Kong Unit E & F, 21/F, Luk Hop Industrial Bldg., 8 Luk Hop St., San PO Kong, Kowloon, Hong Kong, Phone: 852-2351-3628, FAX: 852-2351-3329
 Japan 2-5-60 Izumi, Suginami-ku, Tokyo, Japan 168, Phone: 81-3-3325-7900, FAX: 81-3-3325-7789
 Singapore 3015A Ubi Rd 1, 05-10, Kampong Ubi Industrial Estate, Singapore 408705, Phone: 65-746-8760, FAX: 65-746-1205
 Mexico Av. Parque Chapultepec #65-201, Col. El Parque Edo. Mex. 53390, Phone: (52) 5358-5434, FAX: (52) 5358-5588
 UK 4, The Willows Centre, Willow Lane, Mitcham, Surrey CR4 4NX, UK, Phone: 44 181 640 9600, FAX: 44 181 646 7084
 Africa, Mid-East 12000 Portland Ave South, Burnsville, MN 55337, Phone: 952-887-7424, FAX: 952-887-9212
 Latin America 12000 Portland Ave South, Burnsville, MN 55337, Phone: 952-887-7491, FAX: 952-887-9212

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For warranty repair or service information, contact the Service
 Repair department at 800/685-2606

For technical assistance, contact Technical Support at 866/78 AUDIO
 Please refer to the Engineering Data Sheet for warranty information.
 Specifications subject to change without notice.