

**1829BT**  
**Heavy-Duty**  
**Convertible Driver**



## General Product Description

The Electro-Voice 1829BT is a heavy-duty convertible driver for use in high-power public address installations.

The driver has a rugged phenolic diaphragm, two-inch diameter voice coil, and “rim centered” ferrite magnet structure for long life and reliability under extreme operating conditions.

The unit also 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, this driver is well suited for any installation requiring rugged high-power performance.

## Architects’ and Engineers’ Specifications

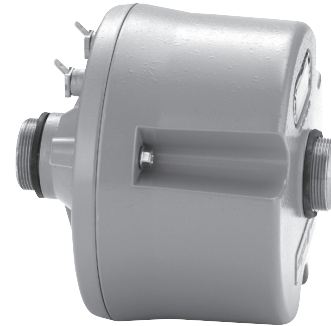
The loudspeaker shall be of the compression-driver type having a rugged phenolic diaphragm and a high-temperature rated 5.08-cm (2.0-in.) voice coil.

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

The loudspeaker 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 loudspeaker shall have a diameter of 13.5 cm (5.3 in.) and a length of 16.2 cm (6.4 in.). It shall have a throat opening of 3.0 cm (1.2 in.) with a 1 3/8"-18 thread for mounting.

The loudspeaker is the Electro-Voice 1829BT which includes a 70V line-matching transformer and weighs no more than 3.2 kg (9.8 lb).



## Technical Specifications:

Frequency Response:	280 - 8,000 Hz
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 1829BT to be mounted on most University Sound horns
Recommended Horns:	FC100, Cobraflex IIB, Cobraflex III
Dimensions:	
Diameter:	13.5 cm (5.3 in.)
Length:	16.2 cm (6.4 in.)
Net Weight:	4.5 kg (9.8 lb)
Shipping Weight:	4.8 kg (10.6 lb)

# 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.

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

## Wiring Connections

For ease of installation in a variety of EV/University horns, the unit is equipped with two sets of connection terminals. One pair on the front (Figure 6) and one set under the weather tight cover at the rear (Figure 5). It is generally recommended to use the rear set of terminals, as they are concealed under the weather tight cover. These rear terminals also offer the ability to connect to 25v lines as well. When using the model FC100 horn it is recommended that a pigtail wire approximately 24" long be wired prior to installing the driver on the horn. Access to the rear terminals is not possible after the driver has been mounted on the FC100 horn.

## Use of Front Wiring Terminals

In certain installations using the model FC100 horn, the front terminals allow the speaker line to be wired after the driver is installed in the horn. These terminals only allow 70v operation. The power selection switch must be set **PRIOR** to mounting the driver on the horn as the power selection switch will not be accessible after the driver is mounted in the FC100 horn. Please note that use of a waterproof sealant on the front connection terminals is recommended if the driver is used in outdoor conditions.

## 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.

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

*Table I. Series Protection Capacitors for 200 Hz and Below*

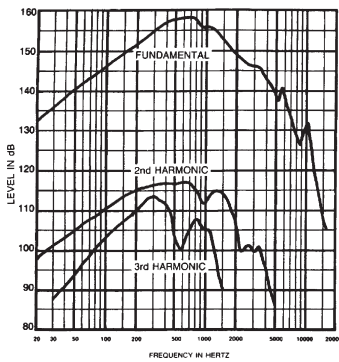


Figure 1. Distortion Response - Plane Wave Tube (1", 6-Watt Input)

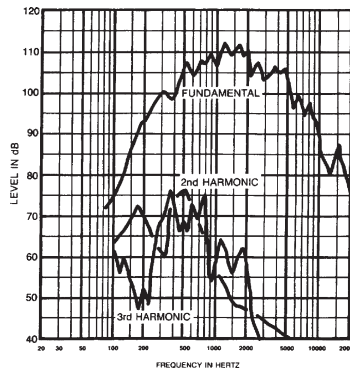


Figure 2. Distortion Response - FC100 Horn

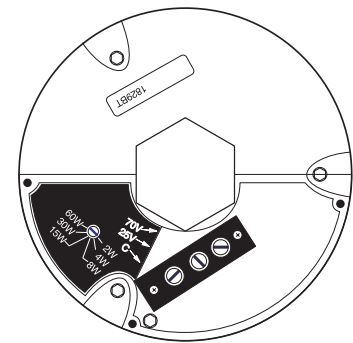


Figure 5. Driver - Rear View

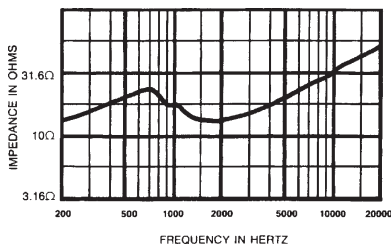


Figure 3. Impedance Response - Plane Wave Tube (1")

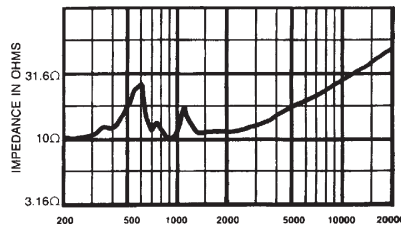


Figure 4. Impedance Response - FC100 Horn

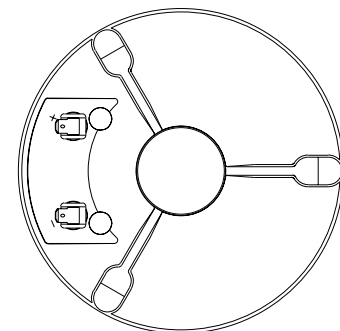


Figure 6. Driver - Front View



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Specifications subject to change without notice.