

1828T
1828C



Convertible Drivers

COMMERCIAL

General Product Description

The 1828T and 1828C are heavy-duty convertible drivers for use in medium power public address installations.

The drivers have rugged phenolic diaphragms, 1.5 inch diameter voice coils, and "rim centered" ferrite magnet structures for long life and reliability under extreme operating conditions.

The transformer model (1828T) includes connections for 70V/25V distributed systems and a power tap select panel.

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

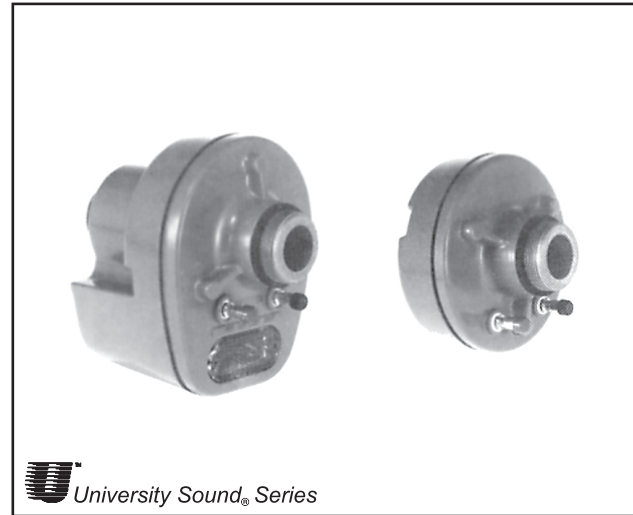
Ideal for both indoor and outdoor applications, these drivers are well suited for any installation requiring rugged and reliable performance.

Architects' and Engineers' Specifications

The loudspeaker(s) shall be of the compression-driver type having a rugged phenolic diaphragm and a high-temperature rated one and one-half inch voice coil.

The loudspeaker(s) shall exhibit essentially flat power response from 400 to 3,000 Hz with a smoothly rolled-off response beyond. Their sensitivity, when mounted on a FC100 horn, will be 105 dB (1 W/1 M) with a 500 to 5,000 Hz pink noise signal applied.

The loudspeaker(s) will be capable of handling a 30 watt, 500 to 5,000 Hz pink noise signal with a 6 dB crest factor for a period of eight hours.



The 1828T shall have a height of 12.7 cm (5.0 in.), a width of 10.2 cm (4.0 in.), and a depth of 13.3 cm (5.2 in.).

The 1828C shall have a diameter of 8.31 cm (3.3 in.), and a height of 10.2 cm (4.0 in.). Both shall have a throat opening of 2.54 cm (1 .0 in.) with a 1-3/8"-18 thread for mounting.

The loudspeakers are the 1828T which includes a 70V/25V line matching transformer (see Table 1) and weighs no more than 2.3 kg (5 lb), and the University Sound 1828C, which has a nominal impedance of 8 ohms and weighs no more than 2.2 kg (4.7 lb).

Specifications:

Frequency Response:
..... 260 -10,000 Hz \pm 5 d8 (see Figure 2)

Power Handling, 8 Hours, 6 dB Crest Factor:
..... 30 watts (500-5,000 Hz pink noise)

Impedance, Nominal: 8 ohms
Minimum: 6.5 ohms (FC100 horn)

Sound Pressure Level at 1 Meter, 1 Watt Input Averaged, Pink Noise Band-Limited from 300-3,000 Hz:
..... 105 dB (FC100 horn)

Voice Coil Diameter: 3.81 cm (1.50 in.)

Magnet Weight: 0.28 kg (0.62 lb)

Magnet Material: Strontium ferrite

Flux Density: 1.25 Tesla

Construction:
Rugged weatherproof finish for outdoor use

Mechanical Construction of Driver:
1-3/8"-18 x 7/8"- long thread allows the 1828 to be mounted on any horn

Dimensions, 1828T:
Height: 12.7 cm (5.0 in.)
Width: 10.2 cm (4.0 in.)
Depth: 13.3 cm (5.3 in.)

Dimensions 1828C:
Diameter: 8.3 cm (3.3 in.)
Height: 10.2 cm (4.0 in.)

Net Weight:
1828T: 2.3 kg (5.0 lb)
1828C: 2.2 kg (4.7 lb)

Shipping Weight:
1828T: 2.5 kg (5.5 lb)
1828C 2.4 kg (5.2 lb)

Recommended Horns:
FC100 Cobreflex IIB Cobreflex III

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 hand tightened with horn attached to the front directly to the driver terminals.

Transformer Model (1828T)

A transformer and power selection panel is installed in the base of the housing. Power taps for the transformer are listed in Table 1.

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 1 indicates

recommended values. The values shown are for 200 Hz. Values for other frequencies can be determined by using the formula:

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

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.

Table 1. Series Protection Capacitors for 200 Hz and Below

Power	70-Volt Lines		25-Volt Lines	
	Impedance	Capacitance	Impedance	Capacitance
30 W	166	5 mf	-	-
15 W	333	2 mf	-	-
8 W	625	1 mf	-	-
4 W	1250	0.5 mf	156	5 mf
2 W	-	-	312	2 mf
1 W	-	-	625	1 mf
1/2 W	-	-	1250	.5 mf

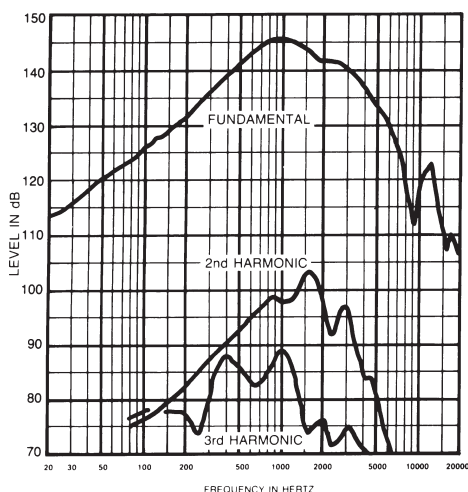


Figure 1. Distortion Response - Plane Wave Tube (1 inch) (3 watt input)

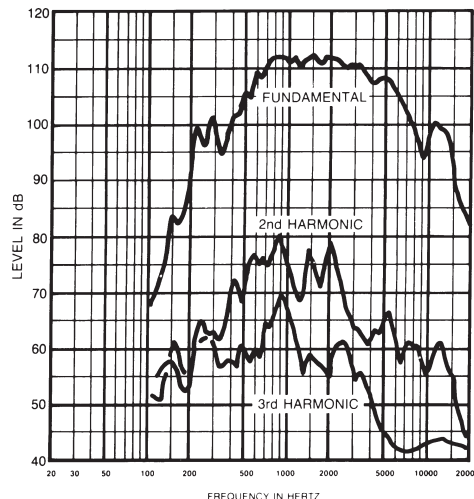


Figure 2. Distortion Response - FC100 Horn (1 watt / 1 meter)

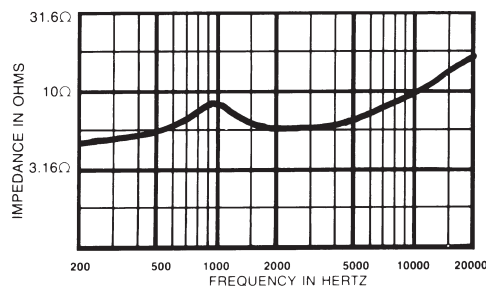


Figure 3. Impedance Response - Plane Wave Tube (1 inch)

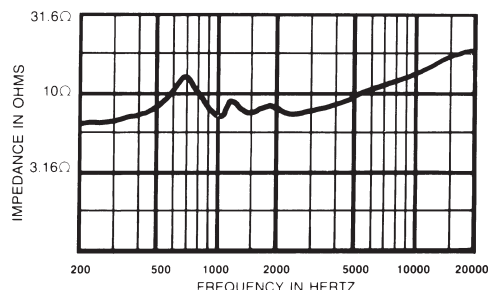


Figure 4. Impedance Response - FC100 Horn

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