CFID32-8
CFID32T

Variable Power Paging/ Talk-Back Speaker

COMMERCIAL

General Product Description

The CFID32-8 and CFID32T are 32-watt wide angle paging projectors designed for high speech clarity under difficult noise conditions.

The drivers employ rugged phenolic diaphragms, 1.5-inch diameter voice coils and “rim centered” ferrite magnet structures for long life and reliability.

The transformer model CFID32T includes connections for 25 V and 70 V distributed systems and a screwdriver operated power tap select switch.

A nominal 55° horizontal by 75° vertical coverage pattern, together with a low-frequency cutoff of 300 Hz, provides excellent articulation in demanding applications.

The CFID32-8 (CFID32T) is molded from non-resonant and weatherproof Cycolac. Exclusive Uni-Lok swivel mount allows precision mounting in a variety of installations. The gland nut connection insures a weather-tight seal.

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

University Sound® Series

Architects’ and Engineers’ Specifications

The loudspeaker shall have a rectangular reflex horn with an exponential expansion rate. The driver employs a rugged phenolic diaphragm and high-temperature rated 3.81 cm (1.5 in.) voice coil.

The axial frequency response will extend from 330 to 4,200 Hz and the horn shall exhibit a low-frequency cutoff of 300 Hz. Sound pressure level will be 107 dB (1 W/1 M) with a 500 to 5,000 Hz pink noise signal applied, and the horn will produce a horizontal beamwidth of 55° and a vertical beamwidth of 74° at 2 kHz.

The loudspeaker shall be capable of handling a 32-watt, 500 to 5,000 Hz pink noise signal with a 6 dB crest factor for a period of eight hours.

The horn shall be weatherproof Cycolac capable of satisfactory mechanical performance in extreme weather conditions with a field-replaceable plug-in diaphragm and voice coil assembly.

A gland nut shall be provided for a weathertight seal and a Uni-Lok swivel mount for rotation in both the horizontal and vertical planes. The Uni-Lok shall fit standard 1/2-inch pipe thread.

The loudspeakers shall be the CFID32T, which includes a 70 V/25 V line matching transformer and weighs no more than 2.7 kg (5.9 lb) and the CFID32-8, which has a nominal impedance of 8 ohms and weighs no more than 2.5 kg (5.6 lb).

Specifications:

Frequency Response:

..... 330-4,200 Hz ±5 dB (see Figure 3)

Power Handling, 8 Hours, 6 dB Crest Factor:

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

Impedance:

..... 8 ohms

Sound Pressure Level at 1 Meter, 1 Watt Input Averaged, Pink Noise Band-Limited from 500 to 5,000 Hz:

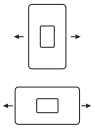
..... 107 dB

Horizontal Beamwidth:

55° @ 2 kHz (see Figure 2)

Vertical Beamwidth:

74° @ 2 kHz (see Figure 2)



Directivity Factor R_θ (Q):

16.3 @ 2 kHz

Usable Low-Frequency Limit:

..... 300 Hz

Construction:

Non-resonant Cycolac horn material and durable diecast mounting bracket. Resistant to environmental extremes.

Voice-Coil Diameter: ..... 3.81 cm (1.5 in.)

Magnet Weight: ..... 0.28 kg (0.63 lb)

Magnet Material:

..... Strontium ferrite

Flux Density:

..... 1.15 Tesla

Dimensions:

Height: ..... 18.1 cm (7.1 in.)

Width: ..... 36.5 cm (14.4 in.)

Depth: ..... 31.8 cm (12.5 in.)

Net Weight: CIFD32-8: ..... 2.5 kg (5.6 lb)

CFID32T: ..... 2.7 kg (5.9 lb)

Shipping Weight: CFID32-8: ..... 2.7 kg (6.0 lb)

CFID32T: ..... 2.9 kg (6.3 lb)

Electro-Voice®

Installation

Loosen the gland nut in the side of the driver housing enough to admit the loudspeaker wire/cable. Alternately, a 1/2-inch conduit fitting can be substituted for the gland nut. However, the sealing washer must be retained.

The Uni-Lok swivel mount allows the speaker to be precisely positioned and locked in place. A mounting plate is furnished with the Uni-Lok but Y2-inch pipe may be used instead.

To flush mount the horn, finish drilling the four predrilled holes from the rear four corners and insert #8 machine screw toggle bolts or screws to secure the unit from the front.

A foam insert (CFID32F) is available to screen against nesting birds and insects.

Polar Response

The directional characteristics of the CFID32 were measured by running a set of horizontal/vertical polar responses, in Electro-Voice's large anechoic chamber, at each one-third-octave center frequency. The test signal was one-third-octave pseudo-random pink noise centered at the indicated frequencies. The measurement microphone was placed 6.1 m (20 ft.) from the horn mouth, while rotation was about the waveguide geometric apexes. These axes of rotation are quite close to the apparent (acoustic) apexes across the frequency range of measurement. Errors attributable to the slight differences between the geometric and acoustic apexes are reduced to an inconsequential level by the relatively long, 20-foot measuring distance. The horn was suspended freely with no baffle. The polar plots shown in Figure 1 display the results of these tests. The center frequency is noted on each plot. The wider plot on each chart is the horizontal polar (-) and the narrower plot is the vertical polar.

Beamwidth

A plot of the CFID32's 6 dB-down total included beamwidth angle is shown in Figure 2 for each one-third-octave center frequency.

Frequency Response

Figure 3 shows the axial frequency response of the CFID32. It was measured at a distance of 1 meter, using a swept sine wave.

Transformer

A transformer and power selector switch are installed in the rear housing.

The level of the CFID32T may be adjusted by moving the switch setting; clockwise increases the power.

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

$$C = \left[C_{200} \times \frac{200}{f} \right]$$

C_{200} = Values shown in the following table

f = New Frequency

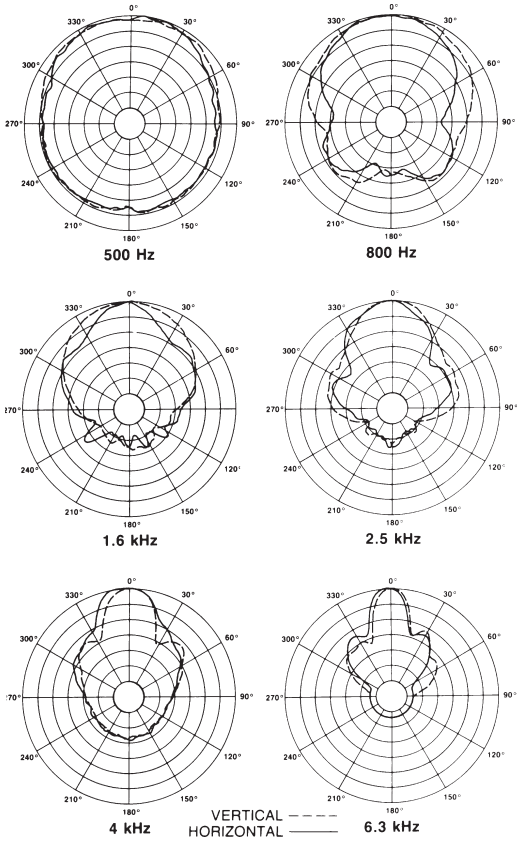


Figure 1
CFID32 Polar Response

Table 1. Series Protection Capacitors for 200 Hz and Below

.	70-Volt Lines		25-Volt Lines	
Power	Impedance	Capacitance	Impedance	Capacitance
32 W	161	5 *mf*	20	40 *mf*
15 W	335	2 *mf*	42	20 *mf*
10 W	500	1.3 *mf*	63	13 *mf*
5 W	1000	0.7 *mf*	125	7 *mf*
2.5 W	2000	0.4 *mf*	250	4 *mf*
1.25 W	4000	0.2 *mf*	500	2 *mf*

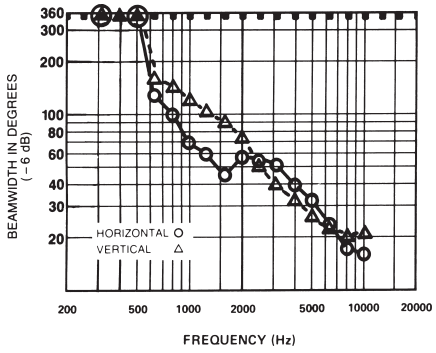


Figure 2
CFID32 Beamwidth vs. Frequency

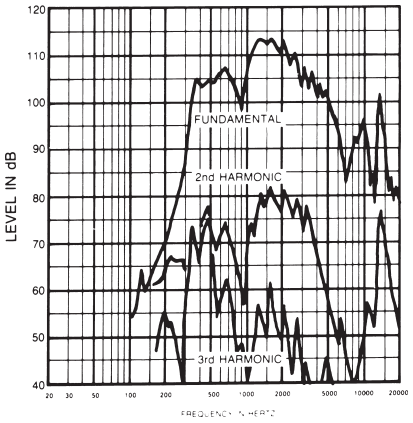


Figure 3
CFID32 Frequency Response
(1 watt at 1 meter)

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For technical assistance, contact Technical Support at 866/78 AUDIO
Please refer to the Engineering Data Sheet for warranty information.
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