

HPT42



Constant-Directivity Supertweeter Horn

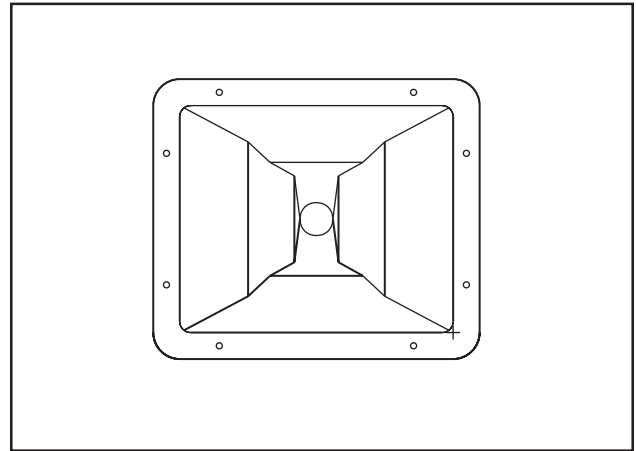
General Product Description

The Electro-Voice® model HPT42 is a wide-range, flat-front, constant-directivity super-tweeter horn. Both horizontal and vertical angles are controlled from 3 kHz to 20 kHz with unusual precision and adherence to the intended angle. Furthermore, excellent loading is maintained to 1200 Hz. The flat-front design makes the HPT42 suitable for all modern boxed and clustered systems.

Architects' and Engineers' Specifications

The horn shall be of the constant-directivity type. It shall produce a horizontal beamwidth (6-dB-down angle) of 40 degrees, deviating no more than 10 degrees from this angle over the frequency range 3 kHz to 20 kHz. It shall produce a vertical beamwidth of 20 degrees, deviating no more than 15 degrees from this angle over the frequency range 4 kHz to 20 kHz. In addition, it shall provide useful acoustic loading at all frequencies above 1200 Hz.

The horn shall be of hybrid fiberglass-and-aluminum construction. The initial throat section shall be constructed of aluminum and shall be integrally



laminated into the fiberglass portion of the horn.

The horn shall possess a throat of 2.36 cm (0.93in.) diameter and shall be provided with a 1-3/8"-18 threaded hole for the mounting of a compression driver. The horn shall be 20.1 cm (7.9 in.) high, 23.5 cm (9.2 in.) wide, and 31.1 cm (12.3 in.) long. It shall weigh no more than 1.8 kg (4.0 lb).

The horn shall be the Electro-Voice model HPT42 constant-directivity horn.

Specifications:

The following specifications are in accordance with or exceed the AES Recommended Practice for Specification of Loudspeaker Components Used in Professional Audio and Sound Reinforcement (AES2-1984; ANSI S4.26-1984).

Horizontal Beamwidth:

40° (+10°, -10°) - (-6 dB 3 kHz to 20 kHz)

Vertical Beamwidth:

20° (+15°, -10°) - (-6 dB, 4 kHz to 20 kHz)

Directivity Factor R_0 (Q):

38.0 (average 3 kHz to 20 kHz)

Directivity Index D_i :

15.8 dB (+2.3, -1.7 dB)

10 log R_0 , (average 3 kHz to 20 kHz)

Lowest Recommended Crossover Frequency:

1200 Hz

Construction:

Polyester resin and glass-fiber laminate integrally molded to a die-cast zinc throat section. This hybrid construction assures a rigid driver mount, accurate, loss-free throat-wave transmission and low total weight compared to horns of similar size.

Mechanical Connection of Driver:

1-3/8" - 18 thread allows the attachment of the DH2010A or DH2T drivers

Recommended Driver:

DH2010A or DH2T

Weight:

1.8 kg (4.0 lb)

Electro-Voice®

Dimensions:	Inches
A	1-3/8 - 18
B	11.50
C	7.92
D	9.24
E	0.17 x 8
F	11.32

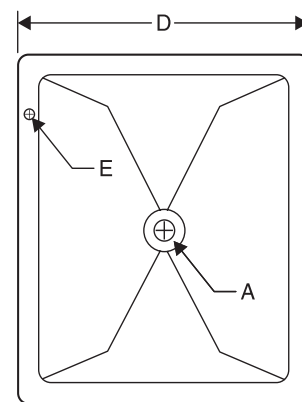
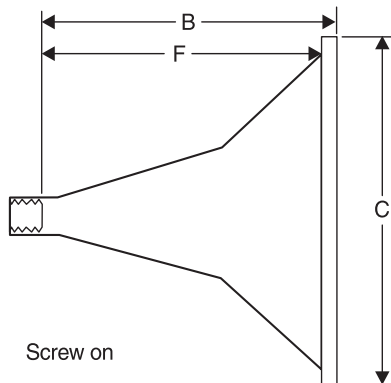


Figure 1: Dimensions

Directivity

The axial directivity factor R_0 (formerly Q) of the HPT42 horn was computed at each one-third-octave center frequency from the horizontal/vertical polars. The graph in Figure 2 illustrates this data over the range 3 kHz to 20 kHz. The axial frequency response of the HPT64 horn with a particular driver is in close correspondence to that driver's power response above 3 kHz.

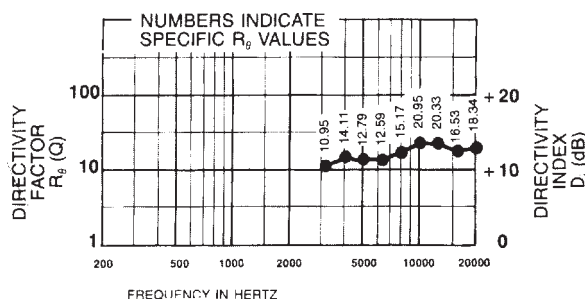


Figure 2: Directivity versus Frequency

Beamwidth

A plot of the HPT42's 6-dB-down total included beamwidth angle is shown in Figure 3 for each one-third-octave center frequency. The horizontal beamwidth is maintained at 60° (+10°, -10°) over the range of 3 kHz to 20 kHz. Vertical beamwidth control occurs only above 4 kHz.

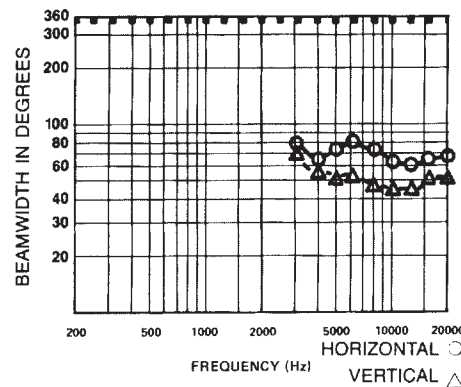


Figure 3: 6-dB-Down Beamwidth versus Frequency

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For customer orders, contact the Customer Service department at
800/392-3497 Fax: 800/955-6831

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

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