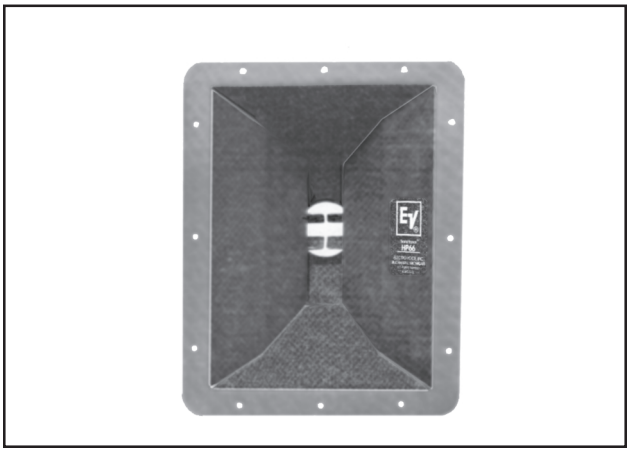
HP66

TransPlanar™ Constant-Directivity Horn

General Product Description

The Electro-Voice® HP66 is a wide-range, flat-front, constant-directivity, high-frequency horn. With the HP66, a horizontal dispersion angle is controlled over a frequency range of 1.6 kHz to 20 kHz, and the vertical angle is controlled from 1.25 kHz to 20 kHz, both with unusual precision and adherence to the intended angle. Furthermore, excellent loading is maintained to a low frequency of 1000 Hz.

The flat-front TransPlanar™ design makes the HP66 suitable for all modern boxed and clustered systems. A special vaned waveguide throat detail gives the HP66 unusually uniform vertical directivity control in the top octaves when compared to similar 2-inch-throat horn designs.



Architects' and Engineers' Specifications

The horn shall be of the constant-directivity type. It shall produce a horizontal beamwidth (6-dB-down angle) of 60 degrees, deviating no more than 20 degrees from this angle over the frequency range of 1,600 to 20,000 Hz. It shall produce a vertical beamwidth of 60 degrees, deviating no more than 20 degrees from this angle over the frequency range of 1,250 to 20,000 Hz. In addition, it shall provide useful acoustic loading at all frequencies above 1000 Hz.

The horn shall be of hybrid fiberglass-and-zinc construction. The initial throat section shall be constructed on die-cast zinc and shall be integrally laminated into the fiberglass portion of the horn.

The horn shall possess a throat of 4.93-cm (1.94-in.) diameter, and its flange shall be provided with four clearance holes for ¼-20 bolts, located on a 10.2-cm (4.0-in.) circle for the mounting of the compression driver. The horn shall be 27.9 cm (11.0 in.) high, 22.4 cm (8.8 in.) wide and 16.5 cm (6.5 in.) long. It shall weigh no more than 2.2 kg (4.8 lb).

The horn shall be the Electro-Voice HP66 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:

60° (+20°, -10°) (-6 dB 1.6 kHz to 20 kHz)

Vertical Beamwidth:

40° (+20°, -10°) (-6 dB, 1.25 kHz to 20 kHz)

Directivity Factor R_θ (Q):

17.8 (average 1.6 kHz to 20 kHz)

Directivity Index D_I:

12.5 dB (+2.0, -3.0 dB)
10 log R_θ, (average 1.6 kHz to 20 kHz)

Lowest Recommended Crossover Frequency:

1000 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:

Bolt on; standard 2" diameter throat, 5" diameter mounting flange and four clearance holes for ¼" bolts on a 4" diameter bolt circle.

Recommended Driver:

DH1A, DH2A, DH2As2

Weight:

2.2 kg (4.8 lb)

Dimensions:	Inches
A	1.938
B	5.00
C	8.75
D	11.00
E	4.00
F	0.281 x 4
G	6.52
H	6.33

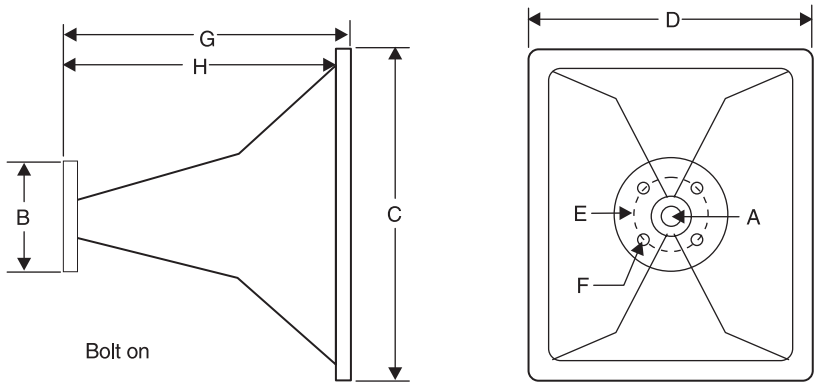


Figure 1: Dimensions

Directivity

The directional characteristics of the HP66 were measured in Electro-Voice's large anechoic chamber using a stock Electro-Voice® DH1A. The test signal was one-third-octave filtered pink-noise at the frequencies indicated. A full spherical measurement system was used. All directional information was measured at 6.1 meters (20 feet) from the horn.

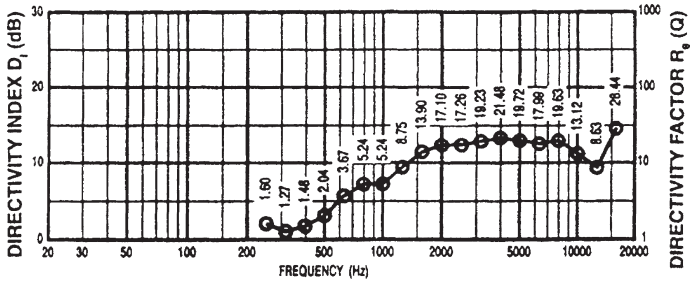


Figure 2: Directivity vesus Frequency
This illustrates the total directivity of the HP66. The directivity factor R_θ (Q) is the relative value at a point of the HP66 when compared to an ideal spherical response. The directivity index Di is calculated by $D_i=10log_{10}R_\theta$.

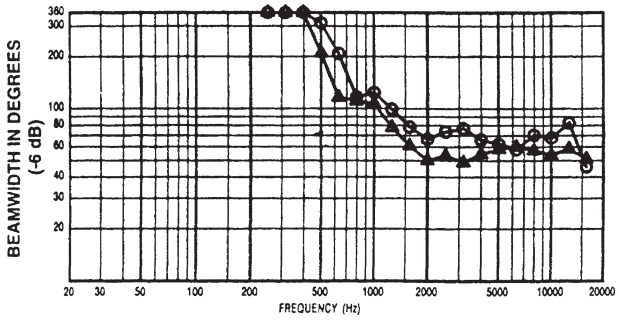


Figure 3: 6-dB-Down Beamwidth versus Frequency
This shows the horizontal and vertical beamwidths. Beamwidth is the angle at which the horizontal and vertical polar responses have decreased in level by 6 dB when compared with the axial frequency

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Part Number 38109-958 Rev A

Electro-Voice®

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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 866/78AUDIO
Please refer to the Engineering Data Sheet for warranty information.
Specifications subject to change without notice.