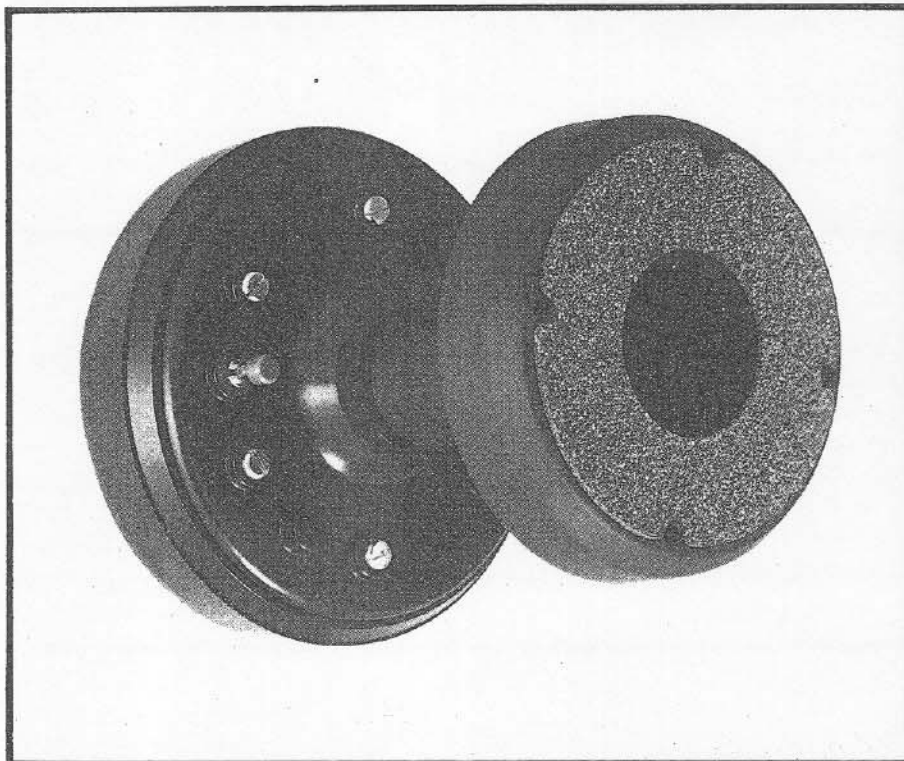




SPECIFICATIONS:

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). See AES Recommended Practice section.

Power Frequency Response:

500-20,000 Hz (essentially flat)
500-3,000 Hz with 12-dB-per-octave rolloff to 20,000 Hz, rapid rolloff beyond)

Nominal Impedance, on HP Series Horns above 500 Hz:

8 ohms

Minimum Impedance:

6 ohms at 7,000 Hz

DC Resistance:

4.5 ohms

Long-Term Average Power Capacity on HP Horns, Indicated Bands of Pink Noise, 8-Ohm Impedance Assumed,

24 Hours, 10-dB Crest Factor:

30 watts (800-20,000 Hz)

2 Hours, 6-dB Crest Factor:

40 watts (800-8,000 Hz)

60 watts (1,500-15,000 Hz)

Nominal Efficiency, 800-3,000-Hz Pink Noise, 8-Ohm Impedance Assumed:

25%

Maximum Long-Term Acoustic Power Output (24 hours):

7.5 watts

Recommended Minimum Crossover

Frequency:

800 Hz

Sound Pressure Level at 1 Meter, 1 Watt Input Averaged from 500 Hz to 5,000 Hz:¹

115 dB, HP4020 horn

113 dB, HP6040 horn

111 dB, HP9040 horn

114 dB, HP420 horn

112 dB, HP640 horn

110 dB, HP940 horn

108 dB, HP1240 horn

Throat Diameter:

4.92 cm (1.94 in.)

Voice Coil Diameter:

5.08 cm (2.00 in.)

Voice Coil Construction:

Aluminum wire copper-clad wound on high-temperature polyimide coil form

Diaphragm Construction:

Aluminum dome, polyimide suspension and copper-clad wire wound on polyimide coil form. This structure is permanently bonded with high-temperature, long-duration-cure epoxy materials.

Electrical Connection:

Push terminals, each of which will accept one 12-gauge wire and any smaller size.

Polarity:

A positive voltage applied to the positive (red) terminal produces a positive acoustic pressure in the throat.

Mechanical Connection:

Bolt on,

4 equally spaced holes on a 10.2 cm (4.00 in.) diameter circle, 1/4"-20 threads, bolts supplied with HP series horns

Dimensions (see Figure 2),

Overall Diameter:

15.6 cm (6.12 in.)

Overall Depth:

18.7 cm (7.38 in.)

Net Weight:

5.90 kg (13.0 lb)

Shipping Weight:

6.35 kg (14.0 lb)

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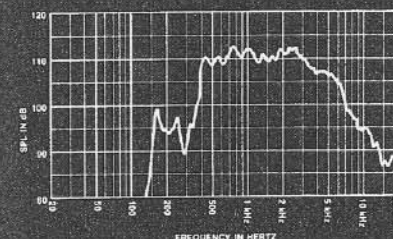


FIGURE 1
Axial Frequency Response, 1 Watt/1 Meter
Curved on HP9040 Horn

Model DH1506HP High-Frequency Reproducer

DESCRIPTION

The Electro-Voice DH1506HP is a high-performance, high-frequency driver capable of unprecedentedly high acoustic power output over a wide frequency range.

This performance results from careful engineering and design, involving expert choices of materials and advanced driver architecture which are ideally suited for efficient presentation of high-quality musical and communication program material. Features of the DH1506HP include:

1. A rugged, lightweight diaphragm constructed of a high strength aluminum alloy dome, formed polyimide suspension and precision-cut polyimide coil form. All are accurately bonded with advanced long-time thermal-cure epoxies. This construction makes the DH1506HP unusually rugged as well as exhibiting smooth, efficient response into the upper octave of reproducible music and speech.
2. A precision, lightweight coil made from copper-clad aluminum wire, which gives the DH1506HP high magnetic motor strength and maximum efficiency. Proprietary high-temperature winding and electrical bonding technologies assure excellent coil reliability and performance.
3. A unique, convex-drive phase-plug design giving optimum upper-octave response.

¹ Measured on axis in the far field with 1 watt input of band-limited pink noise from 500-5,000 Hz and calculated to 1 meter equivalent by inverse square law.

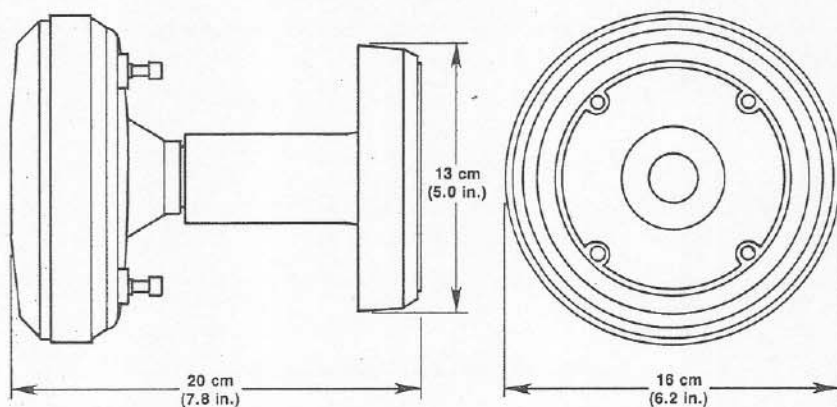


FIGURE 2
Dimensions

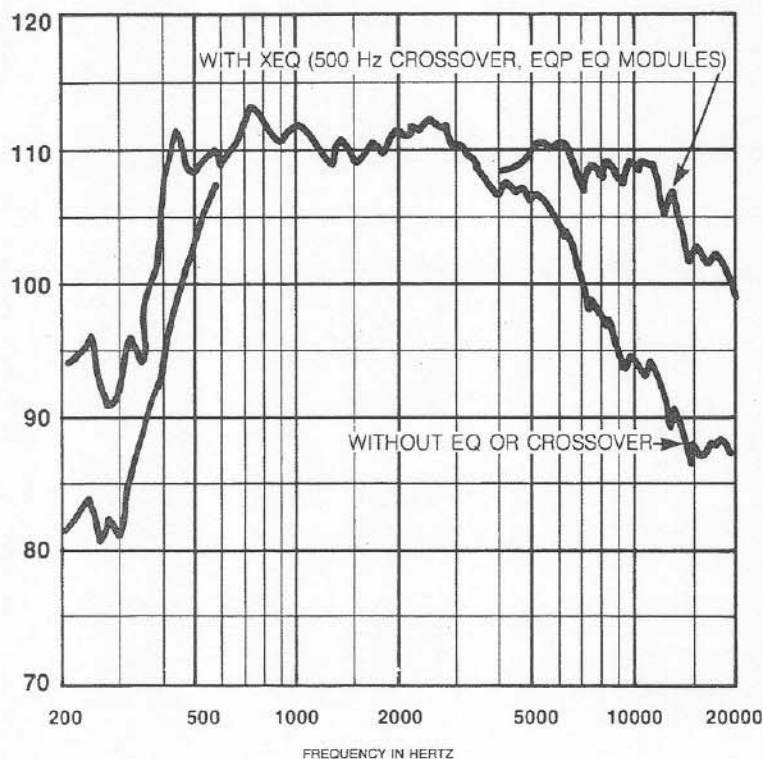


FIGURE 3
Axial Frequency Response With and Without
Equalization, 1 Watt/1 Meter, HP9040 Horn

4. The DH1506HP is unusual in appearance and concept. It features an integral throat expansion section allowing this "normally - 1 inch driver" to be directly attached to the 2 inch/4 bolt throat coupling of any of the HP series horns.

RECOMMENDED HORNS

The following Electro-Voice horns are recommended for use with the DH1506HP: HP420, HP640, HP940, HP1240, HP4020, HP6040, and HP9040.

CROSSOVER AND EQUALIZATION

As with all horn/driver combinations that combine high overall efficiency with constant directivity, the DH1506HP and HP series horns provide "raw" or unequalized frequency response that rolls off above 3,000 Hz or so at about 6 dB per octave. Figure 3 shows the DH1506HP on an HP9040 horn, with and without equalization. The equalization has been provided by an Electro-Voice XEQ-2 crossover/equalizer equipped with the EQP equalization module. While the equalization of a constant-directivity horn/driver combination can be achieved with a conventional one-third-octave equalizer, the use of the XEQ-2 crossover/equalizer with the appropriate accessory EQ module is recommended. This way, the broad-band equalization required by the horn/driver combination is supplied by the crossover/ equalizer network, and the one-third-octave equalizer can be devoted to correcting the more subtle room- and array-related response anomalies. The following EQ modules are available for the DH1506HP:

Module	Horn(s)
EQM	HP940
EQN	HP1240
EQO	HP420; HP640
EQP	HP4020; HP9040
EQQ	HP6040

Refer to the XEQ-2 engineering data sheet for more information on XEQ-2 performance and application.

For passively crossed over systems, the XEQ804 and XEQ808 crossover/equalizers are available.

FIELD REPLACEMENT

In case of voice coil or diaphragm failure, the diaphragm cover subassembly can be replaced by just removing the driver from the front housing, then replacing the cover subassembly itself by the removal of six cover screws. A replacement kit with instructions may be ordered under Electro-Voice Part No. 88786-XX from the Electro-Voice Service Department in Buchanan, Michigan. If desired, the complete driver may be returned for service.

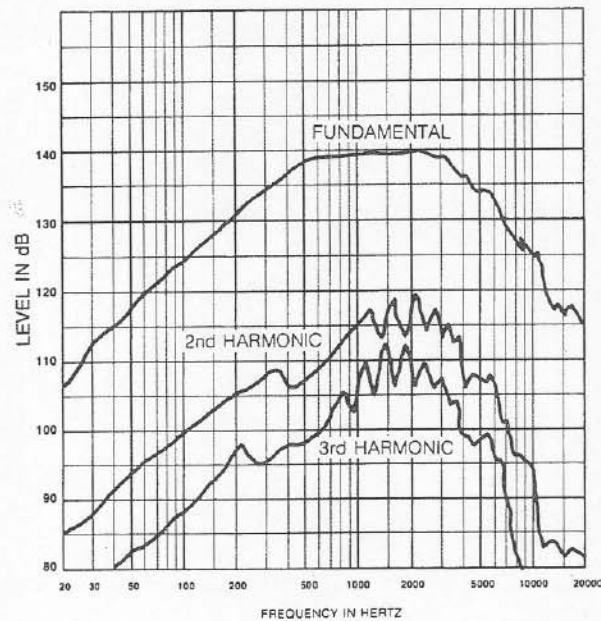


FIGURE 4
Distortion Response,
2-Inch Plane-Wave Tube, 3 Watts

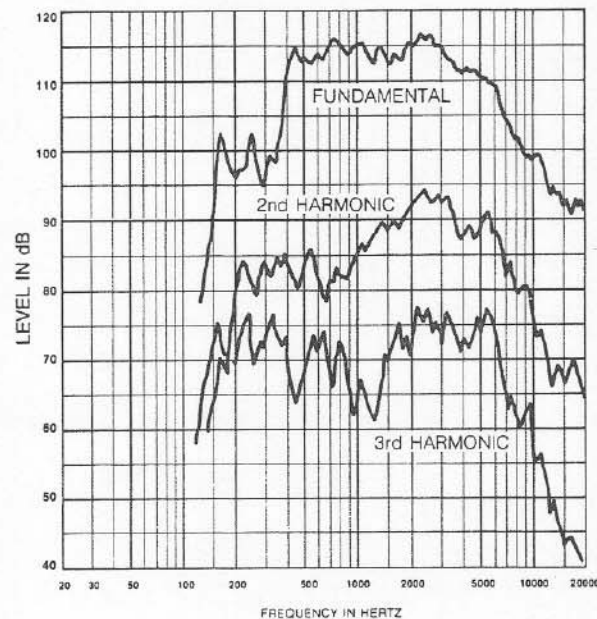


FIGURE 5
Distortion Response,
HP9040 Horn, 3 Watts/1 Meter

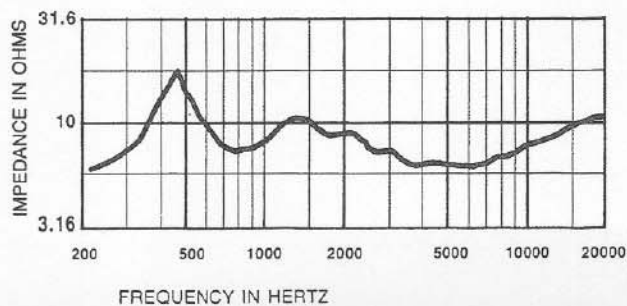


FIGURE 6
Impedance Response — 2-Inch Plane-Wave Tube

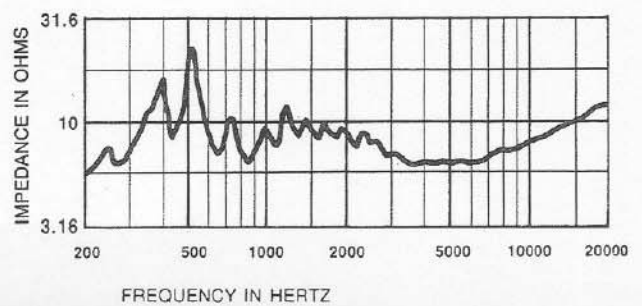


FIGURE 7
Impedance Response — HP9040 Horn

AES RECOMMENDED PRACTICE

The DH1506HP's specifications conform to the AES Recommended Practice for Specification of Components Used in Professional Audio and Sound Reinforcement (AES2-1984; ANSI S4.26-1984). This recommended practice was developed over a number of years by consultants, manufacturers and government agencies from around the world, so that the detailed performance information required in professional applications could be provided in a unified format. The recommended practice has been published in the October, 1984, issue of the *Journal of the Audio Engineering Society* (vol. 26, pp. 771-780). Individual copies of the recommended practice are available from the Audio Engineering Society, 60 East 42nd Street, New York, New York 10165, USA. Also appearing in this issue is an article which comments on the recommended practice from an engineering point of view (C.A. Henriksen, "Engineering Justifications for Selected Portions of the AES Recommended Practice for Specification of Loudspeaker Components," pp. 763-769). The comments in this article will be particularly of interest to those not involved in the day-to-day design and testing of loudspeakers.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The loudspeaker shall be of the compression-driver type consisting of a

0.005 cm (0.002 in.) thick aluminum dome and coil form, formed polyimide suspension and voice coil assembly consisting of copper-clad aluminum wire wound on a polyimide coil form.

The loudspeaker shall exhibit essentially flat power response from 500 to 3,000 Hz, with a smoothly rolled-off response from 3,000 to 20,000 Hz. Its efficiency shall not be less than 25%. Its sensitivity, when mounted on an EV HP4020 horn, shall be 115 dB (1W/1m) with a 500-to-5,000-Hz pink-noise signal applied.

The loudspeaker shall be capable of handling a 30-watt, 800-to-20,000-Hz pink-noise signal with a 10-dB crest factor (300 watts peak) for a period of 24 hours. In addition, it shall be capable of handling a 40-watt, 800-to-8,000-Hz pink-noise signal and a 60-watt, 1,500-to-15,000-Hz pink-noise signal, with 6-dB crest factors for a period of two hours in both cases.

The loudspeaker shall have a diameter of 15.6 cm (6.12 in.) and a depth of 18.7 cm (7.38 in.). It shall have a 1.94-inch throat opening, with four 1/4-20 threaded bolt holes on a 4-inch-diameter circle for mounting. The unit shall weigh no more than 5.9 kg (13.0 lbs).

The loudspeaker shall be the Electro-Voice model DH1506HP compression driver.

WARRANTY (Limited)

Electro-Voice Professional Sound Reinforcement Loudspeakers and Accessories are guaranteed for five years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, unit will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish or appearance items or malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For correct shipping address and instructions on return of Electro-Voice products for repair and locations of authorized service agencies, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone: 616/695-6831) or Electro-Voice West, 8234 Doe Avenue, P.O. Box 3297, Visalia, California 93277 (Phone: 209/651-7777).

Electro-Voice also maintains complete facilities for non-warranty service.

Service and repair address for this product: Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107

Specifications subject to change without notice.



ELECTRO-VOICE, INC., 600 Cecil Street, Buchanan, Michigan 49107

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