

# DH2As2 DH2As2-16

## High-Frequency Reproducer



### General Product Description

The Electro-Voice® DH2As2/DH2As2-16 is a “shortnose” version of the DH2A/DH2A-16 with a nominal 2 inch (5.08 cm) exit, for use where space is at a premium. The DH2As2/DH2As2-16 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 a driver architecture which are ideally suited for efficient presentation of high-quality musical and communication program material. Features of the DH2As2/DH2As2-16 include:

1. A unique, geometrically optimized diaphragm consisting of a one-piece ribbed dome and suspension fabricated from pure titanium. Advanced metal forming and processing technology developed by EV engineers allows this high-elongation diaphragm design to be formed from stock a mere 0.031-mm (0.0012-in.) thick. The combination of diaphragm geometry and material choice gives the DH2As2/DH2As2-16 diaphragm an ideal combination of superb high-frequency response and resistance to fatigue from stress.
2. A precision, lightweight voice coil made from pure aluminum wire, which gives the DH2As2/DH2As2-16 high magnetic motor strength and maximum efficiency. Proprietary high-temperature winding and electrical bonding technologies assure excellent coil reliability and performance.
3. A new, convex-drive phase-plug design giving optimum upper-octave response.
4. Screw-type input terminals which are an EV exclusive. They provide an unusually positive electrical connection. Each terminal will easily accept a pair of 12-gauge wires, and any smaller size. These special terminals were designed using the results of an extensive field survey of consultants and sound-system installers.

The DH2As2/DH2As2-16 has been designed and optimized for today's systems where space and weight is a premium. A consequence of this optimization is an increased flare rate. This means Electro-Voice® does not recommend the DH2As2/DH2As2-16 be used with Electro-Voice® large format horns (HP9040, HP6040 and HP4020) where traditional crossover points of 500 Hz or 800 Hz would be used. A minimum crossover frequency of 1,000 Hz is recommended with 1,600 Hz being more typical.

### Recommended Horns

The following Electro-Voice® horns are recommended for use with the DH2As2/DH2As2-16: HP64, HP66, HP94, HP420, HP640, HP940 and HP1240. While the DH2As2/DH2As2-16 may be used with the large format HP4020, HP6040 and HP9040 horns, the 1,000-Hz minimum crossover frequency of the DH2As2/DH2As2-16 means that the low-frequency directivity control of these horns cannot be taken advantage of.



### Architects' and Engineers' Specifications

The loudspeaker shall be of the compression-driver type consisting of a 0.031mm (0.0012in.) thick titanium diaphragm joined to an edge-wound aluminum ribbon voice coil on a polyimide form.

The nominal impedance shall be 8 ohms (DH2As2) or 16 ohms (DH2As2-16). The loudspeaker shall exhibit essentially flat power response from 1,000 to 3,000 Hz, with a smoothly rolled-off response from 3,000 to 20,000 Hz. Its mid-band efficiency shall not be less than 25%.

Its sensitivity, when mounted on an EV HP640 horn, shall be 112 dB (1 W/1 m) with a 1,000 to 5,000 Hz pink-noise signal applied.

The loudspeaker shall be capable of handling a 30 watt, 1,000 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, 1,000 to 8,000 Hz pink-noise signal and a 60-watt, 2,000 to 15,000 Hz pink-noise signal, both with 6-dB crest factors for a period of two hours.

The loudspeaker shall have a diameter of 17.1 cm (6.75 in.) and a depth of 9.2 cm (3.63 in.). It shall have a 3.56 cm (1.4-in.) throat opening, with four 1/4-20 threaded bolt holes on an 10.16-cm (4.0-in.) diameter for mounting.

The unit shall weigh no more than 5.35 kg (11.8 lb).

The loudspeaker shall be the Electro-Voice model DH2As2 (DH2As2-16) compression driver.

## 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).

### Power Frequency Response:

1,000 - 20,000 Hz (essentially flat 500-5,000Hz with 6-dB-per-octave roll off to 20,000 Hz, rapid roll off beyond)

### Nominal Impedance, on HP Series Horns Above 500 Hz:

DH2AS2: ..... 8 ohms  
DH2AS2-16: ..... 16 ohms

### Minimum Impedance @ 7,000 Hz:

DH2AS2: ..... 6 ohms  
DH2AS2-16: ..... 12 ohms

### DC Resistance:

DH2AS2: ..... 4.5 ohms  
DH2AS2-16: ..... 11 ohms

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

24 Hours, 6-dB Crest Factor: ..... 30 watts (1,000-20,000 Hz)

#### 2 Hours, 6-dB Crest Factor:

1,000 - 10,000 Hz ..... 40 watts  
1,500 - 15,000 Hz ..... 60 watts

### Nominal Efficiency, 1,000-3,000-Hz Pink Noise, 8-Ohm Impedance

Assumed: ..... 25%

Maximum Long-Term Acoustic Power Output (24 hours): . 7.5 watts

Recommended Minimum Crossover Frequency: ..... 1000 Hz

### Sound Pressure Level at 1 Meter, 1 Watt Input Averaged from 500 Hz to 5,000 Hz:<sup>1</sup>

HP64, HP66, HP94: ..... 111 dB  
HP420 horn ..... 114 dB  
HP640 horn ..... 112 dB  
HP940 horn ..... 110 dB  
HP1240 horn ..... 108 dB

Displacement Limit of Diaphragm: ..... 6.1 mm (0.024 in.)

Throat Diameter: ..... 3.56 cm (1.4 in.)

Voice Coil Diameter: ..... 5.08 cm (2.00 in.)

### Voice Coil Construction:

Pure aluminum wire wound on high-temperature polyimide coil form .

### Diaphragm Construction:

Integral all titanium construction consisting of spherical diaphragm dome and geometrically optimized suspension; high-temperature, long-duration-cure adhesive bonds the coil form to the diaphragm.

### Electrical Connection:

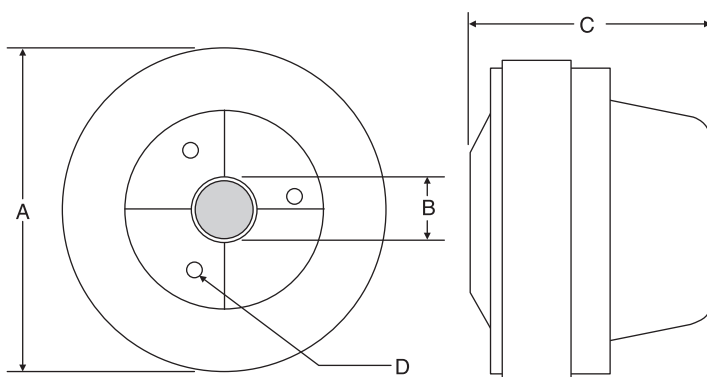
#10 screw terminals, each of which will accept a pair of 12-gauge wires and any smaller size.

### Polarity:

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

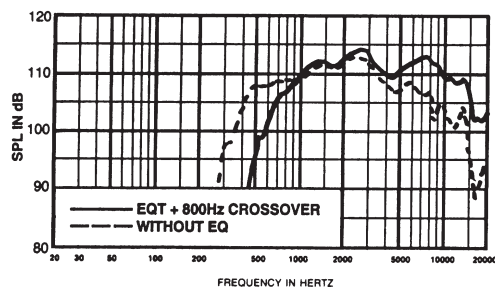
Net Weight: ..... 5.35 kg (11.8 lb)

<sup>1</sup> Measured axis in the far field with 1 watt input of band-limited pink-noise from 500-5,000 Hz end calculated to 1 m or equivalent by Inverse square law.



| Dimensions: (in.) |          |
|-------------------|----------|
| A                 | 6.75     |
| B                 | 1.4      |
| C                 | 3.64     |
| D                 | 1/4 - 20 |

Dimensions



Axial Frequency Response With and Without Equalization, 1 Watt/1 Meter Into Midband on HP640 Horn

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Canada 705 Progress Avenue, Unit 46, Scarborough, Ontario, Canada, M1H2X1, Phone: 416-431-4975, 800-881-1685, FAX: 416-431-4588  
Germany Hirschberger Ring 45, D94315, Straubing, Germany, Phone: 49 9421-706 0, FAX: 49 9421-706 287  
France Parc de Courcerin, Alle Lech Walesa, Lognes, 77185 Marne La Vallee, France, Phone: 33/1-6480-0090, FAX: 33/1-6480-4538  
Australia Unit 23, Block C, Slough Business Park, Slough Avenue, Silverwater, N.S.W. 2128, Australia, Phone: 61/2-9648-3455, FAX: 61/2-9648-5585  
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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.