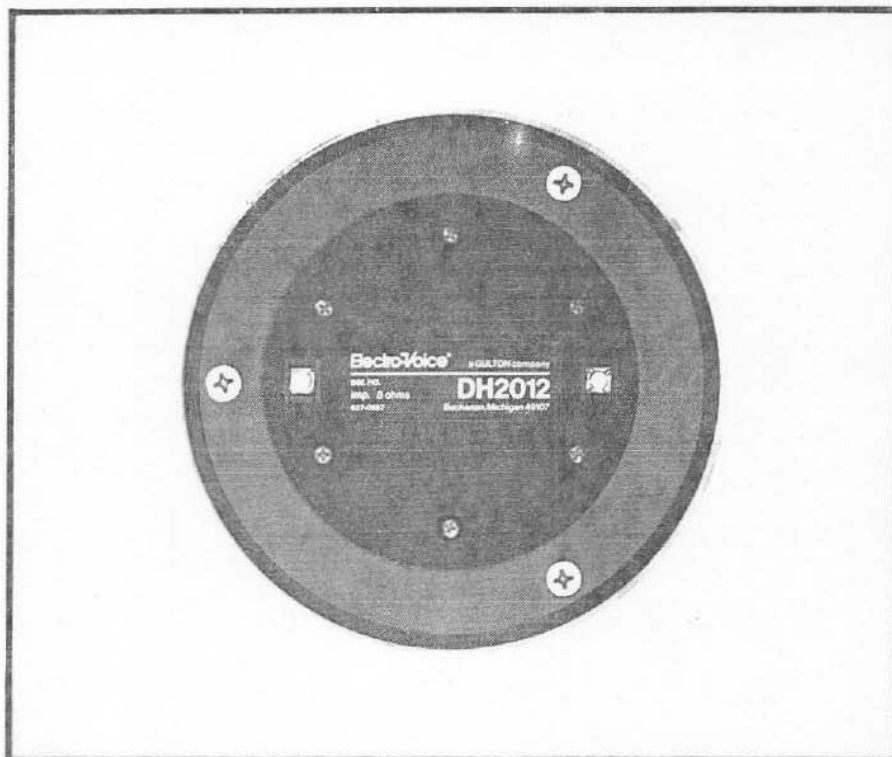




Electro-Voice®

a MARK IV company

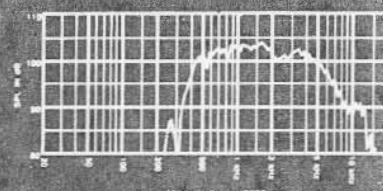


FIGURE 1

Axial Frequency Response 1 Watt/1 Meter
Curved on HR9040A Horn

Model DH2012 High-Frequency Driver

SPECIFICATIONS

The following specifications are in accordance with or exceed the "AES Draft Recommended Practice for Specification of Loudspeaker Components used in Professional Sound Reinforcement Systems - 1983."

Power Frequency Response:

400-16,000 Hz (essentially flat)
400-5,000 Hz with 12-dB-per-octave
rolloff to 16,000 Hz, rapid rolloff beyond)

Nominal Impedance:

8 ohms

Minimum Impedance, on HR Series Horns above 500 Hz:

6 ohms at 5,000 Hz

Nominal dc Resistance:

4.5 ohms

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

24 Hours, 10-dB Crest Factor:

40 watts (500-20,000 Hz)

2 Hours, 6-dB Crest Factor:

50 watts (500-20,000 Hz)

70 watts (1,000-20,000 Hz)

Nominal Efficiency, 1,000-5,000 Hz

Pink Noise, 8-Ohm Impedance Assumed:
25%

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

10 watts

Recommended Minimum Crossover Frequency:

500 Hz

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

115 dB, HR4020A horn

113 dB, HR6040A horn

111 dB, HR9040A horn

114 dB, HR40 horn

112 dB, HR60 horn

110 dB, HR90 horn

108 dB, HR120 horn

Voice-Coil Diameter:

7.6 cm (3.0 in.)

Voice-Coil Construction:

Rectangular, edge-wound aluminum
wire on an aluminum form integrally a
part of the diaphragm dome

Diaphragm Construction:

Aluminum dome with geometrically
optimized polyimide surround

Electrical Connection:

The DH2012 is fitted with a pair of
screw terminals identified as T1 and T2.
A positive electrical signal applied to
the T1 (+) terminal will displace the
diaphragm away from the listener, thus
producing a negative acoustic pressure.

Mechanical Connection:

Bolt-on
(4 equally spaced holes on a 3.5-in.
diameter circle, 1/4"-20 threads, bolts
supplied with HR series horns)

Dimensions (see Figure 2):

19 cm (7.5 in.) overall diameter

7.1 cm (2.8 in.) overall depth

Net Weight:

6.72 kg (14.8 lb)

Shipping Weight:

7.13 kg (15.7 lb)

DESCRIPTION

The Electro-Voice DH2012 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 most ideally suited for efficient presentation of high-quality musical and communication program material.

Features of the DH2012 include:

- 1) A unique integral diaphragm and coil form which provides a high stiffness-to-weight ratio for extended response as well as efficient heat dissipation for excellent power handling. Advanced metal forming technology developed at EV allows manufacture of this difficult geometry from high-strength aluminum alloy only 0.002-inch thick.
- 2) A polyimide diaphragm suspension geometrically optimized for extended fracture-free excursion and excellent control of high-frequency breakup.
- 3) A precision, lightweight drive coil made from pure aluminum rectangular wire which gives the DH2012 high magnetic motor strength and maximum efficiency. Proprietary high-temperature winding and electrical bonding technologies assure excellent coil reliability and performance.
- 4) A phase-plug design giving optimum upper octave response.

¹ Measurements taken in the open field with 1 watt input of band-limited pink noise from 500-5,000 Hz, averaged to 1 meter distance by the inverse square law.

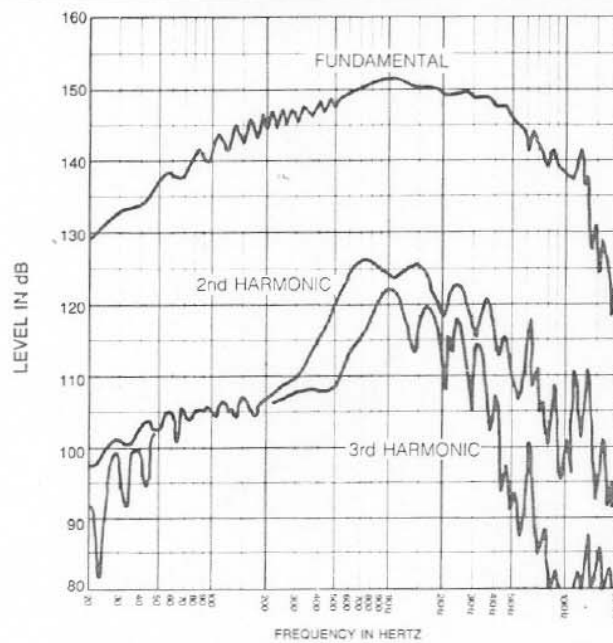


FIGURE 4
Distortion Response,
1-Inch Plane-Wave Tube, 4 Watts

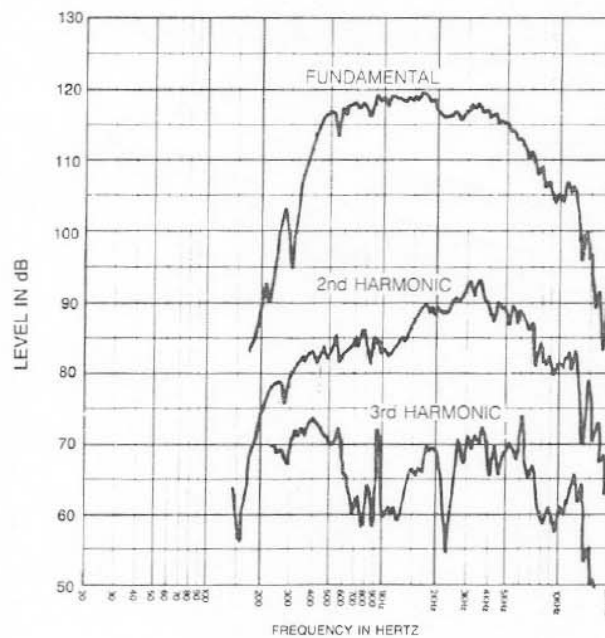


FIGURE 5
Distortion Response,
HR9040A Horn, 4 Watts/1 Meter

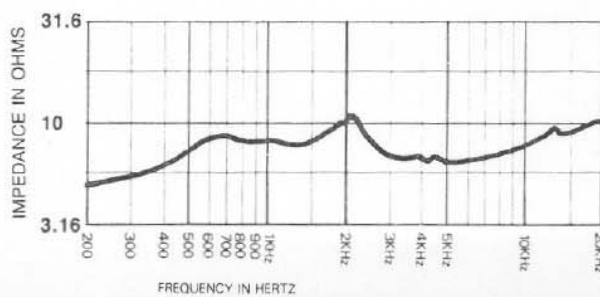


FIGURE 6
Impedance Response — 1-Inch Plane-Wave Tube

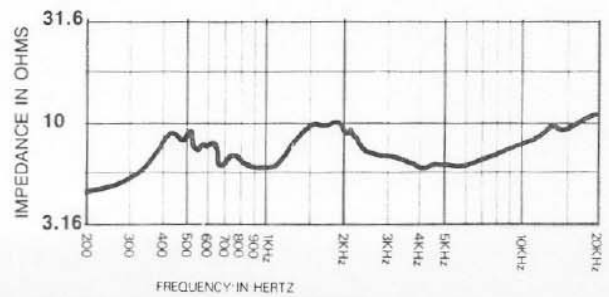


FIGURE 7
Impedance Response — HR9040A Horn

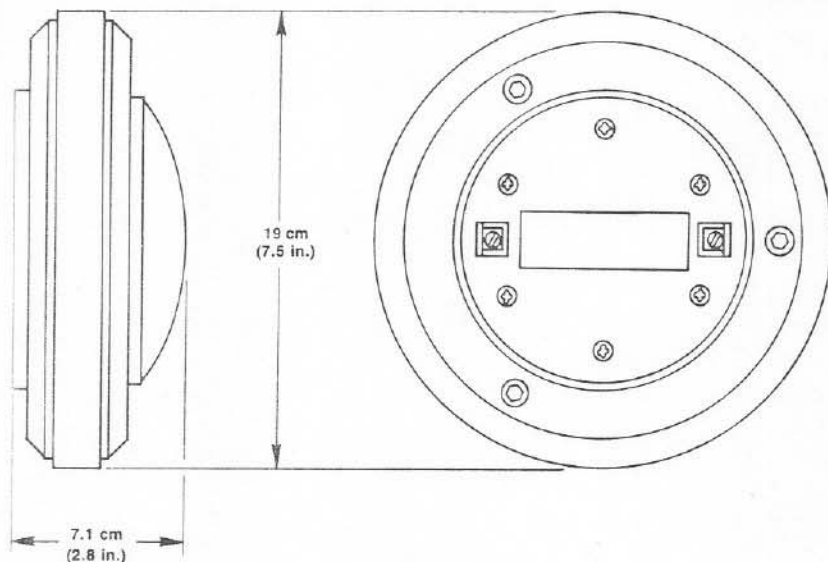


FIGURE 2
Dimensions

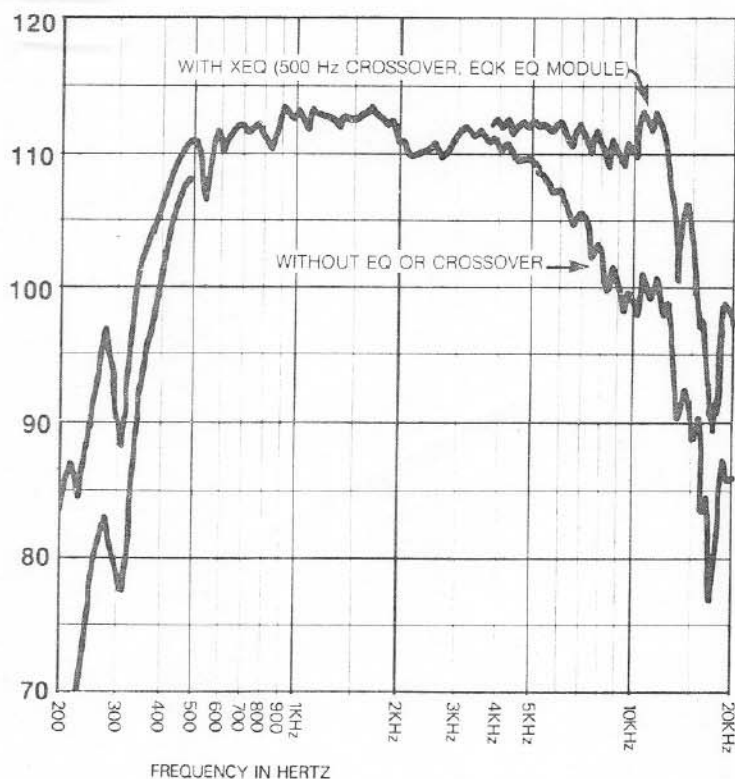


FIGURE 3
Axial Frequency Response with and without
Equalization, 1 Watt/1 Meter, HR9040A Horn

RECOMMENDED HORNS

The following Electro-Voice horns are recommended for use with the DH2012: HR4020A, HR6040A, HR9040A, HR40, HR60, HR90 and HR120.

CROSSOVER AND EQUALIZATION

As with all horn-driver combinations that combine high overall efficiency with constant directivity, the DH2012 and HR-series horns provide "raw" or unequaled frequency response that rolls off above 3,000 Hz or so, at about 6 dB per octave. Figure 3 shows the DH2012 on an HR9040A horn, with and without equalization. The equalization has been provided by an Electro-Voice XEQ-2 crossover/equalizer equipped with the EQK 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 active 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 DH2012:

Module	Horn(s)
EQG	HR90
EQH	HR120, SM120A
EQJ	HR40, HR60
EQK	HR4020A; HR9040A
EQL	HR6040A

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 sub-assembly on the rear of the driver can be field replaced by the removal of six cover screws. A replacement kit with instructions may be ordered under Electro-Voice Part No. 81015XX from the Electro-Voice Service Department in Buchanan, Michigan. If desired, the complete driver may be returned for service.