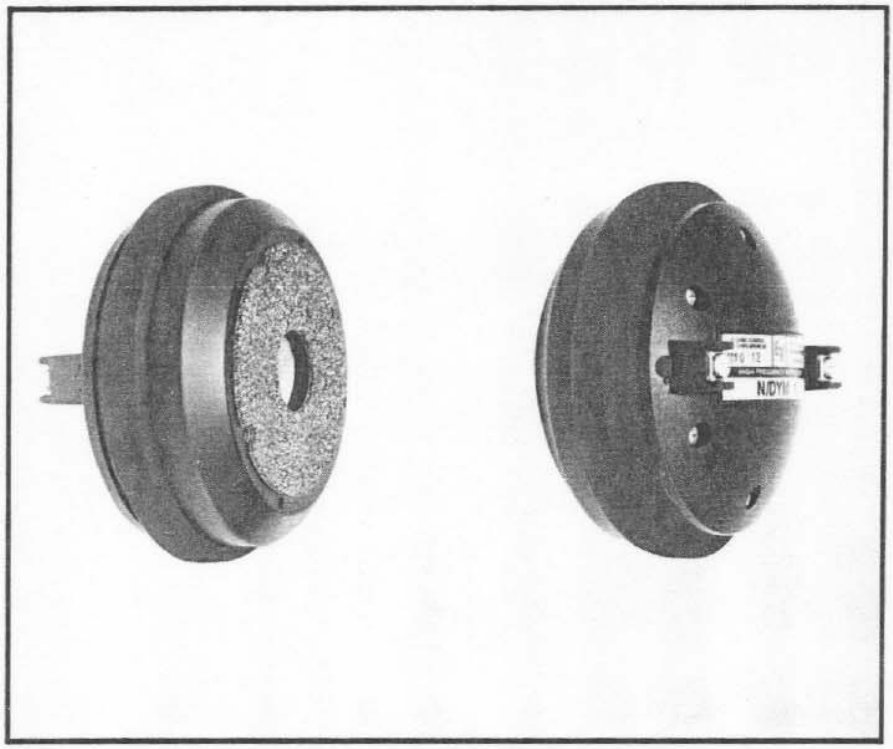

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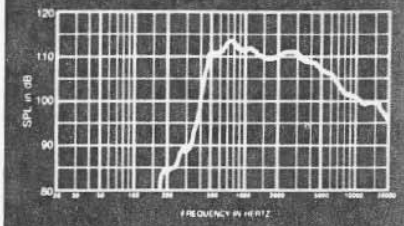

FIGURE 1
Axial Frequency Response, 1 Watt/1 Meter Curved on HP9040 Horn

Models N/DYM® 1mt N/DYM® 1mt-16 High-Frequency Reproducers

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 500-5,000 Hz with 6-dB-per-octave rolloff to 20,000 Hz, rapid rolloff beyond)

Nominal Impedance,
N/DYM® 1mt:
8 ohms
N/DYM® 1mt-16:
16 ohms

Minimum Impedance, on HP Series Horns Above 500 Hz,
N/DYM® 1mt:
7 ohms at 6,000 Hz
N/DYM® 1mt-16:
14 ohms at 6,000 Hz

Nominal dc Resistance,
N/DYM® 1mt:
4.5 ohms
N/DYM® 1mt-16:
10.5 ohms

Long-Term Average Power Capacity on HP Horns, Indicated Bands of Pink Noise, 8-Ohm Impedance Assumed,
24 Hours, 6-dB Crest Factor:
50 watts (500-20,000 Hz)
2 Hours, 6-dB Crest Factor:
75 watts (1000-10,000 Hz)

Nominal Efficiency, 1,000-5,000-Hz Pink Noise, 8-Ohm Impedance Assumed:
28%

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

Recommended Minimum Crossover Frequency:
500 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:
3.30 cm (1.30 in.)

Voice Coil Diameter:
7.62 cm (3.00 in.)

Voice Coil Construction:
Rectangular edge-wound pure aluminum wire on a high-temperature polyimide form.

Diaphragm Construction:
Integral all-titanium construction consisting of spherical diaphragm dome and geometrically optimized suspension; a low-fatigue, high temperature, long-duration-cure engineering polymer bonds the coil form to the diaphragm.

Electrical Connection:
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 (+) terminal produces a positive acoustic pressure in the throat.

Mechanical Connection:
Bolt on,
4 equally spaced holes on a 8.89 cm (3.50 in.) diameter circle, ¼"-20 threads, bolts supplied with HP series horns

Dimensions (see Figure 2),
Overall Diameter:
14.5 cm (5.7 in.)
Overall Depth:
5.8 cm (2.3 in.)

Net Weight:
3.1 kg (7.0 lb)

Shipping Weight:
3.7 kg (8.2 lb)

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.

DESCRIPTION

The Electro-Voice N/DYM® 1mt is a world-class, high-frequency compression driver configured to be used in pairs with the MTA-22 high-frequency summation device.

This performance results from careful engineering and design, involving expert choices of material and advanced driver architecture which are ideally suited for efficient presentation of high-quality musical and communication program material. Features of the N/DYM® 1mt include:

1. A unique, geometrically-optimized diaphragm consisting of a one-piece dome and suspension fabricated from titanium. Advanced metal forming and processing technology developed by EV engineers allows this high-elongation diaphragm design to be formed from .0015-inch thick material. The combination of diaphragm geometry and material choice gives the N/DYM® 1mt diaphragm an ideal combination of superb high-frequency response and resistance to fatigue from stress.
2. A unique neodymium alloy (NdFeB) magnetic system which provides unsurpassed amplifier-to-diaphragm coupling. This gives the N/DYM® 1mt unusual bandwidth extension, high efficiency and a musical depth and transient clarity not normally associated with compression drivers. The drive system consists of the following advanced features:
   a) An optimized and balanced magnetic circuit which provides a flux density of 2.25 Tesla (22.5 kilogauss). This represents the highest flux density currently available.

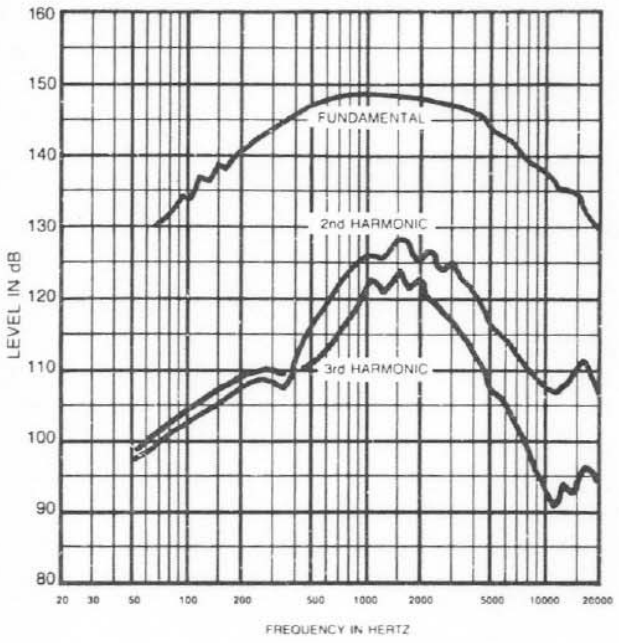

FIGURE 4
Distortion Response,
2-Inch Plane-Wave Tube, 5 Watts

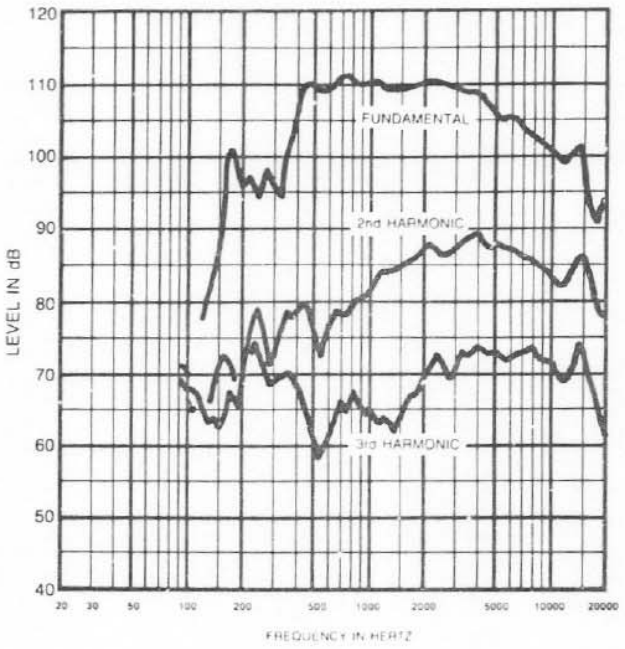

FIGURE 5
Distortion Response,
HP9040 Horn, 1 Watt/1 Meter

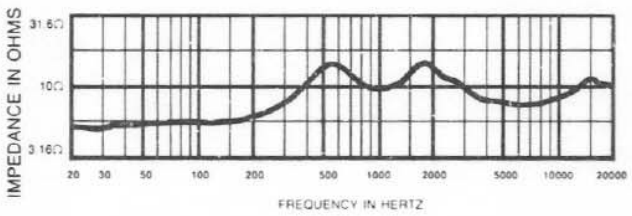

FIGURE 6
Impedance Response — 2-Inch Plane-Wave Tube
8-Ohm Driver

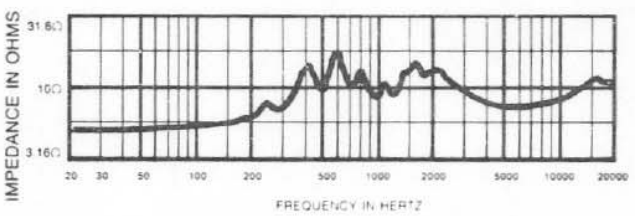

FIGURE 7
Impedance Response — HP9040 Horn
8-Ohm Driver

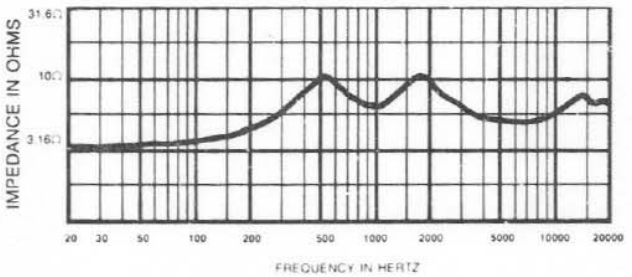

FIGURE 8
Impedance Response — 2-Inch Plane-Wave Tube
16-Ohm Driver

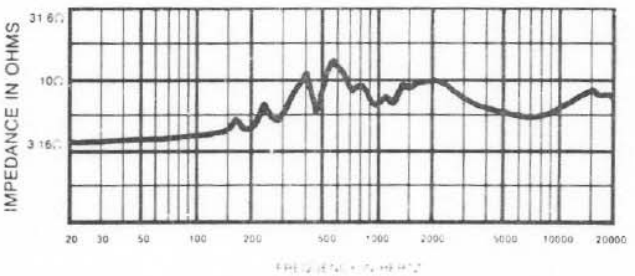

FIGURE 9
Impedance Response — HP9040 Horn
16-Ohm Driver

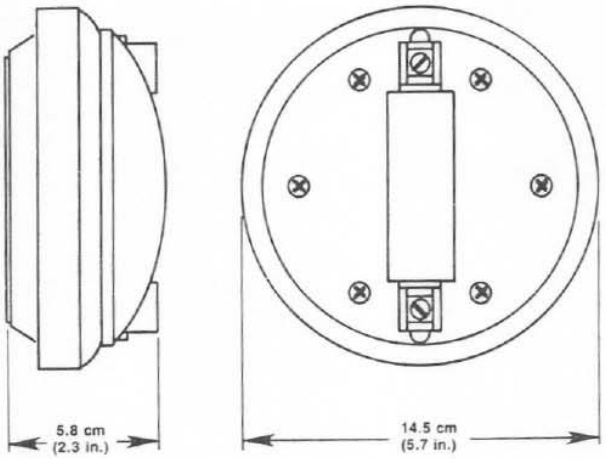

FIGURE 2
Dimensions

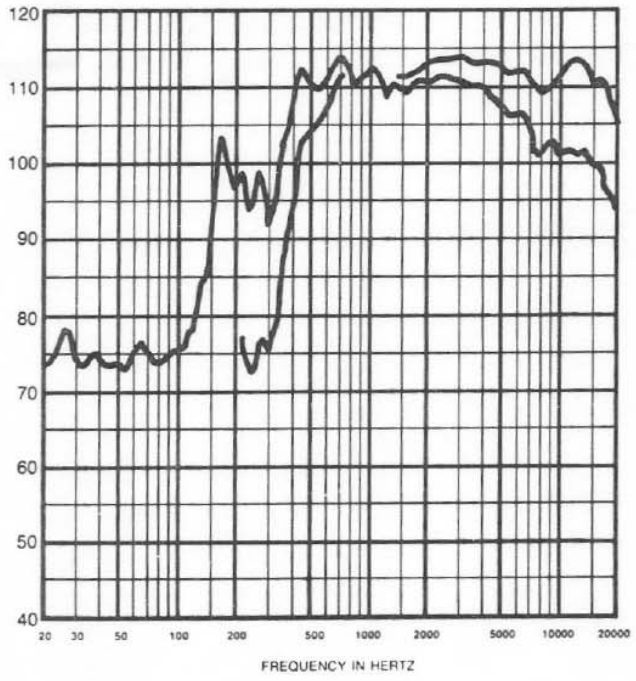

FIGURE 3
Axial Frequency Response with and without Equalization, 1 Watt/1 Meter, HP9040 Horn

b) A precision, lightweight voice-coil made from pure aluminum rectangular wire, which gives the N/DYM® 1mt high motor strength and maximum efficiency.

Proprietary high-temperature winding and electrical bonding technologies assure excellent coil reliability and performance.

c) EV-exclusive PROTEF™ (Patent no. 4547632) voice-coil protection, a Teflon®-based coating, applied to the top plate. Occasionally, violent power peaks of several seconds in duration may expand a normal driver's voice coil into contact with the top plate, causing deterioration. With the PROTEF coating, added protection is provided; the coating lubricates any rubbing contact and provides direct electrical insulation between the coil and the steel top plate. This feature is unique for compression drivers and is a result of Electro-Voice's exclusive "Total Thermal Engineering" approach to loudspeaker design.

3. A 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.

5. An integral diaphragm assembly and protective cap which is an EV-exclusive design. This allows for a single operation for diaphragm removal and acts as an effective out-of-driver diaphragm protection.

RECOMMENDED HORNS

The following Electro-Voice horns are recommended for use with the N/DYM® 1mt; HP64, HP94, 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 N/DYM® 1mt 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 N/DYM® 1mt on an HP9040 horn, with and without equalization. The equalization has been provided by Electro-Voice XEQ-2 or XEQ-3 crossover/equalizers equipped with the EQU equalization module. While the equalization of constant-directivity horn/driver combination can be achieved with a conventional one-third-octave equalizer, the use of