Electro-Voice®
a MARK IV company

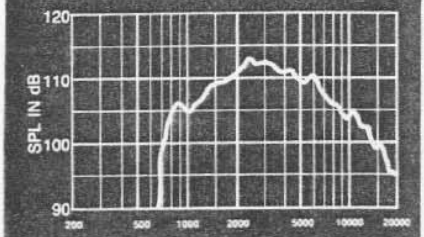

FIGURE 1
Axial Frequency Response 1 Watt/1 Meter Curved on HPT94 Horn

Model DH3
Very-High-Frequency Reproducer

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:
1.5 kHz to 20 kHz (essentially flat
1.5 kHz to 5 kHz with 6 dB-per-octave rolloff to 20 kHz, rapid rolloff beyond)

Nominal Impedance:
8 ohms

Minimum Impedance:
7 ohms at 10 kHz
5 ohms at 15 kHz (with crossover and equalizer)

Nominal dc Resistance:
5 ohms

Long-Term Average Power Capacity on HPT Horns, Indicated Bands of Pink Noise, 8-Ohm Impedance Assumed,
24 Hours, 6-dB Crest Factor:
20 watts (5 kHz-20 kHz)
2 Hours, 6-dB Crest Factor:
30 watts (5 kHz-20 kHz)

Nominal Efficiency:
25%
(band limited pink noise input 1.5 kHz to 5 kHz, assuming 8-ohm driver impedance)

Maximum Long-Term Acoustic Power Output (24 Hours):
5 watts

Recommended Minimum Crossover Frequency:
5,000 Hz, 12 dB octave minimum

Throat Diameter:
2.41 cm (0.95 in.)

Sound Pressure Level at 1 Meter, 1-Watt Input Averaged from 1,500 Hz to 5,000 Hz:[1]
113 dB, HPT42 horn
111 dB, HPT64 horn
112 dB, HPT94 horn

Voice Coil Diameter:
3.17 cm (1.25 in.)

Voice Coil Construction:
Polyimide insulated aluminum wire on a polyimide form.

Diaphragm Construction:
Titanium integral half-roll surround diaphragm

Electrical Connection:
The DH3 is fitted with a pair of chrome-plated connectors with color-coded ends. Electrical connection is made by pushing down, inserting wire completely through the rectangular slot and releasing pressure. One conductor of #9 AWG stranded, #8 AWG solid, a pair of twisted #15 AWG stranded or a pair of #14 AWG solid conductors will fit. A positive electrical signal applied to the red (+) terminal will displace the diaphragm away from the magnet, thus produce a positive acoustic pressure.

Mechanical Connection:
1⅜"-18 x ⅝" long thread allows the DH3 to be mounted on any HPT super-tweeter horn or the MTA-42 Manifold Technology™ adapter.

Dimensions: (see Figure 2)
12.2 cm (4.8 in.) overall diameter
8.9 cm (3.5 in.) overall depth

Net Weight:
1.9 kg (4.2 lb)

Shipping Weight:
2.0 kg (4.4 lb)

DESCRIPTION
The Electro-Voice DH3 is a high-performance compression driver optimized for use as the super-tweeter component in professional three- and four-way sound reinforcement systems. Use above 5,000 Hz is recommended. Exceptional high-frequency performance is realized through a design which includes:

1) A specially formed lightweight titanium diaphragm and low-mass voice coil.

2) A unique glass-filled polycarbonate, convex-drive, distributed-source phase plug. This advanced design is akin to modern fluidic amplifier circuitry and is Electro-Voice's exclusive Time Path™ phase equalizer.

3) An optimum magnetic motor design, leading to a compact but sensible size and weight.

4) Exclusive Resonant Drive™ high-frequency suspension treatment. (patent pending)

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.

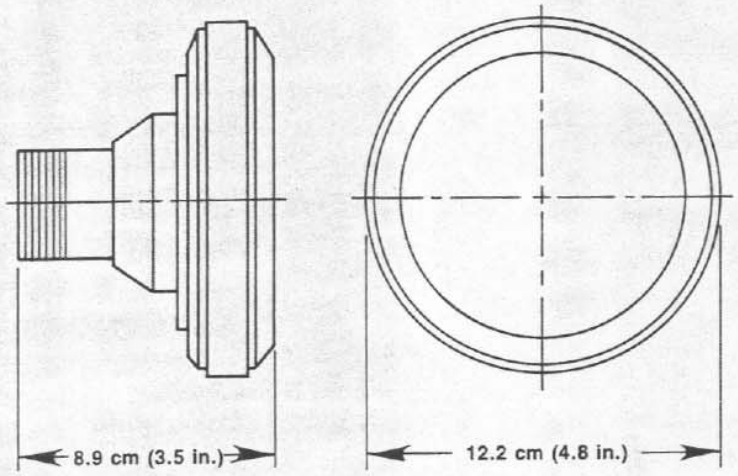

FIGURE 2
Dimensions

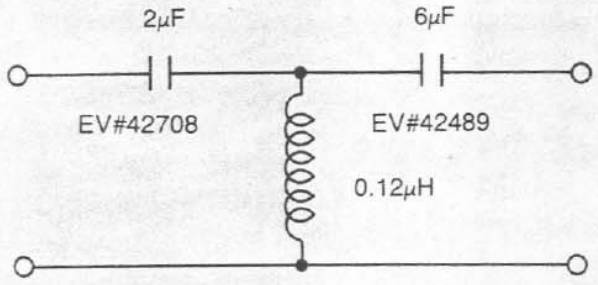

FIGURE 3
Combined Crossover/Equalizer for a 5,000 Hz Crossover Frequency

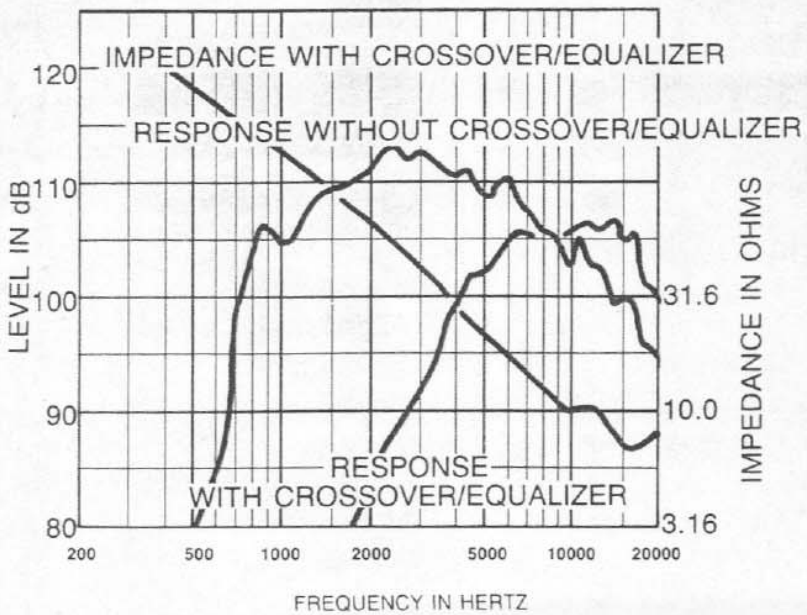

FIGURE 4
Axial Frequency Response, 1 Watt/1 Meter — HPT94 Horn

RECOMMENDED HORNS

The following Electro-Voice horns are recommended for use with the DH3: HPT42, HPT64, HPT94

CROSSOVER AND EQUALIZATION

As with any horn and driver combination that combines high quality with constant-directivity characteristics, the DH3 Driver and HPT94 Horn provide a "raw" or unequalized sound pressure that rolls off at higher frequencies. Figure 3 shows the combined equalizer and 5 kHz passive crossover. both equalized and unequalized responses are shown in Figure 4.

While the equalization of constant-directivity horn/driver combination can be achieved with a conventional one-third-octave equalizer, the use of the XEQ-2 or XEQ-3 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 DH3:

Module	Horn(s)
EQT	HPT42
EQS	HPT64
EQS	HPT94

Refer to the XEQ-2 and XEQ-3 engineering data sheets for more information on performance and application.

FIELD REPLACEMENT

In case of voice-coil or diaphragm failure, the diaphragm cover subassembly 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 from the Electro-Voice Service Department in Buchanan, Michigan. The appropriate repair kit part number is 81498XX, if desired, the complete driver may be returned for service.

AES RECOMMENDED PRACTICE

The DH3'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

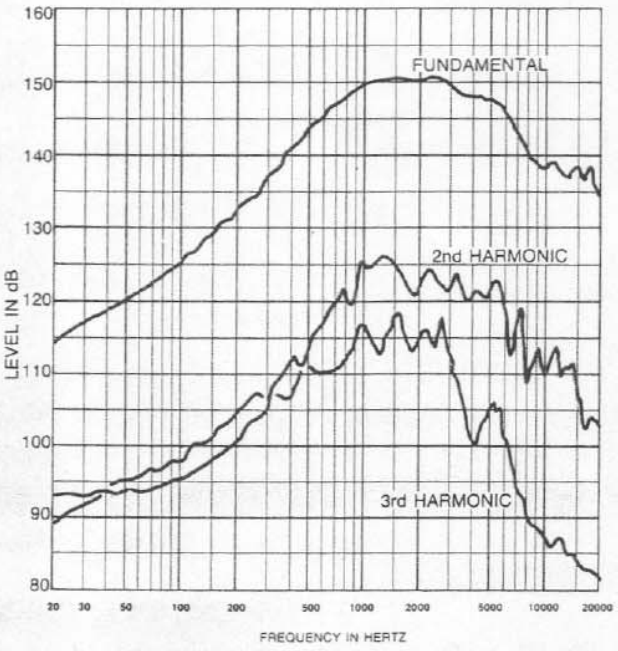

FIGURE 5
Distortion Response — Plane Wave Tube (1 inch)
(2 watts input)

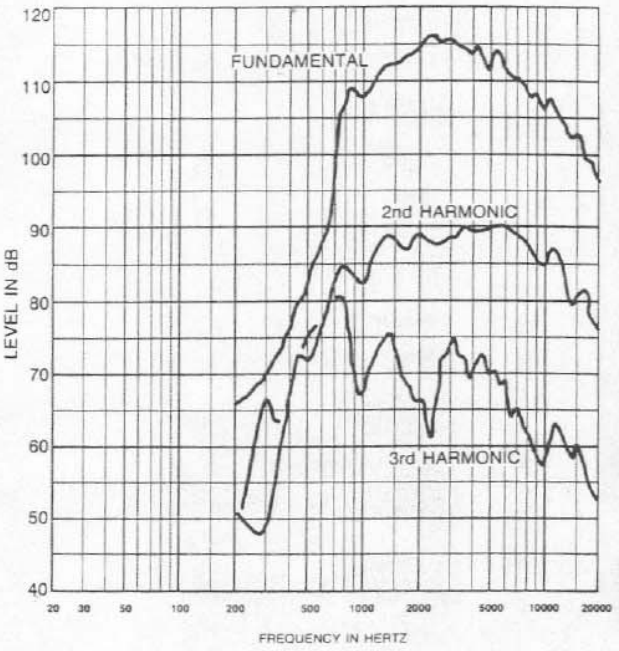

FIGURE 6
Distortion Response — HPT94 Horn
(2 watts/1 meter)

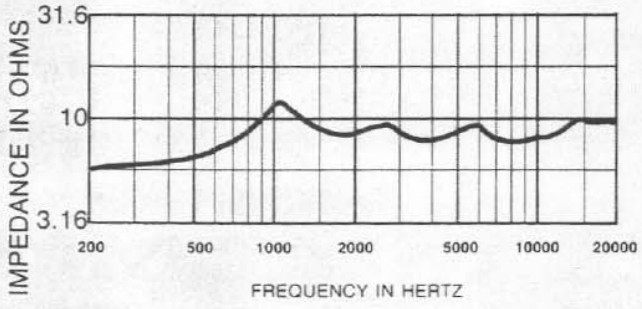

FIGURE 7
Impedance Response — Plane Wave Tube
(1-inch)

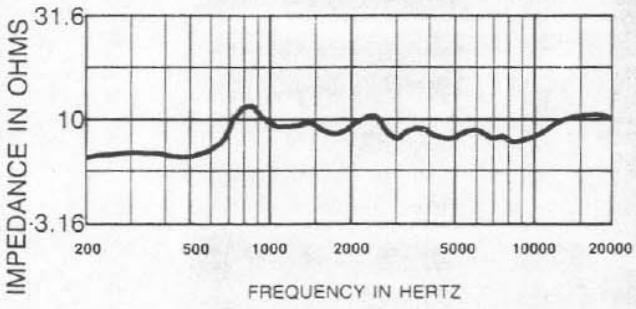

FIGURE 8
Impedance Response — HPT94 Horn