

**Eliminator<sup>TM</sup> 1A/2A**  
**High Powered**  
**Wide Range**  
**Speaker Systems**

**GENERAL SPECIFICATIONS**

Usable Frequency Response,

**Eliminator 1A:**  
45 to 14,000 Hz

**Eliminator 2A:**  
45 to 9,500 Hz  
(see Figure 1)

Sound Pressure Level  
**10 Feet, 1 Watt input:**  
97 dB

**4 Feet, 100 Watts input:**  
125 dB

Long-Term Average Power Capacity  
(100 Hours)

100 watts  
(28.3 volts RMS applied to  
nominal 8-ohm impedance, shaped  
random noise input)

Efficiency, Half-Space Environment  
20%

Nominal Impedance  
8 ohms

Minimum Impedance  
8 ohms

Horizontal and Vertical Beamwidth  
(6-dB-down)

**Eliminator 1A:**  
85° (±15°, 1 - 16 kHz  
octave bands)

**Eliminator 2A:**  
85° (±15°, 1 - 4 kHz  
octave bands)

(pink noise input; see Figure 3)

Crossover Frequencies

**Eliminator 1A:**  
800 and 3500 Hz

**Eliminator 2A:**  
800 Hz

System Components

**Eliminator 1A:**  
EVM<sup>™</sup> 15B (bass), 8HD & 1823M  
(midrange), and two T35  
(high frequencies)

**Eliminator 2A:**  
EVM 15B (bass), 8HD & 1829  
(midrange and high frequencies)

Finish  
Black vinyl

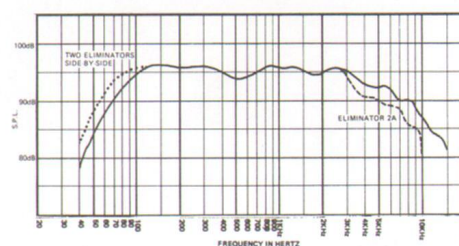
Size  
57.2 cm (22½ in.) W x 58.7 cm  
(23-1/8 in.) D x 95.2 cm (37½ in.) H

Net Weight  
**Eliminator 1A:**  
54.5 kg (120 lb)

**Eliminator 2A:**  
51.8 kg (114 lb)

Shipping Weight  
**Eliminator 1A:**  
73.6 kg (162 lb)

**Eliminator 2A:**  
70.9 kg (156 lb)



**FIGURE 1 — Frequency Response**  
(avg on-axis pressure under anechoic  
conditions, 1w or 2.8v at 10ft)

**DESCRIPTION**

The newly improved Electro-Voice Eliminator speaker systems offer efficient, high-power-handling performance over a wide frequency range. Through the use of the EVM 15B bass speaker, coupled to a 55 Hz exponential front-loaded horn, an extended low end capable of handling very high power levels is achieved. Additionally, mid and high frequencies are also covered by high-performance horn transducers. This combination makes the Eliminator systems very suitable for most demanding musical instrument, playback, and sound reinforcement systems.

The Eliminator 1A is basically the same as the Eliminator 2A except for the addition of two very-high-frequency compression drivers and horns for extended high-frequency response and significantly greater high-frequency dispersion. The Eliminator 1A should be used when the most accurate reproduction is desired.

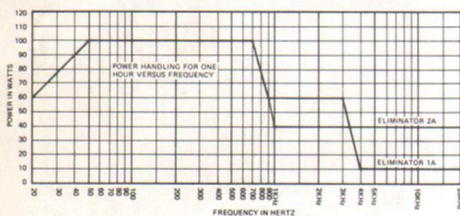
Both systems offer ruggedly built enclosures covered with durable black vinyl. They are complete with metal corners and carrying handles that make them suitable for permanent or temporary installation. The user may affix casters for even greater portability.

## AXIAL FREQUENCY RESPONSE

The frequency response (Figure 1) shows how on-axis sound pressure levels varies with frequency, with mid and high-frequency controls set at maximum. Low-frequency response and efficiency will be increased if two or more Eliminators are placed side-by-side and located near reflecting surfaces, such as the floor. The increased low-frequency output for two systems placed on the floor is indicated on the response curve by the dotted line.

## FREQUENCY RESPONSE CONTROL

In order to cope with the various acoustic conditions under which the Eliminator may be used, as well as to provide flexibility for listener's preference, equalization controls are provided. The Eliminator 2A offers a two-position switch that attenuates the midrange frequencies (from 800 to 2,000 Hz) by approximately 3 dB. The Eliminator 1A provides a continuously-variable level control for the high-frequency drivers as well as the two-position midrange control.



**FIGURE 2 — Power Handling Chart (avg. sine-wave power, nominal 8-ohm load)**

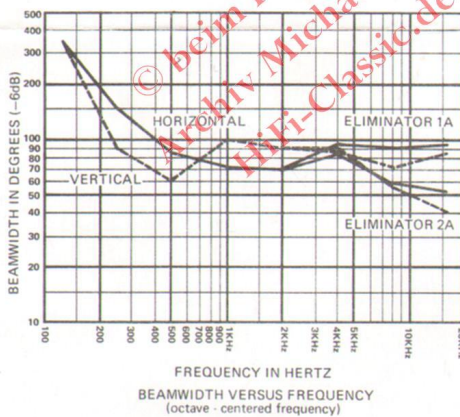
## POWER HANDLING CAPACITY

In an effort to provide a meaningful power rating, the frequency spectrum of the lead and bass guitar was band-analyzed. A filter was designed to shape random noise (a sound similar to between-station FM noise, consisting of all frequencies from 20 to 20,000 Hz simultaneously) to a typical lead/bass guitar spectrum. This guitar frequency spectrum is far more demanding at the frequency extremes than voice or conventional music material yet is not as unrealistically demanding as unmodified white noise.

The shaped random noise, with 10 dB peak-to-average ratio, was fed into the system at various levels to determine the power handling capacity. This level was determined to be 100 watts for 100 hours minimum.

Figure 2 shows long-term (one hour) sine-wave power handling with relation to frequency. The graph is designed to be used to calculate power handling when unusual program sources with substantial high-frequency energy are anticipated. If, in the Eliminator 1A, the mid-band is attenuated by means of the switch, the mid-band long-term sine-wave power-handling capacity will be increased from 60 to 110 watts.

Keep in mind that the above power-handling specifications are for long term application of power. For peaks of a few milliseconds duration, the Eliminator will handle ten times (10 dB) the long-term rating. In the woofer range this figure would be 1000 watts.



**FIGURE 3 — Beamwidth versus Frequency (octave-centered frequency)**

## BEAMWIDTH AND SPEAKER AIMING

Most effective system use must be made by taking into account the dispersion angle of the system at different frequency segments. It is convenient to represent this information as a plot of dispersion angles versus frequency (Figure 3). The dispersion beamwidth angle is defined as the angle included by the points on the polar response where system output is 6 dB below the on-axis response. This information was obtained by running a

set of horizontal/vertical polar responses in EV's large anechoic chamber, with octave bands of pink noise.

For highest acceptable quality and intelligibility, Eliminators should be located and aimed so that all listeners are within the rated beamwidth angles of all octave bands through 4 kHz. Highest quality will be achieved when listeners are located in the beamwidth angles in the 8 kHz and higher octave bands. Note that the Eliminator 1A provides the most uniform coverage at these higher frequencies.

## WARRANTY (Limited)

Electro-Voice Loudspeakers, Speaker Systems, 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 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).

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

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