

Eliminator™ Sub

- Single 18-inch high-output woofer system designed to complement the Eliminator™ stage system
- Integral passive crossover filter combined with unique acoustic design allows parallel operation with full-range systems for added bass response
- 400-watts continuous power-handling capability
- 18-inch steel pole included for elevating EV Eliminator™ full-range system
- EV DL18BFH cast-frame woofer with high excursion capability
- Ergonomically contoured handles make lifting and transportation very comfortable
- Durable industrial-grade carpet covering

Description

The Electro-Voice Eliminator™ Sub is a single 18-inch subwoofer system designed to produce very high-peak output musical material. The Eliminator™ sub can be used either in conventional biamplified operation or in full-range passive mode with the Eliminator™ two-way high-peak output stage system in parallel. When used in parallel, the combined impedance is 4 ohms. The internal passive crossover consists of low-pass filtering to the 18-in. DL18BFH.

The system is designed for operation up to 100 Hz (in passive mode). The system can also be used in biamp mode by using an active crossover system with slopes of 24-dB per-octave. Recommended crossover point is 80 Hz when used with a loudspeaker management system/crossover capable of low-frequency protection. Like all vented systems, a 40-Hz low-frequency filter of at least 3rd or 4th order is recommended (18-dB/octave to 24-dB/octave) to filter out signals below that frequency.

The Eliminator™ Sub includes a top-mounted stand adaptor and an 18-in. pole mount for use with the Eliminator full-range system. Safety concerns limit the use of a pole greater

than 18 inches in length (under no circumstances should a pole of greater than 18 inches be used with the Eliminator™ Sub). The DL18BFH woofer will provide average power handling ratings of 400 watts EIA and peak power ratings of 800 to 1000 watts. The system input connections are 1/4-in. phone, but may be also ordered with Neutrik NL4MP, (Eliminator™ Sub E) which are strongly recommended for higher power operation. Vented enclosures offer excellent power handling and low distortion in the lowest octave of rated operation. It is always advisable however to filter material below enclosure tuning to further improve system output and headroom. The Eliminator™ should be high-pass filtered to reduce subsonic material below 40 Hz.

Power handling.

To our knowledge, Electro-Voice was the first U.S. manufacturer to develop and publish a power test closely related to real-life conditions. First, we use a random-noise input signal because it contains many frequencies simultaneously, just like real voice or instrument program. Second, our signal contains more energy at extremely high and low frequencies than typical actual program, adding an extra measure of reliability. Third, the

test signal includes not only the overall “long term average” or “continuous” level—which our ears interpret as loudness—but also short-duration peaks which are many times higher than the average, just like actual program. The long-term average level stresses the speaker thermally (heat). The instantaneous peaks test mechanical reliability (cone and diaphragm excursion). Note that the sine-wave test signals sometimes used have a much less demanding peak value relative to their average level. In actual use, long-term average levels exist from several seconds on up, but we apply the long-term average for several hours, adding another extra measure of reliability.

Specifically, the Eliminator™ Sub is designed to withstand the power test described in the ANSI/EIA RS-426-A 1980. The EIA test spectrum is applied for eight hours. To obtain the spectrum, the output of a white-noise generator (white noise is a particular type of random noise with equal energy per bandwidth in Hz) is fed to a shaping filter with 6-dB-per-octave slopes below 40 Hz and above 318 Hz. When measured with the usual constant-percentage bandwidth analyzer (one-third-octave), this shaping filter produces a spectrum whose 3-dB-down points are at 100 Hz and 1,200 Hz with a 3-dB-per-octave slope above 1,200 Hz.

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Amplifier Recommendations.

The power handling of the Eliminator™ Sub is 400 watts EIA (500 watts AES). The specific tests used employ a crest factor (ratio of peak energy to continuous energy) of at least 6 dB. During extended testing the loudspeaker in the Eliminator™ Sub is routinely subjected to peak levels far in excess of the published continuous rating. Many amplifier designs are capable of producing peak power levels in excess of their ratings as well so exact “pairings” of loudspeaker power handling ratings and amplifier ratings are not necessary. Amplifier continuous ratings of 400 watts to 800 watts are recommended for use with the Eliminator™ Sub. Larger amplifier ratings may be used for maximum dynamic range but it should be remembered that amplifier continuous levels (as opposed to peak levels) be within the range quoted for the Eliminator™ Sub long-term average power handling.

Architects' and Engineers' Specifications

The loudspeaker system shall be a subwoofer system consisting of one 45.7-cm (18-in.) low-frequency transducer in a vented quasi-band pass design. The system shall be capable of either biamp operation or full-range passive (when used with the Eliminator™ stage system or other appropriate full-range system). The passive mode shall provide first order low-pass filtering. The system shall have a rated frequency response of 40 Hz to 100 Hz (passive mode) and is capable of extended high-level operation within that range. Power handling (long-term average) shall be 400 watts when EIA RS-426-A 1980 is employed as a test method or 500 watts when AES 1984 is used at the test method. The system sensitivity shall be 98 dB (101 dB with 1/2 space load-common orientation)

with a 1-watt input at a distance of 1 meter. The nominal impedance shall be 8 ohms and shall produce a combined impedance of 4 ohms when used with the Eliminator full-range system. Input connections shall be 1/4-in. phone input and output or Neutrik NL4MP (when ordered as Eliminator™ Sub E).

The system dimensions shall be 85.4-cm (33 5/8-in.) high by 42.9-cm wide (16.9-in.) and 60.9-cm (24-in.) deep and have a net weight of 33.6 kg (74 lb).

Limited Warranty

Electro-Voice products are guaranteed against malfunction due to defects in materials or workmanship for a specified period, as noted in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual, beginning with the date of original purchase. If such malfunction occurs during the specified period, the product will be repaired or replaced (at our option) without charge. The product will be returned to the customer prepaid.

Exclusions and Limitations: The Limited Warranty does not apply to: (a) exterior finish or appearance; (b) certain specific items described in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual; (c) malfunction resulting from use or operation of the product other than as specified in the product data sheet or owner's manual; (d) malfunction resulting from misuse or abuse of the product; or (e) malfunction occurring at any time after repairs have been made to the product by anyone other than Electro-Voice Service or any of its authorized service representatives. **Obtaining Warranty Service:** To obtain warranty service, a customer must deliver the product, prepaid, to Electro-Voice Service or any of its authorized service representatives together with

proof of purchase of the product in the form of a bill of sale or receipted invoice. A list of authorized service representatives is available from Electro-Voice Service at 600 Cecil Street, Buchanan, MI 49107 (800/234-6831 or FAX 616/695-4743). **Incidental and Consequential Damages Excluded:** Product repair or replacement and return to the customer are the only remedies provided to the customer. Electro-Voice shall not be liable for any incidental or consequential damages including, without limitation, injury to persons or property or loss of use. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. **Other Rights:** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Electro-Voice Speakers and Speaker Systems are guaranteed against malfunction due to defects in materials or workmanship for a period of five (5) years from the date of original purchase. The Limited Warranty does not apply to burned voice coils or malfunctions such as cone and/or coil damage resulting from improperly designed enclosures. Electro-Voice active electronics associated with the speaker systems are guaranteed for three (3) years from the date of original purchase. Additional details are included in the Uniform Limited Warranty statement.

For warranty repair, service information, or a listing of the repair facilities nearest you, contact the service repair department at: 616/695-6831 or 800/685-2606.

For technical assistance, contact Technical Support at 800/234-6831 or 616/695-6831, M-F, 8:00 a.m. to 5:00 p.m. Eastern Standard time.

Specifications subject to change without notice.

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Figure 1—Frequency Response

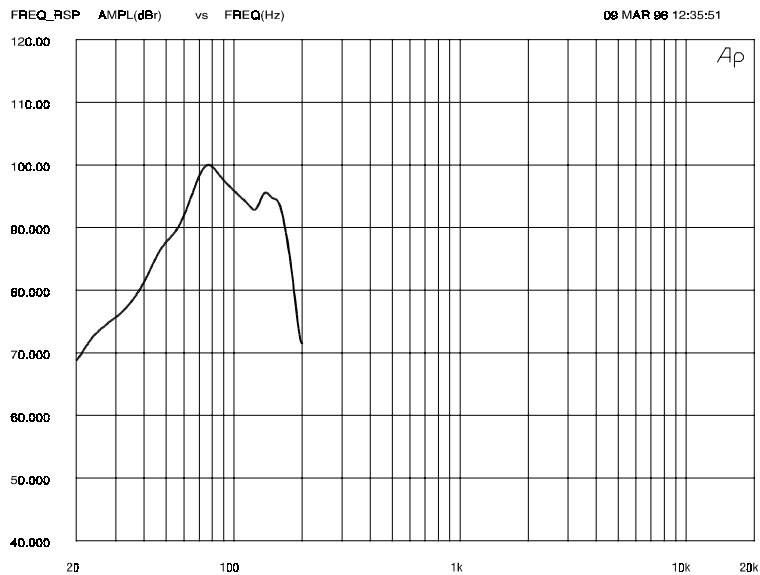


Figure 2—Impedance

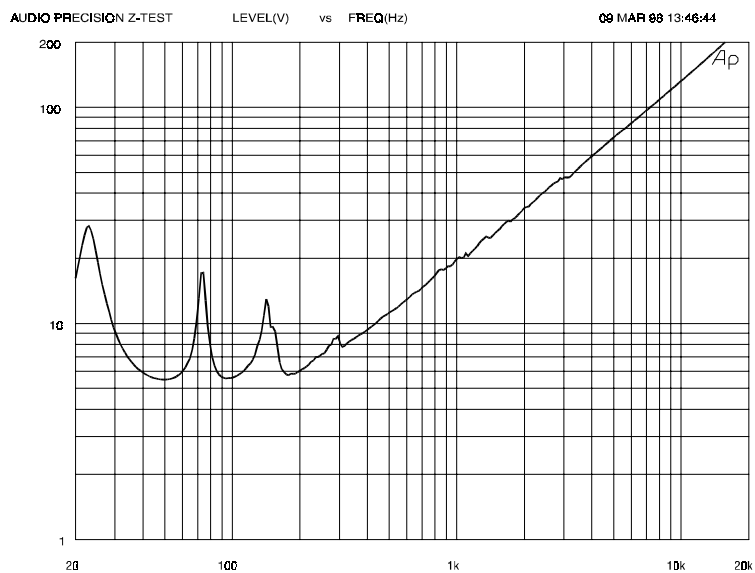
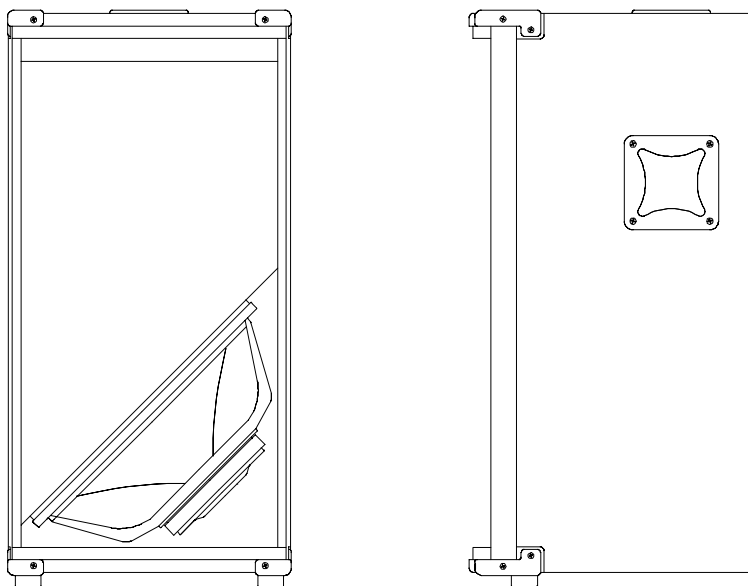


Figure 3—Line Drawing

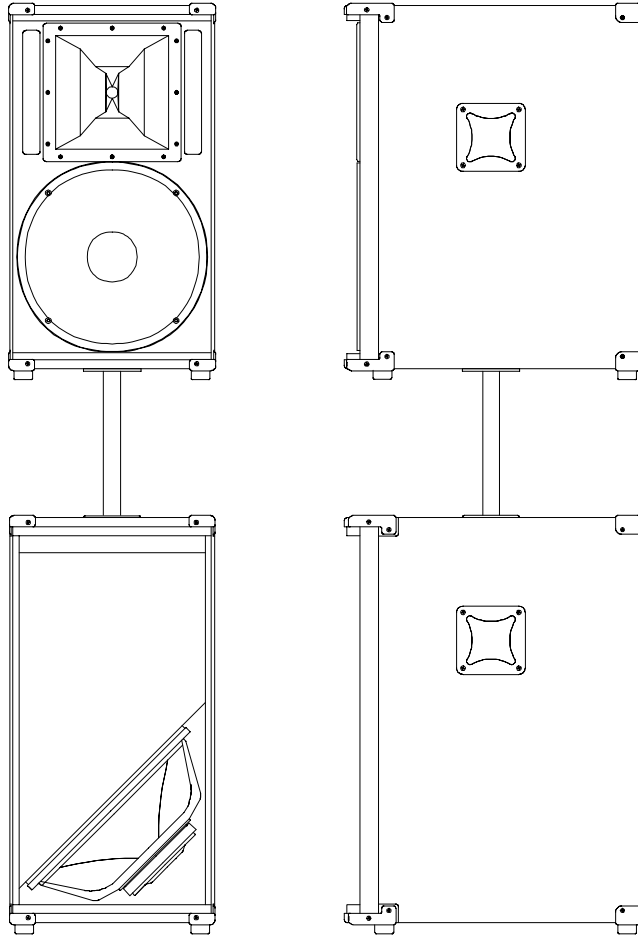


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Figure 3a—Eliminator™ with
Eliminator™ Sub

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Specifications

Frequency Response:

40 - 100 Hz, ± 3 db

Long-Term Average Power Handling,

EIA RS-426A:

400 watts

AES (1984):

500 watts

Sound Pressure Level, 1 w/1 m:

98 dB - full space

101 dB half space

Crossover:

Acoustic/electronic filter output

Transducer Compliment:

1 ea DL18BFH

Impedance,

Nominal: 8 ohms

Minimum: 5.1 ohms

When used with Eliminator™ in
satellite configuration nominal

4 ohms, minimum 3.2 ohms.

Enclosure Tuning:

50 Hz

Input connectors:

1/4-in. phone input

1/4-in. phone output to Eliminator™
(Neutrik model NL4MP input/output
on E versions)

Enclosure material/construction

Black carpeted Roadwood™

Dimensions,

Height:

85.4 cm (33 5/8 in.)

Width:

42.9 cm (16.9 in.)

Depth:

60.9 cm (24 in.)

Net Weight:

33.6 Kg (74 lb)

Shipping weight:

37.3 Kg (82 lb)

Electro-Voice®

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