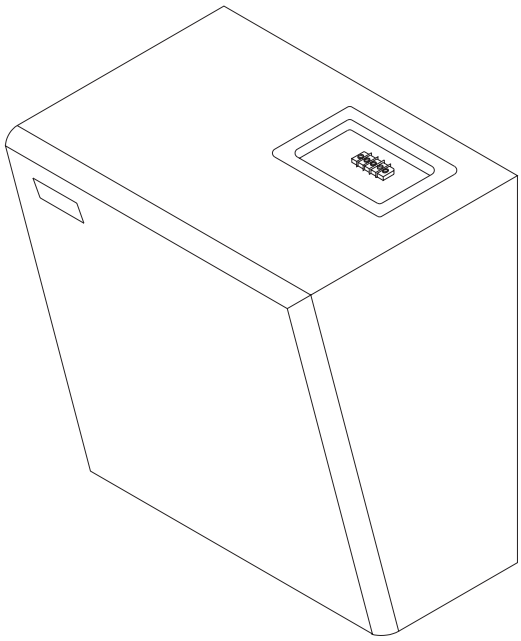
Cinema Systems

SL12-2V

High-Output, Two-Way Slant Cinema Surround Speaker System



- **High output--complements the potential digital sound sources**
- **Versatile suspension and safety options**
- **ISO 2969 treble roll-off (switchable)**
- **15° Slanted profile for greater directivity**
- **12-inch woofer**
- **100° x 90° horn and HF compression driver**
- **THX®[1] Approved**

Description

The Electro-Voice SL12-2V is a 15° slanted baffle two-way, high-efficiency speaker system. Its primary intended application is for high-quality surround sound in medium and large premium cinema installations. It has been designed for high-power digital surround sound requirements using high-quality, professional-level components such as a high-frequency 100° x 90° horn/driver and 12-inch woofer. The sleek black-vinyl enclosure with a black cloth grille attached with four screws has been to blend into most interior design concepts. A third-order (18-db-per-octave) crossover at 1,600 Hz is used to combine the two frequency sections and provide the system equalization while achieving the best directivity response both on and off axis.

Frequency Response

The SL12-2V axial frequency response was measured in Electro-Voice's large anechoic chamber at a distance of 10 feet with a swept sine-wave input , corrected to 1 watt 1 Meter (see Figure 4). The two responses, ISO 2969 and "flat" are illustrated.

Directivity

The directional characteristics of the SL12-2V wawe measured in Electro-Voice's large anechoic chamber. The test signal was one-third-octave pink noise at the frequencies indicated. A full spherical measurement system was used. All directional information was measured at 20 feet. Figure 8 illustrates the horizontal and vertical polar responses. Figure 6 shows the horizontal and vertical bandwidths. Beamwidth is the angle at which the horizontal and vertical polar responses have decrease in level by 6dB when compared with the axial frequency response.

Figure 7 illustrates the total directivity of the SL12-2V. The directivity factor $R_\theta(Q)$ is the relative value, at a point, of an ideal spherical response. The directivity index, $D_i = 10\log_{10}R_{\theta.}$

Power Handling

Electro-Voice components and systems are manufactured to exacting standards, ensuring they will hold up, not only through the most rigorous of power tests, but also through continued use in arduous, real-life conditions. The EIA Loudspeaker Power Rating Full Range (EIA RS-426-A 1980) uses a noise spectrum which mimics typical music and test the thermal and mechanical capabilities of the components. Electro-Voice will support relevant additional standards as and when they become available. Extreme, in-house power test, which push the performance boundaries of the system, are also performed and passed to ensure years of trouble-free service.

Specifically, the SL12-2V passes EIA RS-426-A 1980 with the following values.

R_{SR}= (1.15 x R_E ohms) , R_E = 7.1 ohms

$P_{E(MAX)}$ =200 watts

Test voltage = square root of $PE_{(MAX)}$ x R_{SR}

= 40.4 volts rms.

= 80.8 volts peak

The "peak power-handling capacity of a woofer is determined by the peak test voltage amount. For the SL12-2V, a 80.8-volt peak test voltage translates into an 800-watt short-term-peak power-handling capacity. This is the equivalent of four times the "average" power-handling capacity,

1 THX® is a registered trademark of Lucasfilm Ltd.

and is a peak that can be sustained for only a few milliseconds. However, this sort of short duration peak is very typical in speech and music. Provided the amplifier can reproduce the signal accurately, without clipping, the system will also perform accurately and reliability, even at these levels.

Use in Cinemas

The SL12-2V has features which make it particularly suitable for use as a cinema surround sound, a black vinyl appearance to complement most theaters interiors. The high dynamics and power handling offered by professional-grade components make it especially suitable for digital surround sound. The SL12-2V is THX®[1] approved.

Suspending the SL12-2V

The SL12-2V was designed to be mounted in a variety of ways using a variety of mounts. There are three 5/16-18 diameter holes left and right for horizontal or vertical mounting using ALLEN PRODUCTS COMPANY INC. (2-1100C Bracket) and four rear 1/4-20 mounting holes using ALLEN PRODUCTS COMPANY INC. (MultiMount™-24) The SL12-2V is also equipped to accommodate Acoustic Sound Products, Isolation mounts. As well as two support points for added securely.

Architects' and Engineers' Specifications

The loudspeaker system shall be a two-way, 15° slanted baffle design, full-range system consisting of a 12-inch woofer, a 100° x 90° horn and compression driver, using a passive crossover network installed in a black vinyl-clad V-folded particle board enclosure with a black cloth grille.

The system shall have a crossover point of 1,600 Hz and have a nominal impedance of 8 ohms. Usable frequency range extended from 60 - 20,000 Hz. Sensitivity shall be an average of 93dB for a 1 watt input at a distance of 1 meter on axis. Long term power capacity shall be at least 200 watts, based on ANSI/EIA RS-426-A 1980 standard for full-range loudspeaker systems.

Input connections shall be #10 screw terminals on a barrier strip. A shorting jumper shall be present to allow the ISO 2969 or "flat" response to be selected. The Input panel will be located on the top surface. (See figure 2)

Suspension of the system shall be achieved through the use of ALLEN PRODUCTS COMPANY INC. (2-1100C Bracket) for horizontal mounting, or ALLEN PRODUCTS COMPANY INC. (MultiMount™-24) for rear mounting options.

Overall dimensions shall be no greater than (53.52 cm) 21.07 inches high by (47.63 cm) 18.75 inches wide and a maximum depth of (33.5 cm) 13.2 inches

Net weight shall be (21.3 kg) 47.0 lb. The system shall be Electro-Voice SL12-2V.

Uniform Limited Warranty Statement

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 Accessories are guaranteed against malfunction due to defects in materials or workmanship for a period of one (1) year 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.

Figure 2—Sl12-2V System Dimensions and ISO Selection

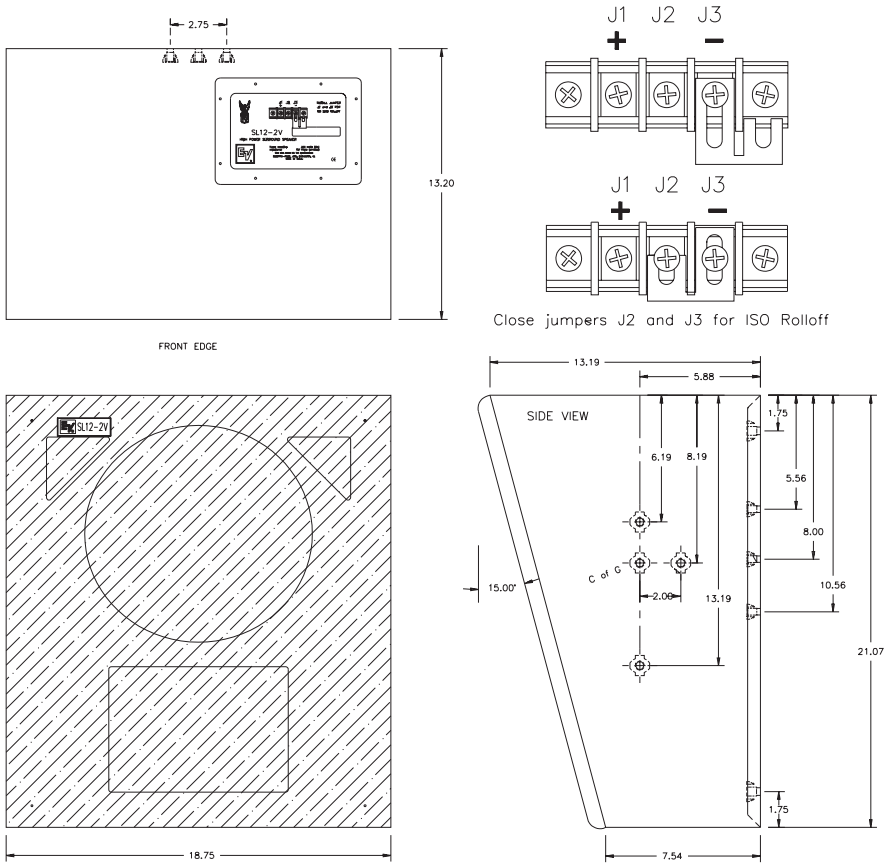


Figure 3—Impedance

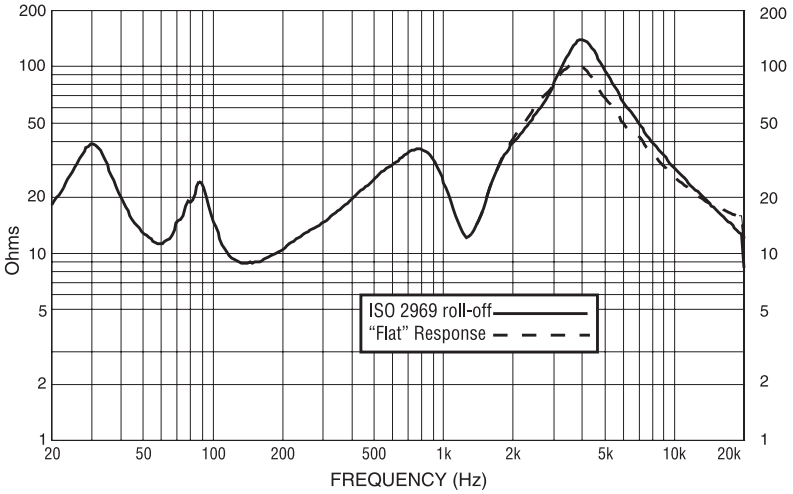


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Figure 4—Axial Frequency Response
(anechoic environment, 1 watt at 1 meter)

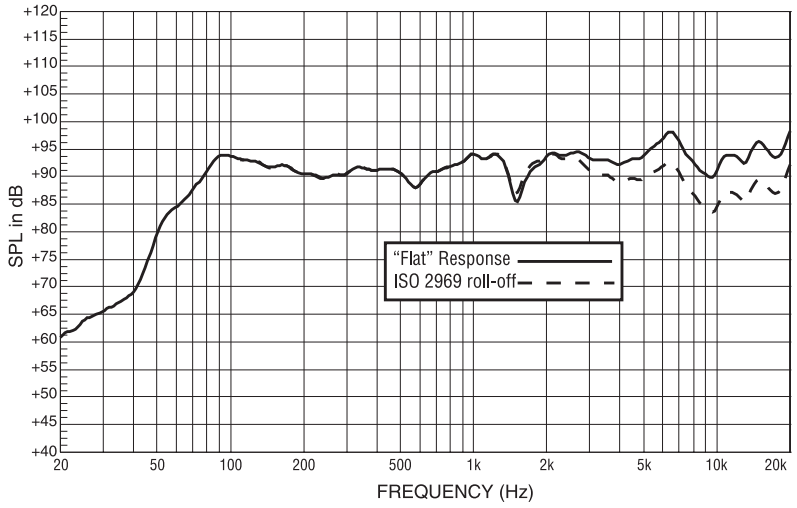


Figure 5—Harmonic Distortion,
0.1 Rated Power Input (10 watts), "flat" response

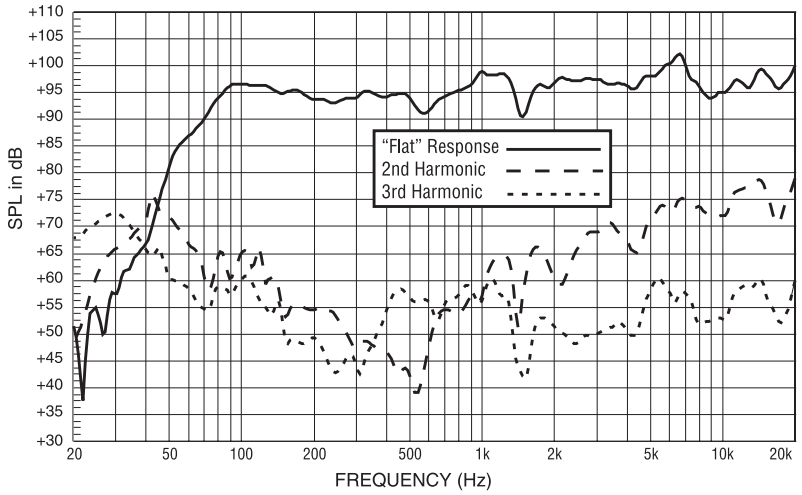


Figure 6—Bandwidth vs. Frequency
(anechoic environment)

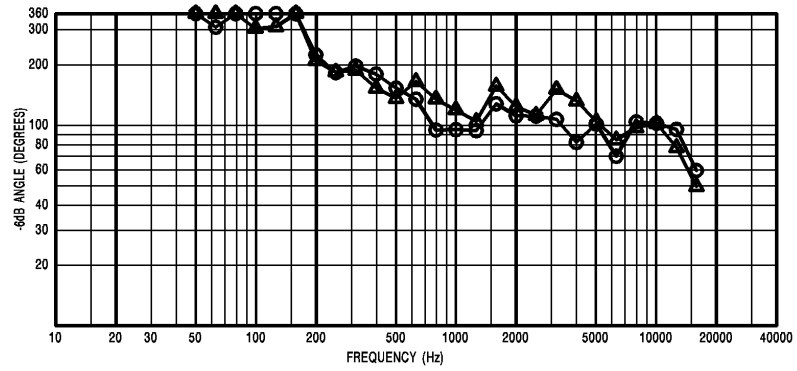


Figure 7—Directivity vs. Frequency
(anechoic environment)

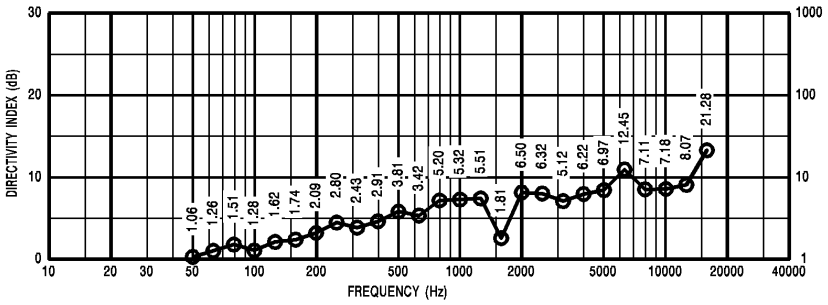


Figure 8—One-Third-Octave Polar Response (anechoic environment)

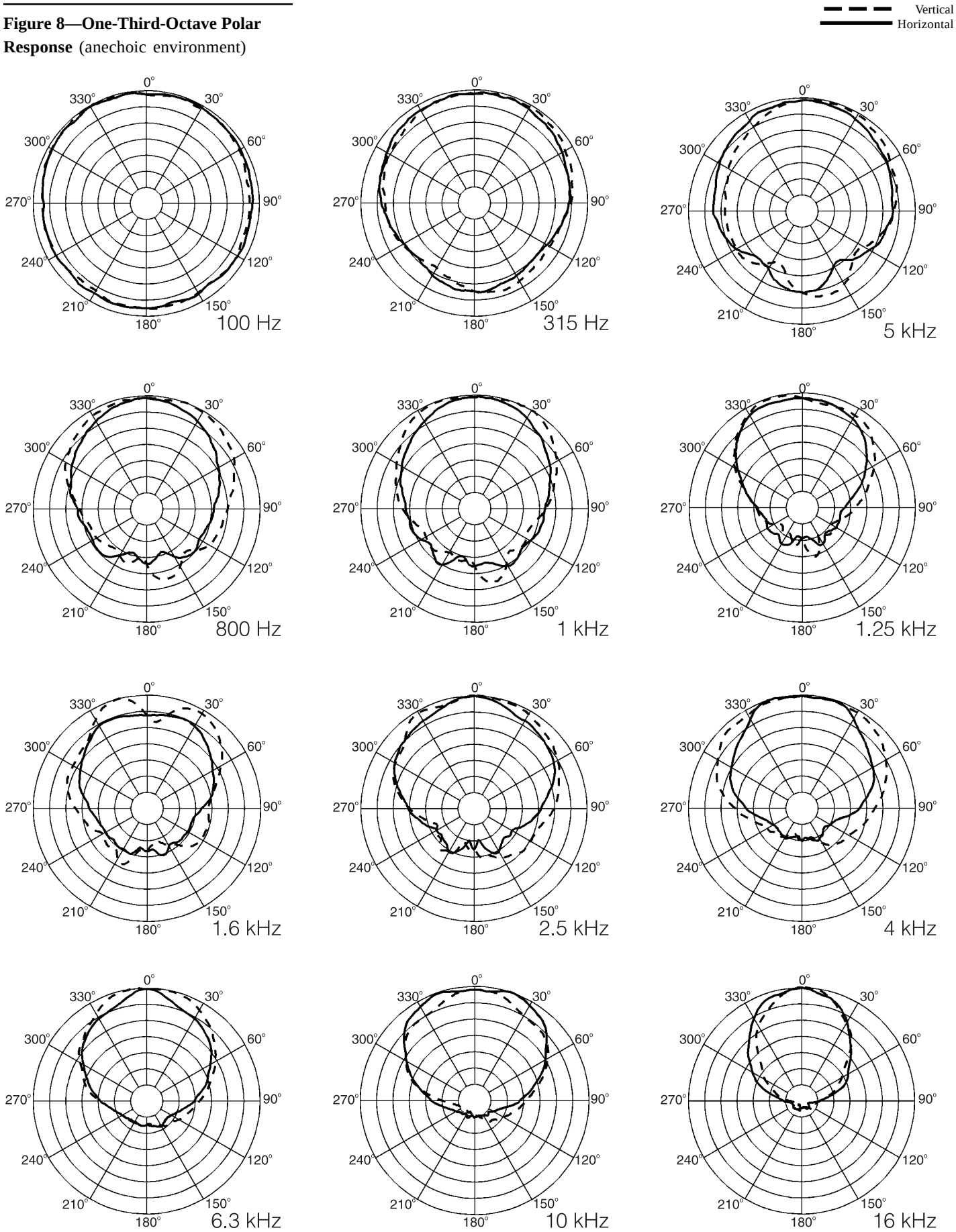
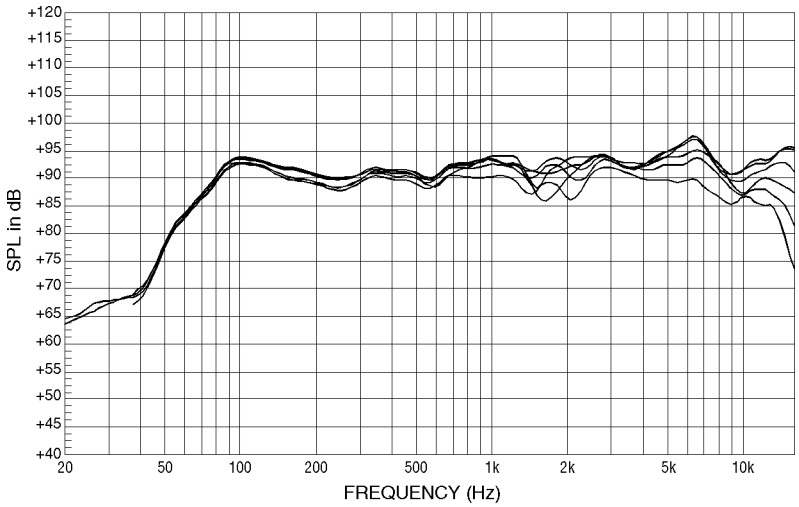


Figure 9— Offaxis Response from 0° to - 50° (anechoic environment)



Specifications

Axial Frequency response(swept sine wave, 4 Volt at 10 feet on axis, in an anechoic environment normalized to 1 watt/1 meter:
70 Hz- 20,000 Hz (figure 2)

Low frequency 3-dB-Down Point:
75 Hz

Half-Space Reference Effiency:
45 Hz

Long-Term Average Power-Handling Capacity (per ANSI/EIA RS-426-A 1980):
200 watts

Maximum Woofer Acoustic Output:
3.82 watts

Sensitivity (SPL at 1 Watt 1 Meter with a nominal impedance, in an anechoic environment, band-limited pink-noise signal, 100- 16,000 Hz): (See Figure 4)
93 dB

Beamwidth (angle include by 6-dB-down points on polar responses, horizontal and vertical planes. indicated one-third octave bands of pink noise: (See Figure 6)

Horizontal 400-12,500 Hz
110° (30°, -25°)

Vertical 2,000-12,500 Hz
95° (10°, -15°)

Directivity Factor R_q(Q), 800-16,000 Hz Median (See Figure 7)
7.93dB (+4.5, -4.5)

Directivity Index D_i, 800-16,000 Hz Median (See Figure 7)
6.12dB (+5.3, -4.3)

Distortion, 0.1 Full Power (see Figure 5)

Second Harmonic,
100 Hz -35dB, 1.8%
1,000 Hz -42dB, 0.8%
10,000 Hz -24dB, 6.3%

Third Harmonic,
100 Hz -45dB, 0.6%
1,000 Hz -42dB, 0.8%
10,000 Hz -43dB, 0.7%

Nominal Directivty:
Horizontal: 100°
Vertical : 90°

Transducer Complement,

Low Frequency:
12-inch woofer

High Frequency:
DH2010A and a 100° x 90° Horn

Crossover Frequency: (See Figure 9)
1,600 Hz
(12dB-per-octave slope)

Impedance: (See Figure 3)
Nominal 8 ohms

DC Resistance
6.9 ~ 7.1 ohms

Mounting: (See Figure 2)
Three 5/16-18 diameter holes left and right for horizontal or vertical mounting using ALLEN PRODUCTS COMPANY INC. (2-1100C Bracket) and four rear 1/4-20 mounting holes using ALLEN PRODUCTS COMPANY INC. (MultiMount™-24) , allowing for greater mounting versatility. The SL12-2V is also equipped to accommodate Acoustic Sound Products, Isolation mounts. As well as two support points for added securely.

Material:
V-folded black vinyl-clad particle board with a Black cloth Grille.

Input Connectors: (See Figure 2)
#10 screw terminals for Input and Jumper selectivity for Flat or ISO response.

Dimensions Bass: (See Figure 2)

Height:
(53.52 cm) 21.07 in

Width:
(47.63 cm) 18.75 in.

Depth:
(33.5 cm) 13.20 in.

Net Weight:
(21.3 kg) 47 lb

Shipping Weight:
(25.4 kg) 58 lb

Shipping Carton Dimensions:
26.5 in W. x 21 in D. x 19.25 in H.

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