



Extended Range™ Speaker Systems





Extended Range™ Speaker System

It's late at night and the crowd is loud. Another group of people have just come in and taken a table at the back, but it's getting hard to hear the song over the roar in the room. You need something to cut through that will let people hear the best tunes as clearly as you hear them when you're perfecting them in rehearsal. Something to make them sit up and take notice...

Electro-Voice introduces the SH-1502ER and the SH-1512ER speaker systems, a pair of professional enclosures for the performing musician. You may recognize their names, because the SH-1502 and the SH-1512 were two of our most popular speaker systems. What has changed is their performance. Both systems have been redesigned around our latest transducer technology, to provide smoother and wider response during high-level sound reproduction. To become even more valuable partners in your musical endeavors.

ER means Extended Range™, and these systems give you more and better response at both ends of the frequency spectrum than other 15-inch, two-way systems, while maintaining the flat, accurate response that Electro-Voice made famous. Tight, deep bass from the optimally vented low-frequency section is blended with exceptional highs from the new DH2010A compression driver, for full-range high fidelity.

Your audience will hear all of your music—from the shimmer of a cymbal

and high sibilance of a voice, to the tactile thump of the kick drum or the lowest fundamentals of the bass. Those essential sounds, that bring life to a live performance, can be lost in a speaker system that is unable to reproduce them with sufficient loudness and clarity. With the Extended Range™ speaker systems, you can be assured that what you give your audience is also what they will receive.

Let your voice be Electro-Voice.



SH-1502ER

Many different elements work together to create the exceptional responsiveness of the Extended Range™ systems. Taken separately, they are examples of precise, innovative loudspeaker engineering. Blended into these systems, the whole becomes more than the sum of its parts.

EVG-15 Woofer

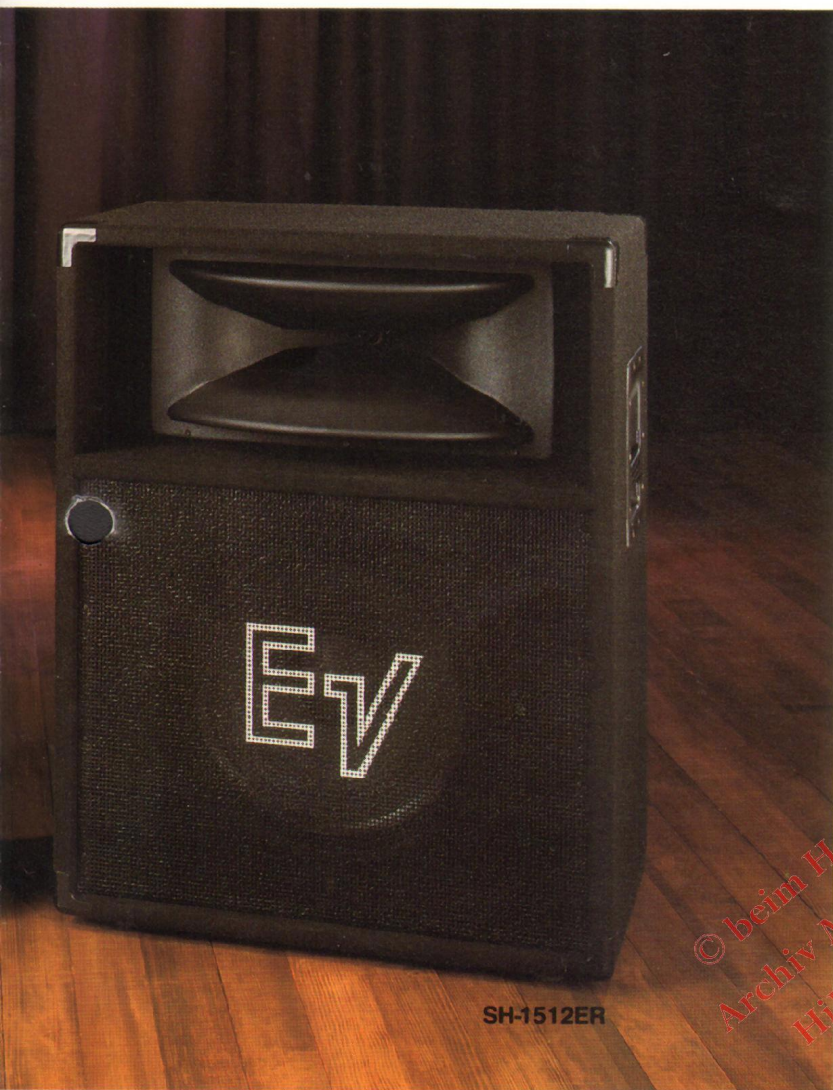
The low-frequency section is powered by the EVG-15 15-inch woofer, designed especially for the Extended Range™ systems. Its flat-wire aluminum voice coil yields 20% more efficiency than comparable round-wire designs, so that less amplifier power is needed to provide accurate low-end response at high sound pressure levels. Precise engineering yields a long-term power-handling capacity of 200 watts. And the sound is full, with the necessary clarity to maintain separation between instruments and vocals at performing volumes.

Optimally Vented Systems

The relationship between the woofer, the enclosure volume, and the vent size and location is modeled on a computer to provide optimal bass response. The vents actually provide the lowest frequencies, as the movement of the woofer cone is transferred to the air in the vents via the "springy" air in the enclosure.

Electro-Voice pioneered the use of Thiele-Small parameters—the mathematical concepts used to model vented speaker systems—in the early 1970's, in order to move beyond the traditional "trial-and-error" style of vented system design.

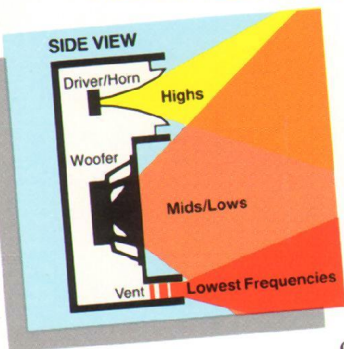
Systems: Expand Your Musical Horizons



SH-1512ER

The SH-1502ER Vented, Horn-Loaded Design

The SH-1502ER combines aspects of horn-loaded and vented-box designs into one integrated system. The low-frequency horn focuses the output of the woofer, directing sound toward the listener. Less of the energy is wasted on the side walls of the room, resulting in greater on-axis sensitivity and more apparent loudness.



Horn-loaded systems are typically more "peaky" and cannot match the low-frequency response of a similarly sized direct-radiator system. However, in the case of the SH-1502ER, the vents become active as lower notes are reproduced, providing the system with accurate response and solid, tight bass down to 62 Hz (-3 dB).

The SH-1512ER Direct-Radiator Design

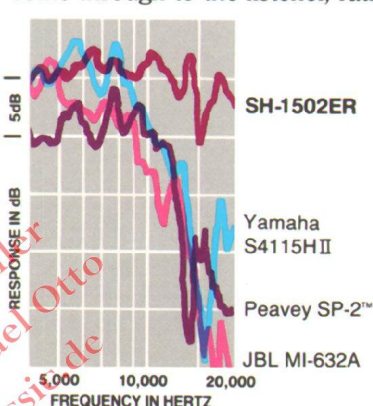
The SH-1512ER low-frequency section has the same outside dimensions as the SH-1502ER, but its internal enclosure volume is much larger. The internal volume of an enclosure is directly related to its capacity to reproduce low-frequency signals; the more air space, the lower the signal it can reproduce. Thus, the direct-radiator design of the SH-1512ER has a more gradual low-end rolloff, and provides more extended bass response down

to 55 Hz (-3 dB) and beyond. As with the SH-1502ER, the ported vents reproduce the lowest frequencies and control woofer cone excursion during high-level, low-frequency sound reinforcement.

The DH2010A High-Frequency Driver

The DH2010A represents a significant advance in compression-driver technology, outperforming the current generation of "MI" high-frequency drivers. Output from a precision titanium diaphragm is shaped by the exclusive Time Path™ phasing plug (Patent #4,525,604) for truly superior response. The DH2010A driver is virtually identical to the high-frequency driver used in the Electro-Voice Manifold Technology™ concert system—a truly professional component.

When used in the Extended Range™ systems, the DH2010A provides a crisp top end that breathes life into the music it reproduces. The shimmer of a cymbal, the highest overtones of a horn, and the sizzle of vocals through a fine microphone all come through to the listener, rather than being lost in the system.



The high frequencies of many competitive 15-inch, two-way systems begin to fall off above approximately 12,000 Hz. The SH-1502ER and SH-1512ER systems retain flat high-frequency response up to 20,000 Hz. Thus, the Extended Range™ systems give between 10-15 dB more output above 15,000 Hz than these other systems.

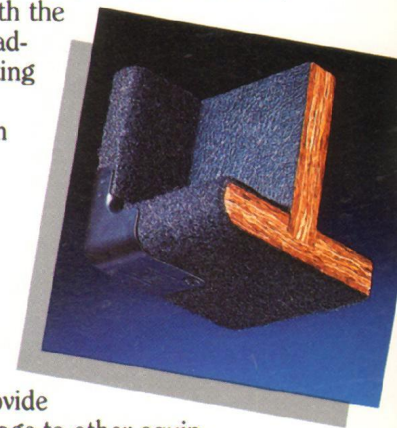
Constant-Directivity (CD) Horn

The output of the DH2010A compression driver is directed toward the audience by a 90° x 40° constant-directivity horn. A CD horn controls the tendency of the higher frequencies to "beam" in a narrow arc, covering only a portion of the audience. The SH-1502ER and SH-1512ER systems spread their high-frequency output evenly over a 90° horizontal arc, so that people at the sides can hear all of your music.

Speaker-Cabinet Construction

As with all Electro-Voice stage speaker systems, the Extended Range™ systems are built for the road, and will provide many years of reliable service. We begin with the structural cabinet material called Road-Wood™ (Patent #4,624,338). Alternating layers of hardwood strands, bonded under intense heat and pressure, form panels of superior uniformity—dimensionally stable, water resistant, free from voids, and with excellent acoustic damping qualities. Road-Wood™ is at least as strong as plywood of the same thickness.

All joints are dado-cut, carefully fitted and bonded. Cabinet edges and corners are rounded to provide handling comfort and to prevent damage to other equipment. A rugged stain- and abuse-resistant black carpet material is permanently bonded to the cabinet. Heavy-duty steel corners, steel speaker grilles, massive rubber feet, and rugged recessed handles finish the attractive, durable cabinet. An Electro-Voice enclosure will keep looking good while fully protecting the integrity of the sound system it houses.



The Power-Capacity Test

Electro-Voice's power ratings replicate the demands of real music—the range of frequencies, the intensity, and the peaks. Our systems give that extra measure of reliability in the heat of the performance. In order to earn its rating for long-term power handling, a speaker system must demonstrate its ability to perform under grueling conditions at its full rated power.

Electro-Voice uses EIA Standard RS-426A, which requires that a speaker receive a shaped random-noise signal (containing all of the frequencies between the rated frequency extremes and with peaks set at four times the average) at its rated power for eight hours. Both the mechanical and the thermal capacities of the speaker are tested, under conditions more strenuous than those of a live performance.

Specifications: SH-1502ER		SH-1512ER
Frequency Response, (-3 dB): 62-20,000 Hz (-10 dB): 46-22,000 Hz		55-20,000 Hz 49-22,000 Hz
Power Handling, Long-Term Average: 200 watts Short-Term: 800 watts		200 watts 800 watts
Half-Space Reference Efficiency: 4.1%		4.1%
SPL @ 1 Watt/1 Meter: 102.5 dB		100 dB
Maximum Woofer Acoustic Output: 8.2 acoustic watts		8.2 acoustic watts
Maximum SPL (full power): 125.5 dB		123 dB
Crossover Frequency: 1,600 Hz		1,600 Hz
Crossover Slope: 12 dB per octave		12 dB per octave
Box-Tuning Frequency: 55 Hz		50 Hz
Nominal Dispersion (h/v): 90° x 40°		90° x 40°
Impedance, Nominal: 8 ohms Minimum: 6.6 ohms		8 ohms 6.1 ohms
Input Connectors: Parallel ¼" phone jacks		
Dimensions, Height: 31.9"/81.0 cm Width: 24.7"/62.7 cm Depth: 16.0"/40.6 cm		31.9"/81.0 cm 24.7"/62.7 cm 16.0"/40.6 cm
Net Weight: 81 lb/36.7 kg		75 lb/34 kg
Shipping Weight: 88 lb/40 kg		82 lb/37.2 kg

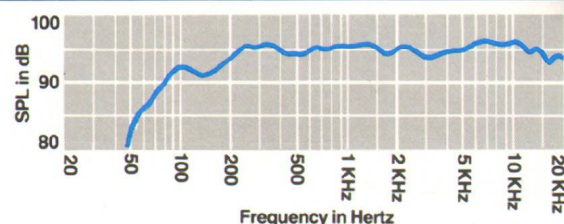
For full system specifications, request the engineering data sheets for the SH-1502ER and SH-1512ER. Data sheets are available free from the Buchanan address below.

The Electro-Voice Five-Year Warranty

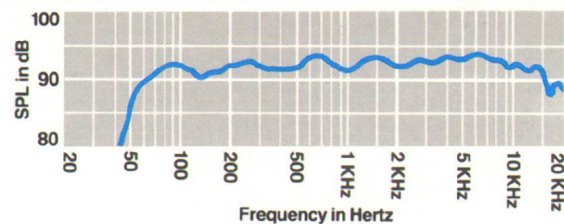
Customers, dealers, and even our competitors have developed an unparalleled respect for the Electro-Voice service-in-action. Our skilled repair staff will stand behind you in unforeseen circumstances—to put you back on the road quickly and without hassle. The SH-1502ER and the SH-1512ER Extended Range™ speaker systems are guaranteed for five years from the date of the original purchase against malfunction due to defects in workmanship or materials. Please retain your sales receipt as proof of purchase.

Frequency Response (Axial Frequency Response 4 volts/10 ft)

SH-1502ER

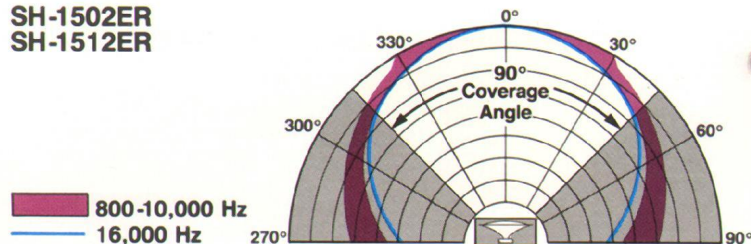


SH-1512ER



Horizontal Polar Responses (1/3-Octave Pink Noise)

SH-1502ER SH-1512ER



WARRANTY (Limited)

All Electro-Voice products are guaranteed against malfunction due to defects in materials and workmanship for a specified period beginning at the date of original purchase. If such a malfunction occurs, the product will be repaired or replaced (at our option) without charge during the period and under the limitations stipulated in the data sheet or owner's manual for that individual product, if delivered prepaid to the proper Electro-Voice service facility. The unit will be returned prepaid. Warranty does not extend to finish, appearance items, or malfunction due to abuse or operation under other than specified conditions, nor does it extend to incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee. A list of authorized warranty service centers is available from Electro-Voice, Inc., 600 Cecil Street, Buchanan, MI 49107 (AC/616-695-6831), Electro-Voice, Inc., 3810 148th Avenue, N.E., Redmond, WA 98052 (AC/206-881-9555), and/or Electro-Voice West, 8234 Doe Avenue, P.O. Box 3297, Visalia, CA 93291 (AC/209-651-7777). This warranty gives the customer specific legal rights, and there may also be other rights which vary from state to state.

Electro-Voice engineering continually improves existing products, as well as creates new ones. Thus specifications given in this brochure are subject to change without notice. For complete specifications consult the appropriate Engineering Data Sheet. Also consult the appropriate EVM® data sheet for a complete description of power testing.



600 Cecil Street, Buchanan, Michigan 49107, Phone (616)695-6831, TWX: 810-270-3135

8234 Doe Avenue, Visalia, California 93291, Phone (209)651-7777, TLX 172 119
 Electro-Voice Div., 345 Herbert St., Gananoque, Ontario, Canada K7G 2V1, Phone (613)382-2141, TLX 389 066 3245
 Electro-Voice, S.A., Keltenstrasse 5, CH-2563 IPSACH, Switzerland, Phone (41)32-51-68-33, TLX 845 934 045, FAX (41)32-51-12-21
 Electro-Voice, Ltd., 2-5-60 Izumi, Suginami-ku, Tokyo, Japan 168, Phone (81)3-325-7900, TLX 781 232 2494
 Electro-Voice Germany, Larchenstrasse 99, 6230 Frankfurt/Main 80, Germany, Phone (49)69-380-100, TLX 841 413 847
 Electro-Voice Pty, Ltd., 59 Waratah Street, Kirrawee, N.S.W. 2232, Australia, Phone (61)2-521-5322, TLX 790 267 93