

**EV** Electro-Voice

**EVH**  
EV-Innovation



# EV-Innovation

## A New Era for Installed Sound

The EV-Innovation (EV-I) family of loudspeakers sees Electro-Voice redefine the state-of-the-art in installed sound once again.

EV-I is the result of the largest development program in the history of Electro-Voice. Building upon an 80-year heritage of audio design excellence proven in thousands of installations around the world, EV-I systems offer an unprecedented combination of audio performance, versatility, ease of use, and aesthetics focused directly on the requirements of installed sound systems.

At the heart of the EV-I family are brand-new and highly refined transducers, designed by EV engineers—the most knowledgeable and passionate in the industry—using the very latest developmental and diagnostic tools exclusive to Electro-Voice R&D. EV-I currently comprises three system formats: horn-load (EVH), front-load (EVF), and true line array (EVA). Manufactured to the highest standards in EV factories, EV-I systems collectively represent the most comprehensive family of loudspeakers the industry has ever seen.

### **EVH—Coverage Control Down to 500 Hz, in a Cost-Effective Two-Way Configuration**

- 500-Hz control provided by the large, 25-inch horn that loads the woofer—the loudspeaker's rated coverage angle is maintained all the way down to 500 Hz.
- Such control is especially appropriate when reverberation time (T60) exceeds 2-2.5 seconds midband, where directing more sound at the sound-absorbing audience and less at reflective room surfaces increases voice intelligibility and musical clarity. The typical 12- or 15 inch front-loaded woofer is simply not large enough to achieve 500-Hz control, with coverage angles widening below 2-3 kHz and spraying midrange sound on reflective surfaces.
- 500-Hz control preserves sound quality at beamwidth extremes, meaning that close-in listeners at the lower edge of the vertical coverage angle will have much the same frequency balance as those listening closer to the loudspeaker's aiming axis.
- 500-Hz control provides less "spill" on stage, reducing the chance of feedback under a cluster of loudspeakers.
- Six coverage patterns aid the design process.
- High maximum SPL output capability with extremely low distortion.
- Biampable, but sophisticated internal crossover/EQ networks make cost-saving passive operation very attractive.
- Available in black or white in one of three versions: EVCoat™ (interior use), PI (indirect weather exposure), and FG (fiberglass—direct exposure).







# EVH

EVH represents a unique design concept: maintain directivity control all the way down to 500 Hz in a two-way configuration that keeps cost down, while offering an unusually high degree of rigging flexibility and six coverage patterns.

The global success of the FRX and FRX+ series affirms Electro-Voice's approach to coaxial horn-loaded loudspeakers for venues of all sizes. The EVH series condenses all this experience into a new, dedicated solution for installed sound applications. EVH represents a unique design concept: maintain directivity control all the way down to 500 Hz in a mid-sized, 15-inch two-way, coaxial horn-loaded configuration that offers exceptional value, while providing an unusually high degree of rigging flexibility and six available coverage patterns (ranging from 40° x 30° to 90° x 90°).

EVH loudspeakers are available with a choice of two woofer/compression driver combinations. The EVH-1152S is equipped with an SMX2151 15-inch 400-W woofer and one ND2B medium-format, 2-inch diaphragm, 40-W high-frequency compression driver on a 12-inch-square waveguide. The EVH-1152D features the same woofer and the new DH7N large-format compression driver with a 3-inch diaphragm and neodymium magnetic structure. This premium component provides improved dynamic performance, including reduced distortion and power compression.

# - Innovation

# Input Panel

This new input panel was designed from the installer's perspective and has a range of innovative, user-friendly features:

- Easy-access passive/biamp switch card.
- The same interface for the passive/biamp card can be used as an access point to test woofers and drivers without the need to dismantle the enclosure.
- Four-pin Phoenix/Euroblock screw-terminal connectors, which accept up to 10-gauge wire (AWG).
- Panel accepts three optional covers: the CDNL4, equipped with dual Neutrik Speakon® NL4 chassis connectors for quick-disconnect applications, the CSG, equipped with a gland nut for weather-protection of the connection points, and the CDG, equipped with dual gland nuts.
- The CDG dual gland-nut cover is included with PI and FG models.
- An internal landing pad for the optional TK-150 70/100-V transformer is on the rear of the input panel. Simply install the transformer on the input panel and attach the wire harness to the PC board, then reinstall the panel, attaching the included label around the Phoenix terminal block—the input block is now the power-tap selector.



## EVH Series Mechanical Aspects

An EVH system may be suspended using the 28 threaded rigging points and supplied EBK-M10-EVI kit of four forged eyebolts. Clusters can be made using the eyebolt kits but are mechanically simplified by a carefully worked out series of optional rigging kits, which connect to the rigging points.

Enclosures are available in three degrees of weather resistance:

- EVCoat™ for interior use
- PI for indirect weather exposure, such as under a roof overhang (EVCoat™ plus stainless-steel hydrophobic grille and the CDG dual-gland-nut input-panel cover)
- FG for direct exposure (PI grille and input-panel cover plus fiberglass finish)
- External fasteners on all systems are stainless steel

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Mid-frequency waveguide contours can be removed and rotated to match the coverage pattern of the rotatable high-frequency waveguide

## **EVH Constant-Directivity Waveguides for Consistent Coverage Angles over a Wide Frequency Range**

The large, 25-inch-square low-frequency waveguide, which provides the directivity control down to 500 Hz, operates up to the 1,300-Hz crossover frequency. This low-frequency section is enhanced by mid-frequency waveguide contours, which promote a smooth transition from low to mid frequencies and provide a coverage-pattern match to the high-frequency waveguide.

The waveguide contours may be removed and rotated to match the coverage pattern of the rotatable high-frequency waveguide.

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# EVH-1152S Series Acoustic Performance

Each EVH-1152S loudspeaker is a mid-sized, 15-inch two-way coaxial horn-loaded system. Each loudspeaker contains an SMX2151 15-inch 400-W woofer and one ND2B medium-format, 2-inch-diaphragm, 40-W high-frequency compression driver on a 12-inch-square waveguide. Six waveguide patterns are available, from long throw to short throw and some with extended, 60° or 90° vertical coverage: 40° x 30°, 60° x 40°, 60° x 60°, 90° x 40°, 90° x 60°, and 90° x 90°. This broad selection makes it much easier to create a cluster that precisely addresses your space.

The horn-loaded woofer is the basis of the EVH series' very high sensitivity, to the order of 6 dB higher than a typical front-loaded system. While EVH systems can be biamped, highly sophisticated internal EQ/crossover networks provide superb passive performance and eliminate the need for digital signal processing and multiple amplifier channels.



	EVH-1152S/43	EVH-1152S/64	EVH-1152S/66	EVH-1152S/94	EVH-1152S/96	EVH-1152S/99
Frequency Response (-3 dB)	60 – 15000 Hz <sup>1</sup>					
Frequency Response (-10 dB)	50 – 16000 Hz <sup>1</sup>					
Recommended High-Pass Frequency	60 Hz					
Sensitivity 1 W/1 m	106 dB	105 dB				104 dB
Max. SPL/1 m (Calculated) Peak	139 dB	138 dB				137 dB
System Power Handling (Continuous <sup>2</sup> /Program/Peak)	500 W / 1000 W / 2000 W					
Nominal Impedance (Passive)	8 Ω					
Minimum Impedance	6 Ω					
Input Connections	Phoenix/Euroblock style screw terminals PI and FG versions include dual-gland-nut input-panel cover					
Coverage (Nominal -6 dB) H°	40°	60°	60°	90°	90°	90°
Coverage (Nominal -6 dB) V°	30°	40°	60°	40°	60°	90°
LF Transducer	SMX2151, 15-in (381 mm) Driver					
HF Transducer	ND2B, 2-in (51 mm) Diaphragm Compression Driver					
Internal Passive Crossover Frequency	1300 Hz					
Enclosure Material	13-ply Weather-Resistant Birch					
Grille	Standard versions: 16-ga Galvanneal, Powdercoat, with screen behind PI and FG versions: 18-ga Stainless, Powdercoat, with hydrophobic cloth behind					
Environmental	Standard versions: IEC 60529 IP33 PI and FG versions: IEC 60529 IP55					
Suspension	(28) M10 Threaded Points (one EBK-M10-EVI kit of four forged eyebolts included)					
Height Width Depth	30.26 in (768.6 mm) 30.26 in (768.6 mm) 26.77 in (680.1 mm)					
Net Weight	143 lb (64.9 kg)					

<sup>1</sup> Half-space measurement in passive mode

<sup>2</sup> EIA RS-426A (eight hours)



# EVH-1152D Series High-Definition Acoustic Performance

The EVH-1152D full-range system offers the same waveguide patterns as the EVH-1152S. The EVH-1152D systems substitute the ND2B compression driver with the new DH7N large-format, 3-inch-diaphragm, 75-W compression driver. While the continuous maximum output of the “D” systems is unchanged, their dynamic performance is improved. The higher power capacity of the compression driver allows the system to produce higher definition sound at a given level of distortion.



	EVH-1152D/43	EVH-1152D/64	EVH-1152D/66	EVH-1152D/94	EVH-1152D/96	EVH-1152D/99
Frequency Response (-3 dB)	60 – 17000 Hz <sup>1</sup>					
Frequency Response (-10 dB)	50 – 20000 Hz <sup>1</sup>					
Recommended High-Pass Frequency	60 Hz					
Sensitivity 1 W/1 m	106 dB	105 dB				104 dB
Max. SPL/1 m (Calculated) Peak	139 dB	138 dB				137 dB
System Power Handling (Continuous <sup>2</sup> /Program/Peak)	500 W / 1000 W / 2000 W					
Nominal Impedance (Passive)	8 Ω					
Minimum Impedance	6 Ω					
Input Connections	Phoenix/Euroblock style screw terminals PI and FG versions include dual-gland-nut input-panel cover					
Coverage (Nominal -6 dB) H°	40°	60°	60°	90°	90°	90°
Coverage (Nominal -6 dB) V°	30°	40°	60°	40°	60°	90°
LF Transducer	SMX2151, 15-in (381 mm) Driver					
HF Transducer	DH7N, 3-in (76 mm) Diaphragm Compression Driver					
Internal Passive Crossover Frequency	1300 Hz					
Enclosure Material	13-ply Weather-Resistant Birch					
Grille	Standard versions: 16-ga Galvanneal, Powdercoat, with screen behind PI and FG versions: 18-ga Stainless, Powdercoat, with hydrophobic cloth behind					
Environmental	Standard versions: IEC 60529 IP33 PI and FG versions: IEC 60529 IP55					
Suspension	(28) M10 Threaded Points (one EBK-M10-EVI kit of four forged eyebolts included)					
Height	30.26 in (768.6 mm)					
Width	30.26 in (768.6 mm)					
Depth	26.77 in (680.1 mm)					
Net Weight	145.5 lb (66.1 kg)					

<sup>1</sup> Half-space measurement in passive mode

<sup>2</sup> EIA RS-426A (eight hours)

# Rigging Kits for Vertical and Horizontal

EVH systems have 28 internal rigging points, providing multiple choices for rigging the enclosures. Enclosures may be connected one above another using the supplied EBK-M10-EVI forged-eyebolt kits. However, commonly encountered clusters are more easily fabricated using the accessory rigging kits: HRK 3 (for horizontal clusters joining EVH to EVH enclosures), VRK 3 (for vertical clusters), and HRK 2 or VRK 2 (both for EVH-to-EVF clusters). The rigging system is designed to carry an array of up to three enclosures in a vertical cluster or six enclosures in a three-over-three cluster with a safety factor of greater than 8:1.



## HRK-3 Horizontal Rigging Kit

For typical horizontal clusters using full-range enclosures, one HRK-3 kit allows the attachment of two EVH enclosures or one EVH enclosure to one EVF subwoofer; two rigging kits are required to assemble a three-box cluster.

## HRK-2 Horizontal Rigging Kit

One HRK-2 kit allows the attachment of an EVH enclosure to one EVF full-range enclosure or one EVF low-frequency system.

## VRK-3 Vertical Rigging Kit

For typical vertical clusters using full-range enclosures, one VRK-3 kit allows the attachment of two EVH enclosures or one EVH enclosure to one EVF subwoofer; two rigging kits are required to assemble a three-box cluster.

## VRK-2 Vertical Rigging Kit

One VRK-2 kit allows the attachment of one EVH enclosure to one EVF full-range enclosure or one EVF low-frequency system.

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