Electro-Voice

EVA

EV-Innovation

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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.

Expandable Vertical Array – EVA

The global success of the X-Line family affirms Electro-Voice's approach to line array design on the largest tours and in the most prestigious venues. The EVA series (Expandable Vertical Array) condenses all this experience into a dedicated solution for installed sound applications.

- **True line array performance with EV's patented Hydra™ plane wave generator**
- **Easy and quick to configure and install**
- **Aesthetically pleasing with internal hidden rigging**
- **Two vertical and two horizontal patterns for flexible designs**
- **Very high maximum SPL output capability with extremely low distortion level**
- **Sophisticated internal passive network system**
- **Designed for single amp channel drive**
- **Available in black or white in one of three versions: EVCoat™ (interior use), PI (indirect weather exposure), and FG (fiberglass - direct exposure).**

EVA

EVA represents a new and unique design concept: retain the benefits of concert-type line arrays without their configuration, rigging, and signal-processing complexities.

EVA is designed to provide full-bandwidth, well-defined coverage from easily created line arrays using four different preconfigured two-way modules.

EVA-2082S

The EVA-2082S is a very compact 2 x 8” two-way line array module. Combine up to eight of these modules for a simple-but-sophisticated approach to building a line array, without the complexity associated with concert sound line array design.

Each module contains two elements, each element containing an EVS2008 8” woofer and two DH2005 1.25” high-frequency compression drivers on a Hydra™ plane wave generator. A cluster of three modules powered by 1,050W (cont.) achieves a remarkable 135 dB of maximum (peak) SPL.

Two vertical coverage angles (6° and 20°) can be combined to create line arrays optimized for spaces ranging from 12 m (40 ft) to greater than 60 m (200 ft) deep. Two horizontal coverage angles (90° and 120°) provide the perfect match for any space.

The acoustic relation of one module to another is controlled by complex and sophisticated passive EQ/crossover networks, eliminating the need for loudspeaker DSP and multiple amplifier channels. Six EVA modules can be operated in parallel from a single amplifier channel capable of driving a 2.7 ohm nominal impedance (e.g. CPS 2.12). Flexible frequency-shading and module-attenuation options enable uniform front-to-back coverage. Array design and "tweaking" for a particular room are done with EVADA (EVA Design Assistant) software, downloadable at www.electrovoice.com.

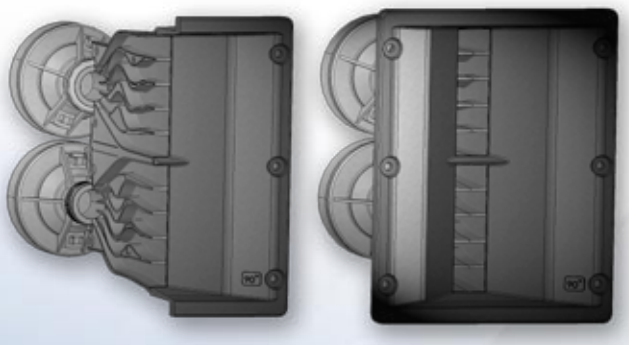
EVA-2082S

The Hydra™ – EV's plane wave generator

The most critical information in any music signal is found in the mid and high frequencies. The number of HF devices used is one measure of whether the size of a sound system is adequate. Line arrays require a sufficient number of compression drivers to balance the coherent energy of the cone array elements.

In a vertical array of multiple sound sources, it is vital to maintain minimal distance between HF elements relative to the radiated wavelength—a challenge with frequencies above 3 kHz (wavelength about 11 cm / 4"). A key component of the outstanding performance and success of EV line arrays is our unique Hydra™ plane wave generator, through which the output of one HF driver is divided into discrete adjacent paths that arrive with the same amplitude and phase at the waveguide.

EVA's unique, multi-driver Hydras use two compression drivers to feed each waveguide, providing both SPL and dynamic range for any application and array size.



The Hydra™

EVA-2082S/126 | EVA-2082S/906

Each EVA module is available with either a 90° or 120° horizontal dispersion pattern and is acoustically designed to work with any other EVA module.

Two versions are available with 6° vertical dispersion patterns (for long-throw), and may be combined for use as the main building blocks of a typical line array: 2082S/126 (120° x 6°) and 2082S/906 (90° x 6°).

Mixed-model array configurations allow EVA to precisely address a wide variety of venues, e.g. EVA-2082S/906 for long-throw with EVA-2082S/920 for near-field coverage. A combination of these modules provides optimum vertical coverage for any application.

Two versions are available with 20° vertical dispersion patterns (for near-field coverage): 2082S/1220 (120° x 20°) and 2082S/920 (90° x 20°).

EVA-2082S/1220 | EVA-2082S/920

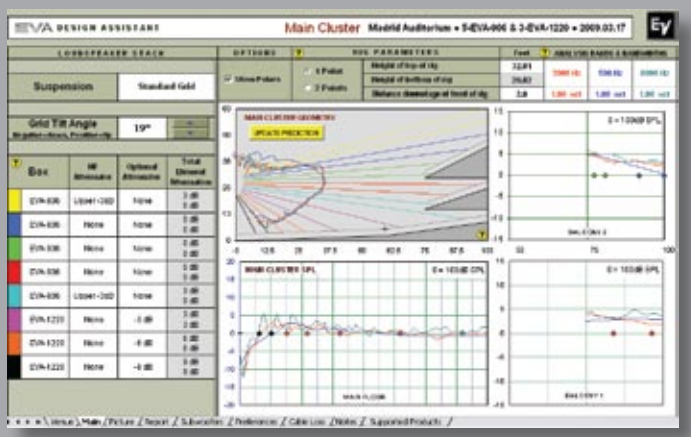
Each full-range EVA module has a sophisticated internal crossover network and a nominal impedance of 16 ohms, allowing (for example) an entire four module (eight element) array to be driven by a single amplifier channel as a 4 ohm load.

Depending on the application, attenuation may be required for certain elements. As part of its sophisticated internal passive network, each EVA module enables 3 dB of shading to be applied to one HF element, if required (top or bottom). The optional EVA-AM Attenuation Module allows attenuation of the entire module—up to 9 dB in 3 dB steps—without the need for a dedicated amplifier channel.

EVA Design Assistant: EVADA

EVADA helps users quickly determine the type and quantity of modules required to achieve optimal coverage for any given venue.

For more demanding documentation, EASE data is provided on the EV website: www.electrovoice.com.



Input Panel

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

- HF shading of one element is easily accomplished by simply repositioning the HF shading switch card.
- The same interface for the HF shading card can be used as an access point to test woofers and drivers without any need to dismantle the enclosure.
- Phoenix/euro block screw terminals accept up to 10 ga. wire.
- Panel accepts a dual NL4 cover plate or dual gland nut cover for weather-protecting connection points. Gland nut cover is included with PI and FG models.
- An internal landing pad for an EVA-AM is included in the input panel. Simply install the attenuation module on the input panel and attach the wire harness to the PC board, then install the panel back onto the loudspeaker, attaching the included label around the Phoenix terminal block – the input block is now your power attenuation selector.
- NL4 cover plate and EVA-AM sold separately.

Mounting/Rigging System

EVA has an internal, nearly invisible rigging system. Modules are connected to one another with an internal top-to-bottom metal structure that is hidden by the cover panels. This gives an EVA cluster great aesthetic appeal—more an architectural element than a loudspeaker system. The rigging system is designed to carry an array of up to eight modules with a safety factor of >8:1.

EVA-SG Standard Grid
For typical tilt angles in 3 and 4 module arrays and pull-up applications in large arrays when extreme angles are required. Includes one spreader bar.

EVA-EG Extended Grid
For typical tilt angles in arrays taller than four modules, or extreme angles in arrays of four modules or less. Includes one spreader bar.

EVA-GXB (not shown)
Optional second spreader bar for use when fore-and-aft hang points are required.

	EVA-2082S/906	EVA-2082S/920	EVA-2082S/126	EVA-2082S/1220
Freq. Response* (-3 dB)	60 Hz - 19 kHz	60 Hz - 19 kHz	60 Hz - 19 kHz	60 Hz - 19 kHz
Freq. Range* (-10 dB)	45 Hz - 20 kHz	45 Hz - 20 kHz	45 Hz - 20 kHz	45 Hz - 20 kHz
Rec. Hi-Pass Frequency	50 Hz	50 Hz	50 Hz	50 Hz
Axial Sensitivity:**	104 dB (1 W / 1 m)	104 dB (1 W / 1 m)	104 dB (1 W / 1 m)	104 dB (1 W / 1 m)
Max. Calculated SPL:**	129 dB continuous, 135 dB peak	129 dB continuous, 135 dB peak	129 dB continuous, 135 dB peak	129 dB continuous, 135 dB peak
Horizontal Coverage:	90°	90°	120°	120°
Vertical Coverage:	6°	20°	6°	20°
Power Handling:	350 W continuous, 1400 W peak	350 W continuous, 1400 W peak	350 W continuous, 1400 W peak	350 W continuous, 1400 W peak
LF Transducer:	2 x EVS2008 8" (203 mm) driver	2 x EVS2008 8" (203 mm) driver	2 x EVS2008 8" (203 mm) driver	2 x EVS2008 8" (203 mm) driver
HF Transducer:	4 x DH2005 1.25" (32 mm) diaphragm compression driver	4 x DH2005 1.25" (32 mm) diaphragm compression driver	4 x DH2005 1.25" (32 mm) diaphragm compression driver	4 x DH2005 1.25" (32 mm) diaphragm compression driver
Crossover Frequency:	1740 Hz	1740 Hz	1740 Hz	1740 Hz
Nominal Impedance:	16 ohms	16 ohms	16 ohms	16 ohms
Minimum Impedance:	12 ohms	12 ohms	12 ohms	12 ohms
Connectors:	2 x four-contact 10 AWG Phoenix/euro block style screw terminals	2 x four-contact 10 AWG Phoenix/euro block style screw terminals	2 x four-contact 10 AWG Phoenix/euro block style screw terminals	2 x four-contact 10 AWG Phoenix/euro block style screw terminals
	PI & FG versions include dual gland nut input panel cover	PI & FG versions include dual gland nut input panel cove	PI & FG versions include dual gland nut input panel cove	PI & FG versions include dual gland nut input panel cove
Enclosure Material:	Plywood with EVCoat™	Plywood with EVCoat™	Plywood with EVCoat™	Plywood with EVCoat™
Grille:	16 ga. galvanneal, powder coated and screened	16 ga. galvanneal, powder coated and screened	16 ga. galvanneal, powder coated and screened	16 ga. galvanneal, powder coated and screened
	PI & FG versions - stainless steel with hydrophobic cloth	PI & FG versions - stainless steel with hydrophobic cloth	PI & FG versions - stainless steel with hydrophobic cloth	PI & FG versions - stainless steel with hydrophobic cloth
Suspension:	EVA grid (sold separately)	EVA grid (sold separately)	EVA grid (sold separately)	EVA grid (sold seperately)
Dimensions (H x W x D):	514.4 mm x 596.9 mm x 358.2 mm (20.25" x 23.50" x 14.10")	512.2 mm x 596.9 mm x 369.1 mm (20.17" x 23.50" x 14.53")	514.4 mm x 596.9 mm x 358.2 mm (20.25" x 23.50" x 14.10")	512.2 mm x 596.9 mm x 369.1 mm (20.17" x 23.50" x 14.53")
Net Weight:	37.1 kg (81.8 lbs)	36.8 kg (81.0 lbs)	37.1 kg (81.8 lbs)	36.8 kg (81.0 lbs)
Shipping Weight:	40.45 kg (89 lbs)	40 kg (88 lbs)	40.45 kg (89 lbs)	40 kg (88 lbs)

* Full space measurement. ** Full space measurement of three elements. SPL adjusted for one meter distance.

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