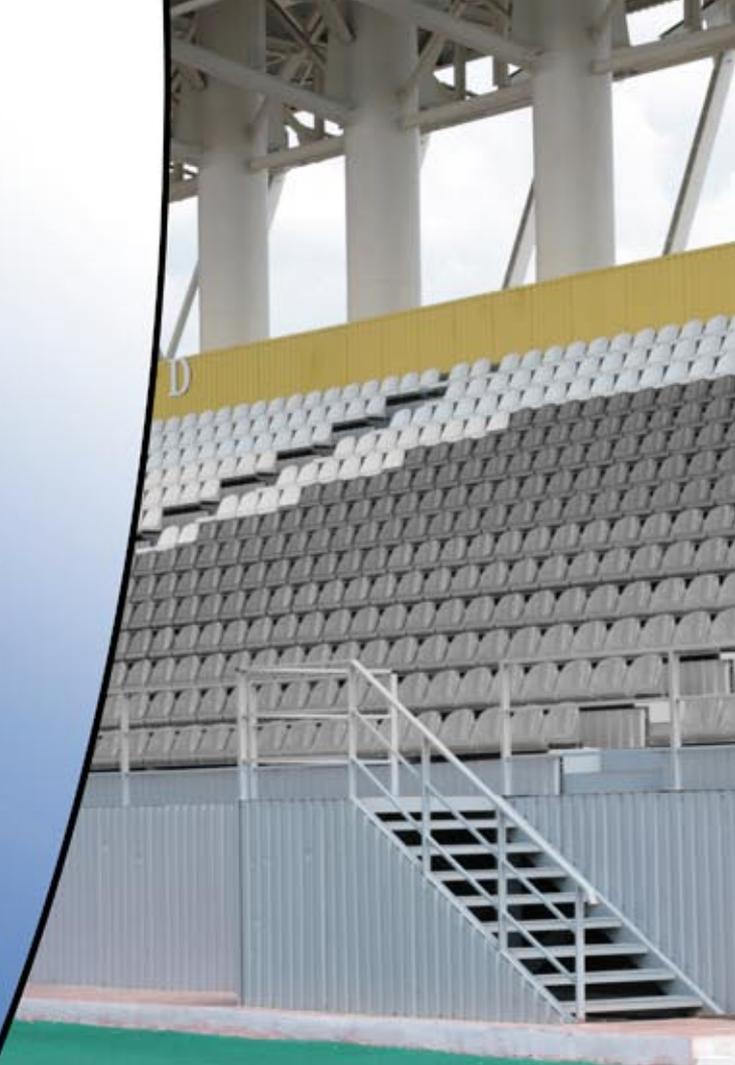


**EV** Electro-Voice

**EVA**  
EV-Innovation





EV.

# Innovation

## **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.

### **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.

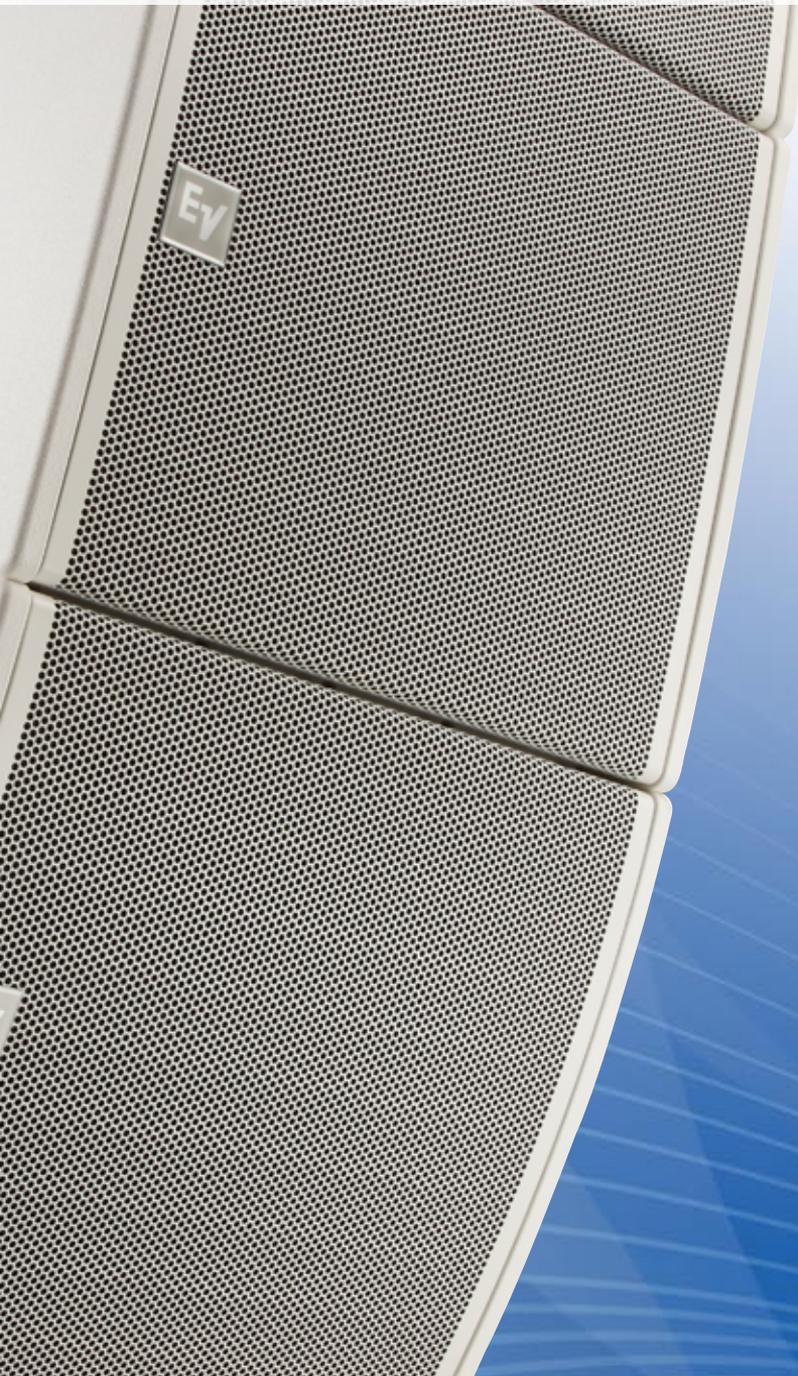
- **True line array performance with EV's patented Hydra™ plane wave generator**
- **Easy and quick to configure and install**
- **Aesthetically pleasing with internal hidden rigging**
- **Two vertical and two horizontal patterns for flexible designs**
- **Very high maximum SPL output capability with 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](http://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



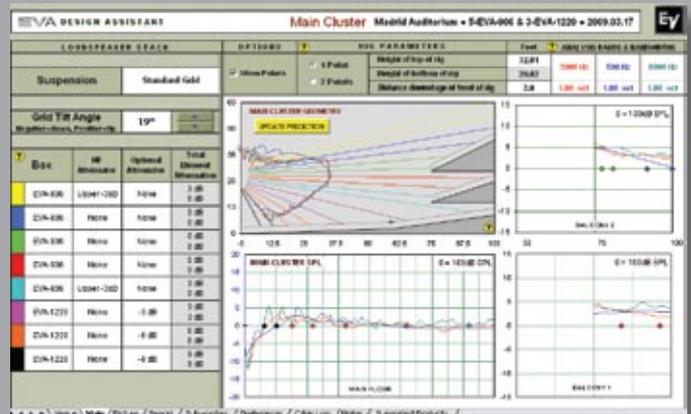
Each full-range EVA module has a sophisticated internal crossover network and a nominal impedance of 16 ohms, allowing (for example) an entire four module (eight element) array to be driven by a single amplifier channel as a 4 ohm load.

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](http://www.electrovoice.com).



# Input Panel

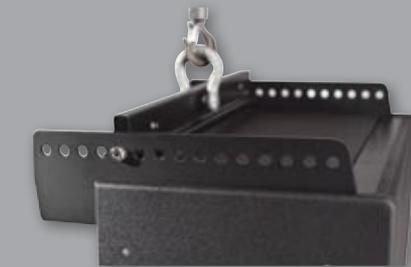
This new input panel was designed from the installer's perspective and has a range of innovative, user-friendly features:

- 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
<b>Freq. Response* (-3 dB)</b>	60 Hz - 19 kHz			
<b>Freq. Range* (-10 dB)</b>	45 Hz - 20 kHz			
<b>Rec. Hi-Pass Frequency</b>	50 Hz	50 Hz	50 Hz	50 Hz
<b>Axial Sensitivity**:</b>	104 dB (1 W / 1 m)			
<b>Max. Calculated SPL**:</b>	129 dB continuous, 135 dB peak			
<b>Horizontal Coverage:</b>	90°	90°	120°	120°
<b>Vertical Coverage:</b>	6°	20°	6°	20°
<b>Power Handling:</b>	350 W continuous, 1400 W peak			
<b>LF Transducer:</b>	2 x EVS2008 8" (203 mm) driver			
<b>HF Transducer:</b>	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
<b>Crossover Frequency:</b>	1740 Hz	1740 Hz	1740 Hz	1740 Hz
<b>Nominal Impedance:</b>	16 ohms	16 ohms	16 ohms	16 ohms
<b>Minimum Impedance:</b>	12 ohms	12 ohms	12 ohms	12 ohms
<b>Connectors:</b>	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
<b>Enclosure Material:</b>	Plywood with EVCoat™	Plywood with EVCoat™	Plywood with EVCoat™	Plywood with EVCoat™
<b>Grille:</b>	16 ga. galvaneal, 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
<b>Suspension:</b>	EVA grid (sold separately)			
<b>Dimensions (H x W x D):</b>	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")
<b>Net Weight:</b>	37.1 kg (81.8 lbs)	36.8 kg (81.0 lbs)	37.1 kg (81.8 lbs)	36.8 kg (81.0 lbs)
<b>Shipping Weight:</b>	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.

#### Bosch Communications Systems

Americas—Headquarters Americas  
Bosch Security Systems, Inc.  
12000 Portland Ave South,  
Burnsville, MN 55337, USA

USA—Ph: 1-800-392-3497

Fax: 1-800-955-6831

Canada—Ph: 1-866-505-5551

Fax: 1-866-336-8467

Latin America—Ph: 1-952-887-5532

Fax: 1-952-736-4212

Europe, Middle-East & Africa  
Headquarters EMEA

Bosch Sicherheitssysteme GmbH  
Robert-Koch-Strasse 100  
85521 Ottobrunn

EVI Audio GmbH  
Hirschberger Ring 45  
94315 Straubing, Germany  
Phone +49 9421 706-0  
Fax: +49 9421 706-265

France: EVI Audio France S.A.S  
Phone: +33 1-6480-0090  
Fax: +33 1-6006-5103

UK: Shuttlesound Ltd.  
Phone: +44 208 646 7114  
Fax: +44 208 254 5666

Middle East: Robert Bosch  
Middle East FZE  
Tel. +97 14 2123300  
Fax. +97 14 2123388

Asia & Pacific  
Headquarters APR  
Robert Bosch (SEA) Pte Ltd  
Singapore and ASEAN  
38 C Jalan Pemimpin  
Singapore 577180  
Tel: +65 6319 0616  
Fax: +65 6319 0620

Australia  
Tel: +61 2 9683 4752  
Fax: +61 2 9890 5928

China  
Tel: +86 21 6317 2155  
Fax: +86 21 6317 3025

India  
Tel: +91 80 4176 8378  
Fax: +91 80 4176 8263

Japan  
Tel: +81 3 5316 5020  
Fax: +81 3 5316 5030

Thailand  
Tel: +662 639 3111  
Fax: +662 631 2030

