biamp.

COMMUNITY LVH-900

The Industry's First Beamforming Venue Horn

EXTRAORDINARY SOUND IN LARGE VENUES

The Community® LVH-900 Beamforming Venue Horn is a large-scale, high output, arrayable point source loudspeaker that allows designers to tailor the coverage of a single loudspeaker, dual-cabinet array, or an array of multiple loudspeakers to precisely cover any audience area with smooth, even, full-range sound distribution. LVH-900 provides the highest output, widest bandwidth, and most consistent coverage of any large format point source loudspeaker on the market. Combined with Amplified Loudspeaker Controllers (ALC), LVH-900 is able to meet the sound requirements for music and speech reinforcement in large houses of worship, stadiums, theaters, and other large venues.

EXCEPTIONAL FLEXIBILITY

LVH-900 offers over 12 coverage patterns and limitless possibilities from four base models – Active Standard models **LVH-906/AS** and **LVH-909/AS** and Active Plus models **LVH-906/AP** and **LVH-909/AP**, with fixed horizontal patterns of either 60° (906 models) or 90° (909 models). Through electronically-controlled variable vertical coverage, a single Active Standard (AS) cabinet can provide vertical coverage of 20°, 40°, or 60° with up to 137 dB continuous max SPL (143 dB Peak), while dual-cabinet arrays of Active Plus (AP) models offer vertical coverage patterns of 20°, 80°, or 100° with up to 140 dB continuous max SPL (146 dB Peak).

AS models perform well as a single-cabinet point source system with pattern control to below 400 Hz, while AP models are deployed in pairs to form a 2-cabinet array with pattern control to below 200 Hz and up to 5 dB higher output. AS and AP models can also be mixed and matched in a variety of configurations with minimal interference, providing extended vertical LF pattern control and coverage similar to a line array but with fewer cabinets.

OUTSTANDING PERFORMANCE

LVH-900 is designed to handle the most challenging large venue environments. Designed with high continuous SPL in mind with excellent voiceband clarity, there is minimal coloration while maintaining low distortion at maximum output levels.

Large front-of-house loudspeakers require high output, wide bandwidth directivity control, low distortion and smooth frequency response. Traditionally, to achieve output and control, the tradeoff is distortion and response. Larger transducers that allow higher output often come with the cost of higher distortion or diminished response linearity. Fortunately, the Community LVH-900 Beamforming Venue Horn is a “no-compromise” solution, delivering on all four requirements.

The LVH-900 uses smaller components of higher efficiency in an array form on a revolutionary manifold that maintains high-output capability, reduces drive level to individual components, and retains inherent low distortion and smoothness. The patent pending Colinear Manifold helps maintain output capability, while a 36 x 31-inch Unified Waveguide combines all drivers into a coherent wavefront for excellent pattern control. Multiple midrange and high-frequency drivers allow precise directivity shaping over a wider bandwidth.

POWERFUL 3-WAY DESIGN

HF Drivers: Four 1.5-inch

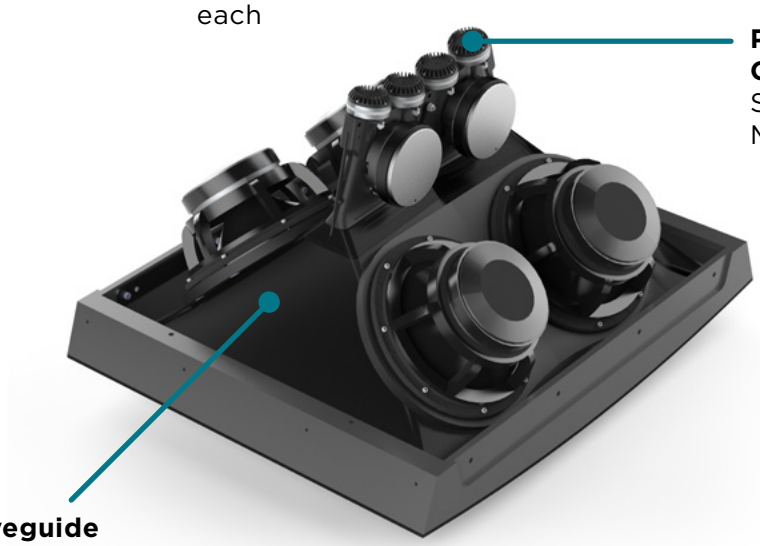
- Compact neodymium motors
- Ketone polymer ring radiator design
- 35W RMS power handling each

MF Drivers: Three 2-inch

- Proven Community M200 compression drivers
- Low distortion, high sensitivity
- 65W RMS power handling each

LF Drivers: Four 12-inch

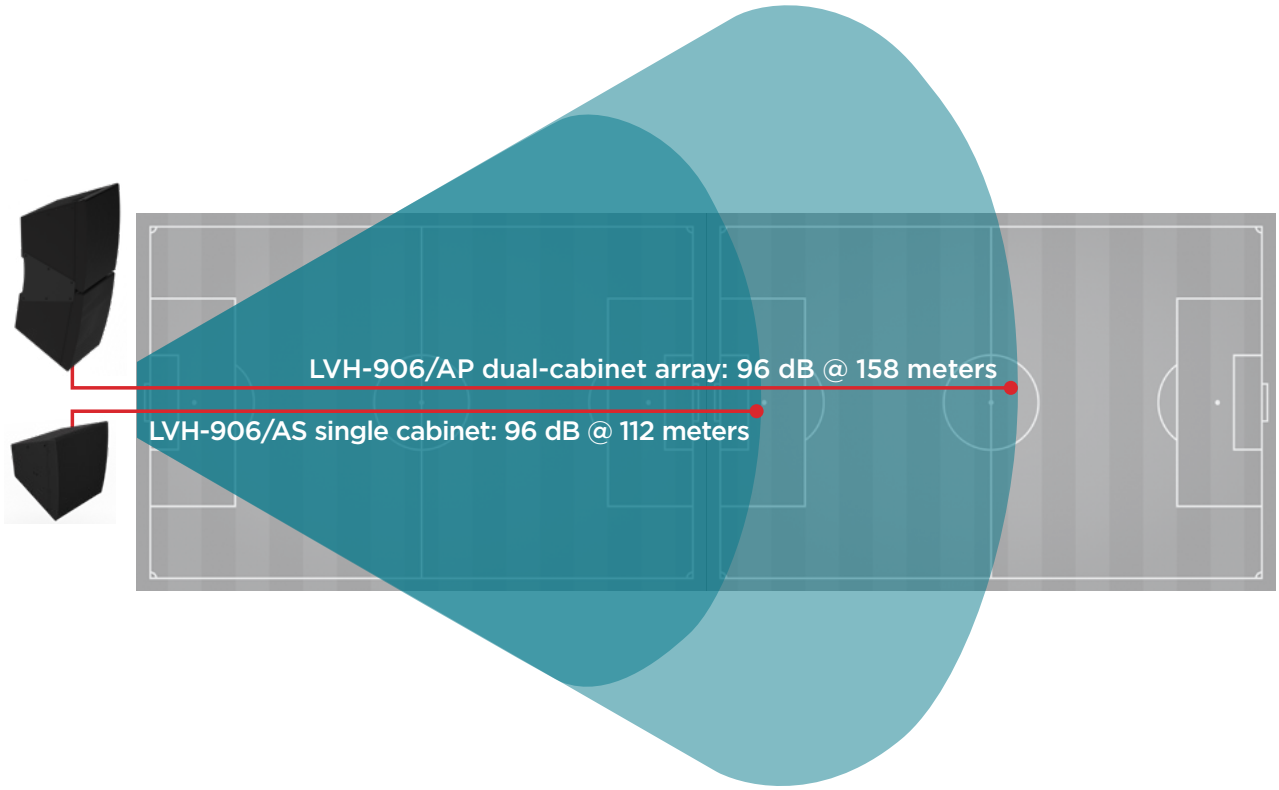
- 3-inch voice coils
- Cast aluminum chassis
- 500W RMS power handling each



Patent-pending Colinear Manifold
Seamlessly integrates MF and HF drivers

36” x 31” Unified Waveguide
Combines all drivers into a coherent wavefront with pattern control to below 400 Hz

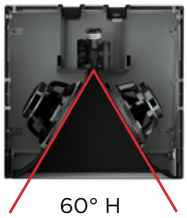
VERY HIGH OUTPUT WITH PATTERN CONTROL



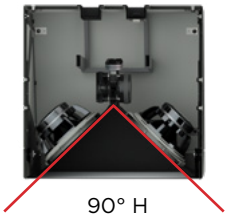
4 BASE MODELS

FIXED HORIZONTAL COVERAGE

ACTIVE STANDARD
SINGLE-CABINET POINT SOURCE

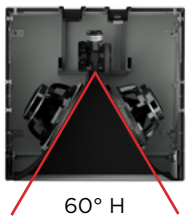


LVH-906/AS

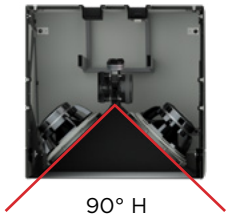


LVH-909/AS

ACTIVE PLUS
DUAL-CABINET ARRAY



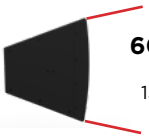
LVH-906/AP



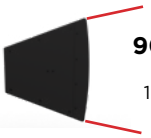
LVH-909/AP

12+ COVERAGE PATTERNS

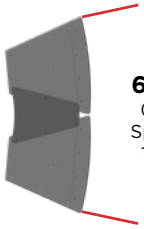
ELECTRONICALLY-CONTROLLED VARIABLE VERTICAL COVERAGE



60° H x 20° V
LVH-906/AS
137 dB Max SPL

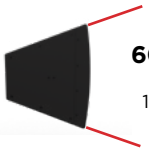


90° H x 20° V
LVH-909/AS
135 dB Max SPL

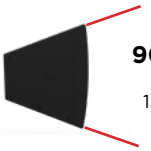


60° H x 20° V
(2) LVH-906/AP
Splay Plate Type 2
140 dB Max SPL

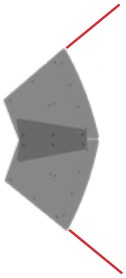
90° H x 20° V
(2) LVH-909/AP
Splay Plate Type 2
139 dB Max SPL



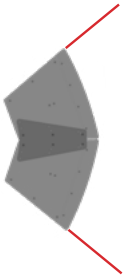
60° H x 40° V
LVH-906/AS
136 dB Max SPL



90° H x 40° V
LVH-909/AS
134 dB Max SPL



60° H x 80° V
(2) LVH-906/AP
Splay Plate Type 1
137 dB Max SPL



90° H x 80° V
(2) LVH-909/AP
Splay Plate Type 1
136 dB Max SPL

60° H x 60° V
LVH-906/AS
135 dB Max SPL

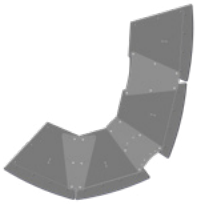
90° H x 60° V
LVH-909/AS
133 dB Max SPL

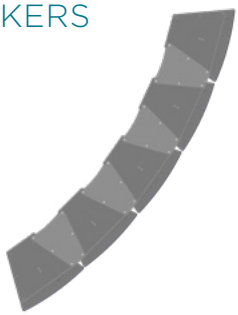
60° H x 100° V
(2) LVH-906/AP
Splay Plate Type 1
137 dB Max SPL

90° H x 100° V
(2) LVH-909/AP
Splay Plate Type 1
135 dB Max SPL

LIMITLESS OPTIONS

ACOUSTICALLY ARRAYABLE POINT SOURCE LOUDSPEAKERS

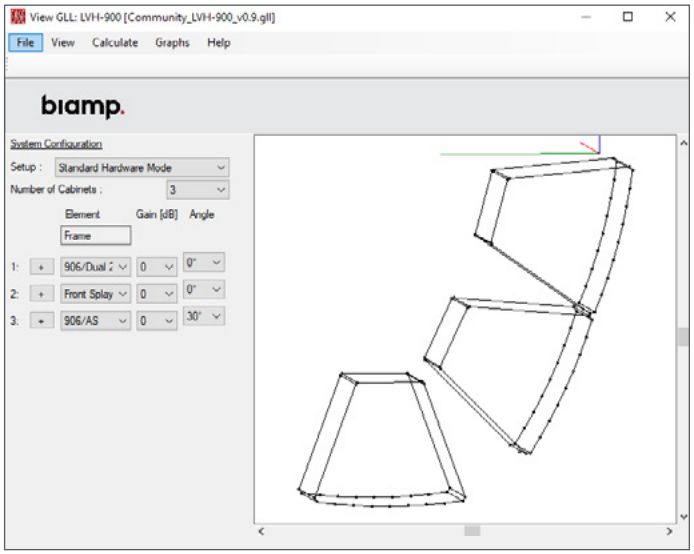


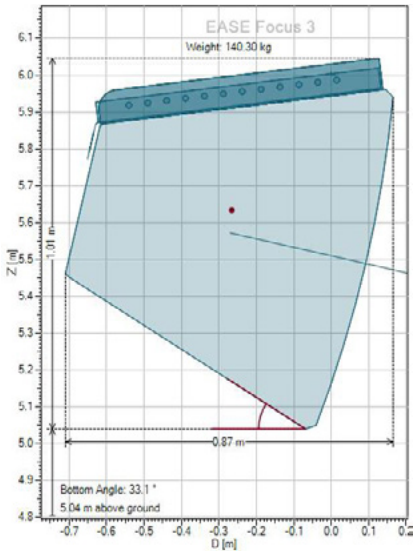


Array configurations can be efficiently evaluated in EASE Focus. Contact technical support at support@biamp.com for assistance.

THE INDUSTRY'S FIRST BEAMFORMING VENUE HORN

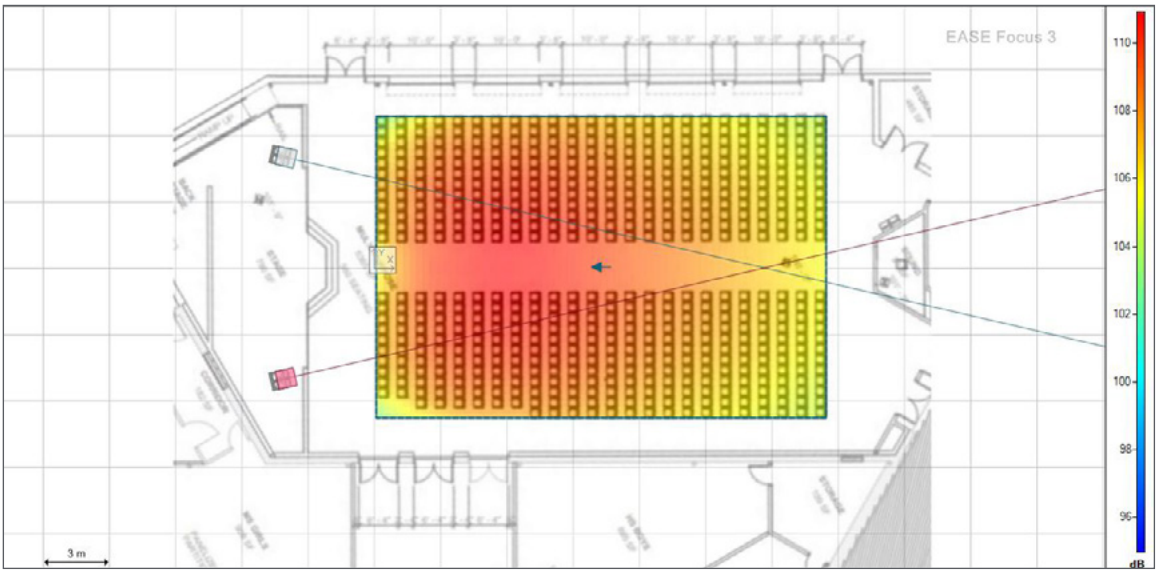
Beamforming provides the ability to combine multiple LVH-900 cabinets into seamless acoustic arrays with a myriad of potential coverage combinations. All coverage patterns and rigging hardware (Array Frame, Pull Back Bar and Splay Plates) are available from Biamp in a single, unified GLL file, allowing for an extremely efficient workflow which makes for easier project design. AS cabinets and AP arrays can be mixed and matched, and any array configuration can be changed quickly without adding another GLL file. The unified GLL approach allows for quick, efficient evaluation of array configurations in EASE® Focus prior to exporting the configuration into EASE 4 for more in-depth analysis. The EASE Focus report contains all of the array details including cabinet type, aiming angle, and Splay Plate type.





DESIGN SYSTEMS QUICKLY IN EASE FOCUS

- All coverage patterns included within a single GLL file
- Workflow similar to a line array
- Quickly evaluate all available LVH-900 coverage patterns and choose cabinet splay angles

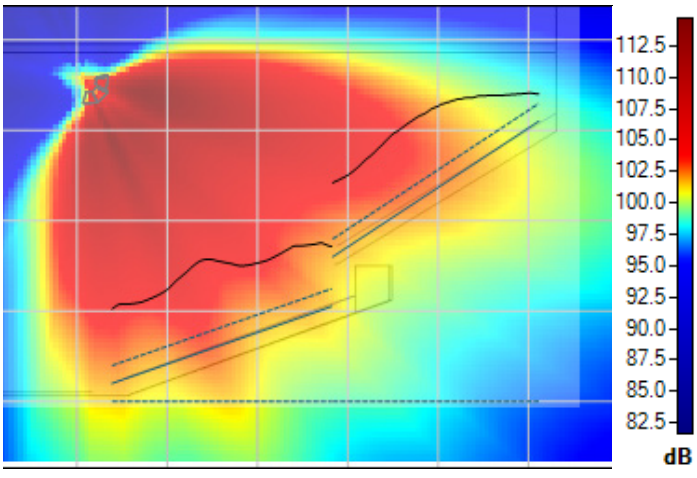


ADAPTABLE COVERAGE

The use of multiple drivers and amplifier channels gives designers the ability to beamform a wide range of vertical patterns from single and dual-cabinet configurations. By varying the phase and amplitude of the driver pairs with linear phase FIR filters, the vertical pattern is created. Unlike competing systems with fixed-angle horns, new LVH-900 patterns can be developed without physical waveguide changes which would result in additional SKUs. All beamforming settings are available in the ALC L Series preset library.

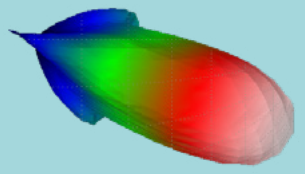
LF PATTERN CONTROL

Unlike most line array systems, the LVH-900 controls the horizontal low-frequency energy over a wider bandwidth, which is beneficial for intelligibility. Extending the length of the array can provide more vertical LF pattern control. The horn-loaded LF drivers also increase sensitivity and efficiency, while improving transient response. Moreover, the LVH-900 system is a sealed LF design, resulting in a more gradual LF roll-off compared to bass reflex designs.

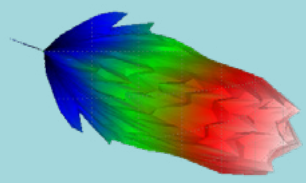


SPL coverage for a dual cabinet array of an LVH-906/AS with 40° vertical coverage on top and an LVH-906/AP with 80° vertical coverage on the bottom

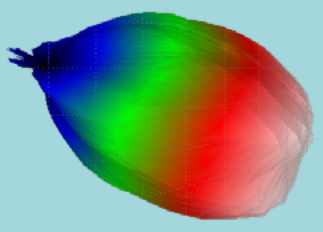
LVH-906 VOICEBAND POLAR PLOTS



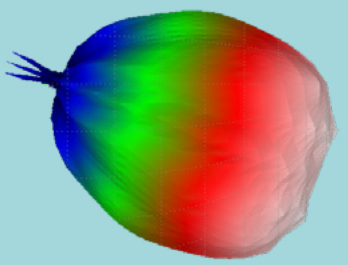
Active Standard 20° Vertical



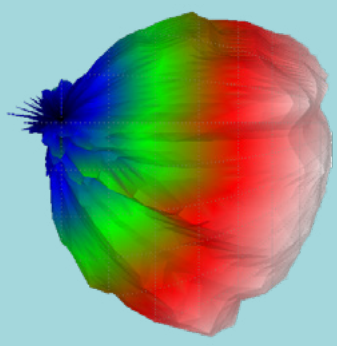
Active Plus 20° Vertical



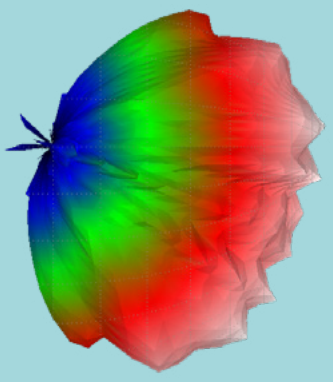
Active Standard 40° Vertical



Active Standard 60° Vertical

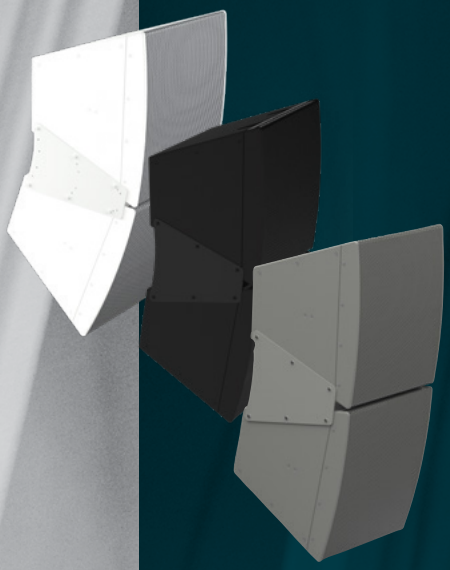


Active Plus 80° Vertical



Active Plus 100° Vertical

INDOOR AND OUTDOOR MODELS



LVH-900 is available in indoor (black and white) and outdoor (grey, black, and white) versions with matching hardware and splay brackets; custom colors are also available upon request. Enclosures are constructed of either 15 mm Baltic birch or extremely durable, weather-resistant PolyGlas, covered with our robust PolyCoat finish. All component drivers are inherently weather-resistant.

Indoor LVH-900 grilles are powder-coated perforated steel backed with acoustically transparent woven fabric, while outdoor grilles are powder-coated marine-grade aluminum featuring 316 stainless steel fasteners and a hydrophobically-treated acoustically transparent woven mesh fabric backing.

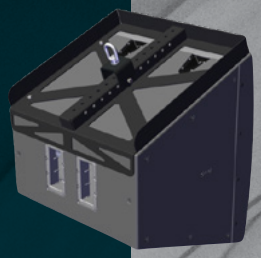
Outdoor LVH-900 loudspeakers are rated IP56 per IEC 60529 when used with the included input panel cover plates and appropriate gland nut cable ingress.

MOUNTING AND RIGGING HARDWARE

SPLAY PLATES

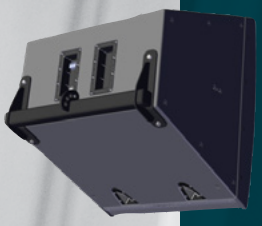
- Use in multi-cabinet arrays to achieve desired vertical pattern
- High-strength aluminum
- Grey, black, or white finishes
- Indoor and outdoor use

ARRAY FRAME



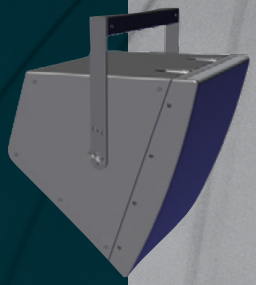
- Supports an array of up to three LVH-900 indoor cabinets
- Suspend using eyebolts or PY1-EN750-1550 lift point
- Black or white finishes

PULL BACK BAR



- Attaches to the bottom cabinet in an indoor curved array to provide an additional lift point
- Can be used as pull-back in an array to provide additional downward tilt
- Black or white finishes

U-BRACKET



- Supports a single Active Standard indoor cabinet
- Two mounting positions for either low-profile mounting (30° of rotation) or “regular mounting” (100° of rotation)
- Black or white finishes

Additional rigging hardware for specific mounting applications, outdoor use, and custom rigging are available. Contact technical support at support@biamp.com for more information.

AMPLIFIER + DSP

Go directly from the GLL file to amplifier and DSP settings using **Community Amplified Loudspeaker Controllers (ALC)**. All beamforming settings and FIR beamforming presets are available in the ALC preset library.

ALC-404D 4 channels x 400W + DSP and Dante®

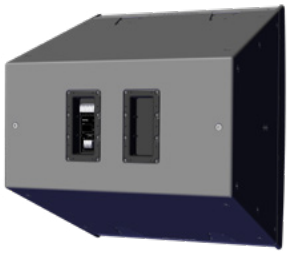
ALC-1604D 4 channels x 1600W + DSP and Dante®

ACTIVE STANDARD

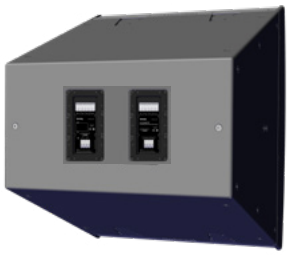
AS models each use a single input panel for single-cabinet operation with all six driver inputs on the same panel. Beamforming patterns are achieved by processing the inner and outer mid and high frequency drivers independently.

- Use **one ALC-404D** to power the mid and high frequency drivers (4 channels)
- Use **one ALC-1604D** bridged for the LF sections (2 channels)

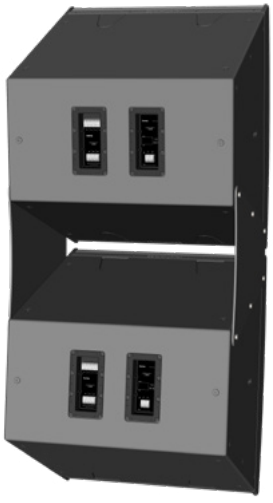
An optional mid and high frequency "Pass-Thru Panel" accessory can be used with any two identical AS cabinets with the same vertical and horizontal patterns and the same DSP settings applied, allowing separate cabling for MF/HF conductors. A single ALC-404D amplifier is then able to power the mid and high drivers of both AS loudspeakers. Utilizing the Pass-Thru Panel can be particularly advantageous in central clusters, systems covering linear seating areas, and mono systems.



LVH-900/AS cabinet rear view



LVH-900/AS cabinet with Pass-Thru Panel



LVH-900/AP dual-cabinet array rear view

ACTIVE PLUS DUAL-CABINET ARRAY

Each AP loudspeaker includes two input panels on the rear of the cabinet. The first panel provides the connections to the mid and high frequency drivers. The second panel provides the input to the LF drivers. Beamforming is achieved by powering multiple drivers in mirrored pairs as if the two cabinets were a single loudspeaker.

- Use **two ALC-404D** to power mid and high frequency drivers (7 channels)
- Use **two ALC-1604D** bridged for the LF sections (4 channels)

LVH-900 input panels use lever-action terminals to make electrical connections, and the terminals can accommodate wire up to 10AWG (5.26 sq mm).

Weather-resistant cabinets include aluminum cover plates with 1-inch (25 mm) holes for installer-provided gland nuts to prepare a weather-tight cable ingress seal.

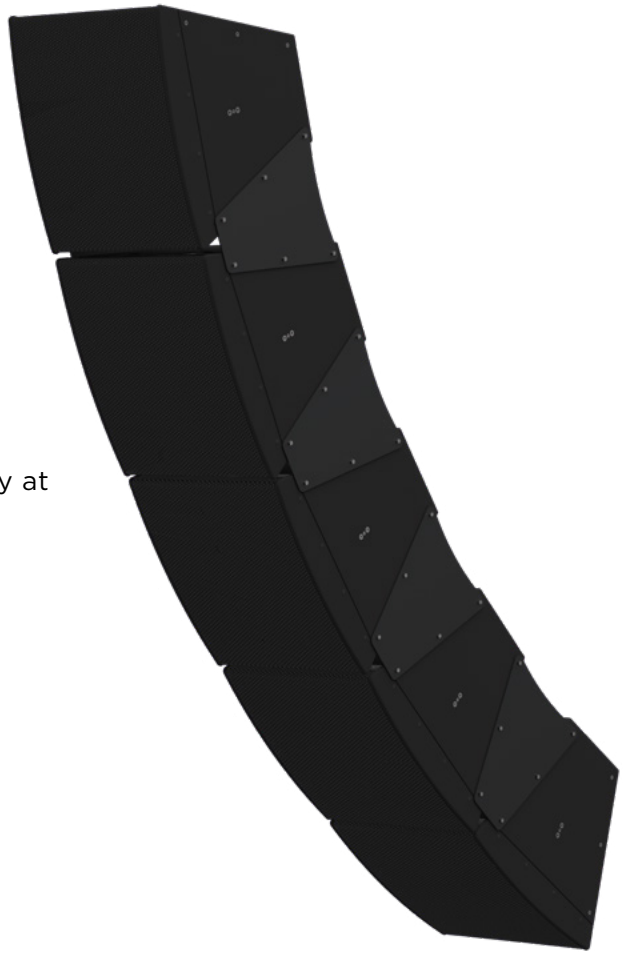
SPECIFICATIONS

	LVH-906/AS Single Loudspeaker	LVH-909/AS Single Loudspeaker	LVH-906/AP Dual-Cabinet Array	LVH-909/AP Dual-Cabinet Array
High Output	Yes	Yes	Yes	Yes
Wide Bandwidth Dispersion Control	Yes	Yes	Yes	Yes
Low Distortion	Yes	Yes	Yes	Yes
Smooth Frequency	Yes	Yes	Yes	Yes
Acoustically Arrayble	Yes	Yes	Yes	Yes
Drivers	LF 4 x 12″ MF 3 x 2″ HF 4 x 1.5″ voice coil	LF 4 x 12″ MF 3 x 2″ HF 4 x 1.5″ voice coil	LF 8 x 12″ MF 6 x 2″ HF 8 x 1.5″ voice coil	LF 8 x 12″ MF 6 x 2″ HF 8 x 1.5″ voice coil
Max SPL*	137 dB Continuous 143 dB Peak	135 dB Continuous 141 dB Peak	140 dB Continuous 146 dB Peak	139 dB Continuous 145 dB Peak
Operating Range	60 Hz to 18 kHz	60 Hz to 18 kHz	60 Hz to 18 kHz	60 Hz to 18 kHz
Horizonal Coverage	60°	90°	60°	90°
Vertical Coverage	20°, 40° or 60°	20°, 40° or 60°	20°, 80° or 100°	20°, 80° or 100°
Dimensions (HxWxD) **Single LVH-900 Cabinet**	37.3″ x 31.4″ x 30.5″ (948 x 797 x 775 mm)	37.3″ x 31.4″ x 30.5″ (948 x 797 x 775 mm)	37.3″ x 31.4″ x 30.5″ (948 x 797 x 775 mm)	37.3″ x 31.4″ x 30.5″ (948 x 797 x 775 mm)

*Highest representative output among various vertical horn pattern options per model

UNMATCHED CONFIGURATION FLEXIBILITY

- Variable dispersion, very high output, arrayable point source loudspeaker
- Scalable for use in any size application, indoor or outdoor
- Most consistent coverage of any large-format point source loudspeaker on the market
- Exceptional sound quality and unmatched intelligibility at maximum output levels
- Discreet styling and aesthetics for appealing sound system designs
- Variety of mounting and array brackets eliminate the need for custom rigging
- Time-saving system design & modeling in EASE Focus



APPLICATIONS

- Stadiums
- Indoor arenas
- Auditoriums
- Theaters
- Houses of worship
- Other large venues

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