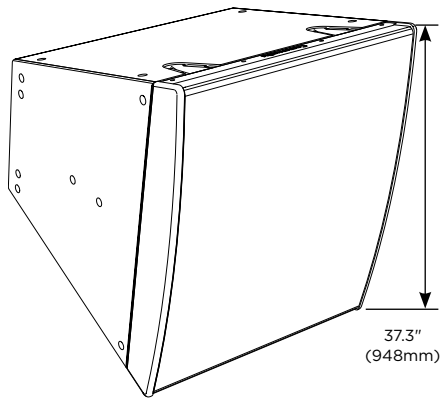
# DATA SHEET

## Community L SERIES Beamforming Venue Horn™

# LVH-906/AS

**60° HORIZONTAL DISPERSION, ACTIVE STANDARD, 20°, 40°, 60° VERTICAL DISPERSION, ARRAYABLE, HIGH OUTPUT LOUDSPEAKER**




## FEATURES

- Designed for extraordinary performance in large venues
- Large format, horn-loaded triaxial array maintains pattern control to 400 Hz
- Colinear manifold for HF and MF beamforming
- Indoor or Outdoor weather-resistant models
- EN54-24 and ISO 7240-24 certification

## APPLICATIONS

Stadiums · Houses of Worship · Arenas
Theaters · Ice Rinks · Auditoriums
Large multipurpose outdoor and indoor venues

## DESCRIPTION

Biamp's Community LVH-900/AS Beamforming Venue Horn™, combined with the Amplified Loudspeaker Controllers (ALCs), precisely tailors the directivity of each loudspeaker, or array of loudspeakers, to meet the sound requirements in any application.

Designed for exceptional performance in large venues, each LVH-906/AS (Active Standard) model consists of four 12-inch LF drivers, three Community M200 midrange compression drivers and four 1.5-inch HF compression drivers. Using patent-pending techniques, all drivers integrate into a single triaxial waveguide that fills the entire 36 x 31-inch face of the enclosure, providing pattern control to below 400 Hz. The LVH-906 offers 60° of fixed horizontal dispersion, and has presets for vertical dispersion beamforming in 60°, 40°, 20° configurations. The LVH-900 Active Standard (AS) models allow DSP settings and control of individual driver pairs to provide uniform sound to the audience areas.

Typical applications include music and speech reinforcement for large houses of worship, stadiums, theatres, and much more. Possessing advanced features, highly-focused dispersion patterns, weather-resistant construction, and most importantly sonic excellence, LVH-900 loudspeakers make installations not only fast and simple, but as functionally effective as possible.

*Biamp strives to improve its products on a continual basis. Specifications are therefore subject to change without notice.*

## TECHNICAL SPECIFICATIONS[1]

| | | | | |
|---|---|---|---|---|
| Operating Mode | Multi-Amplifier with FIR DSP Beamforming | | | |
| Operating Environment | Indoor or Outdoor Direct Exposure | | | |
| Operating Range (-10dB)[2] | 50 Hz to 20 kHz | | | |
| Nominal Beamwidth | **Horizontal**: 60°<br>**Vertical**: 60°, 40°, 20° Symmetrical (user selectable presets) | | | |
| Transducers | **LF:** 4 x 12" (300 mm) with 3" (75 mm) CCAW voice coil, inherently weather-resistant cone in cast aluminum chassis<br>**MF:** 3 x M200, 2" (51 mm) exit, ketone polymer diaphragm, compression driver<br>**HF:** 4 x 1.5" (38 mm) CCAW voice coil , 1" (25 mm) exit, ketone polymer diaphragm, compact neodymium compression driver | | | |
| Nominal Continuous Power Handling[3] | LF (per pair)<br>MF 1 \| MF 2<br>HF (per pair) | 87 V (950 W, 8 Ω)<br>26 V (130 W, 5 Ω \| 65 W, 10 Ω)<br>23 V, (65 W, 8 Ω) | | |
| Nominal Maximum SPL (Processed)[4] | 20° pattern | 136 dB continuous | 142 dB peak | |
| | 40° pattern | 136 dB continuous | 142 dB peak | |
| | 60° pattern | 136 dB continuous | 142 dB peak | |
| Rated Continuous Voltage[5] | LF<br>MF<br>HF | 50.1 V (34 dBV)<br>20.0 V (26 dBV)<br>15.8 V (24 dBV) | | |
| Rated Maximum SPL (Processed)[6] | 20° pattern | 131 dB continuous | 143 dB peak | |
| | 40° pattern | 131 dB continuous | 143 dB peak | |
| | 60° pattern | 131 dB continuous | 143 dB peak | |
| Recommended Amplifiers | LF: 2 Channels ALC-1604D (Bridge Mode)<br>MF & HF: 4 Channels ALC-404D | | | |
| Crossover Frequencies | 530 Hz, 1.84 kHz | | | |

## PHYSICAL

| | |
|---|---|
| Input Connection | Lever-actuated wire clamping 4 and 8-position terminal blocks |
| Mounting Points | (24) M10 rigging inserts |
| Operation Environment | **Indoor and Outdoor**<br>**Outdoor**: IP56 per IEC 60529 when used with the input panel and seal cup cover plates; Weather resistant to IEC 60068-2-1 Cold, IEC 60068-2-2 Dry Heat, IEC 60068-2-6 Vibration, IEC 60068-2-30 Damp Heat, cyclic, IEC 60068-2-42 SO2, and IEC 60068-2-78 Damp Heat, steady state |
| Dimensions H x W x D | 948 mm x 797 mm x 775 mm (37.3" x 31.4" x 30.5") |
| Weight | 113.4 kg (250 lbs) Indoor model<br>95.3 kg (210 lbs) Outdoor weather-resistant model |
| Finish | Refer to the Technical Drawing (page 5) |

## OPTIONS

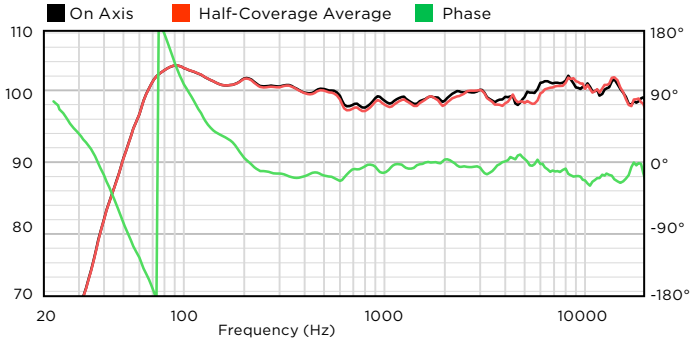
| | |
|---|---|
| Accessories (full list on page 6) | **Splay Bracket:** LVH-900SP1 Type 1; LVH-900SP2 Type 2<br>**Indoor Frames:** LVH-900AF Array frame; LVH-900PB Pull-back; LVH-900UB U-Bracket (single cabinet only)<br>**LVH-900ASPTP:** MF/HF Pass-Thru Panel<br>**3rd party rigging:** Indoor & outdoor |

# Community L SERIES Beamforming Venue Horn

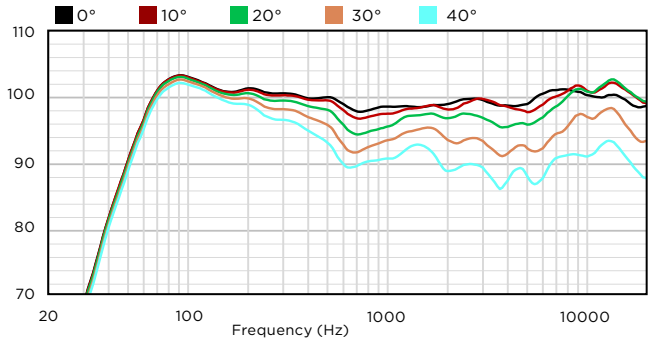
# LVH-906/AS

60° HORIZONTAL DISPERSION, **20° VERT PATTERN**
ACTIVE STANDARD, 20°, 40°, 60° VERTICAL DISPERSION,
ARRAYABLE, HIGH OUTPUT LOUDSPEAKER

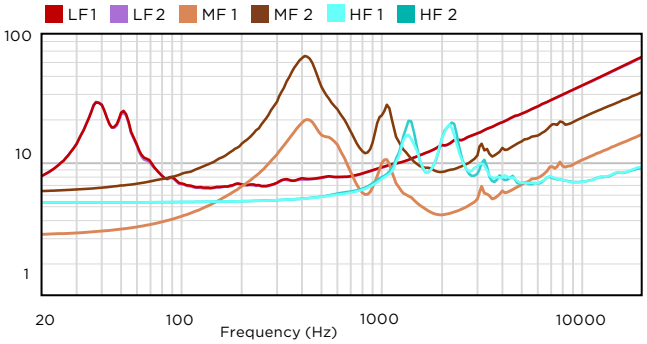
## AXIAL PROCESSED SENSITIVITY (dB SPL)[7]




## HORIZONTAL OFF-AXIS RESPONSE (dB SPL)[8]

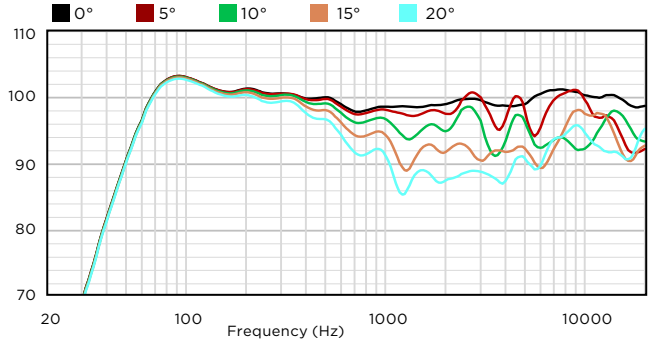



## IMPEDANCE (Ω)

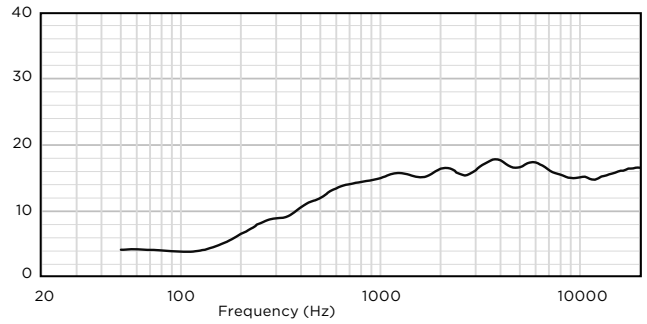



Min Impedance: **(LF 1)** 6.7 Ω @ 140 Hz (LF 2) 6.8 Ω @ 132 Hz
(MF 1) 4.4 Ω @ 1950 Hz, **(MF 2)** 8.7 Ω @ 1950 Hz,
(HF 1) 7.3 Ω @ 5450 Hz, **(HF 2)** 7.2 Ω @ 5450 Hz

## VERTICAL OFF-AXIS RESPONSE (dB SPL)[8]



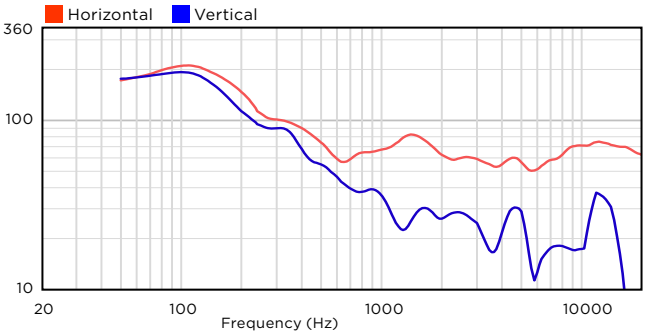

## DIRECTIVITY INDEX (dB)[9]




## SPECIFICATIONS FOR EN54-24 (LVH-906/AS-20°)

| | | |
|---|---|---|
| Sensitivity (1 W, 4 m) | 90 dB | |
| Maximum SPL (4 m) | 118.2 dB | |
| Coverage (-6 dB) Horiz/Vert | 500 Hz: 75°/60°<br>1 kHz: 70°/30° | 2 kHz: 70°/30°<br>4 kHz: 50°/20° |
| Rated Impedance | HF: 8 Ω; MF1: 5 Ω; MF2: 10 Ω; LF: 8 Ω | |

## BEAMWIDTH (degrees)[10]



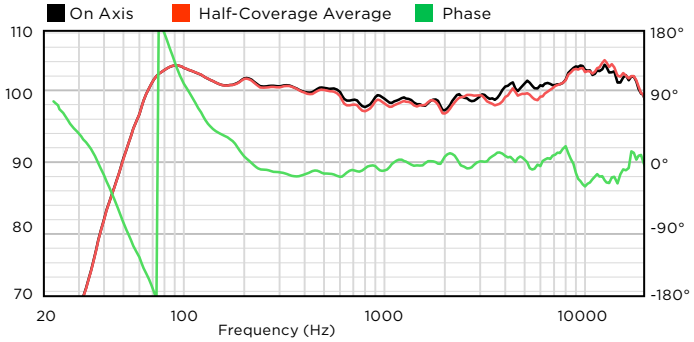

biamp.
A: 9300 S.W. Gemini Drive Beaverton, OR 97008 USA T: +1 503.641.7287 W: www.biamp.com

# Community L SERIES Beamforming Venue Horn

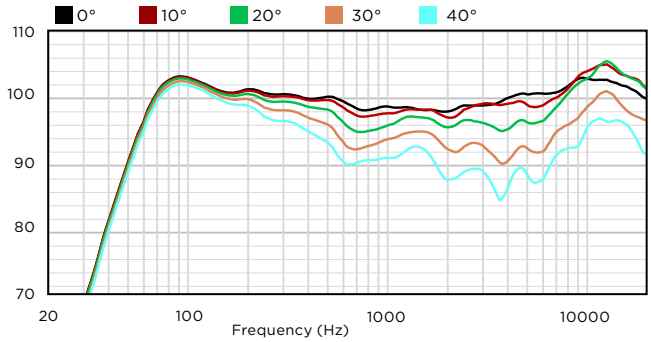
# LVH-906/AS

60° HORIZONTAL DISPERSION, **40° VERT PATTERN**
ACTIVE STANDARD, 20°, 40°, 60° VERTICAL DISPERSION,
ARRAYABLE, HIGH OUTPUT LOUDSPEAKER

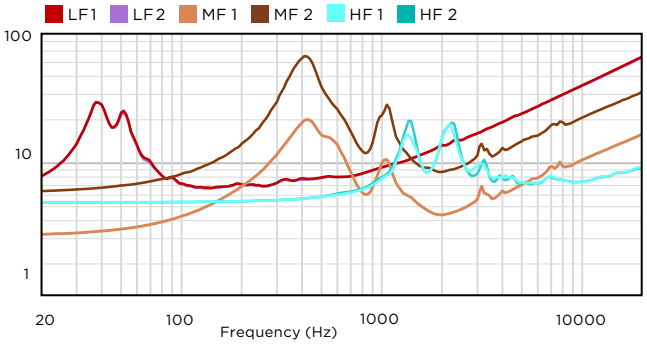
## AXIAL PROCESSED SENSITIVITY (dB SPL)[7]




## HORIZONTAL OFF-AXIS RESPONSE (dB SPL)[8]

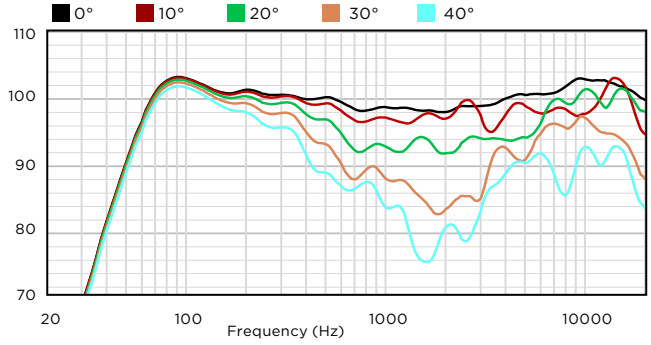



## IMPEDANCE (Ω)

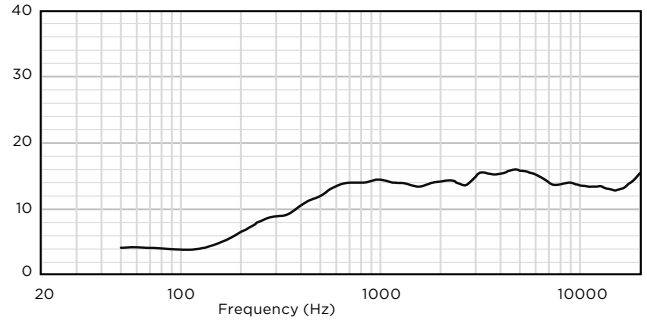



Min Impedance: **(LF 1)** 6.7 Ω @ 140 Hz (LF 2) 6.8 Ω @ 132 Hz
(MF 1) 4.4 Ω @ 1950 Hz, **(MF 2)** 8.7 Ω @ 1950 Hz,
(HF 1) 7.3 Ω @ 5450 Hz, **(HF 2)** 7.2 Ω @ 5450 Hz

## VERTICAL OFF-AXIS RESPONSE (dB SPL)[8]



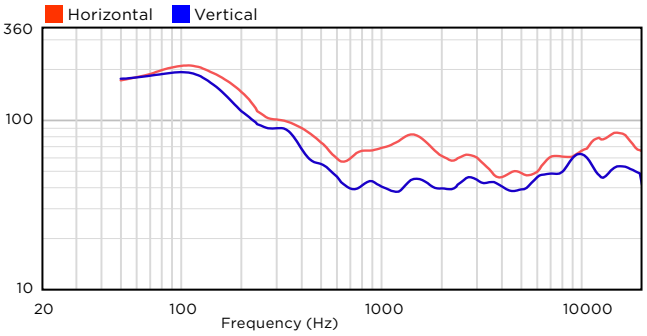

## DIRECTIVITY INDEX (dB)[9]




## SPECIFICATIONS FOR EN54-24 (LVH-906/AS-40°)

| | | |
|---|---|---|
| Sensitivity (1 W, 4 m) | 90 dB | |
| Maximum SPL (4 m) | 118 dB | |
| Coverage (-6 dB) Horiz/Vert | 500 Hz: 75°/60°<br>1 kHz: 70°/45° | 2 kHz: 70°/45°<br>4 kHz: 50°/40° |
| Rated Impedance | HF: 8 Ω; MF1: 5 Ω; MF2: 10 Ω; LF: 8 Ω | |

## BEAMWIDTH (degrees)[10]




biamp.
A: 9300 S.W. Gemini Drive Beaverton, OR 97008 USA T: +1 503.641.7287 W: www.biamp.com

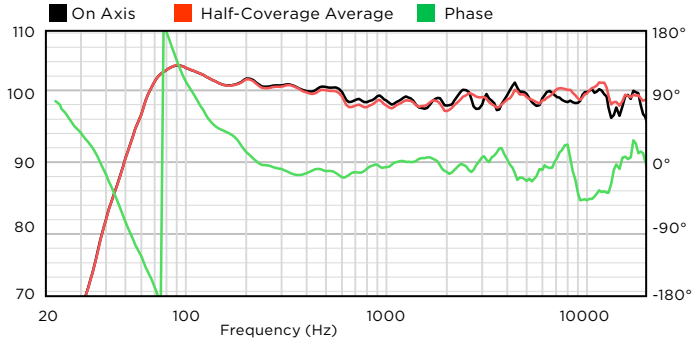
# Community L SERIES Beamforming Venue Horn

# LVH-906/AS

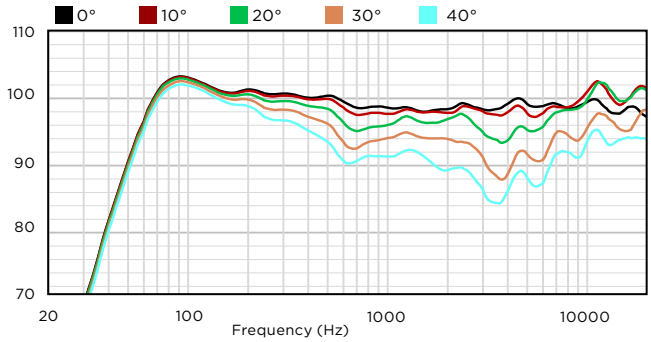
60° HORIZONTAL DISPERSION, ACTIVE STANDARD, 20°, 40°, 60° VERTICAL DISPERSION, ARRAYABLE, HIGH OUTPUT LOUDSPEAKER

**60° VERT PATTERN**

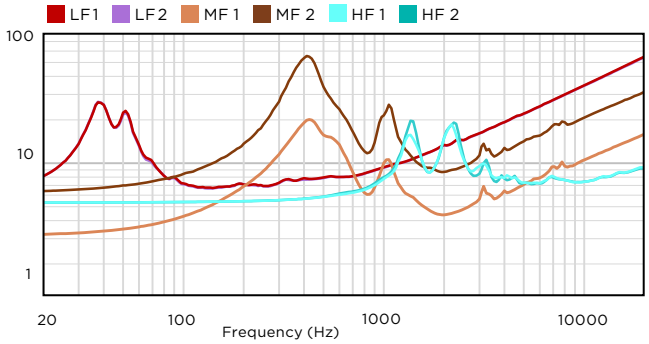
## AXIAL PROCESSED SENSITIVITY (dB SPL)[7]




## HORIZONTAL OFF-AXIS RESPONSE (dB SPL)[8]

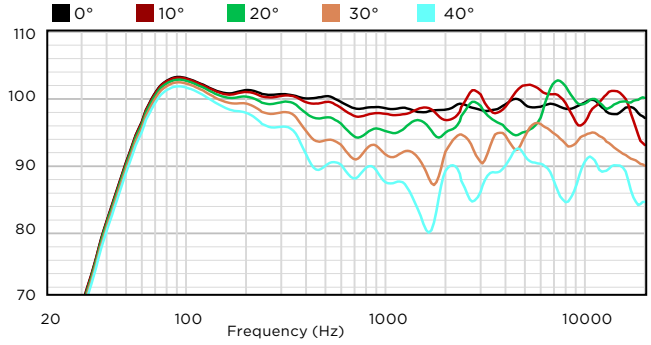



## IMPEDANCE (Ω)

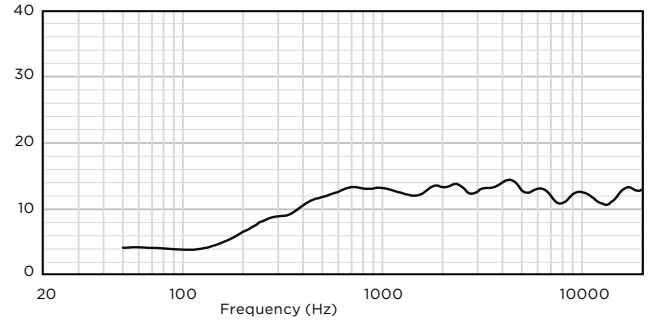



Min Impedance: **(LF 1)** 6.7 Ω @ 140 Hz (LF 2) 6.8 Ω @ 132 Hz
(MF 1) 4.4 Ω @ 1950 Hz, **(MF 2)** 8.7 Ω @ 1950 Hz,
(HF 1) 7.3 Ω @ 5450 Hz, **(HF 2)** 7.2 Ω @ 5450 Hz

## VERTICAL OFF-AXIS RESPONSE (dB SPL)[8]



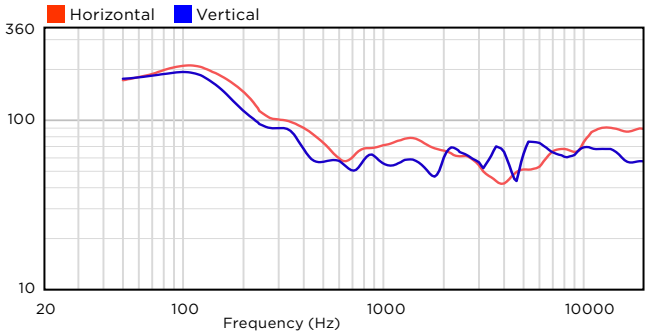

## DIRECTIVITY INDEX (dB)[9]




## SPECIFICATIONS FOR EN54-24 (LVH-906/AS-60°)

| | | |
|---|---|---|
| Sensitivity (1 W, 4 m) | 90 dB | |
| Maximum SPL (4 m) | 117.9 dB | |
| Coverage (-6 dB) Horiz/Vert | 500 Hz: 75°/60°<br>1 kHz: 70°/70° | 2 kHz: 70°/60°<br>4 kHz: 50°/60° |
| Rated Impedance | HF: 8 Ω; MF1: 5 Ω; | MF2: 10 Ω; LF: 8 Ω |

## BEAMWIDTH (degrees)[10]





biamp.

A: 9300 S.W. Gemini Drive Beaverton, OR 97008 USA T: +1 503.641.7287 W: www.biamp.com

# Community L SERIES Beamforming Venue Horn

# LVH-906/AS

**60° HORIZONTAL DISPERSION,
ACTIVE STANDARD, 20°, 40°, 60° VERTICAL DISPERSION,
ARRAYABLE, HIGH OUTPUT LOUDSPEAKER**

## TECHNICAL DRAWING / DIMENSIONS / FINISH

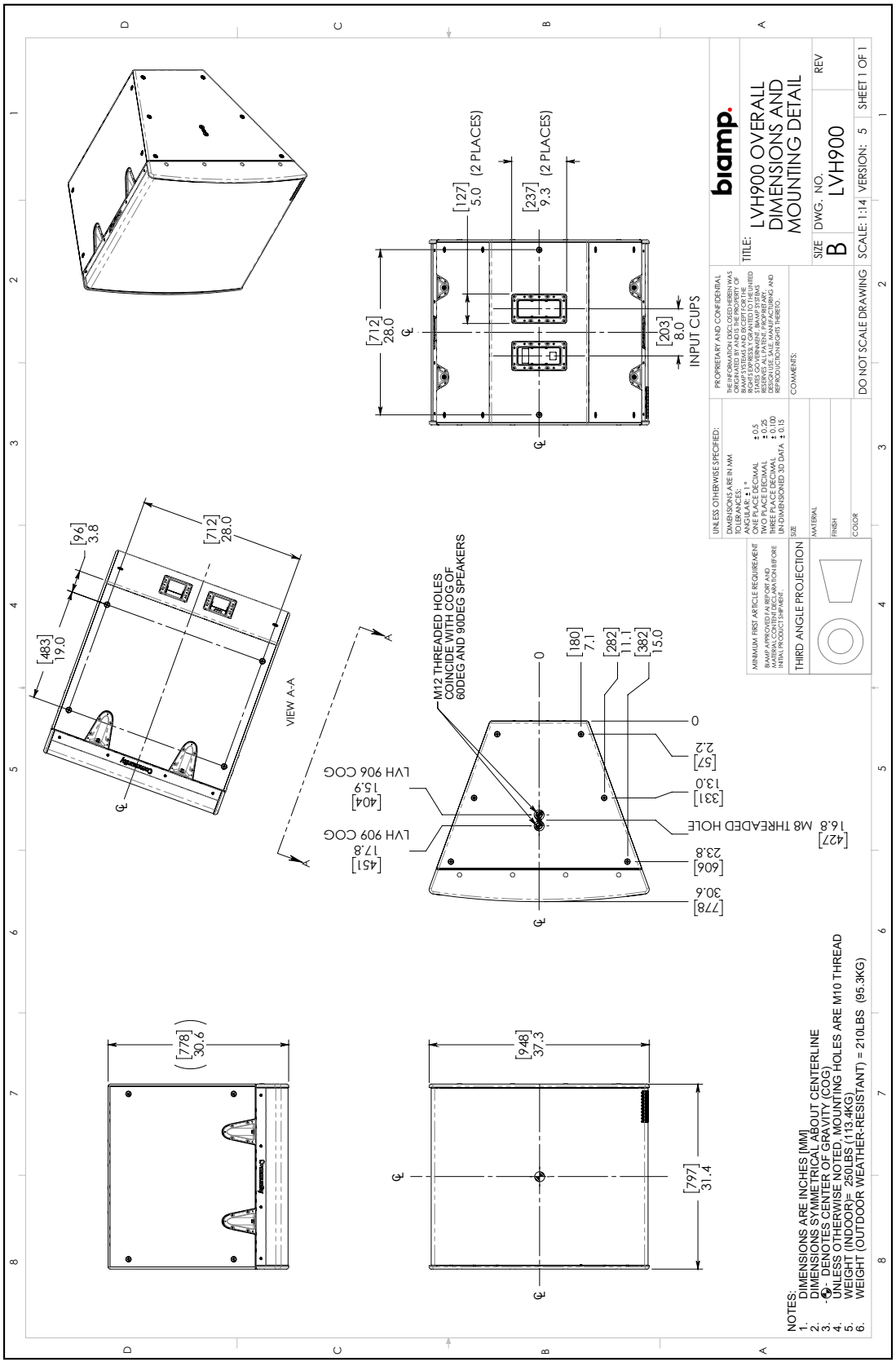
**H x W x D**
37.3" x 31.4" x 30.5"
(948 x 797 x 775 mm)

**Unit Weight**
250 lbs (113.4 kg) (Indoor)
210 lbs (95.3 kg) (Outdoor Weather-resistant)

**Shipping Weight** (on a pallet)
307 lbs ( 139.3 kg) (Indoor)
267 lbs (121 kg) (Outdoor Weather-resistant))

**Enclosure Finish**
**Indoor:** Powder-coated perforated steel (indoor) grille backed with acoustically transparent woven fabric and coated with Biamp's robust PolyCoat finish on 15mm Baltic Birch plywood enclosure

**Outdoor (WR):** Powder-coated marine grade aluminum grille featuring hydrophobically-treated acoustically transparent woven black fabric backing on a 15mm PolyGlas™ enclosure coated with Biamp's durable PolyCoat finish, rated for both indoor and outdoor use



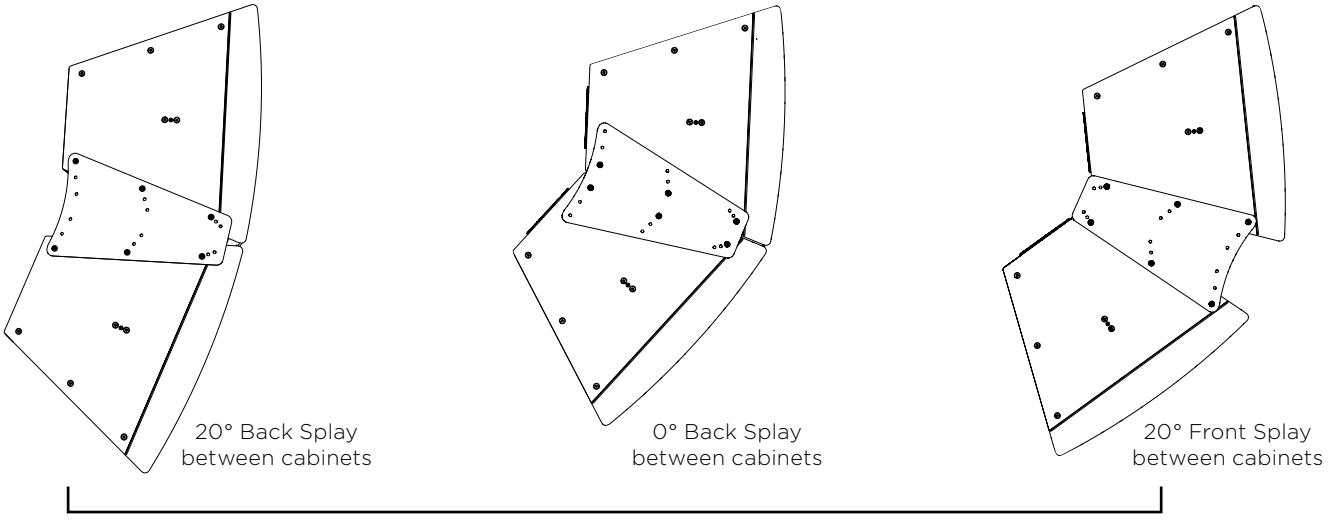

***Note:** Outdoor (WR) versions - There are covers on the seal cups (4) and input panels (2)

# Community L SERIES Beamforming Venue Horn

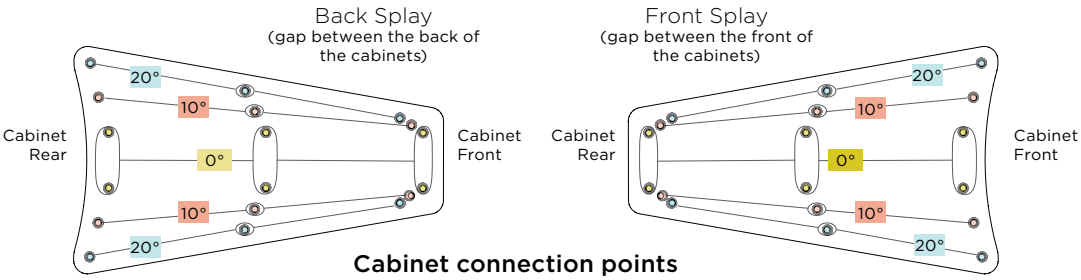
# LVH-906/AS

**60° HORIZONTAL DISPERSION, ACTIVE STANDARD, 20°, 40°, 60° VERTICAL DISPERSION, ARRAYABLE, HIGH OUTPUT LOUDSPEAKER**

## SPLAY BRACKETS / CABINET CONNECTIONS




**Type 1 Splay Bracket**




**Cabinet connection points**
(Type 1 bracket)

## MODELS and ACCESSORIES

| Models | Description |
|---|---|
| LVH-906/ASB | LVH-900 60DEG ACTIVE-STD BLK |
| LVH-906/ASW | LVH-900 60DEG ACTIVE-STD WHT |
| LVH-906WR/ASG | LVH-900WR 60DEG ACTIVE-STD GRY |
| LVH-906WR/ASB | LVH-900WR 60DEG ACTIVE-STD BLK |
| LVH-906WR/ASW | LVH-900WR 60DEG ACTIVE-STD WHT |
| LVH-906C/AS | LVH-900 60DEG ACTIVE-STD CTO |
| LVH-906WRC/AS | LVH-900WR 60DEG ACTIVE-STD CTO |
| LVH-909/ASB | LVH-900 90DEG ACTIVE-STD BLK |
| LVH-909/ASW | LVH-900 90DEG ACTIVE-STD WHT |
| LVH-909WR/ASG | LVH-900WR 90DEG ACTIVE-STD GRY |
| LVH-909WR/ASB | LVH-900WR 90DEG ACTIVE-STD BLK |
| LVH-909WR/ASW | LVH-900WR 90DEG ACTIVE-STD WHT |
| LVH-909C/AS | LVH-900 90DEG ACTIVE-STD CTO |
| LVH-909WRC/AS | LVH-900WR 90DEG ACTIVE-STD CTO |

| Accessories | Description |
|---|---|
| LVH-900AFB | LVH-900 ARRAY FRAME BLK |
| LVH-900AFW | LVH-900 ARRAY FRAME WHT |
| LVH-900PBB | LVH-900 PULL BACK BAR BLK |
| LVH-900PBW | LVH-900 PULL BACK BAR WHT |
| LVH-900UBB | LVH-900 U-BRACKET BLK |
| LVH-900UBW | LVH-900 U-BRACKET WHT |
| LVH-900SP1B | LVH SPLAY PLATE PAIR TYPE1 BLK |
| LVH-900SP1W | LVH SPLAY PLATE PAIR TYPE1 WHT |
| LVH-900SP1G | LVH SPLAY PLATE PAIR TYPE1 GRY |
| LVH-900SP2B | LVH SPLAY PLATE PAIR TYPE2 BLK |
| LVH-900SP2W | LVH SPLAY PLATE PAIR TYPE2 WHT |
| LVH-900SP2G | LVH SPLAY PLATE PAIR TYPE2 GRY |
| LVH-900ASPTP | LVH MF/HF PASS THRU PANEL |

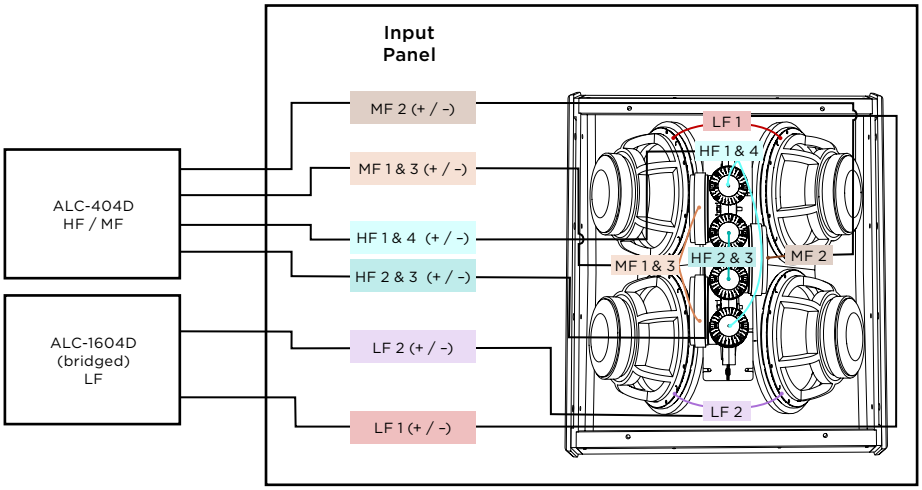

biamp.
A: 9300 S.W. Gemini Drive Beaverton, OR 97008 USA T: +1 503.641.7287 W: www.biamp.com

# Community L SERIES Beamforming Venue Horn

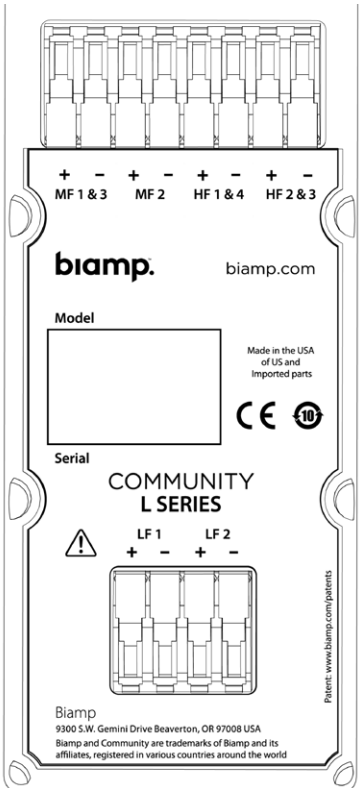
# LVH-906/AS

**60° HORIZONTAL DISPERSION, ACTIVE STANDARD, 20°, 40°, 60° VERTICAL DISPERSION, ARRAYABLE, HIGH OUTPUT LOUDSPEAKER**

## CONNECTION DIAGRAMS




LVH-900/AS (with ALC-404D & ALC-1604D)




Input panel

*Refer to the LVH Installation and Operation Guide for detailed wiring instructions.*

## NOTES

1. **TECHNICAL SPECIFICATIONS** *All measurements are performed using a time-windowed impulse response to eliminate reflections, approximating an anechoic environment, at a distance of at least 6.0 m. All acoustic specifications are rounded to the nearest whole number. An external DSP using settings provided by Biamp is required to achieve the specified performance; further performance gains can be realized using the FIR loudspeaker optimization presets available in Biamp's Community Amplified Loudspeaker Controllers (ALCs).*
2. **OPERATING RANGE** *The frequency range over which the on-axis equalized/processed response remains within 10 dB of the rated sensitivity, in accordance with IEC 60268-5.*
3. **NOMINAL CONTINUOUS POWER HANDLING** *The maximum continuous input voltage at the stated nominal impedance that the system can withstand for a period of 2 hours using an IEC 60268-5 defined spectrum with recommended signal processing and protection filters.*
4. **NOMINAL MAXIMUM SPL** *The SPL produced when an IEC 60268-5 signal is applied to the equalized/processed loudspeaker system, at a level which drives at least one subsection to its nominal continuous voltage limit. Referenced to a distance of 1 meter. The peak SPL represents the 2:1 (6 dB) crest factor of the IEC 60268-5 test signal.*
5. **RATED CONTINUOUS VOLTAGE** *The maximum continuous input voltage for the system that results in no more than a 3 dB change in the system's response during operation.*
6. **RATED MAXIMUM SPL** *The SPL produced when a typical program material signal is applied to the equalized/processed loudspeaker system, at a level which drives at least one subsection to its rated continuous voltage limit. Referenced to a distance of 1 meter. The peak SPL represents the 4:1 (12 dB) crest factor of the program signal.*
7. **AXIAL PROCESSED SENSITIVITY** *The variation in acoustic output level with frequency for a 2.83 V, swept-sine signal using the recommended signal processing. Referenced to 1 meter. The on-axis magnitude and phase responses, as well as the average magnitude response, calculated over one-half of the nominal coverage angles, are shown. The responses have 1/6 octave smoothing applied.*
8. **HORIZONTAL/VERTICAL OFF-AXIS RESPONSES** *The loudspeaker's magnitude response at various off-axis angles using the recommended signal processing in the operating mode which utilizes the largest number of individually amplified pass bands. The responses have 1/3 octave smoothing applied.*
9. **DIRECTIVITY INDEX** *The ratio of the on-axis SPL to the mean SPL at the same distance for all points within the measurement sphere for each given frequency; expressed in dB. The responses have 1/3 octave smoothing applied.*
10. **BEAMWIDTH** *The included angle between the -6 dB points in the polar response of the loudspeaker when driven in the operating mode which utilizes the largest number of individually amplified pass bands. The responses have 1/3 octave smoothing applied.*

Data presented on this spec sheet represents a selection of the basic performance specifications for the model. These specifications are intended to allow the user to perform a fair, straightforward evaluation and comparison with other loudspeaker spec sheets. For a detailed analysis of this loudspeaker's performance, please download the GLL file and/or the CLF file from our website. (LVH-900_GLL)

**CAUTION**: *Installation of loudspeakers should only be performed by trained and qualified personnel. It is strongly recommended that a licensed and certified professional structural engineer approve the mounting design.*