

Community L SERIES LVH-900 A & E Specifications

Community L SERIES LVH-900 A & E Specifications

These A & E specifications are ordered with indoor models first, followed by weather resistant models (noted by a WR in the model name). Please choose the appropriate model for your needs.

LVH-906: The loudspeaker system shall be a triaxial, full-range, sealed-enclosure, multi-amplifier FIR DSP beamforming design incorporating four 12 in. (300 mm) LF drivers with inherently weather-resistant cones, three M200 midrange 2 in. (51 mm) exit compression drivers with ketone polymer diaphragms, and four 1.5 in. (38 mm) ketone polymer diaphragm neodymium compression drivers loaded onto a custom waveguide with a nominal 60° horizontal dispersion. Using patented techniques, all drivers shall integrate into a single unified triaxial waveguide using the Colinear Manifold™ architecture, filling the entire 36 × 31 in. face of the enclosure and providing pattern control to below 400 Hz for single-cabinet configurations and below 200 Hz for multi-cabinet arrays of two or more cabinets. The system shall be fully modular and scalable: any number of LVH-900 cabinets may be physically and acoustically coupled using manufacturer-supplied splay brackets to create a unified steerable array. The loudspeaker shall be acoustically and mechanically capable of integrating into such modular arrays with additional LVH-900 cabinets. All vertical coverage pattern design, inter-cabinet coordination, and FIR filter generation for arrays of any size shall be accomplished using the manufacturer's VenuePolar™ software plugin operating within EASE® Focus 3 (AFMG®) acoustic modeling software. The vertical coverage pattern shall not be limited to fixed, symmetrical presets. The system shall employ Audience-Fitted Coverage Design™: the system designer shall use VenuePolar™ to define the audience seating geometry within EASE® Focus 3, and the software shall automatically calculate and generate all required FIR filter coefficients to shape the loudspeaker's vertical output pattern to conform precisely to that geometry, including fully asymmetric patterns. The coverage pattern may be steered and shaped independently above and below the horizontal axis to match real-world seating configurations including raked floors, balconies, and multi-zone venues. Acoustic avoidance zones (null steering) shall be configurable to direct energy away from ceilings, rear walls, balcony faces, and other non-audience surfaces. No manual filter design shall be required; all beamforming FIR coefficients shall be automatically generated and exported by VenuePolar™ as Armonia+ SPK3 files for direct loading into the amplifier loudspeaker library. The system DSP workflow shall achieve a consistent system latency of less than 6 ms making the system suitable for live performance monitoring, broadcast, and lip-sync critical applications. Automated system equalization shall be integrated into the FIR output; no separate equalization step shall be required. The VenuePolar™/FIRmaker workflow shall support pattern switching between pre-configured coverage presets via Armonia+ software in seconds for multi-purpose venue applications. Each loudspeaker cabinet shall be fitted with two recessed input panels providing lever-actuated wire clamping terminal blocks: one 4-position, one 6-position, and one 8-position block distributed across the LF1/LF2 panel and MF/HF panel. The LF1/LF2 input panel shall incorporate an integrated Amp Channel Selector jumper connector that reconfigures internal driver wiring topology between 6-channel operation (HF and MF drivers wired in pairs; standard configuration) and 9-channel operation (each HF and MF driver addressed independently; maximum beamforming resolution). The selected mode shall be indicated by a permanent visual label on the panel face. The jumper shall be accessible without removing the panel from the cabinet. The cabinet shall incorporate a permanent orientation indicator to unambiguously identify the "up" direction for installation and rigging. This shall be achieved through a physical asymmetry in the input panel assembly (offset panel position) that prevents factory-inverted installation and provides a clear visual orientation cue to installers working at height or in low-light conditions. The loudspeaker

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enclosure shall be 40° trapezoidal in shape. It shall be constructed of a combination of 15 mm and 18 mm thick Finnish birch plywood, finished with a low-gloss, uniformly textured PolyCoat™ paintable coating, and shall be fitted with multiple internal integral aluminum plates on each side that allow connection to aluminum color-matched adjustable rigging hardware. The front of the enclosure shall be fitted with a wraparound powder-coated 1.5 mm perforated steel grille backed with color-matched acoustically transparent woven fabric, with mounting fasteners accessible on the top and bottom of the enclosure. The enclosure shall be fitted with 24 × M10 and 4 × M12 flying/rigging inserts. The vertical splay between cabinets in multi-cabinet arrays shall be adjustable as determined by VenuePolar™ output for the specific installation, accommodating front-splay and back-splay configurations. Splay angle shall be set using manufacturer-supplied splay bracket hardware types SP1 (0°–20° splay) and SP2 (30° splay). The loudspeaker system shall be suitable for indoor applications. The loudspeaker system shall be EN54-24 and ISO 7240-24 certified as a component of voice alarm systems. The system shall have an operating range of 50 Hz to 20 kHz (–10 dB SPL) for single-cabinet installations and 48 Hz to 20 kHz (–10 dB SPL) for multi-cabinet arrays. Each LF driver shall have a nominal impedance of 8 Ohms and an input capability of 87 V. Each MF driver shall have a nominal impedance of 10 Ohms and an input capability of 26 V. Each HF driver shall have a nominal impedance of 16 Ohms and an input capability of 23 V. The crossover frequencies shall be 530 Hz and 1.84 kHz. The system shall be capable of producing the following maximum continuous/peak (IEC 60268-5) on-axis sound pressure levels at 1 meter: Single-cabinet configuration – 136 dB continuous / 142 dB peak; Dual-cabinet array – 140 dB continuous / 146 dB peak; Three-cabinet array – 142 dB continuous (estimated) / 148 dB peak (estimated). Arrays of four or more cabinets shall produce additional SPL gain beyond the three-cabinet figures above; final array performance for any configuration shall be verified through EASE® Focus 3 simulation with VenuePolar™ and confirmed by on-site measurement per ANSI/INFOCOMM 10:2013. The broadband axial sensitivity of a single cabinet shall be 103 dB SPL (1 W, 1 m, averaged between –10 dB points on axis). The horizontal nominal coverage angle shall be 60° (–6 dB). Vertical coverage shall be Audience-Fitted and determined by VenuePolar™ design for the specific installation. The recommended amplifiers shall be the Biamp Community ALC-1604D (bridged, LF channels) and the Biamp Community ALC-404D (MF and HF channels), operating under the Armonia+™ software platform. Minimum amplifier channel count shall be 6 channels per cabinet (6-channel mode, Amp Channel Selector jumper installed) or 9 channels per cabinet (9-channel mode, Amp Channel Selector jumper removed) as specified in the system design. Complete FIR beamforming filter files, loudspeaker voicing presets, crossover coefficients, and protection parameters shall be loaded from the manufacturer's Armonia+ ALC loudspeaker library, generated by VenuePolar™/FIRmaker for the specific installation. The loudspeaker shall be 37.3 in. (948 mm) H × 31.4 in. (797 mm) W × 30.5 in. (775 mm) D, and weigh 250 lbs. (113.4 kg). Available rigging accessories shall include: LVH-900SP1 Splay Bracket Type 1, LVH-900SP2 Splay Bracket Type 2, LVH-900AF Indoor Array Frame, LVH-900PB Indoor Pull-Back Bar, and LVH-900UB U-Bracket (single-cabinet installations only). The loudspeaker shall be the Biamp Community **LVH-906**.

NOTE The LVH-906 is available in black (LVH-906B), white (LVH-906W), and custom/CTO colors (LVH-906C). Weather-resistant variant: see LVH-906WR specification. 90° horizontal model: see LVH-909 specification.

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ORDERING INFORMATION — LVH-900 INDOOR MODELS

Model	Description
LVH-906B	LVH-906, 60° horizontal, indoor — Black
LVH-906W	LVH-906, 60° horizontal, indoor — White
LVH-906C	LVH-906, 60° horizontal, indoor or outdoor — custom color (specify RAL)

RIGGING ACCESSORIES

Model	Description
LVH-900SP1B / W / G	Splay Bracket Type 1 (0°–20° splay) — Black / White / Gray
LVH-900SP2B / W / G	Splay Bracket Type 2 (30° splay) — Black / White / Gray
LVH-900AFB / W	Array Frame, indoor — Black / White
LVH-900PBB / W	Pull-Back Bar, indoor — Black / White
LVH-900UBB / W	U-Bracket (single cabinet only) — Black / White

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LVH-906WR: The loudspeaker system shall be a triaxial, full-range, sealed-enclosure, multi-amplifier FIR DSP beamforming design incorporating four 12 in. (300 mm) LF drivers with inherently weather-resistant cones, three M200 midrange 2 in. (51 mm) exit compression drivers with ketone polymer diaphragms, and four 1.5 in. (38 mm) ketone polymer diaphragm neodymium compression drivers loaded onto a custom waveguide with a nominal 60° horizontal dispersion. Using patented techniques, all drivers shall integrate into a single unified triaxial waveguide using the Colinear Manifold™ architecture, filling the entire 36 × 31 in. face of the enclosure and providing pattern control to below 400 Hz for single-cabinet configurations and below 200 Hz for multi-cabinet arrays of two or more cabinets. The system shall be fully modular and scalable: any number of LVH-900 cabinets may be physically and acoustically coupled using manufacturer-supplied splay brackets to create a unified steerable array. The loudspeaker shall be acoustically and mechanically capable of integrating into such modular arrays with additional LVH-900 cabinets. All vertical coverage pattern design, inter-cabinet coordination, and FIR filter generation for arrays of any size shall be accomplished using the manufacturer's VenuePolar™ software plugin operating within EASE® Focus 3 (AFMG®) acoustic modeling software. The vertical coverage pattern shall not be limited to fixed, symmetrical presets. The system shall employ Audience-Fitted Coverage Design™: the system designer shall use VenuePolar™ to define the audience seating geometry within EASE® Focus 3, and the software shall automatically calculate and generate all required FIR filter coefficients to shape the loudspeaker's vertical output pattern to conform precisely to that geometry, including fully asymmetric patterns. The coverage pattern may be steered and shaped independently above and below the horizontal axis to match real-world seating configurations including raked floors, balconies, and multi-zone venues. Acoustic avoidance zones (null steering) shall be configurable to direct energy away from ceilings, rear walls, balcony faces, and other non-audience surfaces. No manual filter design shall be required; all beamforming FIR coefficients shall be automatically generated and exported by VenuePolar™ as Armonia+ SPK3 files for direct loading into the amplifier loudspeaker library. The system DSP workflow shall achieve a consistent system latency of less than 6 ms making the system suitable for live performance monitoring, broadcast, and lip-sync critical applications. Automated system equalization shall be integrated into the FIR output; no separate equalization step shall be required. The VenuePolar™/FIRmaker workflow shall support pattern switching between pre-configured coverage presets via Armonia+ software in seconds for multi-purpose venue applications. Each loudspeaker cabinet shall be fitted with two recessed input panels providing lever-actuated wire clamping terminal blocks: one 4-position, one 6-position, and one 8-position block distributed across the LF1/LF2 panel and MF/HF panel. The LF1/LF2 input panel shall incorporate an integrated Amp Channel Selector jumper connector that reconfigures internal driver wiring topology between 6-channel operation (HF and MF drivers wired in pairs; standard configuration) and 9-channel operation (each HF and MF driver addressed independently; maximum beamforming resolution). The selected mode shall be indicated by a permanent visual label on the panel face. The jumper shall be accessible without removing the panel from the cabinet. The cabinet shall incorporate a permanent orientation indicator to unambiguously identify the "up" direction for installation and rigging. This shall be achieved through a physical asymmetry in the input panel assembly (offset panel position) that prevents factory-inverted installation and provides a clear visual orientation cue to installers working at height or in low-light conditions. The loudspeaker enclosure shall be 40° trapezoidal in shape. It shall be constructed of 15 mm and 18 mm thick PolyGlas, thermally stable, dense structural-grade composite panels embedded with dual layers of fiberglass cloth, finished with a dual-layer finish of heavy exterior-grade paint and a UV-resistant top coat, and shall be fitted with multiple internal integral aluminum plates on each side that allow connection to aluminum color-matched adjustable rigging hardware. The front of the enclosure shall be fitted with a wraparound powder-coated 1.5 mm perforated marine-grade aluminum grille backed with hydrophobically treated

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acoustically transparent woven fabric, with 316 stainless steel mounting fasteners accessible on the top and bottom of the enclosure. The included aluminum input panel covers shall each provide 2 × 1 in. (25.4 mm) diameter holes for user-fitted watertight gland nuts or conduit fittings and shall provide a sealed connection to the recessed input panels. The enclosure shall be fitted with 24 × M10 and 4 × M12 flying/rigging inserts, all constructed of 316 stainless steel and water-sealed with miniature o-ring gaskets. The vertical splay between cabinets in multi-cabinet arrays shall be adjustable as determined by VenuePolar™ output for the specific installation. Splay angle shall be set using manufacturer-supplied splay bracket hardware types SP1 (0°–20° splay) and SP2 (30° splay). The loudspeaker system shall be suitable for indoor or outdoor direct-exposure applications. The enclosure shall meet IEC 60529 IP56 protection rating when installed with the supplied aluminum input panel covers and user-fitted watertight gland nuts or conduit fittings. The system shall comply with 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). The loudspeaker system shall be EN54-24 and ISO 7240-24 certified as a component of voice alarm systems. The system shall have an operating range of 50 Hz to 20 kHz (–10 dB SPL) for single-cabinet installations and 48 Hz to 20 kHz (–10 dB SPL) for multi-cabinet arrays. Each LF driver shall have a nominal impedance of 8 Ohms and an input capability of 87 V. Each MF driver shall have a nominal impedance of 10 Ohms and an input capability of 26 V. Each HF driver shall have a nominal impedance of 16 Ohms and an input capability of 23 V. The crossover frequencies shall be 530 Hz and 1.84 kHz. The system shall be capable of producing the following maximum continuous/peak (IEC 60268-5) on-axis sound pressure levels at 1 meter: Single-cabinet configuration – 136 dB continuous / 142 dB peak; Dual-cabinet array – 140 dB continuous / 146 dB peak; Three-cabinet array – 142 dB continuous (estimated) / 148 dB peak (estimated). Arrays of four or more cabinets shall produce additional SPL gain beyond the three-cabinet figures above; final array performance for any configuration shall be verified through EASE® Focus 3 simulation with VenuePolar™ and confirmed by on-site measurement per ANSI/INFOCOMM 10:2013. The broadband axial sensitivity of a single cabinet shall be 103 dB SPL (1 W, 1 m, averaged between –10 dB points on axis). The horizontal nominal coverage angle shall be 60° (–6 dB). Vertical coverage shall be Audience-Fitted and determined by VenuePolar™ design for the specific installation. The recommended amplifiers shall be the Biamp Community ALC-1604D (bridged, LF channels) and the Biamp Community ALC-404D (MF and HF channels), operating under the Armonia+™ software platform. Minimum amplifier channel count shall be 6 channels per cabinet (6-channel mode, Amp Channel Selector jumper installed) or 9 channels per cabinet (9-channel mode, Amp Channel Selector jumper removed) as specified in the system design. Complete FIR beamforming filter files, loudspeaker voicing presets, crossover coefficients, and protection parameters shall be loaded from the manufacturer's Armonia+ ALC loudspeaker library, generated by VenuePolar™/FIRmaker for the specific installation. The loudspeaker shall be 37.3 in. (948 mm) H × 31.4 in. (797 mm) W × 30.5 in. (775 mm) D, and weigh 210 lbs. (95.3 kg). Available rigging accessories shall include: LVH-900SP1 Splay Bracket Type 1, LVH-900SP2 Splay Bracket Type 2. The loudspeaker shall be the Biamp Community **LVH-906WR**.

NOTE The LVH-906WR is rated IP56 per IEC 60529 when installed with manufacturer-supplied input panel covers and user-provided 3/4" NPT watertight gland nuts or conduit fittings. Available in gray (LVH-906WRG), black (LVH-906WRB), white (LVH-906WRW), and custom/CTO colors (LVH-906WRC). Use structural-grade stainless hardware for all outdoor rigging in accordance with NFPA 70 and applicable local codes.

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ORDERING INFORMATION — LVH 906 OUTDOOR / WEATHER RESISTANT MODELS

Model	Description
LVH-906WRB	LVH-906, 60° horizontal, outdoor / WR — Black
LVH-906WRW	LVH-906, 60° horizontal, outdoor / WR — White
LVH-906WRG	LVH-906, 60° horizontal, outdoor / WR — Gray
LVH-906C	LVH-906, 60° horizontal, indoor or outdoor — custom color (specify RAL)

Model	Description
LVH-900SP1B / W / G	Splay Bracket Type 1 (0°–20° splay) — Black / White / Gray
LVH-900SP2B / W / G	Splay Bracket Type 2 (30° splay) — Black / White / Gray

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LVH-909: The loudspeaker system shall be a triaxial, full-range, sealed-enclosure, multi-amplifier FIR DSP beamforming design incorporating four 12 in. (300 mm) LF drivers with inherently weather-resistant cones, three M200 midrange 2 in. (51 mm) exit compression drivers with ketone polymer diaphragms, and four 1.5 in. (38 mm) ketone polymer diaphragm neodymium compression drivers loaded onto a custom waveguide with a nominal 90° horizontal dispersion. Using patented techniques, all drivers shall integrate into a single unified triaxial waveguide using the Colinear Manifold™ architecture, filling the entire 36 × 31 in. face of the enclosure and providing pattern control to below 400 Hz for single-cabinet configurations and below 200 Hz for multi-cabinet arrays of two or more cabinets. The system shall be fully modular and scalable: any number of LVH-900 cabinets may be physically and acoustically coupled using manufacturer-supplied splay brackets to create a unified steerable array. The loudspeaker shall be acoustically and mechanically capable of integrating into such modular arrays with additional LVH-900 cabinets. All vertical coverage pattern design, inter-cabinet coordination, and FIR filter generation for arrays of any size shall be accomplished using the manufacturer's VenuePolar™ software plugin operating within EASE® Focus 3 (AFMG®) acoustic modeling software. The vertical coverage pattern shall not be limited to fixed, symmetrical presets. The system shall employ Audience-Fitted Coverage Design™: the system designer shall use VenuePolar™ to define the audience seating geometry within EASE® Focus 3, and the software shall automatically calculate and generate all required FIR filter coefficients to shape the loudspeaker's vertical output pattern to conform precisely to that geometry, including fully asymmetric patterns. The coverage pattern may be steered and shaped independently above and below the horizontal axis to match real-world seating configurations including raked floors, balconies, and multi-zone venues. Acoustic avoidance zones (null steering) shall be configurable to direct energy away from ceilings, rear walls, balcony faces, and other non-audience surfaces. No manual filter design shall be required; all beamforming FIR coefficients shall be automatically generated and exported by VenuePolar™ as Armonia+ SPK3 files for direct loading into the amplifier loudspeaker library. The system DSP workflow shall achieve a consistent system latency of less than 6 ms (via Time Traveler FIR optimization), making the system suitable for live performance monitoring, broadcast, and lip-sync critical applications. Automated system equalization shall be integrated into the FIR output; no separate equalization step shall be required. The VenuePolar™/FIRmaker workflow shall support pattern switching between pre-configured coverage presets via Armonia+ software in seconds for multi-purpose venue applications. Each loudspeaker cabinet shall be fitted with two recessed input panels providing lever-actuated wire clamping terminal blocks: one 4-position, one 6-position, and one 8-position block distributed across the LF1/LF2 panel and MF/HF panel. The LF1/LF2 input panel shall incorporate an integrated Amp Channel Selector jumper connector that reconfigures internal driver wiring topology between 6-channel operation (HF and MF drivers wired in pairs; standard configuration) and 9-channel operation (each HF and MF driver addressed independently; maximum beamforming resolution). The selected mode shall be indicated by a permanent visual label on the panel face. The jumper shall be accessible without removing the panel from the cabinet. The cabinet shall incorporate a permanent orientation indicator to unambiguously identify the "up" direction for installation and rigging. This shall be achieved through a physical asymmetry in the input panel assembly (offset panel position) that prevents factory-inverted installation and provides a clear visual orientation cue to installers working at height or in low-light conditions. The loudspeaker enclosure shall be 40° trapezoidal in shape. It shall be constructed of 15 mm thick exterior-grade Finnish birch plywood, finished with a low-gloss, uniformly textured PolyCoat™ paintable coating, and shall be fitted with multiple internal integral aluminum plates on each side that allow connection to aluminum color-matched adjustable rigging hardware. The front of the enclosure shall be fitted with a wraparound powder-coated 1.5 mm perforated steel grille backed with color-matched acoustically transparent woven fabric, with mounting fasteners accessible on the top and bottom of the enclosure. The enclosure shall be fitted with 24 × M10 and 4 × M12 flying/rigging inserts. The vertical splay between cabinets in multi-cabinet arrays shall be adjustable as determined by VenuePolar™ output for the specific installation, accommodating front-splay and back-splay configurations. Splay angle shall be set using manufacturer-supplied splay bracket hardware types SP1 (0°–20° splay) and SP2 (15°–30° splay). The loudspeaker system shall be suitable for indoor applications. The loudspeaker system shall be EN54-24 and ISO 7240-24 certified as a component of

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voice alarm systems. The system shall have an operating range of 50 Hz to 20 kHz (–10 dB SPL) for single-cabinet installations and 50 Hz to 20 kHz (–10 dB SPL) for multi-cabinet arrays. Each LF driver shall have a nominal impedance of 8 Ohms and an input capability of 87 V. Each MF driver shall have a nominal impedance of 5 Ohms and an input capability of 26 V. Each HF driver shall have a nominal impedance of 8 Ohms and an input capability of 23 V. The crossover frequencies shall be 530 Hz and 1.84 kHz. The system shall be capable of producing the following maximum continuous/peak (IEC 60268-5) on-axis sound pressure levels at 1 meter: Single-cabinet configuration – 134 dB continuous / 140 dB peak; Dual-cabinet array – 139 dB continuous / 145 dB peak; Three-cabinet array – 142 dB continuous (estimated) / 148 dB peak (estimated). Arrays of four or more cabinets shall produce additional SPL gain beyond the three-cabinet figures above; final array performance for any configuration shall be verified through EASE® Focus 3 simulation with VenuePolar™ and confirmed by on-site measurement per ANSI/INFOCOMM 10:2013. The broadband axial sensitivity of a single cabinet shall be 101 dB SPL (1 W, 1 m, averaged between –10 dB points on axis). The horizontal nominal coverage angle shall be 90° (–6 dB). Vertical coverage shall be Audience-Fitted and determined by VenuePolar™ design for the specific installation. The recommended amplifiers shall be the Biamp Community ALC-1604D (bridged, LF channels) and the Biamp Community ALC-404D (MF and HF channels), operating under the Armonia+™ software platform. Minimum amplifier channel count shall be 6 channels per cabinet (6-channel mode, Amp Channel Selector jumper installed) or 9 channels per cabinet (9-channel mode, Amp Channel Selector jumper removed) as specified in the system design. Complete FIR beamforming filter files, loudspeaker voicing presets, crossover coefficients, and protection parameters shall be loaded from the manufacturer's Armonia+ ALC loudspeaker library, generated by VenuePolar™/FIRmaker for the specific installation. The loudspeaker shall be 37.3 in. (948 mm) H × 31.4 in. (797 mm) W × 30.5 in. (775 mm) D, and weigh 250 lbs. (113.4 kg). Available rigging accessories shall include: LVH-900SP1 Splay Bracket Type 1, LVH-900SP2 Splay Bracket Type 2, LVH-900AF Indoor Array Frame, LVH-900PB Indoor Pull-Back Bar, and LVH-900UB U-Bracket (single-cabinet installations only). The loudspeaker shall be the Biamp Community **LVH-909**.

ORDERING INFORMATION — LVH 909 INDOOR MODELS

Model	Description
LVH-909B	LVH-909, 90° horizontal, indoor — Black
LVH-909W	LVH-909, 90° horizontal, indoor — White
LVH-909C	LVH-90, 90° horizontal, indoor or outdoor — custom color (specify RAL)

Model	Description
LVH-900SP1B / W / G	Splay Bracket Type 1 (0°–20° splay) — Black / White / Gray
LVH-900SP2B / W / G	Splay Bracket Type 2 (30° splay) — Black / White / Gray
LVH-900AFB / W	Array Frame, indoor — Black / White
LVH-900PBB / W	Pull-Back Bar, indoor — Black / White
LVH-900UBB / W	U-Bracket (single cabinet only) — Black / White

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LVH-909WR: The loudspeaker system shall be a triaxial, full-range, sealed-enclosure, multi-amplifier FIR DSP beamforming design incorporating four 12 in. (300 mm) LF drivers with inherently weather-resistant cones, three M200 midrange 2 in. (51 mm) exit compression drivers with ketone polymer diaphragms, and four 1.5 in. (38 mm) ketone polymer diaphragm neodymium compression drivers loaded onto a custom waveguide with a nominal 90° horizontal dispersion. Using patented techniques, all drivers shall integrate into a single unified triaxial waveguide using the Colinear Manifold™ architecture, filling the entire 36 × 31 in. face of the enclosure and providing pattern control to below 400 Hz for single-cabinet configurations and below 200 Hz for multi-cabinet arrays of two or more cabinets. The system shall be fully modular and scalable: any number of LVH-900 cabinets may be physically and acoustically coupled using manufacturer-supplied splay brackets to create a unified steerable array. The loudspeaker shall be acoustically and mechanically capable of integrating into such modular arrays with additional LVH-900 cabinets. All vertical coverage pattern design, inter-cabinet coordination, and FIR filter generation for arrays of any size shall be accomplished using the manufacturer's VenuePolar™ software plugin operating within EASE® Focus 3 (AFMG®) acoustic modeling software. The vertical coverage pattern shall not be limited to fixed, symmetrical presets. The system shall employ Audience-Fitted Coverage Design™: the system designer shall use VenuePolar™ to define the audience seating geometry within EASE® Focus 3, and the software shall automatically calculate and generate all required FIR filter coefficients to shape the loudspeaker's vertical output pattern to conform precisely to that geometry, including fully asymmetric patterns. 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The cabinet shall incorporate a permanent orientation indicator to unambiguously identify the "up" direction for installation and rigging. This shall be achieved through a physical asymmetry in the input panel assembly (offset panel position) that prevents factory-inverted installation and provides a clear visual orientation cue to installers working at height or in low-light conditions. The loudspeaker enclosure shall be 40° trapezoidal in shape. It shall be constructed of 15 mm and 18 mm thick thermally stable, dense structural-grade composite panels embedded with dual layers of fiberglass cloth, finished with a dual-layer finish of heavy exterior-grade paint and a UV-resistant top coat, and shall be fitted with multiple internal integral aluminum plates on each side that allow connection to aluminum color-matched adjustable rigging hardware. The front of the enclosure shall be fitted with a wraparound powder-coated 1.5 mm perforated marine-grade aluminum grille backed with hydrophobically treated acoustically transparent woven fabric, with 316 stainless steel mounting fasteners accessible on the top and bottom of the enclosure. The included aluminum input panel covers shall each provide 2 × 1 in. (25.4 mm) diameter holes for user-fitted watertight gland nuts or conduit fittings and shall provide a sealed connection to the recessed input panels. The enclosure shall be fitted with 24 × M10 and 4 × M12 flying/rigging inserts, all constructed of 316 stainless steel and water-sealed with miniature o-ring gaskets. The vertical splay between cabinets in multi-cabinet

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arrays shall be adjustable as determined by VenuePolar™ output for the specific installation. Splay angle shall be set using manufacturer-supplied splay bracket hardware types SP1 (0°–20° splay) and SP2 (15°–30° splay). The loudspeaker system shall be suitable for indoor or outdoor direct-exposure applications. The enclosure shall meet IEC 60529 IP56 protection rating when installed with the supplied aluminum input panel covers and user-fitted watertight gland nuts or conduit fittings. The system shall comply with 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). The loudspeaker system shall be EN54-24 and ISO 7240-24 certified as a component of voice alarm systems. The system shall have an operating range of 50 Hz to 20 kHz (–10 dB SPL) for single-cabinet installations and 48 Hz to 20 kHz (–10 dB SPL) for multi-cabinet arrays. Each LF driver shall have a nominal impedance of 8 Ohms and an input capability of 87 V. Each MF driver shall have a nominal impedance of 5 Ohms and an input capability of 26 V. Each HF driver shall have a nominal impedance of 8 Ohms and an input capability of 23 V. The crossover frequencies shall be 530 Hz and 1.84 kHz. The system shall be capable of producing the following maximum continuous/peak (IEC 60268-5) on-axis sound pressure levels at 1 meter: Single-cabinet configuration – 134 dB continuous / 140 dB peak; Dual-cabinet array – 139 dB continuous / 145 dB peak; Three-cabinet array – 142 dB continuous (estimated) / 148 dB peak (estimated). Arrays of four or more cabinets shall produce additional SPL gain beyond the three-cabinet figures above; final array performance for any configuration shall be verified through EASE® Focus 3 simulation with VenuePolar™ and confirmed by on-site measurement per ANSI/INFOCOMM 10:2013. The broadband axial sensitivity of a single cabinet shall be 101 dB SPL (1 W, 1 m, averaged between –10 dB points on axis). The horizontal nominal coverage angle shall be 90° (–6 dB). Vertical coverage shall be Audience-Fitted and determined by VenuePolar™ design for the specific installation. The recommended amplifiers shall be the Biamp Community ALC-1604D (bridged, LF channels) and the Biamp Community ALC-404D (MF and HF channels), operating under the Armonia+™ software platform. Minimum amplifier channel count shall be 6 channels per cabinet (6-channel mode, Amp Channel Selector jumper installed) or 9 channels per cabinet (9-channel mode, Amp Channel Selector jumper removed) as specified in the system design. Complete FIR beamforming filter files, loudspeaker voicing presets, crossover coefficients, and protection parameters shall be loaded from the manufacturer's Armonia+ ALC loudspeaker library, generated by VenuePolar™/FIRmaker for the specific installation. The loudspeaker shall be 37.3 in. (948 mm) H × 31.4 in. (797 mm) W × 30.5 in. (775 mm) D, and weigh 210 lbs. (95.3 kg). Available rigging accessories shall include: LVH-900SP1 Splay Bracket Type 1, LVH-900SP2 Splay Bracket Type 2. The loudspeaker shall be the Biamp Community **LVH-909WR**.

NOTE The LVH-909WR is rated IP56 per IEC 60529 when installed with manufacturer-supplied input panel covers and user-provided 3/4" NPT watertight gland nuts or conduit fittings. Use structural-grade stainless hardware for all outdoor rigging in accordance with NFPA 70 and applicable local codes.

ORDERING INFORMATION — LVH 909WR OUTDOOR / WEATHER RESISTANT MODELS

Model	Description
LVH-909WRG	LVH-909WR, 90° horizontal, outdoor / WR — Gray
LVH-909WRB	LVH-909WR, 90° horizontal, outdoor / WR — Black
LVH-909WRW	LVH-909WR, 90° horizontal, outdoor / WR — White
LVH-909C	LVH-90, 90° horizontal, indoor or outdoor — custom color (specify RAL)

Model	Description
LVH-900SP1B / W / G	Splay Bracket Type 1 (0°–20° splay) — Black / White / Gray
LVH-900SP2B / W / G	Splay Bracket Type 2 (30° splay) — Black / White / Gray

Appendix

PERFORMANCE SUMMARY & SPECIFICATION GLOSSARY

PUBLISHED & ESTIMATED ARRAY SPL LVH-906 & LVH-909

Configuration	LVH-906 Continuous	LVH-906 Peak	LVH-909 Continuous	LVH-909 Peak
Single cabinet (1×)	136 dB	142 dB	134 dB	140 dB
Dual-cabinet array (2×)	140 dB	146 dB	139 dB	145 dB
Three-cabinet array (3×) ¹	142 dB (est.)	148 dB (est.)	142 dB (est.)	148 dB (est.)
Four+ cabinet arrays	Contact Biamp LSG	—	Contact Biamp LSG	—

¹ Three-cabinet array SPL values are engineering estimates derived from the published single- and dual-cabinet figures using established acoustic array coupling principles (partial-coherence model). Three independent calculation methods converge on these values. Final deployed performance for any array configuration shall be confirmed by EASE® Focus 3 simulation with VenuePolar™ and on-site measurement per ANSI/INFOCOMM 10:2013.

SPECIFICATION SUMMARY

Audience-Fitted Coverage Design™

The Biamp term for the LVH-900's software-driven vertical coverage pattern methodology. Unlike fixed-preset or symmetric beam-steering systems, the vertical pattern is custom-shaped to conform precisely to the audience seating geometry as defined by the designer in VenuePolar™. Fully asymmetric patterns are supported.

VenuePolar™

The custom plugin by Biamp for EASE® Focus 3 (AFMG®) acoustic modeling software. VenuePolar enables the system designer to define audience geometry and automatically calculates all FIR beamforming filter coefficients, generates SPK3 files for Armonia+, and manages coverage coordination for any number of LVH-900 cabinets treated as a single unified loudspeaker system.

FIRmaker

The Biamp integrated EASE Focus 3 tool for generating optimized FIR filter coefficients with less than 6 ms latency via Time Traveler processing. Used downstream of VenuePolar™ in the automated design workflow.

Armonia+™

The Biamp loudspeaker management software for ALC amplifiers. All FIR beamforming presets, system EQ, crossover coefficients, and protection parameters are loaded directly from the Armonia+ ALC loudspeaker library using SPK3 files generated by VenuePolar™/FIRmaker.

Colinear Manifold™

Patented acoustic architecture from Biamp that integrates all LF, MF, and HF drivers into a single unified waveguide spanning the full 36 × 31 in. face of the enclosure. Produces a coherent, single-point-source wavefront at all frequencies and listening distances.

Amp Channel Selector

An integrated jumper connector on the LF1/LF2 input panel that reconfigures internal driver wiring between 6-channel (standard) and 9-channel (maximum resolution) topologies without rewiring. The active mode is indicated by a permanent panel label.

6-Channel Mode

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Standard amplification configuration (Amp Channel Selector jumper installed). HF and MF drivers are wired in pairs. Requires 6 amplifier channels per cabinet. Recommended for the majority of installations.

9-Channel Mode

High-resolution amplification configuration (Amp Channel Selector jumper removed). Each HF and MF driver is individually amplified. Requires 9 amplifier channels per cabinet. Provides maximum beamforming steering resolution and is required for all dual-cabinet array configurations.

SageVue

Network management platform from Biamp. Supports device discovery, configuration profiles, event-scheduled pattern switching, fault reporting, and coordinated firmware updates for LVH-900 arrays.

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

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