R SERIES

R6-51 BIAMP

HIGH OUTPUT, HORN-LOADED, THREE-WAY
WEATHER-RESISTANT BIAMP LOUDSPEAKER

APPLICATIONS

Stadiums and Arenas • Racing Tracks • Concerts
Fairgrounds • Multipurpose Outdoor Venues

DESCRIPTION

The R6-51 Biamp is a full-range three-way loudspeaker system engineered to provide quality full-range long throw sound projection in a variety of outdoor and indoor applications. It is designed for extreme weather resistance, and can withstand long-term exposure to tough environmental conditions.

The R6-51 Biamp is constructed with premium components in a biamp format to maximally optimize its performance. It uses 1" exit titanium diaphragm HF compression drivers that provide excellent HF extension. The system is configured for biamplification for an active crossover for the LF to MF/HF sections and has a passive crossover for the MF to HF sections. The six high power 12" LF drivers feature weather-treated cones with Ferrofluid cooled motors for extreme durability and performance in all weather conditions.

The R6-51 Biamp has a very high output, wide range, smooth frequency response, and its high efficiency ensures both high fidelity music reproduction and superb projection of clear intelligible speech with very low distortion. This makes it ideal for applications requiring high impact, long projection full-range performance.

FEATURES

- Designed to meet the needs of today's sporting venues for long throw sound projection
- Fiberglass enclosure with integrated mounting points
- Large format 1" exit HF, high output M200 mid-range, and high output LF drivers
- Good pattern control to below 200 Hz

TECHNICAL SPECIFICATIONS[1]			
Operating Mode	Biamp with DSP		
Operating Environment	Outdoor		
Operating Range[2]	48 Hz to 17 kHz		
Nominal Beamwidth (H x V)	50° x 10°		
Transducers	LF 6 x 12" weather-treated cones with 2" voice coils, Ferrofluid cooled motors MF 6 x 2" exit, M200 compression, non-metallic diaphragm HF 6 x 1" exit compression, titanium diaphragm		
Continuous Power Handling[3] @ Nominal Impedance	LF MF/HF	69V 60V	1200W @ 4 ohms (4800W peak) 450W @ 8 ohms (1800W peak)
Nominal Sensitivity[4]		@ 1W	@ 2.83V
	LF	107 dB	110 dB
	MF/HF	114 dB	114 dB
Nominal Maximum SPL[5] (Whole Space)		Peak	Continuous
	LF	144 dB	138 dB
	MF/HF	147 dB	141 dB
Equalized Sensitivity[6]	System	@ 1W 107 dB	@ 2.83V 110 dB
Equalized Maximum SPL[7]	System	Peak 144 dB	Continuous 138 dB
Recommended Amplifiers	LF MF/HF	1200W - 2400W @ 4 ohms, (69V - 98V) 450W - 900W @ 8 ohms (60V - 85V)	
PHYSICAL			
Input Connection	(2) 16-2 SJOW 12' (3.7 kg)		
Mounting Points	(4) 1/2-13 rigging points, (10) 5/16" flange holes		
Environmental	IP55 per IEC 60529, conforms with MIL-STD-810G		
Weight	344 lbs (156.0 kg) loudspeaker only		
Dimensions H x W x D	49.0" x 37.0" x 43.5" (1245 x 940 x 1105 mm)		
Finish	Hand-laminated fiberglass, light grey gelcoat		
OPTIONS			
Accessories	Pan-tilt frame available from Polar Focus		
Configure-to-Order (CTO)	Custom color, cable gauge and length		

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

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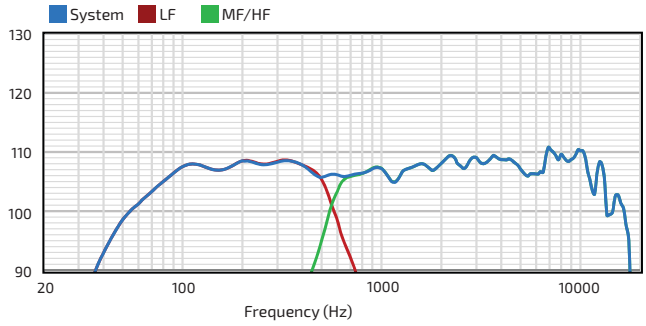
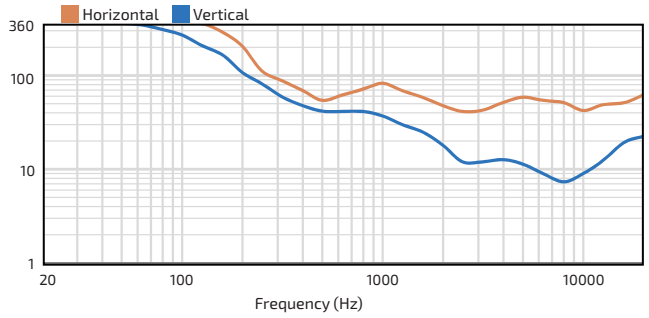
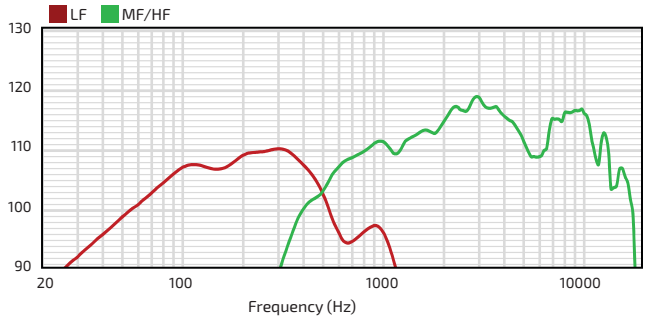
AXIAL PROCESSED RESPONSE (dB)[8]



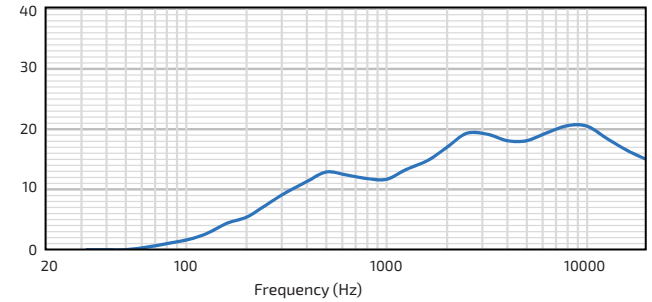
BEAMWIDTH (Degrees)[10]



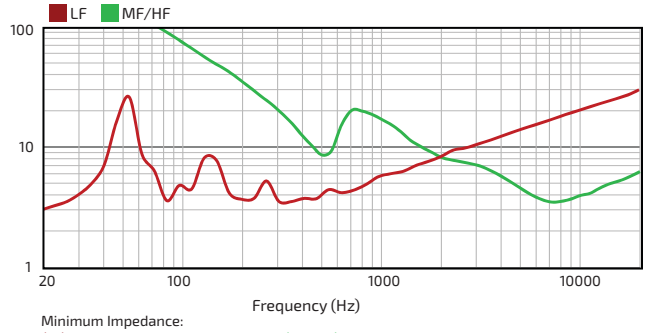
AXIAL SENSITIVITY (dB SPL)[9]



DIRECTIVITY INDEX (dB)[11]



IMPEDANCE (Ohms)



Minimum Impedance:
(LF) 20-1000 Hz = 3.6 ohms @ 80 Hz, **(MF/HF)** 300-16000 Hz = 3.5 ohms @ 7100 Hz

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TECHNICAL DRAWING / DIMENSIONS / FINISH

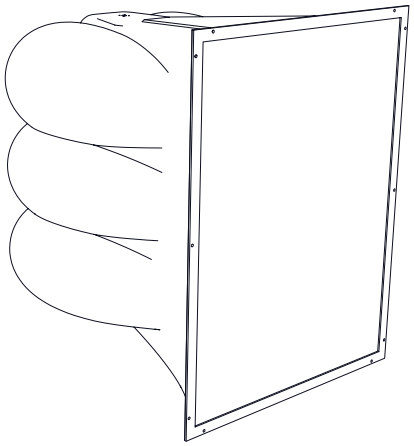
H x W x D
49.0" x 37.0" x 43.5"
(1245 x 940 x 1105 mm)

Unit Weight
344 lbs (156.0 kg) loudspeaker only

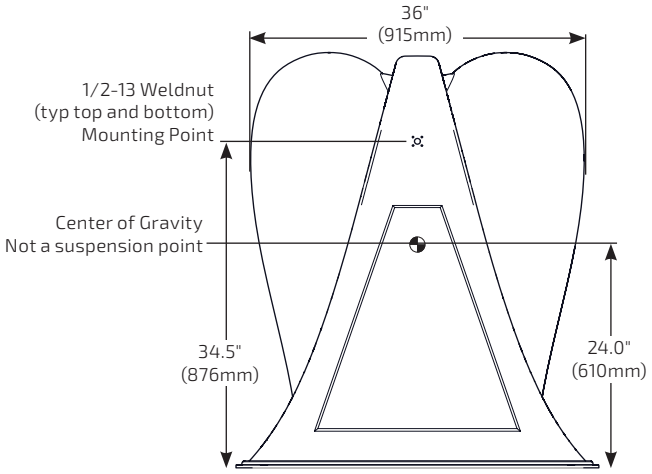
Shipping Weight
436 lbs (197.8 kg)

Grille:
3-layer Weather-Stop™ with polyester mesh, open cell foam, and zinc-rich epoxy dual-layer powder-coated perforated 16ga. steel grille, color-matched to enclosure

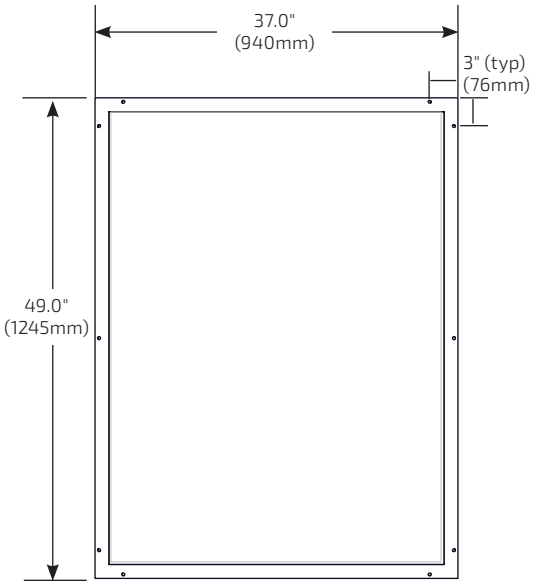
Enclosure
Hand-laminated multilayer fiberglass with black gelcoat on interior and grey gelcoat on exterior surfaces



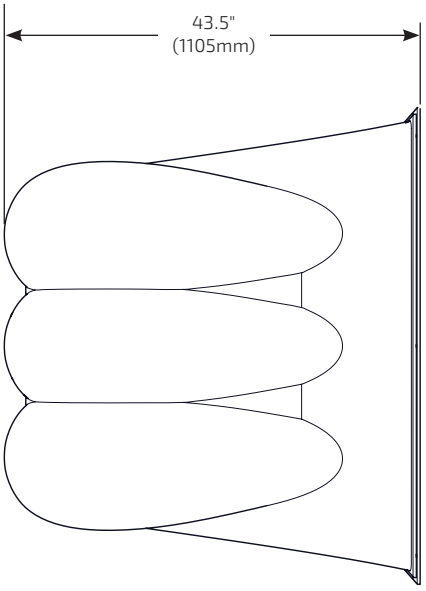
Isometric



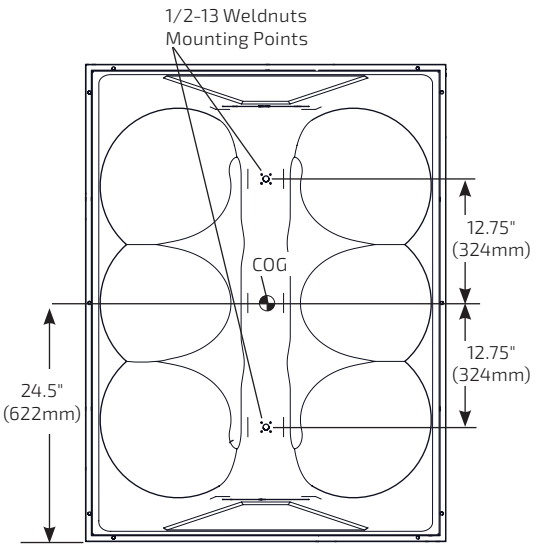
Top



Front



Sides



Rear

Notes:
- Cabinets are hand-laminated and measurements vary slightly due to the thickness of the fiberglass. Dimensions shown should not be used to fabricate hanging fixtures.
- Front flange holes at edge of grille are typically 0.3125" (7.9mm) diameter and 0.75" (19mm) from the outside edge.

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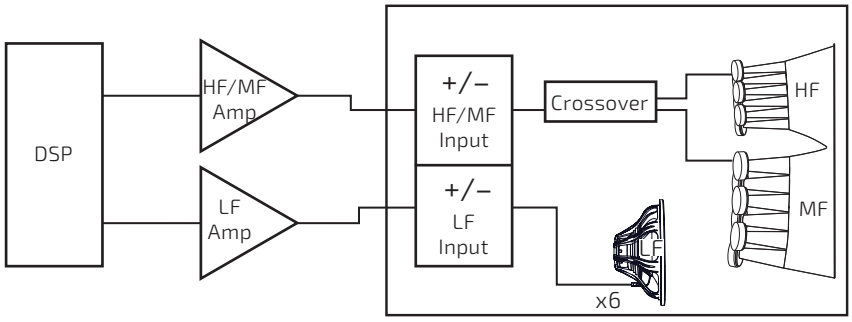
CONNECTION DIAGRAMS



Three-way biamp

ARCHITECTURAL SPECIFICATIONS

The loudspeaker system shall be a horn-loaded, three-way, full-range triaxial design with six 12" Ferrofluid-cooled woofers, six 2" exit Ferrofluid-cooled midrange compression drivers with non-metallic diaphragms, and six 1" exit HF drivers with titanium diaphragms. Drivers shall be connected to an integral crossover with crossover frequencies of 600 Hz (bi-amp) and 4 kHz (passive). The input connection shall be two 16-2 12-foot (3.6m) SJOW cables with stripped ends, one for LF and one for HF/MF. The loudspeaker enclosure shall be an integral double-wall weather-sealed gray fiberglass enclosure with a three-layer weather-resistant grille. The grille shall have dual-layer powder-coated 16 gauge perforated steel backed by open cell foam and woven poly mesh. There shall be four 1/2 - 13 integral threaded mounting points. The system shall have an operating range of 48 Hz to 17 kHz, LF input capability of 69V RMS, LF sensitivity of 107 dB at 1W/1m, 110 dB at 2.83V and 4 ohms nominal impedance; MF/HF input capability of 60V RMS, MF/HF sensitivity of 114 dB at 1W/1m or 2.83V and 8 ohms nominal impedance. The nominal dispersion shall be 50°H x 10°V from 1.6 kHz to 16 kHz. The loudspeaker shall be 49.0 in. (1245 mm) H x 37.0 in. (940 mm) W x 43.5 in. (1105 mm) D and weigh 344 lbs. (156.0 kg).

NOTES

1. *PERFORMANCE SPECIFICATIONS All measurements are taken indoor using a time-windowed and processed signal to eliminate room effects, approximating an anechoic environment, a distance of 6.0 m. All acoustic specifications are rounded to the nearest whole number. An external DSP with settings provided by Community Professional Loudspeakers is required to achieve the specified performance; further performance gains can be realized using Community's dSPEC226 loudspeaker processor with FIR power response optimization.*
2. *OPERATING RANGE The frequency range in which the on-axis processed response remains within 10dB of the average SPL.*
3. *CONTINUOUS POWER HANDLING Maximum continuous input voltage (and the equivalent power rating, in watts, at the stated nominal impedance) that the system can withstand, without damage, for a period of 2 hours using an EIA-426-B defined spectrum; with recommended signal processing and protection filters.*
4. *NOMINAL SENSITIVITY Averaged SPL over the operating range with an input voltage that would produce 1 Watt at the nominal impedance and the averaged SPL over the operating range with a fixed input voltage of 2.83V, respectively; swept sine wave axial measurements with no external processing applied in whole space, except where indicated.*
5. *NOMINAL MAXIMUM SPL Calculated based on nominal / peak power handling, respectively, and nominal sensitivity; exclusive of power compression.*
6. *EQUALIZED SENSITIVITY The respective SPL levels produced when an EIA-426-B signal is applied to the equalized loudspeaker system at a level which produces a total power of 1 Watt, in sum, to the loudspeaker subsections and also at a level which produces a total voltage, in sum, of 2.83V to the loudspeaker subsections, respectively; each referenced to a distance of 1 meter.*
7. *EQUALIZED MAXIMUM SPL The SPL produced when an EIA-426-B signal is applied to the equalized loudspeaker system, at a level which drives at least one subsection to its rated continuous input voltage limit, referenced to a distance of 1 meter. The peak SPL represents the 2:1 (6dB) crest factor of the EIA-426-B test signal.*
8. *AXIAL PROCESSED RESPONSE The on-axis variation in acoustic output level with frequency of the complete loudspeaker system with recommended signal processing applied. 1/6 octave Gaussian smoothing applied.*
9. *AXIAL SENSITIVITY The on-axis variation in acoustic output level with frequency for a 1 Watt swept sine wave, referenced to 1 meter with no signal processing. 1/6 octave Gaussian smoothing applied.*
10. *BEAMWIDTH The angle between the -6dB points in the polar response of the loudspeaker when driven in the operating mode which utilizes the largest number of individually amplified pass bands. 1/6 octave Gaussian smoothing applied.*
11. *DIRECTIVITY INDEX The ratio of the on-axis SPL squared to the mean squared SPL at the same distance for all points within the measurement sphere for each given frequency; expressed in dB. 1/6 octave Gaussian 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: communitypro.com

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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.