

R SERIES

R6-51MAX

VERY HIGH OUTPUT, EXTENDED RESPONSE,
TRIAMP WEATHER-RESISTANT LOUDSPEAKER


APPLICATIONS

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

DESCRIPTION

The R6-51MAX is a three-way full-range loudspeaker system engineered to provide "No Compromises" premium music reproduction at very high output levels, and also improves voice projection and intelligibility capabilities. It is designed with the same materials and construction as the standard R6-51 for extreme weather resistance, and can withstand long-term exposure to tough environmental conditions.

The R6-51MAX is constructed with premium components in a triamp format to maximally optimize its performance. It uses very high sensitivity 1" HF compression drivers that provide extended HF response and a balanced frequency response with the rest of the system. Operated with a high crossover frequency, the large HF drivers maintain very high headroom, delivering effortless performance. The six high power high excursion LF drivers feature high flux neodymium motors with demodulation rings for extended response and low distortion performance. The midrange high performance M200HP 2" exit compression drivers, achieve higher output while maintaining extremely low distortion.

Tri-amplification provides improved optimization for each driver band and improved vertical directivity consistency. The R6-51MAX is an extremely capable system using an innovative all horn-loaded design of multiple driver vertical line arrays. The resulting output and coverage pattern is ideal for applications requiring high impact, long throw full-range performance.

FEATURES

- 40% longer throw distance capability to meet the needs of today's sporting venues
- Exceptional sound quality and intelligibility at very high output levels
- Very high sensitivity HF drivers for improved balanced response and extension
- High power, high excursion LF drivers extend LF response and increase output

TECHNICAL SPECIFICATIONS¹

Operating Mode	Triamp with DSP		
Operating Environment	Outdoor		
Operating Range²	44 Hz to 17.5 kHz		
Nominal Beamwidth (H x V)	50° x 10°		
Transducers	LF 6 x 12" inherently weather-resistant cones with 3" voice coil, neodymium motor and demodulation ring MF 6 x 2" exit, M200HP compression, 3.5" diaphragm, 2.2" Voice coil, high temp non-metallic diaphragm HF 6 x 1" exit compression, 1.7" voice coil, demodulation ring, ketone polymer diaphragm		
Continuous Power Handling³ @ Nominal Impedance	LF MF HF	120V 60V 51V	3600W @ 4 ohms (14400W peak) 450W @ 8 ohms (1800W peak) 660W @ 4 ohms (2640W peak)
Nominal Sensitivity⁴	LF MF HF	@ 1W 107 dB 116 dB 115 dB	@ 2.83V 110 dB 116 dB 118 dB
Nominal Maximum SPL⁵ (Whole Space)	LF MF HF	Peak 149 dB 148 dB 150 dB	Continuous 143 dB 142 dB 144 dB
Equalized Sensitivity⁶	System	@ 1W 108 dB	@ 2.83V 111 dB
Equalized Maximum SPL⁷	System	Peak 150 dB	Continuous 144 dB
Recommended Amplifiers	LF MF HF	3600W - 7200W @ 4 ohms, (120V - 170V) 450W - 900W @ 8 ohms, (60V - 85V) 660W - 1320W @ 4 ohms (51V - 73V)	

PHYSICAL

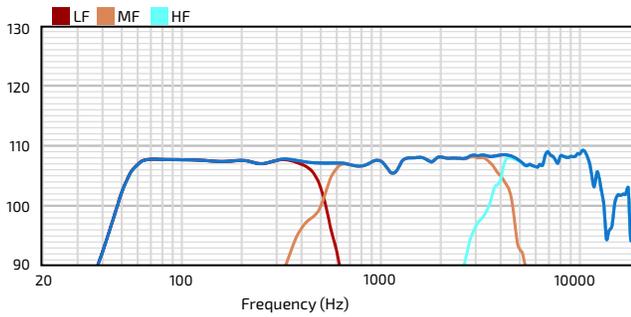
Input Connection	(3) 16-2 SJOW 12' (3.7 m)
Mounting Points	(4) 1/2-13 rigging points for third party suspension systems, (10) 5/16" flange holes for supplemental support (not suspension)
Environmental	IP55 per IEC 60529, conforms with MIL-STD-810G
Weight	326 lbs (147.9 kg) loudspeaker only
Dimensions 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

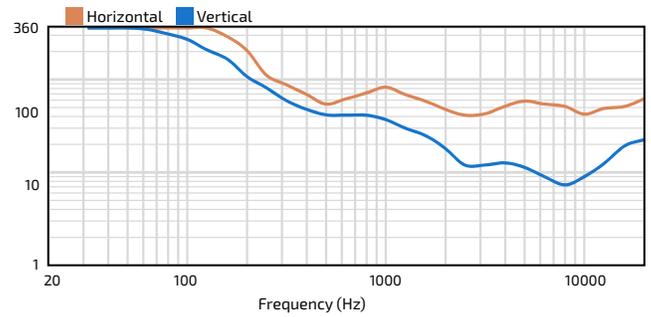
Accessories	Pan-tilt frame available from Polar Focus
Configure-to-Order (CTO)	Custom color; Custom cable gauge and length

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

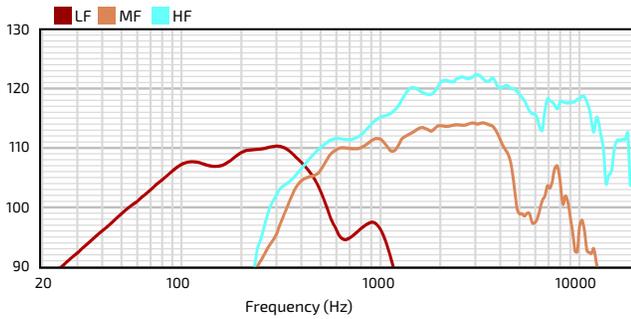
AXIAL PROCESSED RESPONSE (dB)⁸



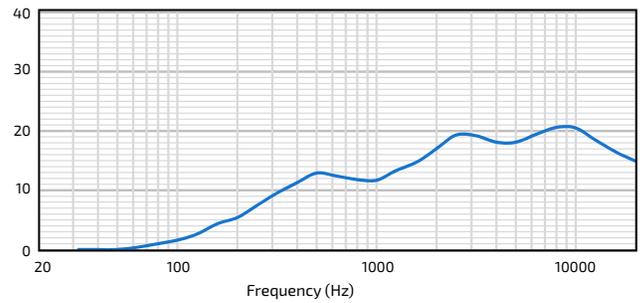
BEAMWIDTH (Degrees)¹⁰



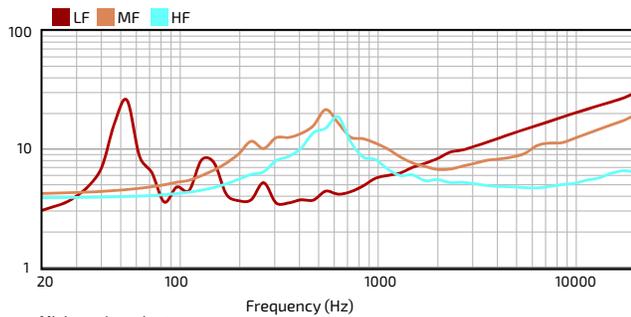
AXIAL SENSITIVITY (dB SPL)⁹



DIRECTIVITY INDEX (dB)¹¹



IMPEDANCE (Ohms)



Minimum Impedance:
(LF) 3.6 ohms @ 80 Hz, (MF) 6.7 ohms @ 1900 Hz, (HF) 4.7 ohms @ 6320 Hz

TECHNICAL DRAWING / DIMENSIONS / FINISH

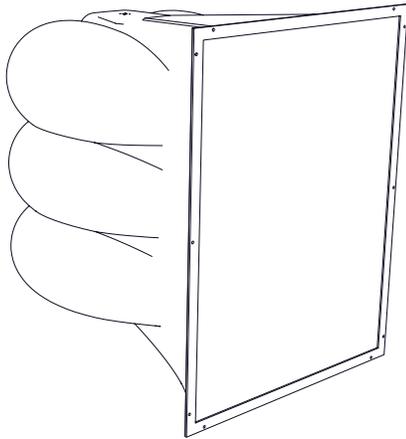
H x W x D
49.0" x 37.0" x 43.5"
(1245 x 940 x 1105 mm)

Unit Weight
326 lbs (147.9 kg) loudspeaker only

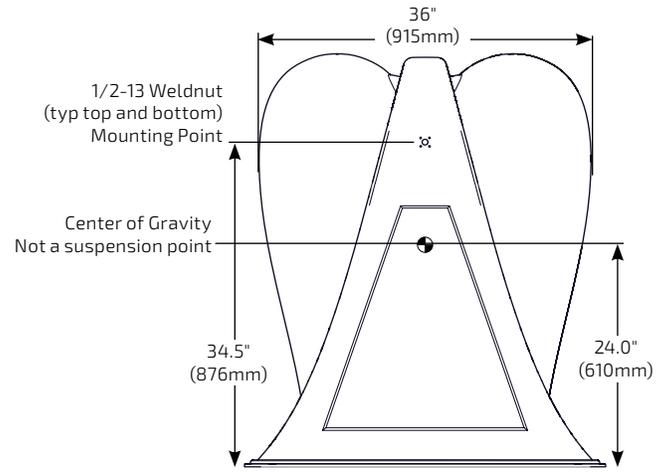
Shipping Weight
418 lbs (189.6 kg)

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

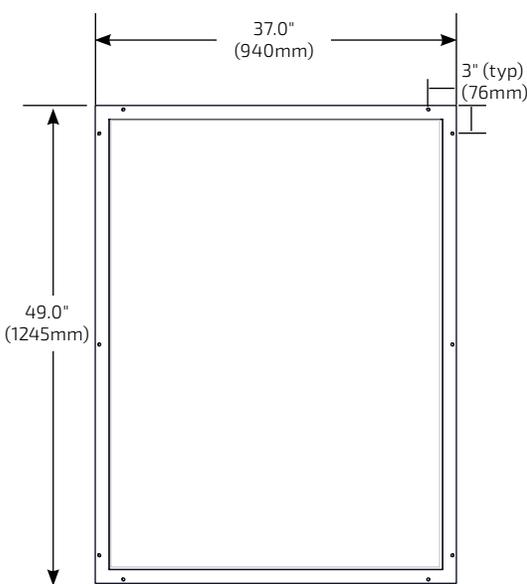
Enclosure
Hand-laminated multilayer fiberglass with black gelcoat on interior and grey gelcoat on exterior surfaces



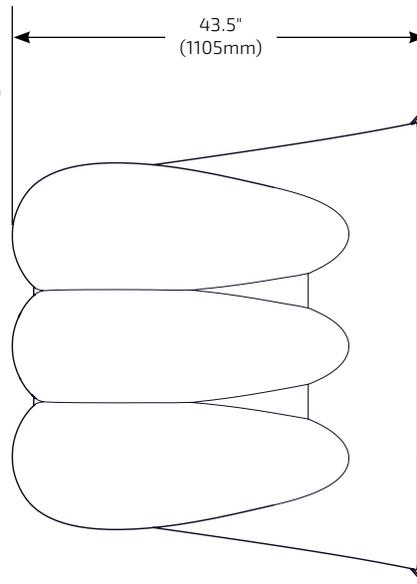
Isometric



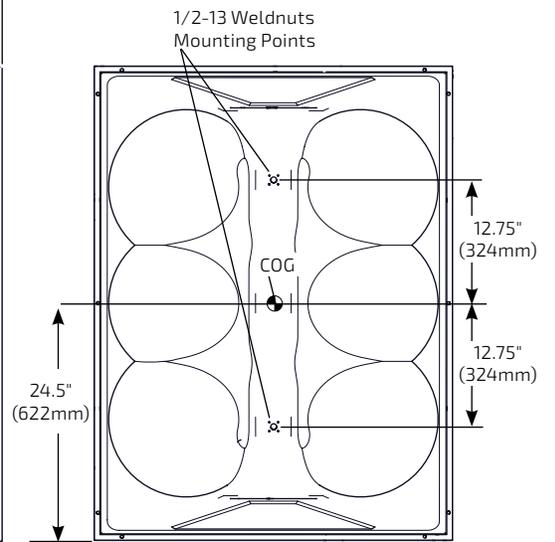
Top



Front



Sides



Rear

Notes:

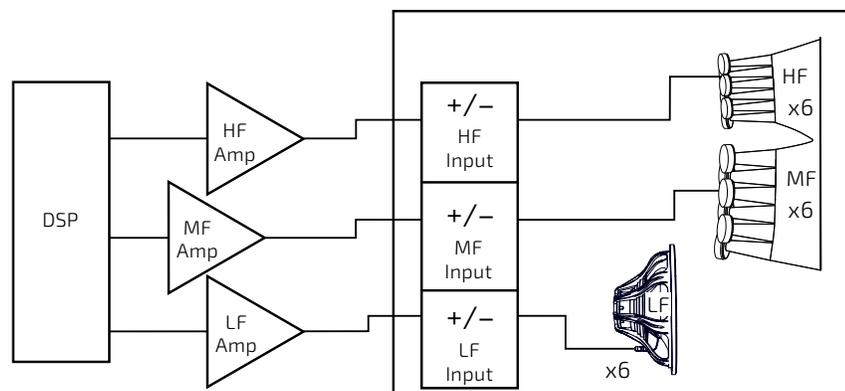
- Cabinets are hand-laminated and measurements vary slightly due to the thickness of the fiberglass. Dimensions shown should not be used to fabricate hanging fixtures.
- Front flange holes at edge of grille are typically 0.3125" (7.9mm) diameter and 0.75" (19mm) from the outside edge.

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CONNECTION DIAGRAMS



Three-way single amp

ARCHITECTURAL SPECIFICATIONS

The system shall be a weather-resistant horn-loaded triamp full-range triaxial design with six 12" neodymium LF drivers, six high performance mid-range 2" exit compression drivers, and six 1" exit high sensitivity HF compression drivers. The input connection shall be three 16-2 12-foot (3.6m) SJOW cables with stripped ends, one each for LF, MF and HF. 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 polyester mesh. There shall be four 1/2-13 integral threaded mounting points. The system shall have an operating range of 44 Hz to 17.5 kHz, and 108 dB sensitivity at 1 Watt/1 meter. Nominal impedance shall be 4 ohms for the low and high frequency connections and 8 ohms for the mid frequency connection. The nominal dispersion shall be 50° H x 10° V. 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 326 lbs. (147.9 kg).

NOTES

- 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.
- OPERATING RANGE** The frequency range in which the on-axis processed response remains within 10dB of the average SPL.
- 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.
- 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.
- NOMINAL MAXIMUM SPL** Calculated based on nominal / peak power handling, respectively, and nominal sensitivity; exclusive of power compression.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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