Community
Application Solutions

R6-51-EN BIAMP

THREE-WAY HORN-LOADED, TYPE B,
HIGH OUTPUT, BI-AMPED LOUDSPEAKER

SPECIFICATIONS (EN54-24 Compliant)

	Specifications to meet EN54-24 requirements	Standard Specifications
Loudspeaker Type:	3-way horn loaded triaxial, weather-resistant	3-way horn loaded triaxial, weather-resistant
Operating Range (-10dB):	50Hz to 16kHz	50 Hz to 16 kHz
Rated Noise Power:	LF - 600W continuous, 3000W peak 49volts RMS, EN54-24 100 hr. test, 6dB crest factor) 110 volts momentary peak MF/HF - 225W continuous, 1125W peak 30volts RMS, EN54-24 100 hr. test, 6dB crest factor) 67 volts momentary peak	LF - 1200W continuous, 6000W peak 69 volts RMS, 155 volts momentary peak MF/HF - 450W continuous, 2250W peak 60 volts RMS, 134 volts momentary peak
Broadband Sensitivity (1W/1m):	LF - 102.5 dB SPL (100Hz to 630Hz 1/3 octave bands) MF/HF - 106.4 dB SPL (630Hz to 10kHz 1/3 octave bands)	LF - 109 dB SPL (50 Hz - 630 Hz 1/3 octave bands) MF/HF - 113 dB SPL (630 Hz - 16 kHz 1/3 octave bands, no EQ applied, nominal average impedance) 114 dB SPL (250 Hz - 4 kHz speech range)
(1W/4m):	LF - 90 dB SPL (100Hz to 630Hz 1/3 octave bands) MF/HF - 94 dB SPL (630Hz to 10kHz 1/3 octave bands)	Not Applicable
Maximum Average Output (1m):	130.0 dB (EN54-24 frequency response requirements applied, 100 hr. rated noise power applied, EN54-24 Broadband Sensitivity)	138 dB SPL (no EQ, 2 hr. rated noise power applied, Standard Broadband Sensitivity)
(4m):	118.0 dB (EN54-24 frequency response requirements applied, 100 hr. rated noise power applied, EN54-24 Broadband Sensitivity)	Not Applicable
Maximum Peak Output (1m):	136.0 dB (EN54-24 frequency response requirements applied, 100 hr. rated noise power applied, EN54-24 Broadband Sensitivity, 6dB crest factor momentary peak)	144dB SPL (no EQ, 2 hr. rated momentary peak noise power applied, Standard Broadband Sensitivity)
Nominal Impedance:	LF - 4 ohms (to satisfy EN54-24 criteria) MF/HF - 4 ohms (to satisfy EN54-24 criteria)	LF - 4 ohms (nominal average impedance) MF/HF - 8 ohms (nominal average impedance)
Minimum Impedance:	LF - 3.4 ohms @ 320 Hz MF/HF - 3.5 ohms @7500 Hz	LF - 3.4 ohms @ 320 Hz MF/HF - 3.5 ohms @7500 Hz
Crossover Frequency:	600 Hz (electronic) / 4 kHz (passive)	600 Hz (bi-amp) / 4 kHz (passive)
Drivers:	LF - 6 x 12" weather-treated, Ferrofluid-cooled MF - 6 x M200 2" exit, non-metallic diaphragm, HF - 6 x 1" exit, titanium diaphragm	LF - 6 x 12" weather-treated, Ferrofluid-cooled MF - 6 x M200 2" exit, non-metallic diaphragm, HF - 6 x 1" exit, titanium diaphragm
Driver Protection:	None	None
Input Connection:	(2) 16-2 SJOW (12 ft / 4m)	(2) 16-2 SJOW (12 ft / 4m)
Controls:	None	None
Enclosure:	Hand-laminated fiberglass, light grey gelcoat	Hand-laminated fiberglass, light grey gelcoat
Mounting/Rigging Provisions:	(4) 1/2-13 rigging points, (10) 5/16" flange holes	(4) 1/2-13 rigging points, (10) 5/16" flange holes
Grille:	3-layer WeatherStop™, black finish, (Zinc-rich epoxy dual-layer powder coated perforated steel grille, foam, woven poly mesh)	3-layer WeatherStop™, black finish, (Zinc-rich epoxy dual-layer powder coated perforated steel grille, foam, woven poly mesh)
Environmental Performance:	IEC529 IP55W rating with a minimum 5-degree downward aiming angle	IEC529 IP55W rating with a minimum 5-degree downward aiming angle
Required Accessories:	LF - 45 Hz, 24dB/Oct Butterworth high pass filter* LF - 971 Hz, 24 dB/Oct Linkwitz-Riley low pass ** MF/HF - 600Hz, 12 dB/Oct Butterworth high pass** Equalization curve as specified on this spec sheet	Digital Signal Processor
Dimensions—Height: **Width:** **Depth:**	49 inches (1245 mm) 37 inches (940 mm) 43.5 inches (1105 mm)	49 inches (1245 mm) 37 inches (940 mm) 43.5 inches (1105 mm)
Weight:	318 lbs (144.3 kg)	318 lbs (144.3 kg)
Shipping Weight:	369 lbs (167.4 kg)	369 lbs (167.4 kg)

NOTES:
1. All measurements made in outdoor half-space free-field conditions.
2. Watts: All wattage figures are calculated using the rated nominal impedance.

* Not required to meet EN54-24 requirements. Required to control the low frequency excursion limits of the loudspeaker systems
** Required to meet the response limits and equalization curves as specified on this spec sheet

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True to Specification

R6-51-EN BIAMP

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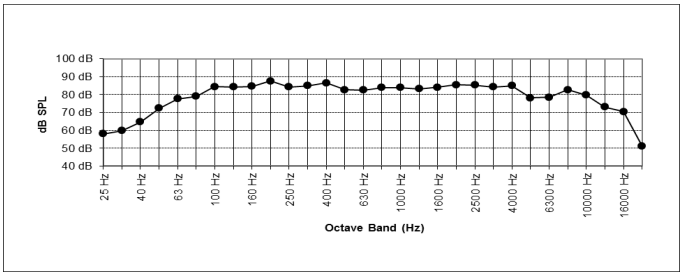
HIGH OUTPUT, BI-AMPED LOUDSPEAKER

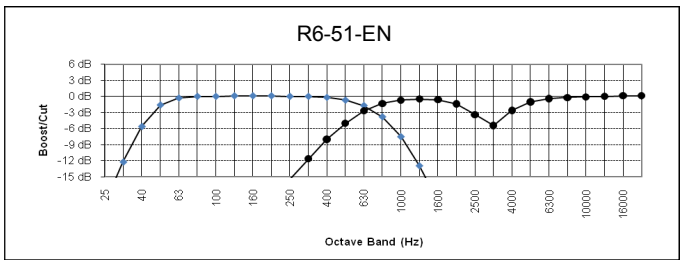
FREQUENCY RESPONSE (See fig. 11.1 in manual)



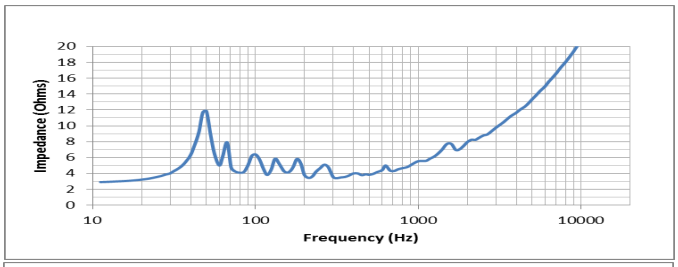
BEAMWIDTH

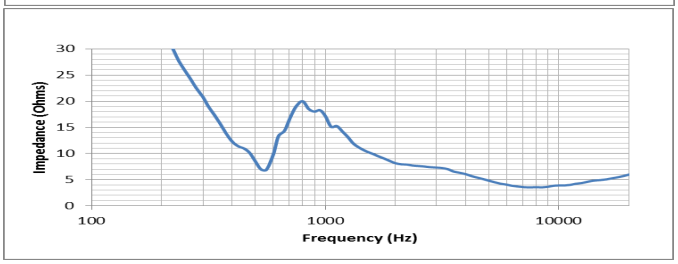
	Beamwidth (Degrees)	
Frequency	Horizontal	Vertical
500 Hz	74	49
1000 Hz	73	33
2000 Hz	48	21
4000 Hz	51	13

EQUALIZATION CURVE



IMPEDANCE





DESCRIPTION

The R6-51-EN three-way full-range loudspeaker system is engineered to provide quality full-range long throw sound projection in a variety of outdoor and indoor applications. Its very high output, wide range, smooth frequency response, and high efficiency ensures both high fidelity music reproduction and superb projection of clear intelligible speech with very low distortion. The system is configured for bi-amplification for an active crossover for the LF to MF/HF sections and has a passive crossover for the MF to HF sections. The R6-51-EN 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.

ARCHITECTURAL SPECIFICATIONS (for EN54-24 applications)

The loudspeaker system shall be a horn-loaded, three-way, full-range tri-axial design with six 12" Ferrofluid-cooled woofers, six 2" exit Ferrofluid-cooled midrange compression drivers with a non-metallic diaphragm, and six 1" exit HF drivers with a titanium diaphragm. Drivers shall be connected to an integral crossover with crossover frequencies of 600 Hz (electronic) and 4 kHz (passive). The input connection shall be two 16-2 12-foot (4m) SJOW Cable 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 16 gauge perforated steel grille backed by open cell foam and a 100 x 100 wire sq. in. stainless steel mesh. There shall be four 1/2-13 integral threaded mounting points. The system shall have a 100 Hz to 10 kHz amplitude response that complies with the frequency response limitations specified in EN54-24, section 4.2. For EN54-24 system applications, the input capability shall be 49V RMS, 90 dB sensitivity at four meters, 102.5 dB sensitivity at one meter and 4 ohms nominal impedance for the LF and 30V RMS, 94 dB sensitivity at four meters, 106.4 dB sensitivity at one meter and 4 ohms nominal impedance for the MF/HF. The rated dispersion shall be 74°H x 49°V @ 500Hz, 73°H x 33°V @ 1000Hz, 48°H x 21°V @ 2000Hz and 51°H x 13°V @ 4000Hz. The loudspeaker shall be 49 in. (1245 mm) H x 37 in. (940 mm) W x 43.5 in. (1105 mm) D and weigh 318 lbs. (144.3 kg).

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