

DATA SHEET COMMUNITY R SERIES



R.15-3696

THREE-WAY FULL-RANGE (90° x 60°)
WEATHER-RESISTANT LOUDSPEAKER



APPLICATIONS

Theme and Amusement Parks · Malls · Stadiums
Fairgrounds · Outdoor Entertainment Centers
· Swimming Pools · Background Music · Voice
Paging Systems · Convention Centers · Factories ·
Multipurpose Outdoor and Indoor Venues

DESCRIPTION

The R.15-3696 is a fully horn-loaded triaxial three-way, full-range loudspeaker system designed to provide high quality voice and music reproduction in applications requiring extreme weather resistance.

It is designed to withstand long-term exposure to tough, environmental conditions and to provide musical performance normally only associated with indoor loudspeakers. The R.15-3696 features Biamp's innovative MultiSource Waveguide™ horn design; the output from the dual midrange compression drivers and 1-inch HF driver are combined seamlessly into a single time-coherent source, resulting in excellent musicality, intelligibility and dispersion consistency. The high efficiency 6.5-inch LF provides high sensitivity and full LF extension into the male voice speech range. The low LF/MR passive crossover point results in improved mid-range pattern control and elimination of horn coloration in the LF response.

The R.15-3696 is built using components engineered for the harshest environments, including heavily plated and powder coated internal components, conformal coated crossover components, water-resistant driver, and IP54 ingress protection for the grille. The steel bracket is heavily zinc-plated and powder coated and attached using stainless steel and brass hardware.

The R.15-3696 carries a 5-year product warranty and a 15-year enclosure warranty.

FEATURES

- Excellent musicality and intelligibility, and low distortion in an extremely compact enclosure
- High sensitivity and low amplifier power draw reduces total system costs
- Weather-resistant, compact, matte finish paintable high impact ABS plastic modified-trapezoidal enclosure
- Water-resistant grille and LF driver cone, polymer HF and MR diaphragm, moisture-sealed crossover
- 100 W Autoformer (standard), selectable 4 ohm or 70 V / 100 V operation
- Corrosion-resistant zinc-plated, powder-coated low-profile steel yoke and grille

TECHNICAL SPECIFICATIONS¹

Operating Mode	Passive, selectable low impedance or 70 V / 100 V		
Operating Environment	Indoor or outdoor direct exposure		
Operating Range (-10 dB) ²	142 Hz to 19.4 kHz		
Nominal Beamwidth (H x V)	90° x 60°		
Transducers	LF 1 x 6.5" (165 mm) Woofer with hydrophobic treatment MR 2 x 2.35" (60 mm) MultiSource Waveguide™ compression drivers HF 1 x 0.8" (21 mm) exit polymer diaphragm compression driver with 1" (25mm) voice coil		
Sensitivity ³	@ 1 m	103 dB (2.83 V)	100 dB (1 W, 4 Ω)
Nominal Continuous Power Handling ⁴	Passive	20 V (100 W, 4 Ω rated impedance)	
Nominal Maximum SPL ⁵ (Processed)	Passive	Continuous 116 dB	Peak 122 dB
Rated Continuous Voltage ⁶	Passive	21.9 V (27 dBV)	
Rated Maximum SPL ⁷ (Processed)	Opt EQ No EQ	Continuous 116 dB 118 dB	Peak 128 dB 130 dB
Autoformer	70 V: 100 W, 50 W, 25 W, 12.5 W, 6.25 W 100 V: 100 W, 50 W, 25 W, 12.5 W		
Crossover / Protection	950 Hz and 2.6 kHz crossover		
Required Accessories	110 Hz, 12 dB / oct. high pass filter; DSP presets for ALC, Voltera, and Tesira		
Recommended Amplifiers	100 W - 200 W, into 4 Ω (20 V - 28 V)		

PHYSICAL

Input Connection	Terminal Strip for low impedance or constant voltage operation
Controls	70 V / 100 V operation jumper
Mounting Provisions	Four (4) M8 rigging points
Environmental Rating	IP54 per IEC 60529, IEC 60068-2-5 (Solar Radiation), IEC 60068-2-11 (Salt Mist), IEC 60068-2-42 (SO2), IEC 60068-2-60 (Chlorine), IEC 600368-2-1 (Cold Operational)
Dimensions H x W x D	235 x 235 x 356 mm (9.25" x 9.25" x 14.00")
Weight (loudspeaker only)	5.7 kg (12.6 lbs)
Finish	Refer to the Technical Drawings (page 3)
Accessories (included)	Thick zinc-plated, powder coated matching color steel U-bracket, water-tight input cover plate with gland nut

OPTIONS

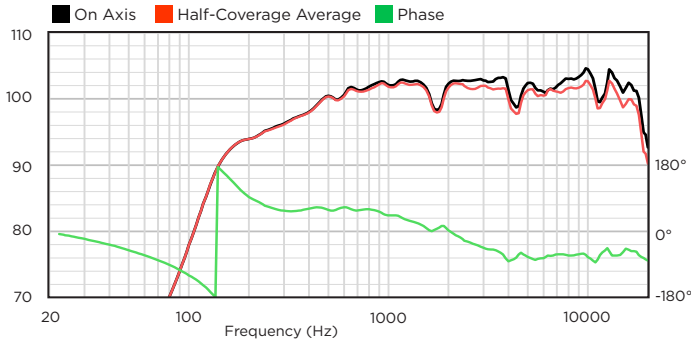
Accessories	PMB-IRR and PMB-2RR (Pole Mount Bracket Kits)
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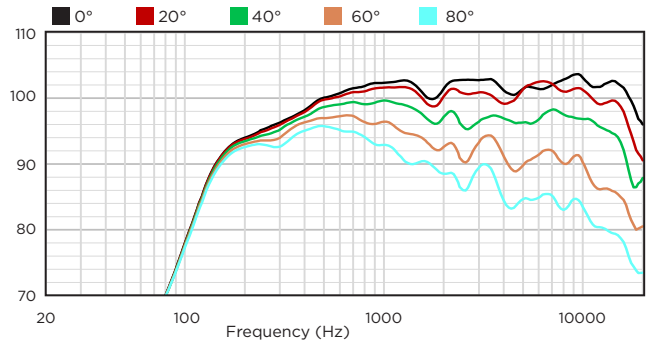
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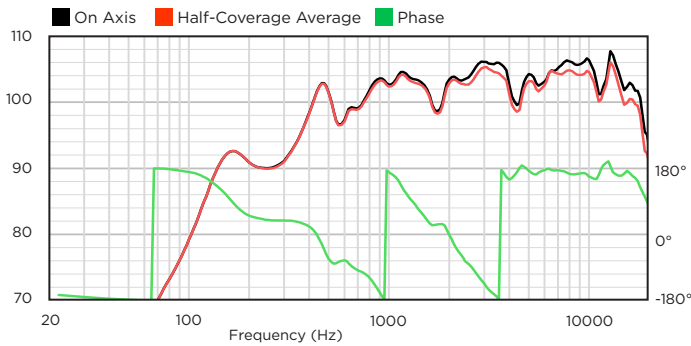
AXIAL PROCESSED SENSITIVITY (dB SPL)⁸



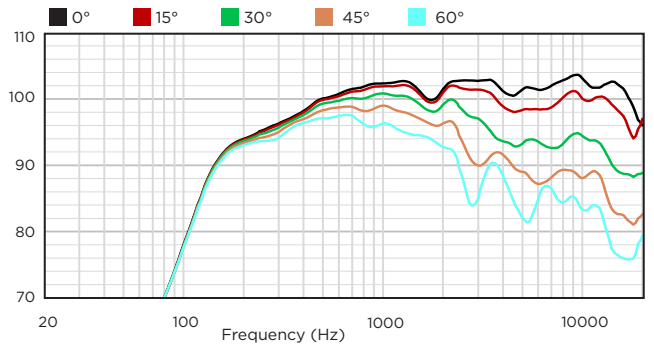
HORIZONTAL OFF-AXIS RESPONSE (dB)⁹



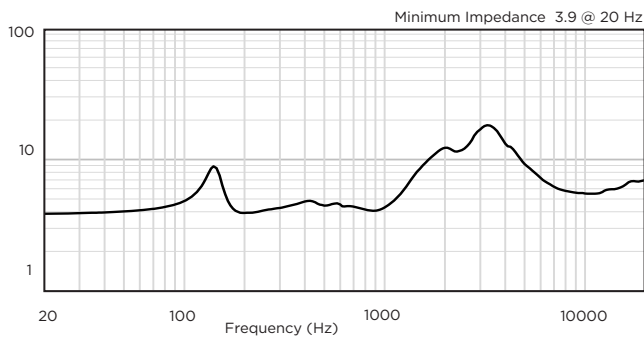
AXIAL SENSITIVITY (dB SPL)⁸



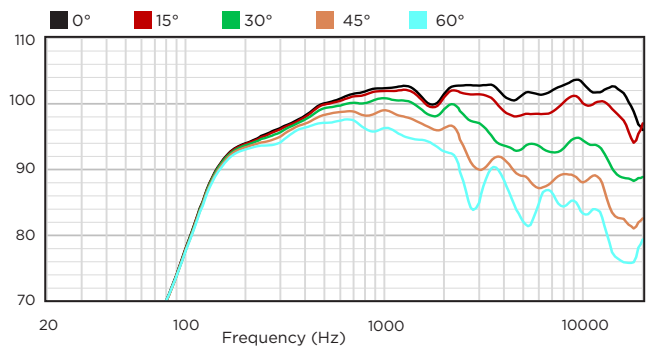
VERTICAL OFF-AXIS UP RESPONSE (dB)⁹



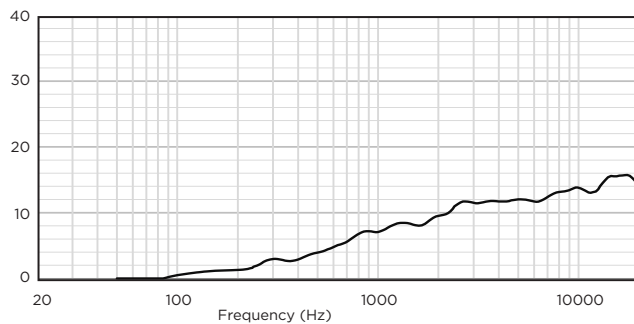
IMPEDANCE (Ω)



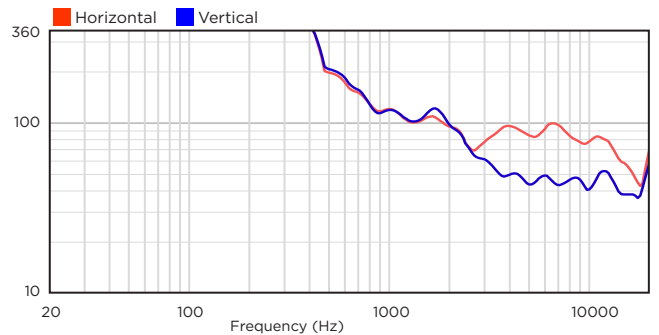
VERTICAL OFF-AXIS DOWN RESPONSE (dB)⁹



DIRECTIVITY INDEX (dB)¹⁰



BEAMWIDTH (degrees)¹¹



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TECHNICAL DRAWING / DIMENSIONS / FINISH

H x W x D (Loudspeaker)
221 x 221 x 343 mm
(8.69" x 8.69" x 13.52")

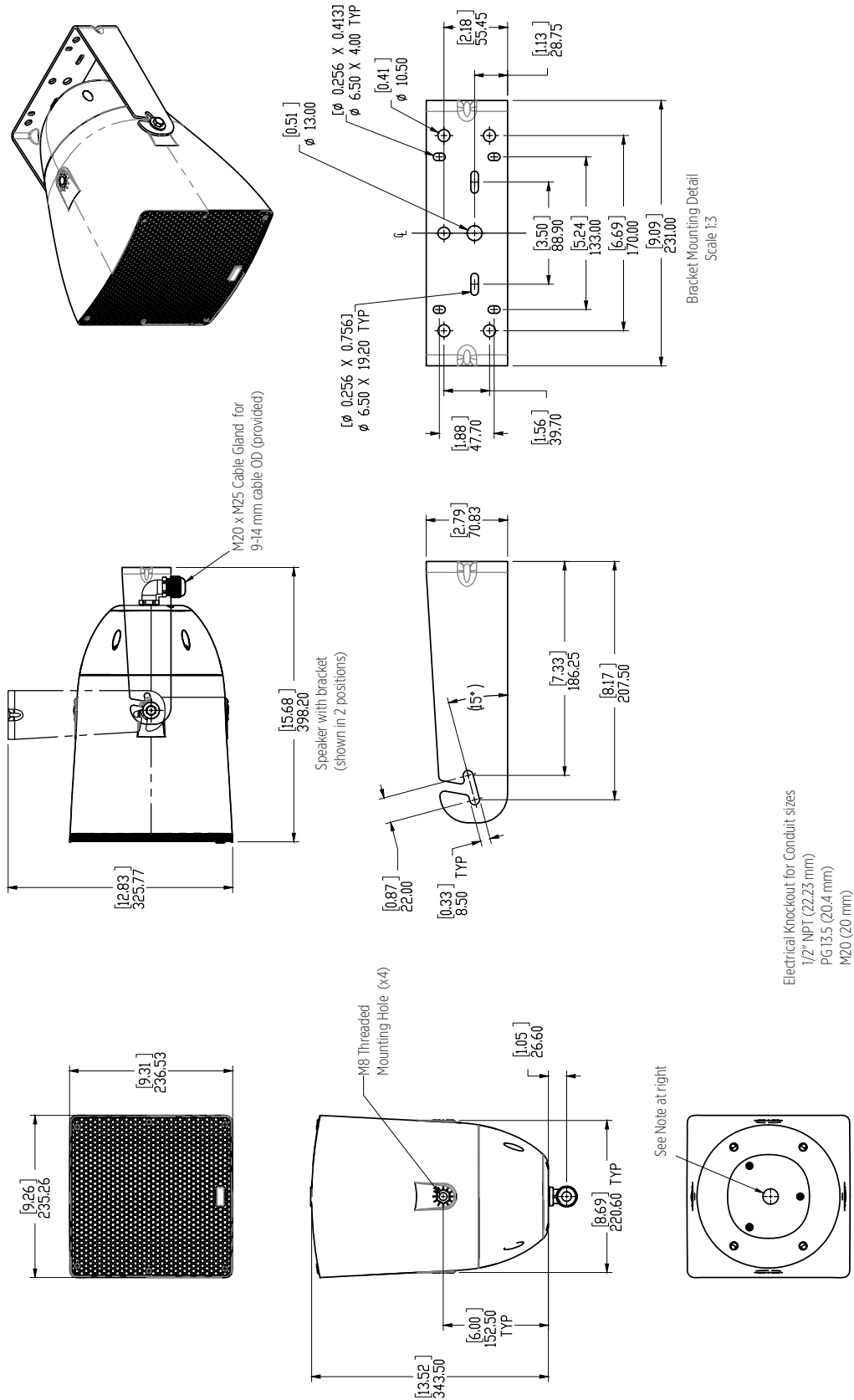
Unit Weight
5.7kg (12.57 lbs) (Loudspeaker only)
6.9 kg (15.2 lbs) (Loudspeaker + U-Bracket)

Shipping Weight
8.52 kg (18.78 lbs)

U-Bracket:
Powder-coated steel Grey (RAL#7038)

Grille:
Powder-coated perforated steel backed with foam. Grey (RAL#7038)

Enclosure / Finish
Grey, matte paintable high-impact ABS



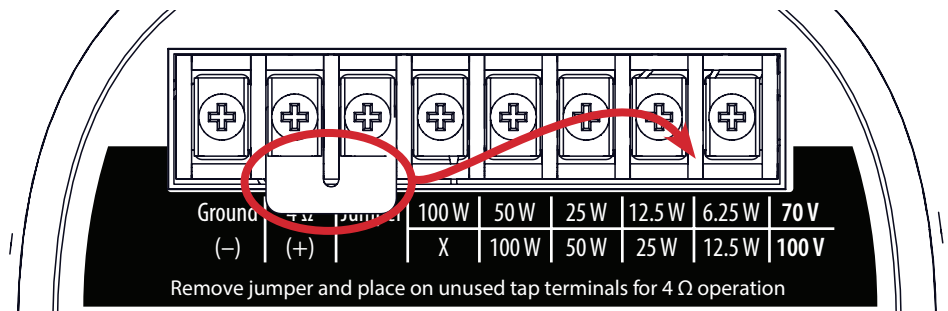
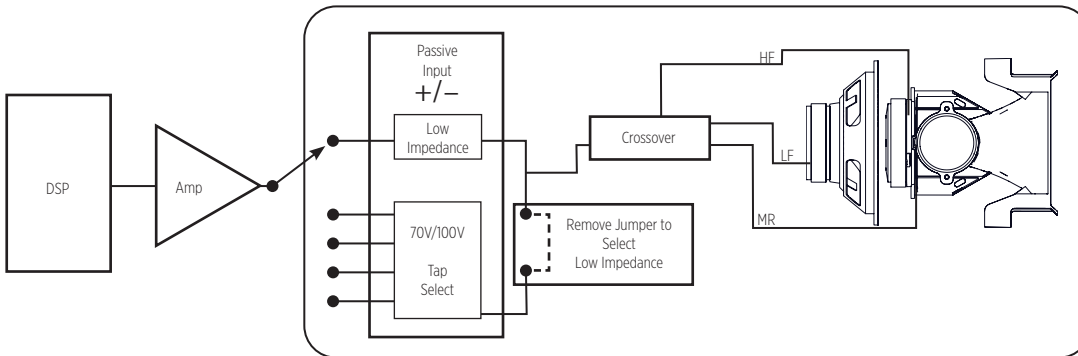
Electrical Knockout for Conduit sizes
1/2" NPT (22.23 mm)
PG13.5 (20.4 mm)
M20 (20 mm)

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CONNECTION DIAGRAM



Input panel

NOTES

- PERFORMANCE SPECIFICATIONS** All measurements are taken indoor using a time-windowed and processed signal to eliminate room effects, 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 Amplified Loudspeaker Controllers (ALCs).
 - 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.
 - SENSITIVITY** The broadband SPL of the loudspeaker when pink noise is applied (band limited to the loudspeaker's Operating Range) at an input voltage of 2.83 V, in accordance with IEC 60268-5. Also listed for a voltage that would produce 1 watt into the rated impedance. Measured in whole space with no external processing applied, except where indicated. Shown graphically as the response to a 2.83 V swept-sine input signal referenced to 1 m.
 - NOMINAL CONTINUOUS POWER HANDLING** The maximum continuous nominal input voltage at the rated impedance that the system can withstand, without damage, for a period of 2 hours using an IEC 60268-1 defined spectrum with recommended signal processing and protection filters.
 - NOMINAL MAXIMUM SPL** The SPL produced when an IEC 60268-1 signal is applied, at the maximum continuous nominal input voltage, to the equalized/processed loudspeaker system. Referenced to a distance of 1 meter. The peak SPL represents the 2:1 (6 dB) crest factor of the IEC 60268-1 test signal.
 - RATED CONTINUOUS VOLTAGE** The maximum continuous rated input voltage for the system that results in no more than a 3 dB change in the system's response during operation using an IEC 60268-1 defined spectrum with recommended signal processing and protection filters.
 - 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.
 - AXIAL PROCESSED SENSITIVITY** The variation in acoustic output level with frequency for a swept-sine measurement signal. The measurement uses the recommended signal processing for the loudspeaker system. All data are 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.
 - 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.
 - 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 response has 1/3 octave smoothing applied.
 - 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.
- 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.