

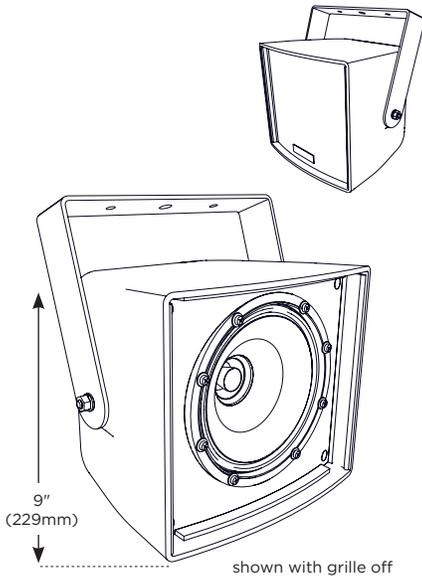
# DATA SHEET

## COMMUNITY R Series



# R.15COAX

## TWO-WAY 6.5-INCH COAXIAL WEATHER-RESISTANT LOUDSPEAKER



### FEATURES

- Excellent musicality and intelligibility, and low distortion in an extremely compact enclosure
- Weather-resistant, compact, matte finish paintable high impact ABS plastic modified-trapezoidal enclosure
- Hydrophobically-treated grille and LF driver cones, polymer HF diaphragm, and moisture-sealed crossover
- 120W Autoformer (standard), selectable 8 ohm or 70V/100V operation
- Corrosion-resistant dual-layer powder-coated low-profile steel yoke and aluminum grille

### TECHNICAL SPECIFICATIONS<sup>1</sup>

Operating Mode	Passive, Selectable Low Impedance or 70V/100V				
Operating Environment	Indoor or Weather-Resistant Outdoor				
Operating Range <sup>2</sup>	90 Hz to 16 kHz				
Nominal Beamwidth (H x V)	100° x 100°				
Transducers	LF 1 x 6.5" (165mm) Carbon ring hydrophobic cone, 2" (51mm) VC HF 1 x 1.25" (32mm) exit, polymer diaphragm compression driver				
Continuous Power Handling <sup>3</sup> @ Nominal Impedance	Passive	35V	150W @ 8 Ohms (600W peak)		
Autoformer Taps	70V: 120W, 60W, 30W, 15W 100V: 120W, 60W, 30W				
		MUSIC		VOICE	
Nominal Sensitivity <sup>4</sup>	Passive	@ 1W 94 dB	@ 2.83V 94 dB	@ 1W 95 dB	@ 2.83V 95 dB
Nominal Maximum SPL <sup>5</sup> (Whole Space)	Passive	Peak 122 dB	Continuous 116 dB	Peak 123 dB	Continuous 117 dB
Equalized Sensitivity <sup>6</sup>	System	@ 1W 94 dB	@ 2.83V 94 dB		
Equalized Maximum SPL <sup>7</sup>	System	Peak 122 dB	Continuous 116 dB		
Required Accessories	High Pass Filter - 90 Hz, 24 dB /octave, Digital Signal Processor				
Recommended Amplifiers	Passive	150W - 300W @ 8 Ohms, (35V - 49V)			

### APPLICATIONS

Theme and Amusement Parks · Malls · Stadiums  
Fairgrounds · Outdoor Entertainment Centers  
Race Tracks · Athletic Fields · Swimming Pools  
Background Music / Voice Paging Systems  
Convention Centers · Factories Multipurpose  
outdoor and indoor venues

### DESCRIPTION

The R.15COAX is a two-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 performance normally associated only with indoor loudspeakers. The R.15COAX has a 1.25-inch (32mm) exit HF compression driver and an 6.5-inch (165mm) carbon ring cone LF driver. The HF assembly is coaxially mounted with the LF driver allowing wide 100° coverage with low distortion. The flange-less woofer basket design allows a cone area nearly equivalent to a typical 8-inch driver cone.

The Music / Voice switch provides an "out-of-the-box" selectable response allowing for additional application flexibility. The design uses Biamp's proprietary Tru-Phase™ high frequency compression driver phase plug to provide wide dispersion, low distortion and increased intelligibility. The enclosure is sealed to provide maximum vocal clarity and increased intelligibility. The sealed enclosure also provides supreme weather protection for all of the interior components. The R.15COAX carries a 5 year product warranty and a 15 year enclosure warranty.

### PHYSICAL

Input Connection	NL4 Speakon-type connector and 2-position terminal strip for low impedance or constant voltage operation
Controls	5-position tap selection / low impedance selector switch, Music / Voice switch
Mounting Points	Two (2) M8 rigging points
Included Accessories	Zinc-rich epoxy dual-layer powder-coated yoke, included integral safety cable mounting point
Environmental	IP55W per IEC 529, designed to MIL-STD-810G Color-matched ABS plastic input panel weather cover with 13.5mm ID gland nut installed in .82" knockout
Dimensions H x W x D	9.00" x 10.15" x 10.20" (229 x 258 x 259 mm)
Weight	17 lbs (7.7 kg) with included yoke
Finish	Refer to the Technical Drawing (page 3)

### OPTIONS

Accessories	R-VTY15. Provides pan-tilt aiming functions. Zinc-rich dual-layer powder-coated steel with SS hardware, color-matched to loudspeaker.
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*Biamp strives to improve its products on a continual basis. Specifications are therefore subject to change without notice.*



A: 9300 S.W. Gemini Drive Beaverton, OR 97008 USA

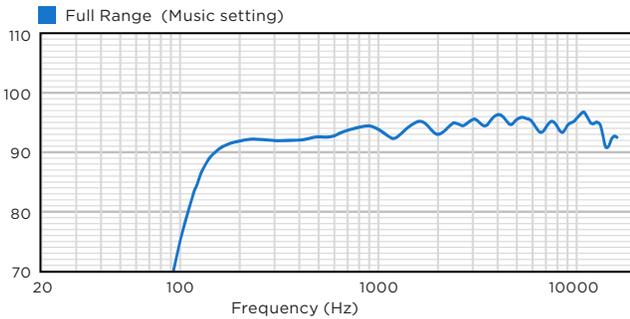
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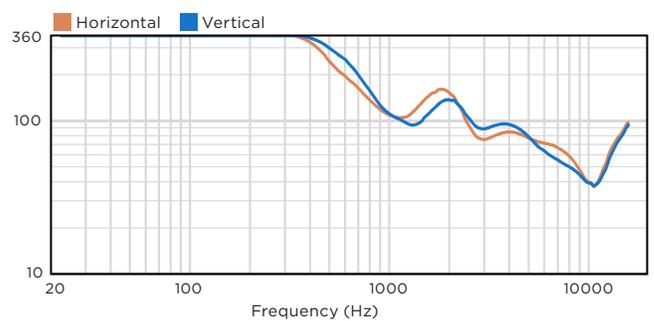
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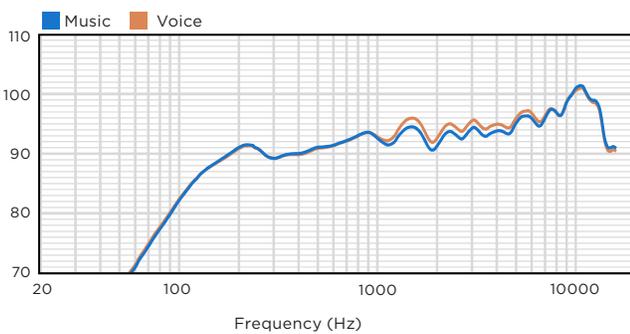
### AXIAL PROCESSED RESPONSE (dB)<sup>8</sup>



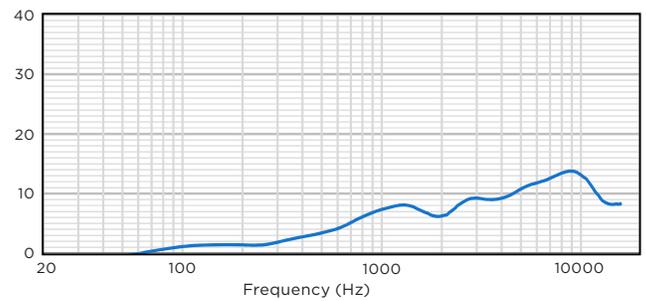
### BEAMWIDTH (Degrees)<sup>12</sup>



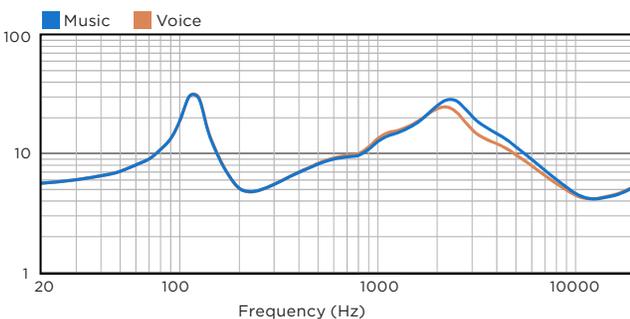
### AXIAL SENSITIVITY (dB SPL)<sup>9</sup>



### DIRECTIVITY INDEX (dB)<sup>11</sup>



### IMPEDANCE (Ohms)



Minimum Impedance (Music/Voice): 4.2 Ohms @ 18.5 kHz

### ARCHITECTURAL SPECIFICATIONS

The loudspeaker system shall be a two-way, full-range modified trapezoidal design with one 6.5-inch (165mm) high-output LF driver and one 1.25-inch (32mm) exit HF driver mounted coaxially. Drivers shall be connected to an integral crossover with a crossover frequency of 1.3 kHz. The input connections shall be an NL4-type connector and a terminal strip. There is also a 2-position switch for voice or music applications and a selector switch for autoformer tap or low impedance operation. The system shall be equipped with a 120W high performance autoformer for use in 70.7V or 100V distributed audio systems, with 120W, 60W, 30W and 15W taps available in 70.7V distributed systems (120W, 60W and 30W taps available in 100V distributed systems). The loudspeaker enclosure shall be matte finish high impact ABS plastic with a 1mm perforated aluminum grille backed by hydrophobically-treated polyester mesh and open cell foam. There shall be two M8 rigging points, and an included dual-layer zinc-rich epoxy powder-coated steel mounting yoke. Integrated ribbing and internal reinforcements provide added structural support. The system shall have an operating range of 112 Hz to 19 kHz (-10 dB) and a low impedance (8 Ohm) input capability of 35V RMS. At the "Music" setting, it shall have a sensitivity on axis at 1W / 1m, 8 ohms nominal impedance, of 94 dB. At the "Voice" setting, it shall have a sensitivity at 1W / 1m, 8 ohms nominal impedance, of 95 dB. The nominal dispersion shall be 100° H x 100° V. The loudspeaker shall be 9" (229mm) H (front) x 10.2" (259mm) W x 10.2" (259mm) D and shall weigh 17 lbs (7.7 kg) including the mounting yoke.

# COMMUNITY R Series

# R.15COAX

TWO-WAY 6.5-INCH COAXIAL  
WEATHER-RESISTANT LOUDSPEAKER

**TECHNICAL DRAWING / DIMENSIONS / FINISH**

**H x W x D**

9.00" x 10.15" x 10.20"  
(229 x 258 x 259 mm)

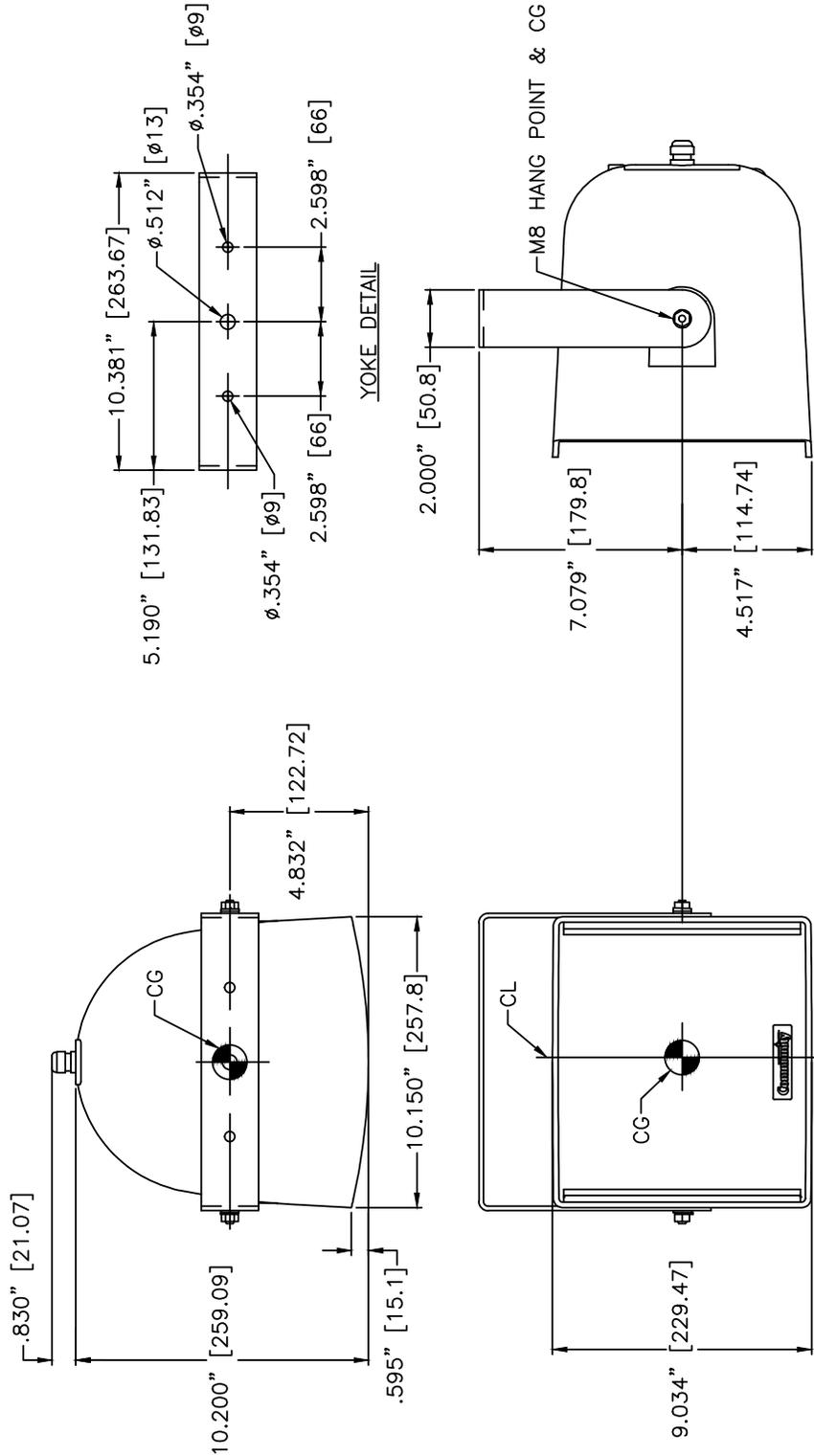
**Unit Weight**

17.0 lbs (7.7 kg) loudspeaker and mount

**Shipping Weight**

21 lbs (9.5 kg)

R.15-COAX



**Grille:**

Powder-coated perforated marine-grade aluminum backed with hydrophobically-treated mesh and foam backing. Grey (RAL#7038) or Black (RAL#9004)

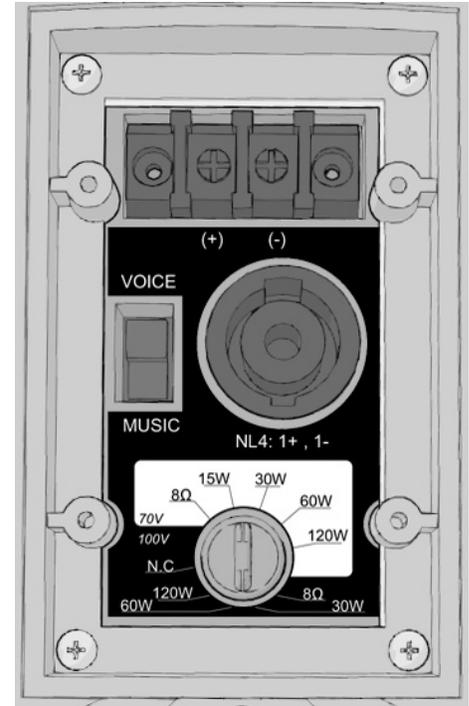
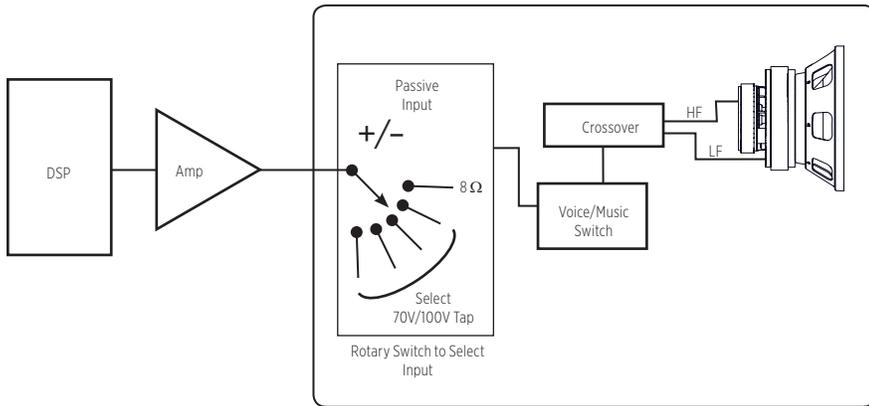
**Enclosure / Finish**

Grey or Black matte paintable high-impact ABS

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# R.15COAX TWO-WAY 6.5-INCH COAXIAL WEATHER-RESISTANT LOUDSPEAKER

## 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, a distance of 6.0 m. All acoustic specifications are rounded to the nearest whole number. An external DSP with settings provided by Biamp is required to achieve the specified performance; further performance gains can be realized using FIR loudspeaker optimization presets available in Biamp's Community Loudspeaker Controllers (ALC Series).
- 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.
- HORIZONTAL / VERTICAL OFF-AXIS RESPONSES** The loudspeaker's magnitude response at various angles off-axis, with recommended signal processing applied 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.
- 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.

Data presented on this spec sheet represents a selection of the basic performance specifications for the R.15COAX. 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: [biamp.com](http://biamp.com)

**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.