

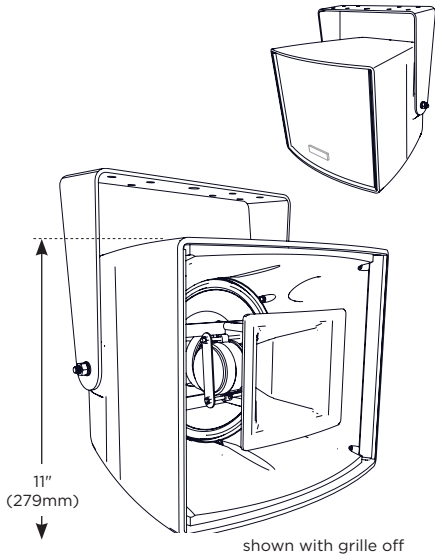
DATA SHEET

COMMUNITY R Series



R.35-3896

THREE-WAY FULL-RANGE (90° X 60°)
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 cone, polymer HF and MR diaphragm, moisture-sealed crossover
- 200W Autoformer (standard), selectable 8 ohm or 70V/100V operation
- Corrosion-resistant dual-layer powder-coated low-profile steel yoke and aluminum grille

TECHNICAL SPECIFICATIONS¹

Operating Mode	Passive, Selectable Low Impedance or 70V/100V			
Operating Environment	Indoor or Weather-Resistant Outdoor			
Operating Range ²	80 Hz to 16 kHz			
Nominal Beamwidth (H x V)	90° x 60°			
Transducers	LF 1 x 8" (203mm) Carbon ring cone with hydrophobic treatment, 3" (76mm) Voice Coil MR 2 x 2.35" (60mm) MultiSource Waveguide™ compression drivers HF 1 x 1" (25mm) exit polymer diaphragm compression driver			
Continuous Power Handling ³ @ Nominal Impedance	Passive	56V	400W @ 8 Ohms (1600W peak)	
Autoformer Taps	70V: 200W,100W, 50W, 25W 100V: 200W,100W, 50W			
		MUSIC		VOICE
Nominal Sensitivity ⁴	Passive	@ 1W 98dB	@ 2.83V 98 dB	@ 1W 100 dB
Nominal Maximum SPL ⁵ (Whole Space)	Passive	Peak 130 dB	Continuous 124 dB	Peak 132 dB
Equalized Sensitivity ⁶	System	@ 1W 97 dB	@ 2.83V 97 dB	
Equalized Maximum SPL ⁷	System	Peak 129 dB	Continuous 123 dB	
Required Accessories	High Pass Filter - 80 Hz, 24 dB/octave, Digital Signal Processor			
Recommended Amplifiers	400W - 800W @ 8 Ohms, (56V - 80V)			

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.35-3896 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.35-3896 features Biamp's innovative MultiSource Waveguide™ horn design; the output from the dual midrange compression drivers and 1-inch exit HF driver are combined seamlessly into a single time-coherent source, resulting in excellent musicality, intelligibility and dispersion consistency. The high output, 3-inch voice coil, 8-inch carbon ring cone LF driver features a flange-less woofer basket design that permits a cone area nearly equivalent to a typical 10-inch driver, resulting in high sensitivity and increased LF extension. The low LF/MR passive crossover point results in improved mid-range pattern control and elimination of horn coloration in the LF response.

The Music/Voice switch allows for additional application flexibility. The "Music" setting provides an out-of-the-box flat response and selecting "Voice" provides up to a 5dB boost for increased vocal projection and intelligibility. The LF cone is treated with the same hydrophobic coating as the grille cloth to ensure trouble-free performance in the harshest conditions. The R.35-3896 carries a 5 year product warranty and a 15 year enclosure warranty.

PHYSICAL

Input Connection	NL4 Speakon-type connector (low impedance only), and 7-position terminal strip for low impedance or constant voltage operation
Controls	Music / Voice switch, 70V/100V operation jumper
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	11.00" x 13.00" x 13.50" (279 x 330 x 343 mm)
Weight	34 lbs (15.4 kg) with included yoke
Finish	Refer to the Technical Drawing (page 3)

OPTIONS

Accessories	R-VTY35: Provides pan-tilt aiming functions. Zinc-rich dual-layer powder-coated steel with SS hardware, color-matched to loudspeaker. R-FRY35: Provides full rotation mounting capability for down-firing application (i.e. top of press box). Zinc-rich epoxy dual-layer powder-coated steel with SS hardware, color-matched to loudspeaker
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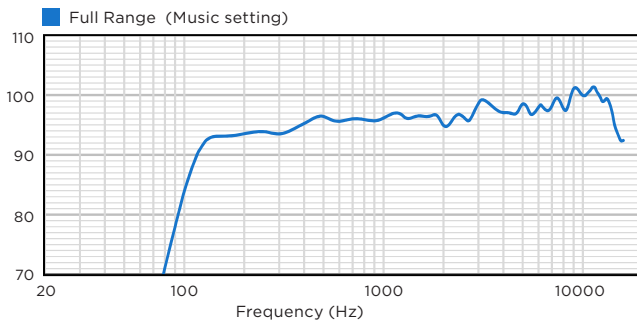
Biamp strives to improve its products on a continual basis. Specifications are therefore subject to change without notice.



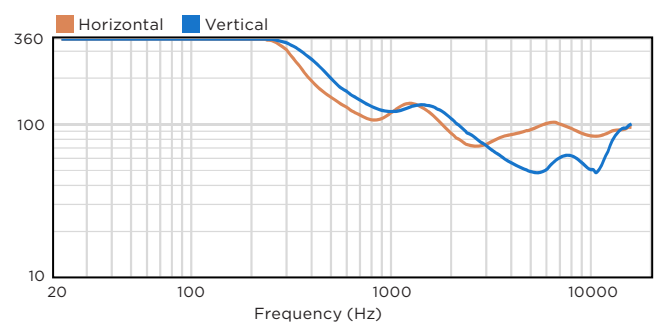
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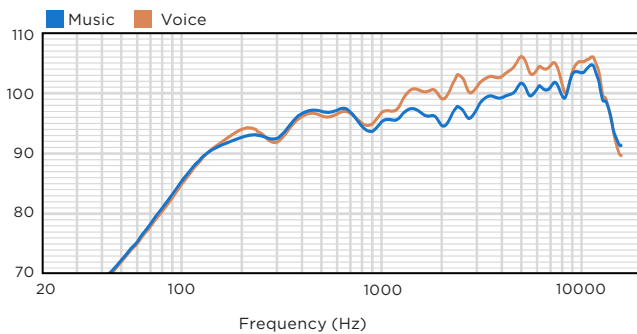
AXIAL PROCESSED RESPONSE (dB)⁸



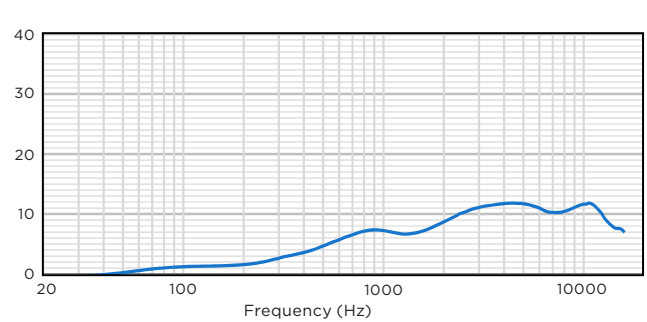
BEAMWIDTH (Degrees)¹²



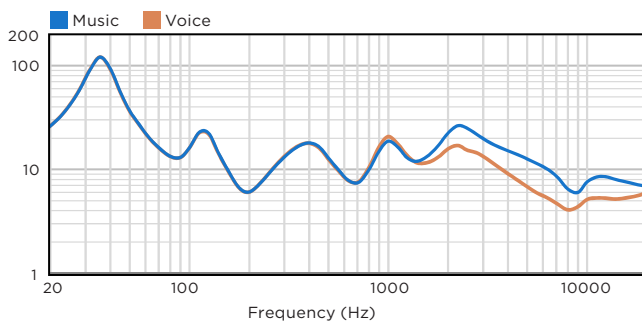
AXIAL SENSITIVITY (dB SPL)⁹



DIRECTIVITY INDEX (dB)¹¹



IMPEDANCE (Ohms)



Minimum Impedance (Music): 5.9 Ohms @ 200 Hz
Minimum Impedance (Voice): 5.5 Ohms @ 5000 Hz

ARCHITECTURAL SPECIFICATIONS

The loudspeaker system shall be a three-way, full-range modified trapezoidal design with one 8-inch (203mm) high-output LF driver mounted triaxially behind a MultiSource Waveguide™ horn containing one 1-inch exit HF compression driver and two 2.35-inch midrange compression drivers. Drivers shall be connected to an integral crossover with crossover frequencies of 850 Hz and 2.7 kHz. The input connections shall be an NL4-type connector and a 7-position terminal strip for standard or autoformer tap operation. There is also a 2-position switch for voice or music applications. The system shall be equipped with a 200W high performance autoformer for use in 70.7V or 100V distributed audio systems, with 200W, 100W, 50W and 25W taps available in 70.7V distributed systems (200W, 100W and 50W 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. The LF, horn and cabinet shell are internally fused to create a monolithic, extremely rigid, resonance-free enclosure. The system shall have an operating range of 80 Hz to 16 kHz (-10 dB) and a low impedance (8 Ohm) input capability of 56V RMS. At the "Music" setting, it shall have a sensitivity on axis at 1W / 1m, 8 ohms nominal impedance, of 98 dB. At the "Voice" setting, it shall have a sensitivity at 1W / 1m, 8 ohms nominal impedance, of 100 dB. The nominal dispersion shall be 90° H x 60° V. The loudspeaker shall be 11" (279mm) H (front) x 13" (330mm) W x 13.5" (343mm) D and shall weigh 34 lbs (15.4 kg) with the included mounting yoke.

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TECHNICAL DRAWING / DIMENSIONS / FINISH

H x W x D

11.00" x 13.00" x 13.50"
(279 x 330 x 343 mm)

Unit Weight

34 lbs (15.4 kg) loudspeaker and mount

Shipping Weight

40 lbs (18.1 kg)

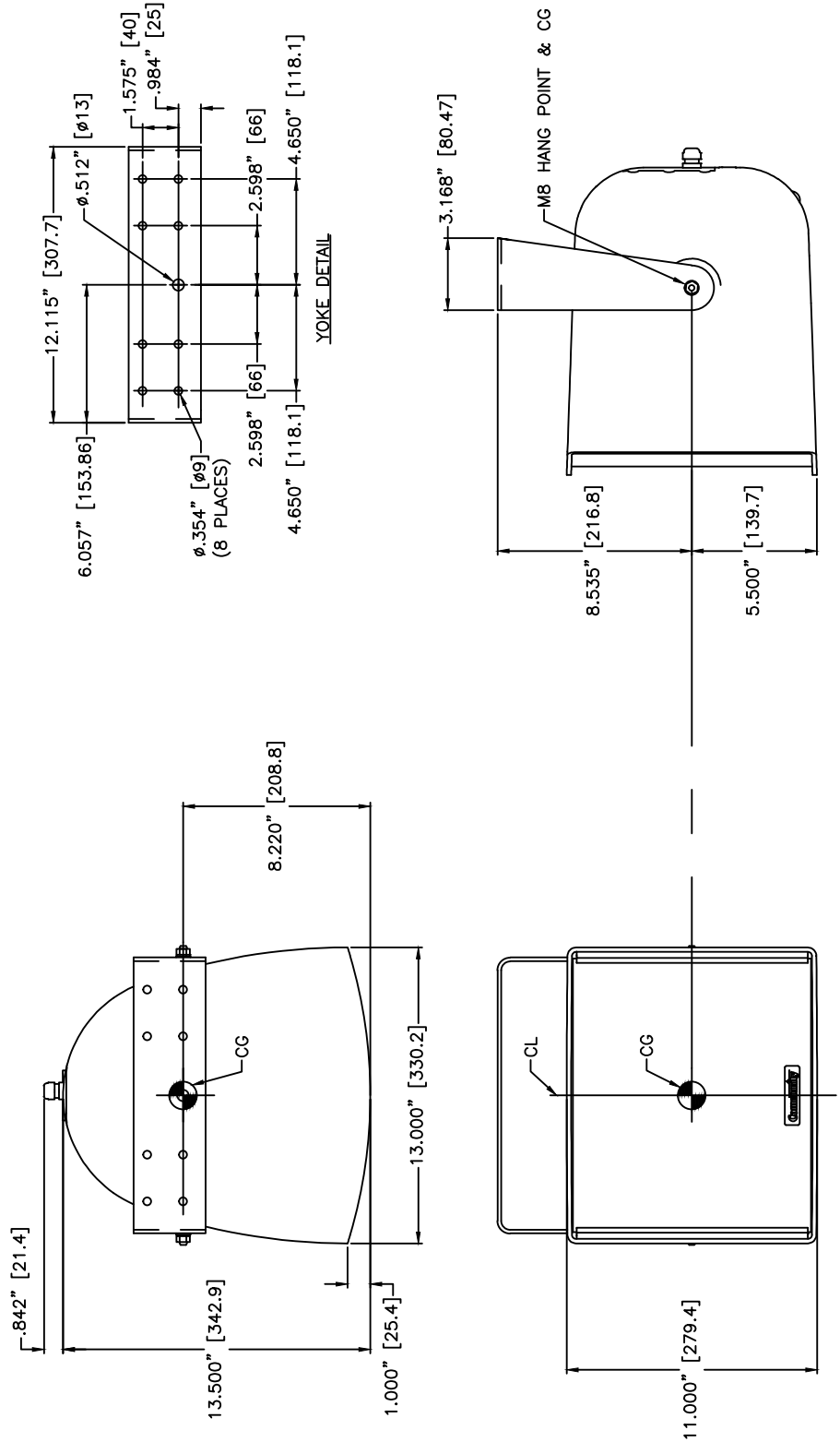
Grille:

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

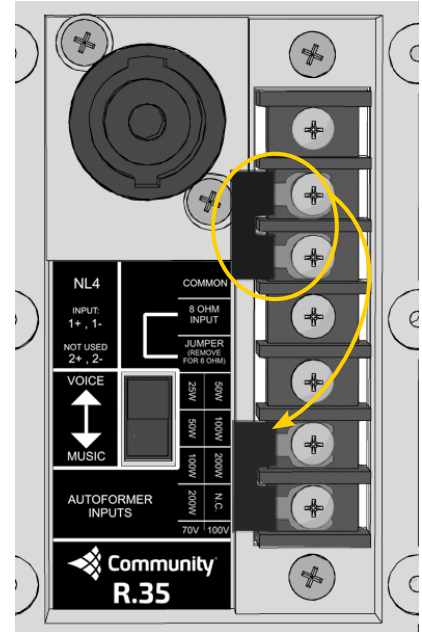
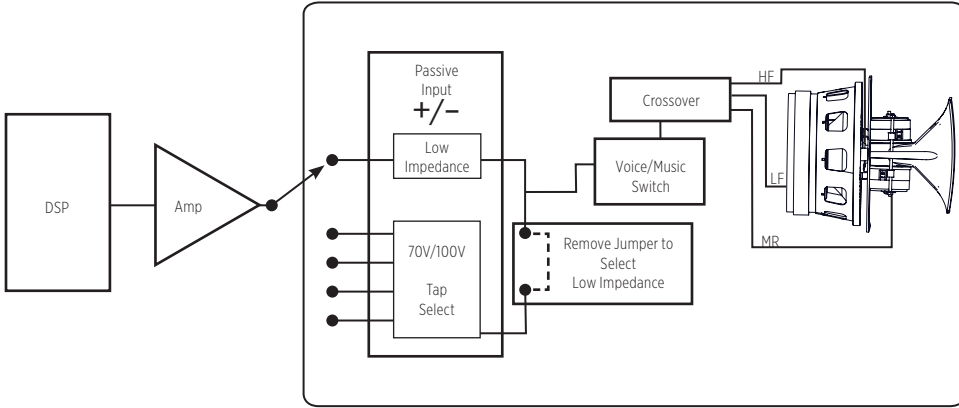
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CONNECTION DIAGRAM



Must remove jumper, or move it to the bottom terminals, for 8Ω operation (see yellow arrow)

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 the FIR loudspeaker optimization presets available in Biamp's Community Amplified 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

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.