DATA SHEET
COMMERCIAL LOUDSPEAKERS

CCA-80 & CCA-80D

THREE-WAY FULL RANGE CONSTANT COVERAGE AISLE LOUDSPEAKER

APPLICATIONS

Warehouses / Distribution Centers · Airports · Train Stations · Shopping Malls · Convention Centers · Schools · Sports · Arenas and Stadiums

DESCRIPTION

The CCA-80 constant coverage aisle loudspeaker is an asymmetric, full-range, three-way, triaxial loudspeaker engineered for optimal performance in long, high-ceiling narrow spaces such as aisles and corridors. The asymmetric waveguide design offers precise, uniform coverage with a throw ratio of 6:1. The narrow upper portion of the horn provides extended coverage for distant areas, while the progressively wider, but attenuated, lower portion of the horn ensures full coverage directly beneath the mounting position. The horn is tilted downward within the enclosure, a unique design that minimizes aiming precision requirements and guarantees coverage directly beneath the speaker, outperforming traditional horns. The CCA-80 produces an unrivaled consistant SPL level within its coverage pattern, unlike typical speakers where SPL falls off with distance, making it ideal for background music and voice paging in large spaces. It is optimized to work in the most challenging applications, like warehousing, with mounting heights up to 36 feet. This speaker delivers full-range 110 Hz to 13 kHz audio, ensuring superior music reproduction and voice clarity. The triaxial design maximizes coherency, resulting in a loudspeaker suitable for both clear voice paging and full range music playback. This system offers a significant cost advantage, reducing total system costs by over 50% compared to existing premium solutions. No other product on the market offers this level of innovation and efficiency in asymmetric paging speakers. The CCA-80D consists of dual CCA-80 speakers mounted back to back, reducing the number of mounting positions, amplifier channels, and delay alignment channels required. A single-point dual mounting bracket is shipped with the CCA-80D.

FEATURES

- Purpose-built for long aisles and concourses in warehouses, sports complexes, transit centers, and more
- Triaxial asymmetric, amplitude shaded vertical waveguide with a 6:1 throw ratio for extended distance coverage
- Unique extended coverage distance significantly reduces the number of speakers required in a system while maximizing intelligibility
- High system efficiency minimizes required amplifier power resulting in lower overall system costs
- CCA-80D dual-speaker option provides additional system design flexibility, reducing total system cost further

TECHNICAL SPECIFICATIONS[1]

Operating Mode	Passive, selectable low-impedance or 70 V / 100 V operation		
Operating Environment	Indoor		
Operating Range (-10 dB)[2]	110 Hz to 13 kHz		
Constant Coverage Pattern	The horizontal coverage varies as a function of the vertical angle to provide consistent SPL		
Transducers	**LF:** (1) 8″ (200 mm) with 1.2″ (31 mm) CCAW voice coil **MF:** (1) 2.6″ (65 mm) diaphragm coaxial midrange compression driver **HF:** (1) 1.3″ (33 mm) diaphagm coaxial high-frequency driver		
Sensitivity[3]	**@ 1 m**	98 dB (2.83 V)	98 dB (1 W, 8 Ω)
Nominal Continuous Power Handling at Rated Impedance[4]	Passive	20 V (50 W, 8 Ω Rated Impedance)	
Nominal Maximum SPL[5] (Processed)	Passive	**Continuous** 114 dB	**Peak** 120 dB
Rated Continuous Voltage[6]	Passive	20.0 V (26 dBV)	
Rated Maximum SPL[7] (Processed)	Passive	**Continuous** 114 dB	**Peak** 126 dB
Transformer / Autoformer	**70 V:** 50 W, 25 W, 12.5 W, 6.25 W 3.125 W; **100 V:** 50 W, 25 W, 12.5 W, 6.25 W		
Crossover	950 Hz, 3.1 kHz crossovers		
Required Processing	100 Hz, 12 dB / oct. Butterworth high pass filter; DSP preset for ALC and Voltera amplifiers		
Recommended Amplifiers	Passive	50 W - 100 W, 8 Ω (20 V - 28 V)	

PHYSICAL

Input Connection	8-position, 2-sided pluggable terminal block
Controls	70 V / 100 V operation jumper
Mounting Provisions	Two (2) M10 rigging points for U-Bracket One (1) M10 rigging point for safety cable
Dimensions H x W x D	15.6″ x 14.8″ x 19.6″ [396 x 377 x 499 mm]
Weight (with mounting bracket)	**CCA-80:** 31.9 lbs [14.5 kg] **CCA-80D:** 70.5 lbs [32 kg]
Finish	Refer to the Technical Drawings (pages 3-4)
Accessories (included)	**CCA-80:** Thick zinc-plated steel U-Bracket **CCA-80D:** Dual mounting bracket and (2) U-brackets
Models *(Order by mounting option)*	**CCA-80:** Constant Coverage Triaxial Loudspeaker **CCA-80D:** CCA-80 (x2), Dual Mounting Bracket, Hardware *(to mount U-Brackets to the dual bracket)*

OPTIONS

Accessories	SPA-HBC100 Beam Clamp Kit

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

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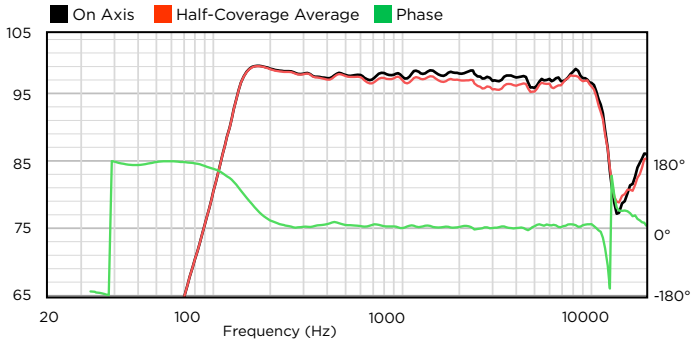
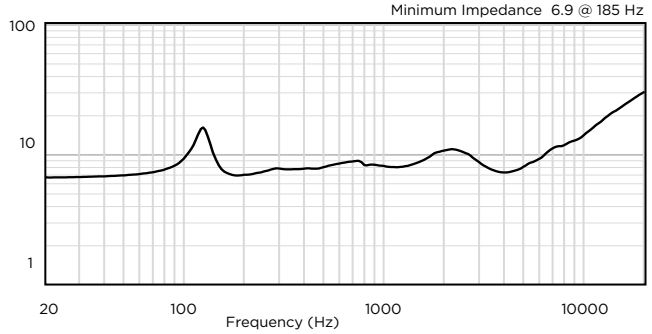
FREQUENCY RESPONSE PROCESSED (dB SPL)[8]



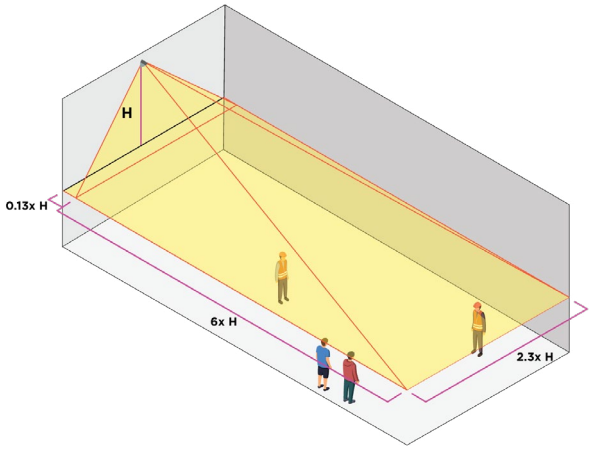
IMPEDANCE (Ω)



COVERAGE GEOMETRY[9]

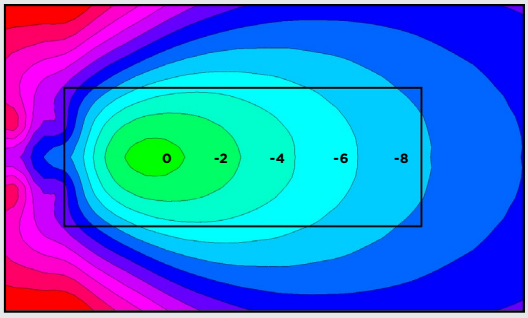
H= Mounting height above listener's ears

The geometry shown below is reflected by the rectangle shown in the SPL coverage maps at right

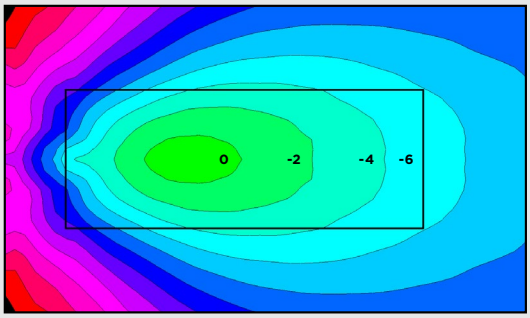


CCA-80 coverage uniformity in the critical speech range (1kHz - 4kHz)

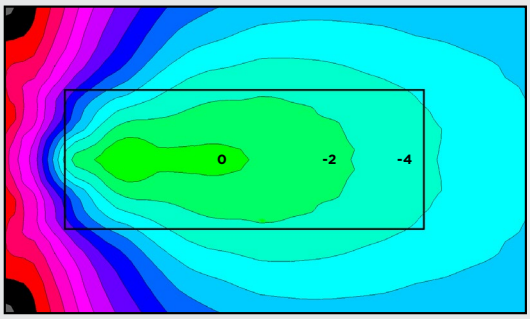
1 kHz



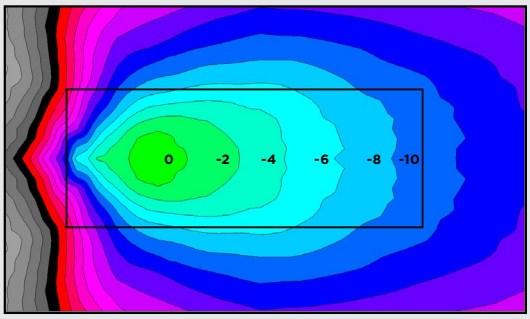
2 kHz



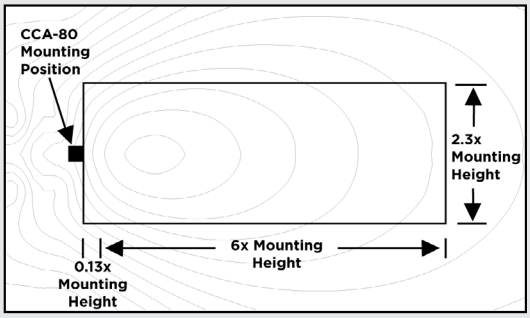
4 kHz



8 kHz



Key



CCA-80 & CCA-80D

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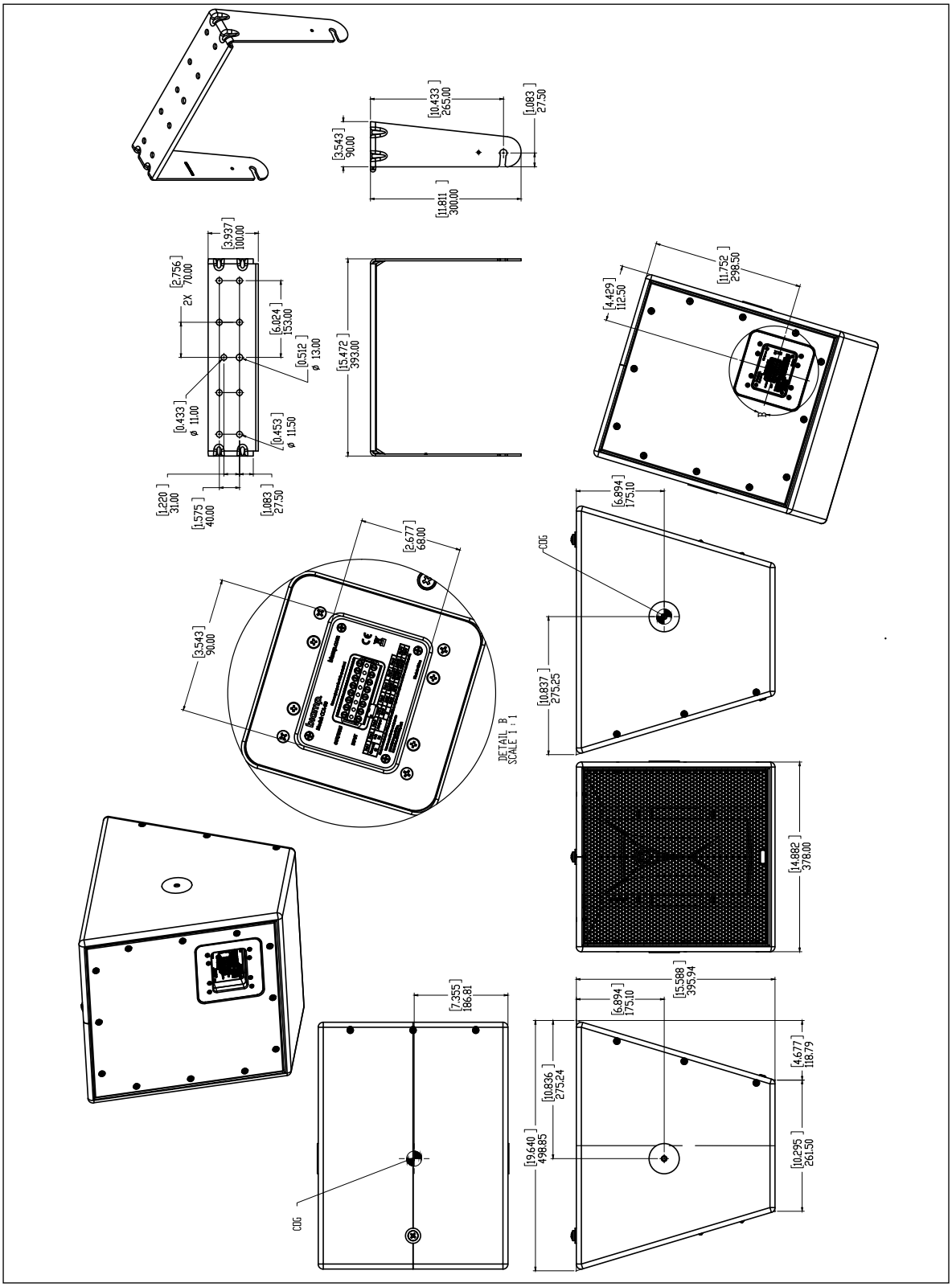
CONSTANT COVERAGE AISLE LOUDSPEAKER

CCA-80



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

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

Enclosure / Finish
uniformly textured vinyl-wrapped 12mm
Eucalyptus plywood enclosure. Grey (RAL#7038)

TECHNICAL DRAWING / DIMENSIONS / FINISH (CCA-80)

H x W x D
15.6" x 14.8" x 19.6"
[396 x 377 x 499 mm]

Unit Weight
31.9 lbs [14.5 kg]

Shipping Weight
39.2 lbs (17.8 kg)

CCA-80 & CCA-80D

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CCA-80D

TECHNICAL DRAWING / DIMENSIONS / FINISH (CCA-80D)

H x W x D
20.3" x 14.8" x 41.1"
[515 x 377 x 1044 mm]

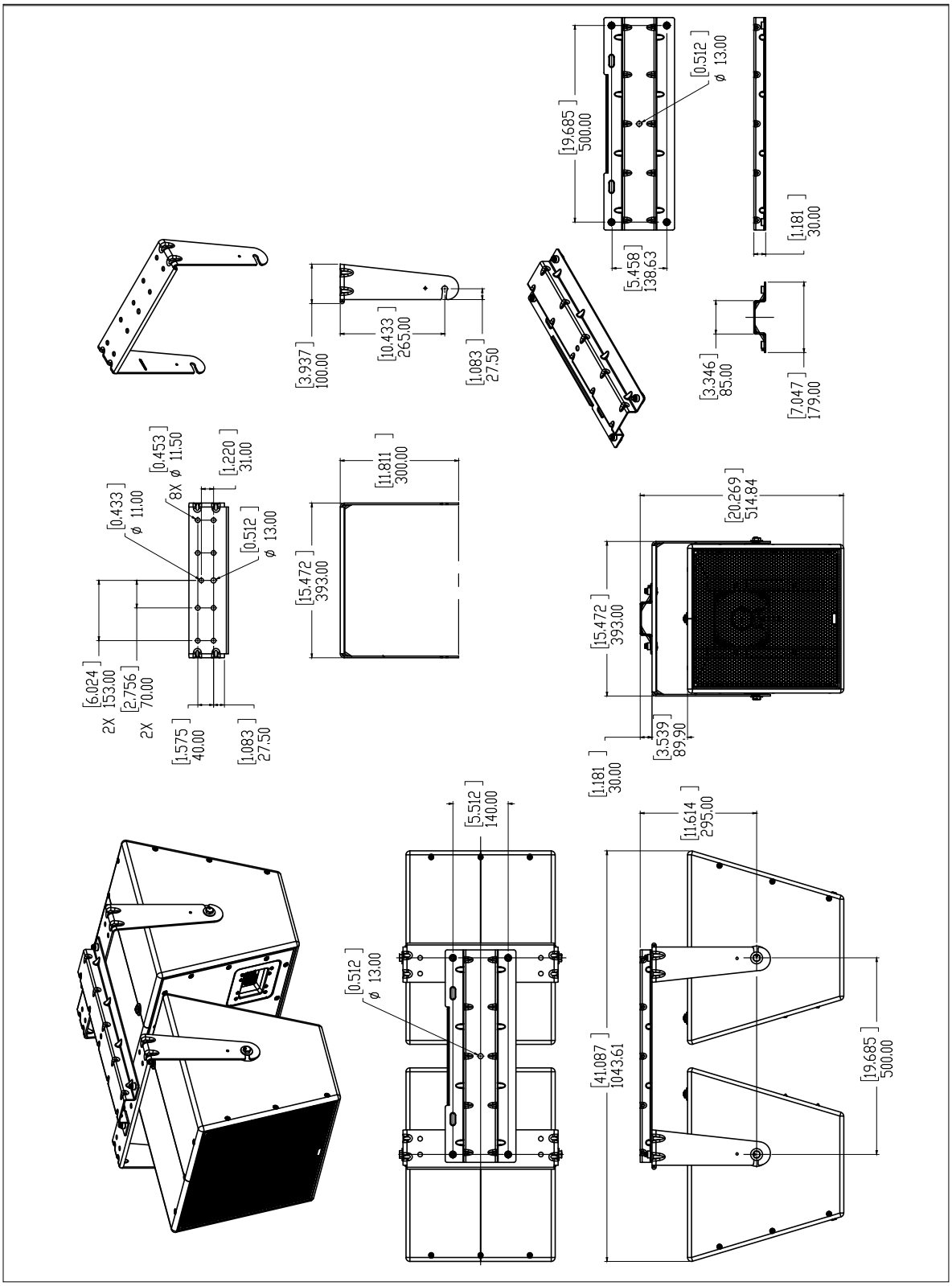
Unit Weight
70.5 lbs [32 kg]

Shipping Weight
85.6 lbs (38.8 kg)

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

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

Enclosure / Finish
uniformly textured vinyl-wrapped 12mm
Eucalyptus plywood enclosure. Grey (RAL#7038)



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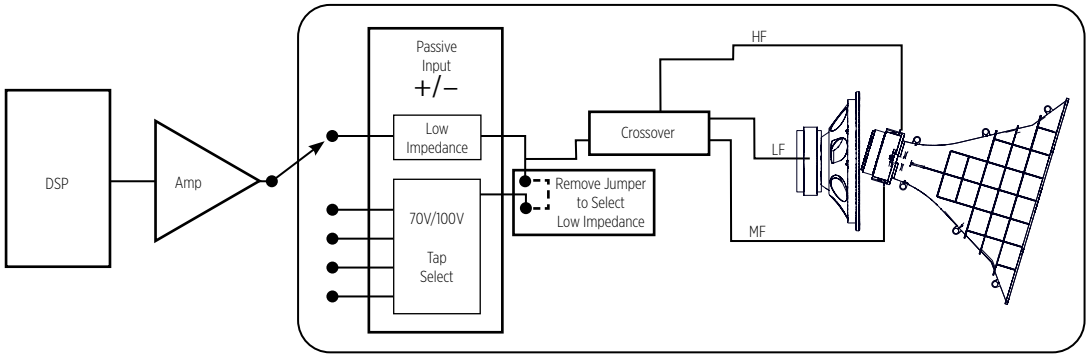
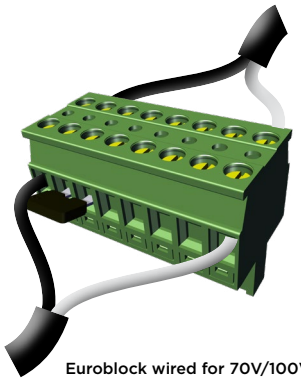
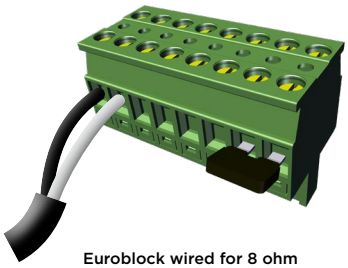
CONNECTION DIAGRAMS



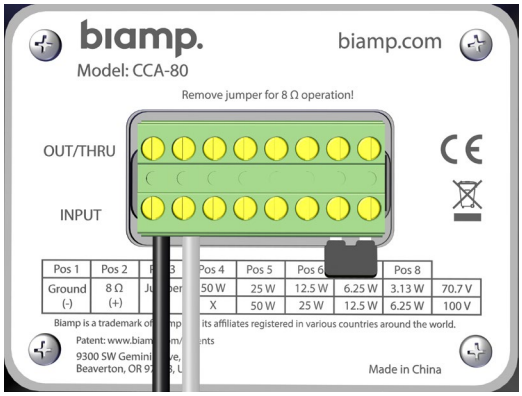


Euroblock wired for 70V/100V with pass through to next cabinet



Euroblock wired for 8 ohm (no pass through shown)

Euroblock Wiring



Input Panel

NOTES

1. **PERFORMANCE SPECIFICATIONS** *All measurements are performed using a time-windowed impulse response to eliminate reflections, approximating an anechoic environment, at a distance of at least 6 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 Community Amplified Loudspeaker Controllers (ALC SERIES).*
2. **OPERATING RANGE** *The frequency range over which the on-axis equalized/processed response remains within 10 dB of the average SPL.*
3. **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.*
4. **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.*
5. **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.*
6. **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.*
7. **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.*
8. **FREQUENCY RESPONSE w/PROCESSING** *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.*
9. **COVERAGE** *The horizontal polar radiation pattern varies by frequency congruent with the asymmetrical vertical pattern. Therefore, conventional horizontal & vertical coverage pattern degree indicators do not apply. This product's radiation pattern is best evaluated in the GLL and/or CLF data file format.*

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.*