

TECHNICAL SPECIFICATIONS

C10

Product Group: *Installation Point Source*
System Type: *2-Way, 10" x 1.4", 120° x 60°*

FEATURES AND ADVANCES

- Excellent Near-Field Performance
- Low Distortion and High Power Handling
- Good Low-Frequency Extension
- 3.0" Ti Diaphragm Compression Driver
- Weather and Wear Resistant
- Flush Mount Wrap-around Grill

APPLICATIONS

- Performing Arts
- House of Worship
- Auditoriums
- Theatrical Sound
- Sports Facilities
- Theme Park

PRODUCT DESCRIPTION

The C10 is a two-way, full range passive loudspeaker, designed specifically for permanent installations which require good fidelity, excellent near field performance, and good low frequency extension. The product is built around the new McCauley 6225-8 10" cone driver and an improved 3.0" diaphragm, 1.4" exit compression driver mounted to a 120° x 60° horn. The C10 is optionally available in a bi-amp configuration with a higher directivity, rotatable 90° x 60°, or near-field 90° x 90° HF waveguides.

The 6225-8 is the latest midrange ferrite 10" woofer from McCauley, designed with a new T-pole geometry for a more optimized BL vs. displacement profile which improves linearity and reduces distortion. The 6225 motor features a 4.0" diameter by 0.7" edge wound aluminum voice coil, and a new pole piece design with an integrated 2" x 0.25" aluminum shorting ring to minimize inductance and improve heat dissipation. An improved deeper M-roll suspension and new spider design provides significantly improved low frequency performance over previous midrange loudspeakers models. While an improved dust-cap design provides better midrange directivity in crossover region. The 1.4" exit, high frequency compression driver, features a 3" titanium diaphragm, and a new surround design which reduces distortion at high power levels.

The C10 has been designed from the ground up as a Passive product, requiring only a single channel of amplification and minimal processing. The enclosure tuning and damping material have been engineered for the best performance in wall-mounted, full-range applications. The components have been positioned such that the HF horn and LF driver have excellent phase alignment in the vertical plane with listening positions as close as 6ft (2m) from the cabinet, guaranteeing that the C10 provides consistent roll-off in the response, with minimal off-axis lobing around the crossover region.

A manufacturer provided, 255pt 48kHz FIR filter can be used to quickly equalize the C10 to +/- 1dB, with the minimum of delay. Or traditional IIR type crossovers and PEQs can be used to equalize the cabinet easily, even with limited selection available on the typical low-cost digital console.

3/8-16 threaded reinforced hang points are distributed on the top, bottom and rear of the enclosure, or the optional C10-HU can be used in wall mounted applications. The C10-AF is available for flying horizontally with the C10-SB 12" Subwoofer.



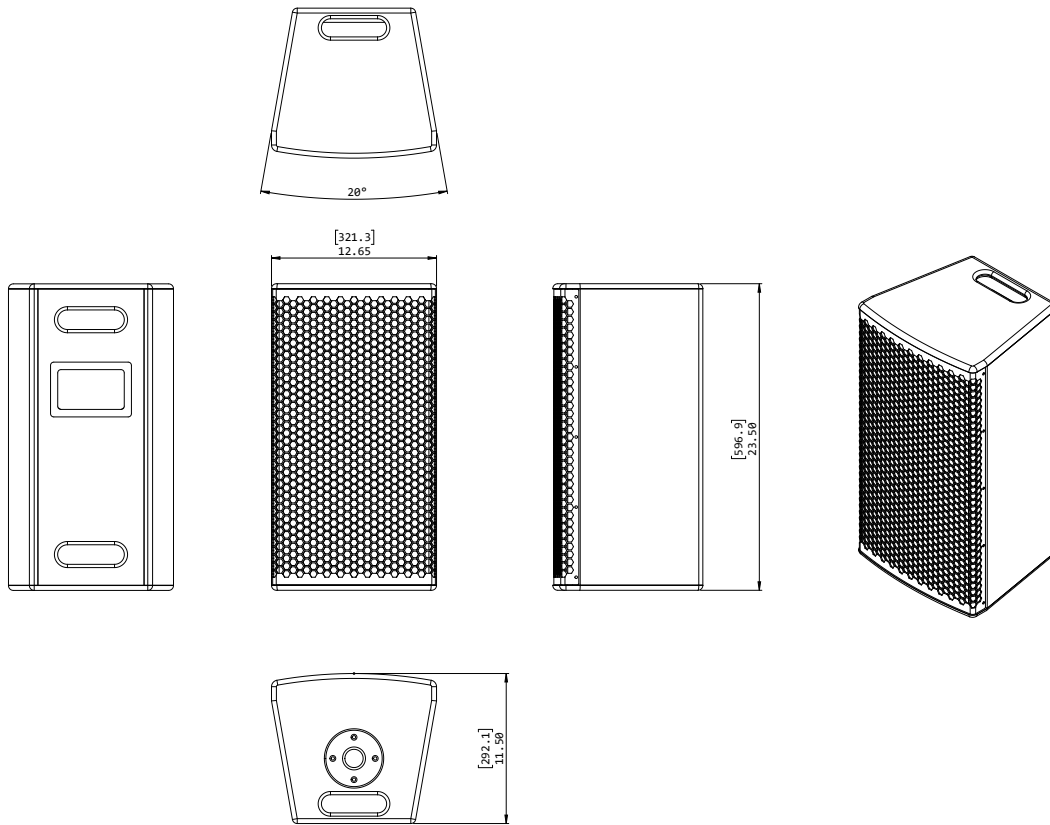
PERFORMANCE PARAMETERS

System Type	120° x 60°, 2-Way, Full Range
Transducers	(1) 6225-8 10" Cone Transducer (1) 77102-8 1.4" Exit, 3" Diaphragm
Nom. Coverage Pattern	120° x 60°, 90° x 60°, 90° x 90°
Frequency Response (-10dB / ±3dB)	50Hz / 60Hz-18.5kHz
Min Processing	48kHz / 255pt FIR Capable DSP
Min Recommended X-over	1100Hz - LR24
Nominal Impedance - LF / HF	8.0Ω / 8.0Ω
Sensitivity - Passive	96 dB SPL
Power (AES2/Peak) - Passive	500W @ 8.0Ω / 2000W
Maximum SPL Passive (program / peak)	126 dB SPL / 129 dB SPL

PHYSICAL PROPERTIES

Weight	48lbs/22kg
Dimensions (Without Casters)	INCHES 23.5 H x 12.65 W x 11.5 D CENTIMETERS 59.7 H x 32.2 W x 29.1 D
Enclosure Material	5/8" 13-ply birch laminate
Hardware	(14) 3/8-16 reinforced hang points
Finish	Procoat™ Polyurea-Hybrid Weatherproofing (Black is standard, White or Custom Colors Available)
Connectors	(1) Phoenix PC_4-4-ST-7.62 4-Position Accepts up to 10AWG or (2) Neutrik™ Speakon NL4 LF 1+/1- HF 2+/2-
Configurations	C10 Standard with 3/8-16 Hang Points -P Add Pole Mount / Handles -X Weather Proofing -4 Neutrik NL4 -C Custom Color
Optional Accessories	C10-HU..... Horizontal U-Bracket C10-VU..... Vertical U-Bracket C10-AF..... Array Frame for flying w/ C10-SB

DIMENSIONAL ILLUSTRATIONS



ARCHITECTS AND ENGINEERS SPECIFICATIONS

The two-way full range loudspeaker system shall incorporate one (1) McCauley 6225-8, 4" (102 mm) voice coil, 10" (254 mm) diameter LF transducer, and one (1), 77102-8, 1.4" (36 mm) exit, 3" (76 mm) diaphragm compression driver HF transducer. The LF driver shall be mounted in a vented enclosure tuned for an optimal low frequency response, and with vent area of such size that distortion is minimized at the rated continuous power. The high frequency transducer shall be mounted to a constant directivity acoustic horn with a nominal horizontal coverage pattern of 120°. The vertical coverage pattern of the horn shall be 60° and shall also provide constant directivity. The HF horn shall feature a square mounting flange, allowing a horn to be rotated by 90°.

The system frequency response shall vary no more than ± 3 dB from 60 Hz to 18 kHz measured on axis. The low frequency transducer shall produce a Sound Pressure Level (SPL) of 99 dBSPL at a distance of 1 meter with an electrical power input of 2.83 Vrms, and shall be capable of producing a maximum peak output of 132 dBSPL on axis at 1 meter. The high frequency transducer shall produce a SPL of 107 dBSPL on axis at 1 meter with an electrical power input of 2.83 Vrms, and shall be capable of producing a peak output of 135 dBSPL on axis at 1 meter.

The low frequency transducer shall handle 400W of amplifier power (per AES ref Standard AES2-2012) and shall have a nominal impedance of 8.0 Ohms. The high frequency transducer shall handle 110W of amplifier power (per AES ref Standard AES2-2012) and shall have a nominal impedance of 8.0 Ohms.

The loudspeaker enclosure shall have a maximum weight of 48 lbs.(22 kg) and shall measure 12.65" (322 mm) wide at front, 9.44" (240 mm) in width at rear, 23.5" (597 mm) in height, and 11.5"(292 mm) in depth. The enclosure sides shall taper at 10° from a maximum frontal width, narrowing to the rear. The structure of the enclosure shall be constructed of multi-ply void-free birch hardwood plywood, and shall have a weather and wear resistant ProCoat(tm) polyurea hybrid finish.

The input connection shall be, one (1) 4-Position, 20A rated, Phoenix PC_4-4-ST-7.62, which accepts single bare wires up to 10AWG or dual 12AWG wires with a ferule. Pins (1+, 1-) shall be wired to the LF transducer, while pins (2+, 2-) shall be wired to the HF transducer. When configured with a passive network, pins (1+, 1-) shall be in parallel with (2+, 2-).

A total of eight (14) 3/8"-16 UNC threaded mounting/suspension points (four on top, four on bottom, two rear, two on each side) shall be provided. The loudspeaker shall support an optional Horizontal U-Bracket C10-HU and Vertical U-Bracket C10-VU for wall mounted applications, or a Horizontal Array Frame for flying with the C10-SB 12" subwoofer.

Components in the front of the enclosure are to be protected by a curved, flush mounted, wrap-around grill made from perforated steel that is coated with heat cured epoxy powder and lined with acoustically transparent foam.

The 2-way full range loudspeaker shall be the McCauley Sound model C10.