

## TECHNICAL SPECIFICATIONS

# C10D

**Product Group:** *Installation Point Source*  
**System Type:** *2-Way, Dual 10" x 1.4", 100° x 60°*

### FEATURES AND ADVANCES

- Constant Directivity 500Hz - 16kHz
- High Power Handling 4" Voice Coils
- 3" Diaphragm Compression Driver
- Heavy Duty Tour-Grade Construction
- Reinforced 3/8-16 Threaded Hang Points
- Weather and Wear Resistant
- Flush Mount Wrap-around Grill

### PRODUCT DESCRIPTION

The C10D is a two-way, full range loudspeaker, designed specifically for permanent installations which demand high performance and good directivity characteristics down to the mid-range frequencies. It is comprised of two (2) McCauley 8221 10" cone drivers and a 3.0" diaphragm compression driver mounted to a rotatable 100° x 60° waveguide. The enclosure has been engineered to deliver near constant directivity from 500Hz to 16kHz in both the horizontal and vertical planes.

At the heart of the C10D is the McCauley 8221 10" loudspeaker. It features a FEA optimized, field serviceable ferrite magnet structure, and large 4" diameter aluminum voice coil to improve power handling. The newly developed, light-weight hybrid paper-composite cone, balances high stiffness with the internal damping that is inherent to paper, keeping breakup modes above the crossover frequency. 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 enclosure has been engineered such that the HF horn and LF drivers are phase aligned in the horizontal plane, while the LF drivers provide off-axis attenuation in the vertical plane.

The C10D has been designed from the ground up as a Passive product. A manufacturer supplied 1.25ms FIR filter fully equalizes the system and provides a linear phase response through the passive network. The C10D is optionally available in a bi-amp configuration with a higher directivity, or 60° x 60° HF waveguide.

### PERFORMANCE PARAMETERS

Transducers	(2) 8221-8 10" Cone Transducer (1) 77115-8 1.4" Exit, 3" Diaphragm
Nom. Coverage Pattern	100° x 60°
Frequency Response (-10dB / ±3dB)	50Hz / 60Hz-18.5kHz
Min Processing	48kHz / 255pt FIR Capable DSP
Min Recommended X-over	1000Hz - LR24
Nominal Impedance - LF / HF	4.0Ω / 8.0Ω
Sensitivity - Passive	100 dB SPL
Power (AES2/Peak) - Passive	900 W @ 4.0Ω / 3600 W
Maximum SPL Passive (program / peak)	132 dB SPL / 135 dB SPL
Connectors	(1) Phoenix PC_4-4-ST-7.62 4-Position Accepts up to 10AWG or (2) Neutrik™ Speakon NL4 LF 1+/-, HF 2+/-



### APPLICATIONS

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

### CONSTRUCTION

The C10D enclosure is constructed of multi-ply void free birch plywood and is coated with a weather and wear resistant Pro Coat™ polyurea hybrid finish.

Loudspeaker components are protected by a flush mounted, wrap-around perforated steel grill lined with acoustically transparent foam. The grill and rigging components are weather protected with a heat cured epoxy powder coat finish.

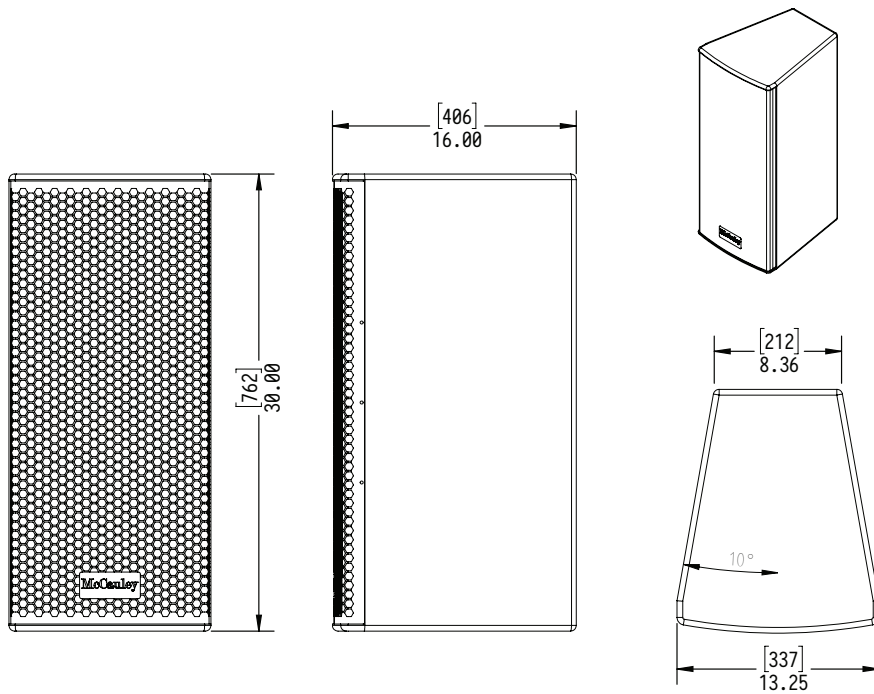
The C10D contains only non-organic, fire resistant insulation and all soft parts are treated to resist moisture.

3/8-16 threaded reinforced hang points are distributed on the faces of the enclosure, or optional flyware can be used in various wall mounted and flown applications. The McCauley Sales Engineering team can help you determine the best solution for your project.

### PHYSICAL PROPERTIES

Weight	95Lbs/43kg
Dimensions (Without Casters)	INCHES 30.0 H x 13.25 W x 16.0 D CENTIMETERS 76.2 H x 33.7 W x 40.6 D
Enclosure Material	5/8" 13-ply birch laminate
Hardware	(8) 3/8-16 reinforced hang points
Finish	Procoat™ Polyurea-Hybrid Weatherproofing (Black is standard, White or Custom Colors Available)
Configurations	C10D ..... Standard with 3/8-16 Hang Points -P ..... Add Pole Mount Hardware / Handles -X ..... Weather Proofing -4 ..... Neutrik NL4 -C ..... Custom Color
Optional Accessories	C10D-VU..... Vertical U-Bracket C10D-TP..... Tilt-Pan Bracket

## DIMENSIONAL ILLUSTRATIONS



## ARCHITECTS AND ENGINEERS SPECIFICATIONS

The two-way full range loudspeaker system shall incorporate two (2) McCauley 8221-8, 4" (102 mm) voice coil, 10" (254 mm) diameter LF transducers, and one (1), 77115-8, 1.4" (36 mm) exit, 3" (76 mm) diaphragm compression driver HF transducer. The LF drivers shall be mounted in a vented enclosure tuned for a maximally flat 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 100°. 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 the horn to be rotated by 90°.

The system frequency response shall vary no more than  $\pm 3$  dB from 60 Hz to 18 kHz measured on axis. The low frequency transducer shall produce a Sound Pressure Level (SPL) of 100 dB SPL 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 dB SPL on axis at 1 meter. The high frequency transducer shall produce a SPL of 107 dB SPL 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 dB SPL 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.

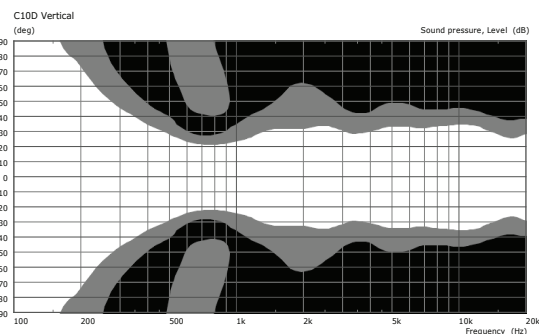
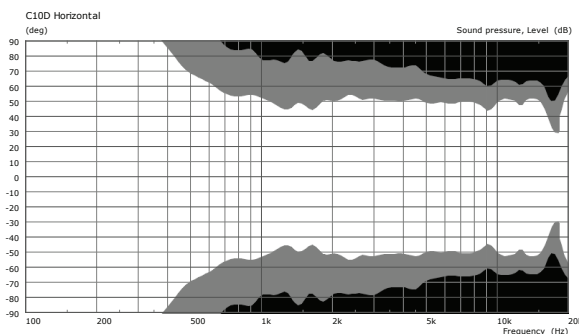
The loudspeaker enclosure shall have a maximum weight of 95 lbs.(43 kg) and shall measure 13.25" (337 mm) wide at front, 8.36" (212 mm) in width at rear, 30.0" (762 mm) in height, and 16.00" (406 mm) in depth. The enclosure sides shall taper at 10° from a maximum frontal width, narrowing to the rear. 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 (8) 3/8"-16 UNC threaded mounting/suspension points (four on top, two on bottom, two rear) shall be provided. The loudspeaker shall support an optional Vertical U-Bracket C10D-VU for wall mounted applications.

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 C10D.



Standard 100° x 60° waveguide horizontal and vertical polar map for free field measurements (4m) showing -6dB and -12dB isolines relative to the on-axis response.