

C12-M Line Array



Applications

Performing Arts Centers
Houses of Worship
Stadiums/Arenas
Theaters
Night Clubs
Cruise Ship Venues

Features

Three-Way (Bi-Amp)
LF Devices: (2) 12 in (304.8mm)
MF Devices: (2) 3.5 in (89mm)
HF Devices: (2)
Exit: 1.4 in (35.6mm)
Voice Coil Diam: 1.75 in (44.5mm)
Max Output 147 dB
90°H x 10° V (Standard)
Horizontal Dispersion Options:
60 to 140°H in 10° increments
Clair TrueFit
Integral Bimodal Rigging
Epoxy Mastic Finish
(2) EP-8 Connectors

General Description

The C12-M is Clair Brothers latest innovation in line array technology. It incorporates an advanced transducer technology for both midrange and high frequency reproduction, both of which join a common waveguide. At least two amplifier channels are required, one for low freq., one for mid/hi which is coupled via an internal passive crossover network.

The centrally located mid/high module provides 10° vertical coverage and variable horizontal coverage. The horizontal pattern may be altered to optimize coverage within the context of the application. The horizontal coverage angle may be defined symmetrically or asymmetrically by standard angles between 60° and 140° in 10° increments or may be custom configured with continuously variable Clair TrueFit custom waveguides. The horn and waveguides are constructed, as all Clair waveguides are, with CNC machined Baltic birch plywood. This is symmetrically flanked by the C12-M low frequency sections. Each 12" low frequency driver is front loaded in its own tuned reflex chamber.

C12-M enclosures are equipped with integrated bimodal rigging including adjustable rear rigging for a variety of installation applications. The rear rigging device allows the speaker array to be adjusted from 0° to 10° at 0, 2.5, 5, 7.5 or 10° increments when the line array is flown or stacked.

Increased angular resolution at 0.25° increments is available using Bimodal Incremental Rigging

Disc (BIRD) accessories (0.5°, 0.75°, 1.0°, and 1.25° increments - for use in compression rigging mode only).

Clair Brothers combines amplification, and proprietary DSP processing in permanent or portable racks for all C12 systems. Custom cabling for systems is available as well and can be pre-wired, labeled and installed.

EASE GLL files are available upon request for C12 90° and 120° cabinets.

As with all Clair Brothers speaker products, the C12-M is constructed with the finest Baltic birch plywood. The enclosure is finished with a durable epoxy mastic coating to withstand the most demanding conditions. The speaker grille is constructed of high-grade 14 gauge perforated steel and finished with a commercial grade powder coat finish.

Options & Accessories

C12-M-90 – Standard 90° H x 10° V Dispersion

C12-M-#° – Optional #° Horizontal Dispersion
[60° to 140° H in 10° increments]

C12-i – Install Model (-90 and #° options)

C12-TrueFit – Custom Configured
Variable Waveguides



Proprietary DSP + Amplification Rack Packages

Ground Stack Rigging | Soft Cover | Transport Dolly

Bimodal Incremental Rigging Discs (BIRD)

C12-M Line Array



Audio Specifications

Loudspeaker Type	Line Array Element	Three-Way Active (Bi-Amp with Passive Mid/Hi)	
Frequency Response	Single Cabinet	45Hz–20kHz (+/- 2dB) (-10dB) 28Hz–22kHz	
Recommended Power Amplifier		CB-PLM12K44 or CB-D120:4L	
Maximum Array ¹		20 C12-M ¹	
Compatible Subs		iS218-M, CS218-M	
Prediction Software		Clair GLL/AFMG Ease Focus™ Array	
Processing, Configuration & System Optimization Software		Lake Controller® with Clair DSP, WiFi System Control	
Sensitivity (1 Watt @ 1 Meter)	LF	99 dB SPL	
	MF/HF	121.8 dB SPL	
Maximum Output		147 dB SPL	
Drivers	LF	(2) 12 in (304.8mm)	
	MF	(2) 3.5 in (89mm)	
	HF	(2) Exit 1.4 in (35.6mm); VC diameter 1.75 in (44.5mm)	
Nominal Impedance	LF	2 x 8 Ohms	
	MF	16 Ohms	
	HF	16 Ohms } Integrated Passive Crossover Network	
Power Handling		<i>AES Power</i>	<i>Peak Power</i>
	LF	1800W	3800W
	MF	300W	1000W
	HF	320W	640W
Dispersion	Standard	90° H x 10° V	
	Optional Horizontal	60° – 140° H (10° increments)	
	Custom Horizontal	Clair TrueFit: Custom Tailored Continuously Variable	
Input Connection		(2) EP-8 Connectors (1 Male, 1 Female)	

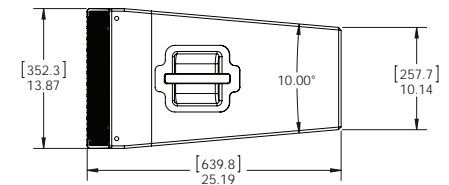
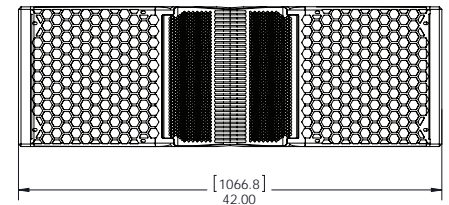
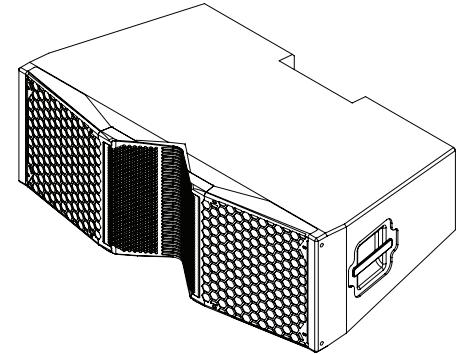
Mechanical Specifications

Enclosure	Shell	18mm Baltic Birch
	Finish	Black Epoxy Mastic
Grille		Powder Coated Steel, Foam Backed
Dimensions	Front Height	13.87 in (352.3mm)
	Rear Height	10.14 in (257.7mm)
	Width	42.00 in (1066.8mm)
	Depth	25.19 in (639.8mm)
Weight		153 lbs (69.4kg)
Shipping Weight		171 lbs (77.6kg)

1) Refer to C12 Rigging Manual for Configuration Limits vs. Modes of Use.

Note: All wattage figures are calculated using the rated nominal impedance.

Clair Brothers products are designed to perform optimally by utilizing factory recommended proprietary DSP settings.



C12-M EP-8 Pin Configuration			
PIN	USE	PIN	USE
1	Low 1 (-)	5	Mid/High Top (-)
2	Low 1 (+)	6	Mid/High Top (+)
3	Low 2 (-)	7	Mid/High Bot (-)
4	Low 2 (+)	8	Mid/High Bot (+)

Architect and Engineer Specifications

The loudspeaker system shall be a three-way active, line array element cabinet. Two amplifier channels shall be required, one for low freq., one for mid/hi wherein the mid/hi section is coupled via an internal passive crossover network. The system shall have an amplitude response of 45Hz to 20,000 Hz (+/- 2 dB), 28Hz to 22,000 Hz (- 10 dB). The loudspeaker system shall be symmetrically loaded with two 12" low frequency transducers. The low frequency drivers shall be 12" nominal diameter capable of combined handling 1800W of power as per AES Standard. The low frequency drivers shall each be mounted in independent reflex tuned vented chambers. The mid/high frequency horn section shall be centrally located within the enclosure and shall feature 2x 1.4" exit / 1.75" voice coil diameter compression drivers that are each capable of 160W(AES) and midrange drivers shall be 2x 3.5" nominal diameter each capable of 150W(AES) mounted to a waveguide and horn assembly that provides 10° V dispersion. The horizontal directivity system shall consist of a pair of interchangeable acoustic waveguide lenses that permit installation of waveguides between 60° and 140° in 10 degree increments. The rigging shall be structurally integrated into the enclosure construction and shall permit the deployment of the cabinet into typical line array configurations. The loudspeaker enclosure shall be 18mm, 13-ply Baltic birch plywood. The cabinet shall be finished using black epoxy mastic finish. The front of the enclosure shall be fitted with a 14 gauge perforated steel grille backed with foam. The loudspeaker shall be 13.87" H (front) x 10.14" H (rear) x 42.00" W x 25.19" D and weigh 153 lbs (69.4kg). The loudspeaker system shall be the Clair Brothers C12-M speaker.

Due to constant research, development and improvements all specifications are subject to change without notice.

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