

**CAUTION**

Only operate Cohesion loudspeakers with correctly configured and approved LabGruppen amplifiers and Cohesion factory presets. Not adhering to amplified recommendations will risk damaging loudspeaker components and can compromise optimal operation.

Approved LabGruppen amplifiers are stated in the amplification section of this reference guide.

CF SERIES

The CF Series was developed for use in small to medium-scale sound reinforcement applications. Inspired by the acclaimed Cohesion monitors, the CF Series delivers the same performance and nuance that artists expect on stage. It can also serve as a partner to the large format Cohesion systems for fill and/or delay purposes.

CM 14

The CM14 is a touring-grade, high output stage monitor with excellent clarity and range. Building on the success of the celebrated 12AM monitor, this compact monitor wedge accurately reproduces kick, bass, and other LF content with a frequency response of 48 Hz–17 kHz. It features a 14" neodymium dual voice coil driver, and the high frequency horn pattern provides even coverage and high gain before feedback.

**CAUTION**

Always use high-quality insulated speaker cables from reputable manufacturers. Use cables with a wire gauge sufficient for the application and keep the lengths as short as possible to reduce signal degradation over distance.

CONNECTIONS**NOTE**

NL4, EP-4, and terminal strip pinouts vary per model. They are not interchangeable and important detail must be taken when connecting to amplifiers.

Reference specification sheets for connector details.

**CAUTION**

Make sure the total number of CF enclosures per circuit/amplifier does not exceed the recommended maximum.

AMPLIFICATION

The CF Series and CM14 are powered exclusively by the LabGruppen PLM+ series of amplifiers. All Cohesion loudspeaker products processing is performed by LabGruppen internal DSP: no additional DSP is required.



CAUTION

Approved LabGruppen amplifiers for CF products:

PLM+ 20k44 / D 200:4L

PLM+ 12k44 / D 120:4L

PLM+ 8k44 / D 80:4L

D 40:4L

Approved LabGruppen amplifiers for CM14:

PLM+ 20k44 / D 200:4L

PLM+ 12k44 / D 120:4L

Product	1, 2, 3 Way	PLM 20K44		PLM 12K44		PLM 8K44		D 40:4L	
		D 200:4L		D 120:4L		D 80:4L			
		Per Ch.	Per Amp	Per Ch.	Per Amp	Per Ch.	Per Amp	Per Ch.	Per. Amp
CM14	Single Amp Passive	2	8	2	8	Not Recommended		Not Recommended	
CF24	Single Amp Passive	6	24	6	24	4	16	4	16
CF10	Single Amp Passive	3	12	3	12	2	8	1	4
CF14*	Single Amp Passive	2	8	2	8	2	8	1	4
CF28*	Single Amp Passive	2	8	2	8	2	8	1	4

*Preliminary, based on expected performance

PRESETS

Cohesion presets are designed exclusively for each product based on application. They can easily be recalled in the Lake Controller software or on the front panel of the amplifier. The Cohesion factory presets ensure proper electro-acoustical coupling between transducer sections within an enclosure and between enclosures when combined. It is recommended that the user match and recall the appropriate preset for the intended application.



TIP

Presets are easier to manage and implement in the Lake Controller software.

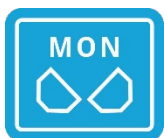
CF SERIES PRESETS

The CF Series preset library includes standard operating modes for all products in the series. Additionally, there are monitor presets for on-stage performance that are exclusive to the CF10 & CF14. The CF Series presets are exclusively developed for LabGruppen amplifier systems and are easily controlled through the Lake Controller software. Refer to the CF Series preset guide for preset descriptions and applications.



Standard

The standard preset was designed for optimal fidelity and performance. It is recommended that the standard preset is used for any application facing the audience. It exhibits a full range linear response for the purpose of reinforcement or reproduction.



Monitor

The CF series has a monitor preset to optimize on-stage performance. The preset exhibits a unique frequency response optimized to improve vocal clarity and increase gain before feedback. Furthermore, the preset reduces overall electronic delay making it the preferred preset for on-stage monitor applications. Exclusive to CF10 and CF14.



CAUTION

Presets are not interchangeable amongst the series of products. Each individual product requires the correct preset and application specific to that product. Not adhering to preset recommendations will risk damaging loudspeaker components.

CF10

The CF10 represents the ideal balance of performance and portability. With a maximum SPL of 136 dB and an extended frequency response down to 50 Hz, the CF10 delivers performance typically found in a 12" enclosure in a significantly more compact form factor.

Its innovative design boasts a rotatable horn, built-in monitor angle, and a convenient pole cup, which offers nearly limitless placement options for multiple applications. The CF10 pairs well with the CO Series as a fill system, on its own as part of a distributed system, or as a standalone portable PA.

The CF10 is built with premium weather-resistant components to ensure reliability in harsh environmental conditions. Cohesion products are designed and assembled in the USA.



AUDIO SPECIFICATIONS

Loudspeaker Type	Point Source	Two-Way (Single Amplifier Channel Passive)
Frequency Range		50 Hz - 19 kHz (-10 dB)
Frequency Response		62 Hz - 18 kHz (+/- 3 dB)
Recommended Power Amplifier		Only use Cohesion recommended amplification
Processing, Configuration & System Optimization Software		Lake Controller® with custom Clair DSP settings, Ethernet/WiFi System Control
Maximum Output		136 dB SPL @ 1 M
Drivers	LF HF	(1) 10 in. (254 mm) Cone Driver (1) 3 in. (76.2 mm) Voice Coil Compression Driver
Nominal Impedance	Passive	8 Ohms
Directivity	Standard	100° H x 60° V Rotatable
Input Connection		(2) NL4 connectors, (1) 4-pin terminal block

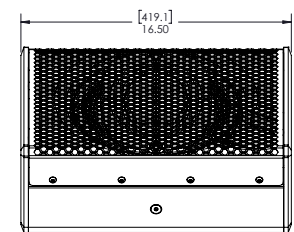
MECHANICAL SPECIFICATIONS

Enclosure	Shell Finish	Baltic Birch Plywood w/ Intergrated Pole Cup Textured Black Polyurea Coating
Rigging		(4) M8 Mounting Points
Grille		Powder Coated Aluminum, Fabric
Weight		28.2 lbs. (12.8 kg)
Physical Dimensions	Front Height Width Depth	11.47 in. (291.4 mm) 16.50 in. (419.1 mm) 9.66 in. (245.2 mm)

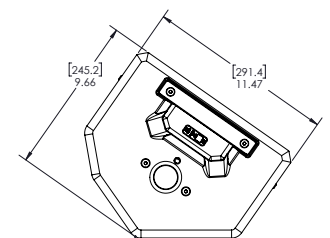
APPLICATIONS

Front Fill
Small Side Fill/Outfill
Under/Over Balcony Delay/Fill
Portable PA
Stage Monitor

PHYSICAL DIMENSIONS



Front



Side

ACCESSORIES

Learn more about this product's mounting and rigging accessories at

cohesionaudio.com/products/cf10



CF14

The CF14 represents the ideal balance between power and precision within the CF Series. With a maximum SPL of 140 dB, full-range bandwidth to 45 Hz, and 70° x 50° coverage, the CF14 delivers concert-level sound with point source precision.

Its versatile design, featuring a rotatable horn and pole cup, seamlessly integrates into any setup, whether as a high-powered stage monitor or a delay system for arrayable Cohesion products. Used as a fill system for the CO Series or distributed on its own, the CF14 offers exceptional application flexibility.

The CF14 is built with premium weather-resistant components to ensure reliability in harsh environmental conditions. Cohesion products are designed and assembled in the USA.



AUDIO SPECIFICATIONS

Loudspeaker Type	Point Source	Two-Way (Single Amplifier Channel Passive)
Frequency Range		45 Hz - 20 kHz (-10 dB)
Frequency Response		52 Hz - 17 kHz (+/- 3 dB)
Recommended Power Amplifier		Only use Cohesion recommended amplification
Processing, Configuration & System Optimization Software		Lake Controller® with custom Clair DSP, Ethernet/WiFi System Control
Maximum Output		140 dB SPL @ 1 M
Drivers	LF HF	(1) 14 in. (355.6 mm) Cone Driver (1) 3 in. (76.2 mm) Voice Coil Compression Driver
Nominal Impedance	Passive	8 Ohms
Directivity	Standard	80° H x 50° V Rotatable
Input Connection		(2) NL4 connectors, (1) 4-pin terminal block

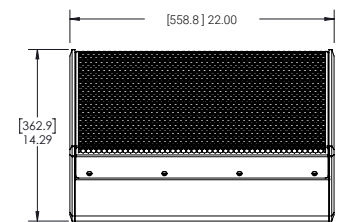
MECHANICAL SPECIFICATIONS

Enclosure	Shell Finish	Baltic Birch Plywood w/ Integrated Pole Cup Textured Black Polyurea Coating
Rigging		(4) M10 Mounting Points
Grille		Powder Coated Aluminum, Fabric
Weight		47 lbs. (21.4 kg)
Physical Dimensions	Height Width Depth	15.25 in. (387.4 mm) 22.00 in. (558.8 mm) 12.12 in. (307.9 mm)

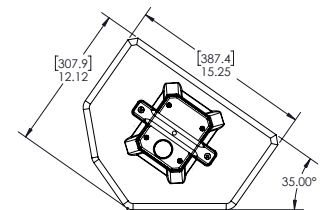
APPLICATIONS

Outfill
Under/Over Balcony Delay/Fill
Portable PA
Stage Monitor

PHYSICAL DIMENSIONS



Front



Side

ACCESSORIES

Learn more about this product's mounting and rigging accessories at

cohesionaudio.com/products/cf14



CF24

The CF24 represents the most compact offering within the innovative CF Series, boasting a maximum SPL of 122 dB and exceptional performance for its size, with low frequency extension to 82 Hz.

The compact form factor seamlessly integrates into stud walls and recessed areas, allowing for discreet placement within new construction or built architecture while maintaining sonic excellence. Used as a fill system for the CO Series or distributed on its own, the CF24 offers exceptional application flexibility.

The CF24 is built with premium weather-resistant components to ensure reliability in harsh environmental conditions. Cohesion products are designed and assembled in the USA.



AUDIO SPECIFICATIONS

Loudspeaker Type	Point Source	Two-Way (Single Amplifier Channel Passive)
Frequency Range		82 Hz - 20 kHz (-10 dB)
Frequency Response		100 Hz - 20 kHz (+/-3 dB)
Recommended Power Amplifier		Only use Cohesion recommended amplification
Processing, Configuration & System Optimization Software		Lake Controller® with custom Clair DSP settings, Ethernet/WiFi System Control
Maximum Output		122 dB SPL @ 1 M
Drivers	LF HF	(2) 4 in. (34 mm) Cone Drivers (1) 1.4 in. (36 mm) voice coil Compression Driver
Nominal Impedance	Passive	16 Ohms
Directivity	Standard	110° H x 110° V
Input Connection		(2) NL4 connectors, (1) 4-pos terminal block

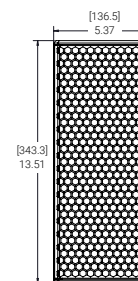
MECHANICAL SPECIFICATIONS

Enclosure	Shell Finish	Baltic Birch Plywood Textured Black Polyurea Coating
Rigging		(5) M8 Mounting Points
Grille		Powder Coated Aluminum, Fabric
Weight		7.5 lbs. (3.4 kg)
Physical Dimensions	Height Width Depth	13.51 in. (343.3 mm) 5.37 in. (136.5 mm) 4.00 in. (101.6 mm)

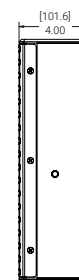
APPLICATIONS

Front Fill
Under Balcony Fill/Delay
Over Balcony Fill/Delay
Distributed Systems
Architectural/Lifestyle

PHYSICAL DIMENSIONS



Front



Side

ACCESSORIES

Learn more about this product's mounting and rigging accessories at

cohesionaudio.com/products/cf24



CF28

The CF28 is a powerful, low-profile performer within the innovative CF Series, boasting a maximum SPL of 137 dB and an exceptional low frequency extension to 52 Hz.

Its robust yet compact design offers flexibility in placement, ensuring optimal performance when on stage, filling in gaps, or virtually any other application. The CF28 pairs well with the CO Series as a fill system, on its own as part of a distributed system, or as a standalone portable PA.

The CF28 is built with premium weather-resistant components to ensure reliability in harsh environmental conditions. Cohesion products are designed and assembled in the USA.



AUDIO SPECIFICATIONS

Loudspeaker Type	Point Source	Three-Way (Single Amplifier Channel Passive)
Frequency Range		46 Hz - 20 kHz (-10 dB)
Frequency Response		52 Hz - 19 kHz (+/-3 dB)
Recommended Power Amplifier		Only use Cohesion recommended amplification
Processing, Configuration & System Optimization Software		Lake Controller® with custom Clair DSP settings, Ethernet/WiFi System Control
Maximum Output		142 dB SPL @ 1 M
Drivers	LF MF HF	(2) 8 in. (203 mm) Cone Drivers (1) 3 in. (76 mm) voice coil Compression Driver (1) 2 in. (51 mm) voice coil Compression Driver
Nominal Impedance	Passive	8 Ohms
Directivity	Standard	120° H x 50° V Rotatable
Input Connection		(2) NL4 connectors, (1) 4-pin terminal block

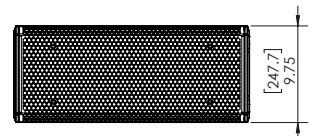
MECHANICAL SPECIFICATIONS

Enclosure	Shell Finish	Baltic Birch Plywood Textured Black Polyurea Coating
Rigging		(6) M10 Mounting Points
Grille		Powder Coated Aluminum, Textured Polyester Mesh Backed
Weight		46 lbs. (20.9 kg)
Physical Dimensions	Height Width Depth	9.75 in. (247.7 mm) 23.83 in. (605.2 mm) 13.75 in. (349.3 mm)

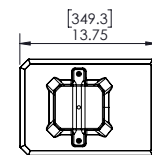
APPLICATIONS

High-Power Front Fill
High-Power Under Balcony Fill
Outfill
Portable PA

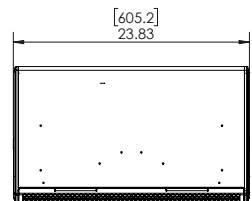
PHYSICAL DIMENSIONS



Front



Side



Top

ACCESSORIES

Learn more about this product's mounting and rigging accessories at



cohesionaudio.com/products/cf28

CM14

The CM14 is a touring-grade, high-output stage monitor with excellent clarity and range. Building on the success of the celebrated 12AM monitor, this compact monitor wedge accurately reproduces kick, bass, and other LF content with a frequency response of 48 Hz–17 kHz.

It features a 14" neodymium dual voice coil driver, and the high frequency horn pattern provides even coverage and high gain before feedback. Special attention has been given to the floor-coupled ports to provide low frequency impact and extension while minimizing port noise and compression in high-output situations.

The CM14 is built with premium weather-resistant components to ensure reliability in harsh environmental conditions. Cohesion products are



AUDIO SPECIFICATIONS

Loudspeaker Type	Stage Monitor	Two-Way (Single Amplifier Channel Passive)
Frequency Range		45 Hz - 20 kHz (-10 dB)
Frequency Response		48 Hz - 17 kHz (+/-3 dB)
Recommended Power Amplifier		Only use Cohesion recommended amplification
Processing, Configuration & System Optimization Software		Lake Controller® with custom Clair DSP settings, Ethernet/WiFi System Control
Maximum Output ¹		140 dB SPL @ 1 M
Drivers	LF HF	(1) 14.0 in. (355.6 mm) Cone Drivers (1) 3 in. (76.2 mm) Voice Coil Compression Driver
Nominal Impedance	Passive	8 Ohms
Directivity	Standard	50° H x 70° V
Input Connection		(2) EP-4 connectors (1 Male, 1 Female)

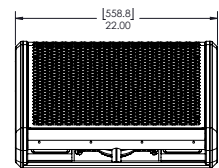
MECHANICAL SPECIFICATIONS

Enclosure	Shell Finish	Baltic Birch Plywood Textured Black Epoxy Mastic
Grille		Powder Coated Aluminum, Textured Polyester Mesh
Weight		49 lbs. (22 kg)
Wedge Angle		35°
Physical Dimensions	Height	13.75 in. (349.3 mm)
	Width	22.00 in. (558.8 mm)
	Depth	21.50 in. (546.1 mm)

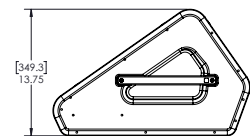
APPLICATIONS

Sports Facilities
Theaters
Festivals
Live Music Venues

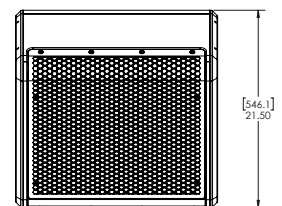
PHYSICAL DIMENSIONS



Front



Side



Top

ACCESSORIES

Learn more about this product's mounting and rigging accessories at

cohesionaudio.com/products/cm14

