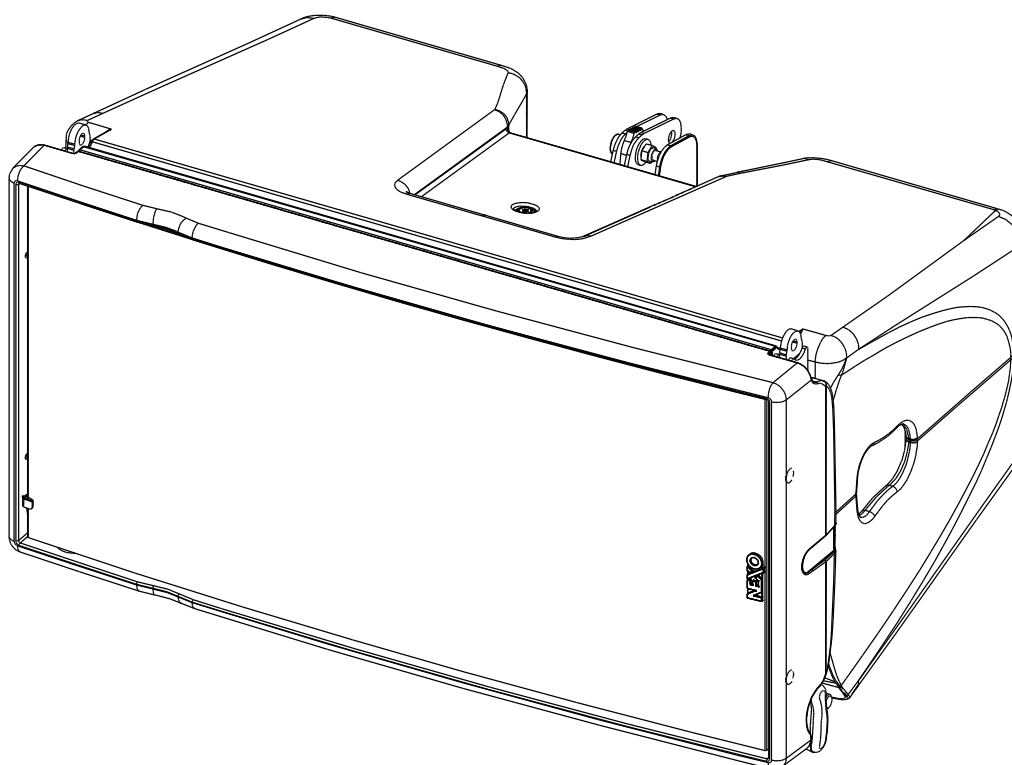


GEO M12 Series

GEOM1210 – GEOM1220



User manual



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EU Conformity declaration

We, **NEXO SA**
ZA DU PRE DE LA DAME JEANNE
60128 PLAILLY – France

Declare under our sole responsibility that the product **Loudspeaker**

Type **GEOM12**

Serial number **On the product**

Is in conformity with the provisions of the following directive **2014/35/UE (Low Voltage Directive)**
including all applicable amendments:

Applied rules and standards: **EN 13155, EN 62368**

Plailly, January, 2019 **Joseph CARCOPINO, R&D Director**



WARNINGS

PRECAUTIONS

Do not open the speaker, do not try to disassemble it neither to modify it in any way. The system doesn't include any user-repairable part.

If the system seems to be malfunctioning or damaged, stop using it at once and have it repaired by a NEXO qualified technician.

Do not expose the system directly to the sun or to the rain, do not immerse it into fluids, do not place objects filled with liquid on the system. If a liquid gets into the system, please have it inspected by a NEXO qualified technician.

The connection should be performed by qualified technician, by ensuring that power is off.

Operating temperature with temperate climate: 0°C to +40°C (+32°F to +104°); -20°C à +60°C (-4°F to +140°F) for storage.

SAFETY INFORMATION

Read this manual before using the speaker.

Keep this manual available for further reference.

Observe all warnings and cautions.

Please check the NEXO Web site nexo-sa.com to get the most up-to-date version of this manual.

Ensure you are aware of the safety rules applying to rigging, stacking or installing on tripod or speaker stand. Failure to observe these rules may expose persons to potential wounds or even death.

Only use the system with accessories specified by NEXO.

Please always consult a NEXO-accredited technician if the installation needs architectural works and observe following precautions:

Mounting Precautions:

- Please select screws and mounting location supporting 4 times the system weight.
- Do not expose the system to excessive dust, vibrations, to extreme cold or hot temperatures, to reduce the risk of damaging components.
- Do not place the system in an unstable position: it could fall accidentally.
- If the system is used on a tripod, please ensure the tripod's specifications are adapted and that its height does not exceed 1.40m/55". Do not move the tripod with the system in position.

Connection and Powering Precautions:

- Unplug connected cables before moving the system.
- Power off the system before connecting the system.
- When switching on the installation, the amplifier must be powered last; when switching the installation off, shut off the amplifier first.
- If you work by cold temperatures, progressively raise the level to nominal value during the first minutes of use, to allow the system components to stabilize.

Please check regularly the system condition.

HIGH SOUND PRESSURE LEVELS

Exposure to very high sound pressure levels may cause permanent hearing losses. Degrees of hearing losses may be different from one person to another, but almost everybody will be affected if exposed to high sound pressure levels during a long period of time. The OSHA (Occupational Safety and Health Administration) American Agency specified the following maximal exposures:

Number of Hours	Sound Pressure Level (dBA), Slow Response
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

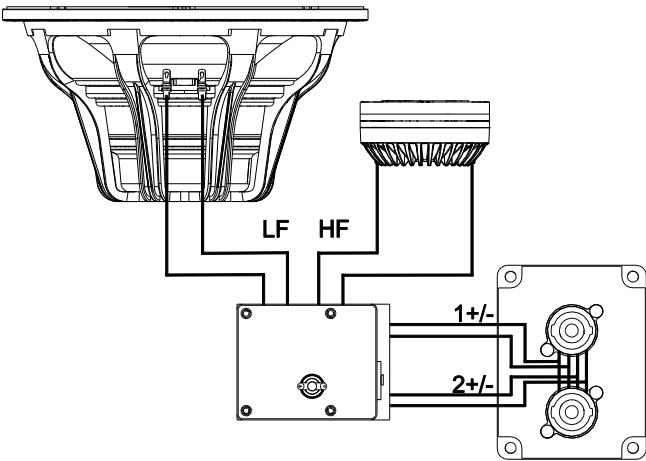
WASTE OF ELECTRIC OR ELECTRONIC EQUIPMENT



This symbol on the product or its packaging indicates that this product must not be treated as household waste. Instead, it is your responsibility to hand it over to a designated collection point for the recycling of waste electrical and electronic equipment. By ensuring your waste equipment is recycled, you will help prevent potential negative consequences for the environment and human health, which could appear if this product was not recycled. Recycling helps spare natural resources. For more information about the recycling of this product, please contact your local city office, your household waste disposal service or your reseller.

DESCRIPTION

- GEOM1210 and GEOM1220 are a mid-size line array, 2 ways passive or active, with a 12" LF and a 1.4" HF. Without tools, you can change the HF horizontal directivity from 80° to 120° by adding a pair of magnetic flanges.
- The GEOM12 can be stacked or flown with the HF waveguide exit on the left or the right side of the front panel, allowing to broaden or narrow the stereo image depending on your need and the characteristics of the venue. We recommend to build system with the HF waveguide on the outside of each assembly (larger stereo image).
- GEOM1210: 10° vertical dispersion
- GEOM1220: 20° vertical dispersion
- Versions:
 - GEOM1210: Touring application; Black
 - GEOM1210-PW: Touring application; White
 - GEOM1220: Touring application; Black
 - GEOM1220-PW: Touring application; White
- Connectors:
 - GEOM1210/1220: two NL4 connectors, the 4 pins of the 2 sockets are connected in parallel within the enclosure.
 - PASSIVE MODE: 2+/2-
 - ACTIVE MODE: LF (1+/1-) – HF (2+/2-)



- Amplification:
 - The GEOM12 cabinets MUST be used with a NEXO processor to handle EQ, phase alignment, crossover and excursion/thermal protection for the system loudspeakers.
 - The following table shows the number of GEOM12 usable with each solution.

	NXAMP4x1(bridged)	NXAMP4x2	NXAMP4x4
GEOM12	Up to 2 per channel	1 per channels	Up to 3 per channel
			Recommended

PRESET GEOM12

Please consult nexo-sa.com for NEXO TD Controllers firmware information.

For the **GEOM1210** or **GEOM1220**, with or without directivity flanges, the following setups are available:

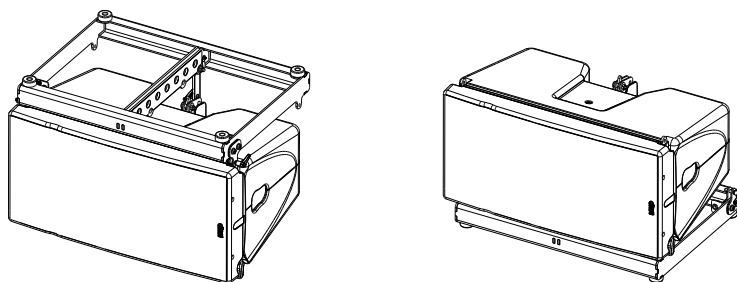
Passive Mode

- Setup for one stand-alone box, with high-pass at 50, 60, 75, 85, 95 or 120 Hz.
- Setup for arrays from 2 to 3 boxes, with high-pass at 50, 60, 75, 85, 95 or 120 Hz.
- Setup for arrays from 4 to 6 boxes, with high-pass at 50, 60, 75, 85, 95 or 120 Hz.
- Setup for arrays from 7 to 12 boxes, with high-pass at 50, 60, 75, 85, 95 or 120Hz.
- Setup for Stack Monitor, with high-pass at 50, 60 or 75 Hz.

Active Mode

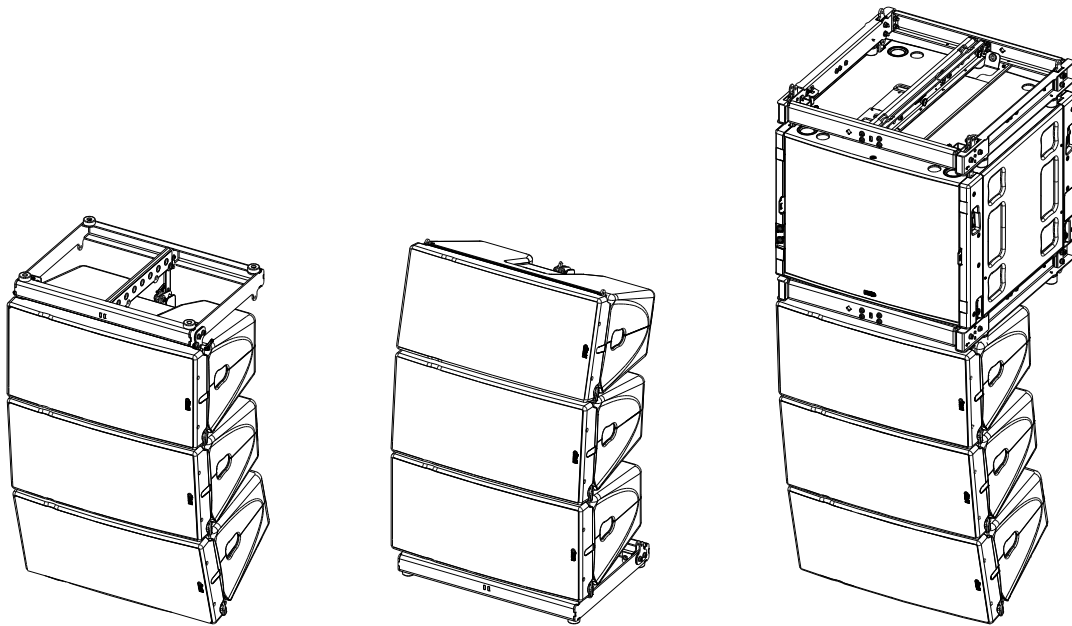
- Setup HF for arrays from 2 to 3 boxes, 1 kHz– 20 kHz
- Setup HF for arrays from 4 to 6 boxes, 1 kHz– 20 kHz
- Setup HF for arrays from 7 to 12 boxes, 1 kHz– 20 kHz
- Setup LF for arrays from 2 to 3 boxes, 50, 60, 75, 85, 95 or 120 Hz to 1kHz.
- Setup LF for arrays from 4 to 6 boxes, 50, 60, 75, 85, 95 or 120 Hz to 1kHz.
- Setup LF for arrays from 7 to 12 boxes, 50, 60, 75, 85, 95 or 120 Hz to 1kHz.

1 Box

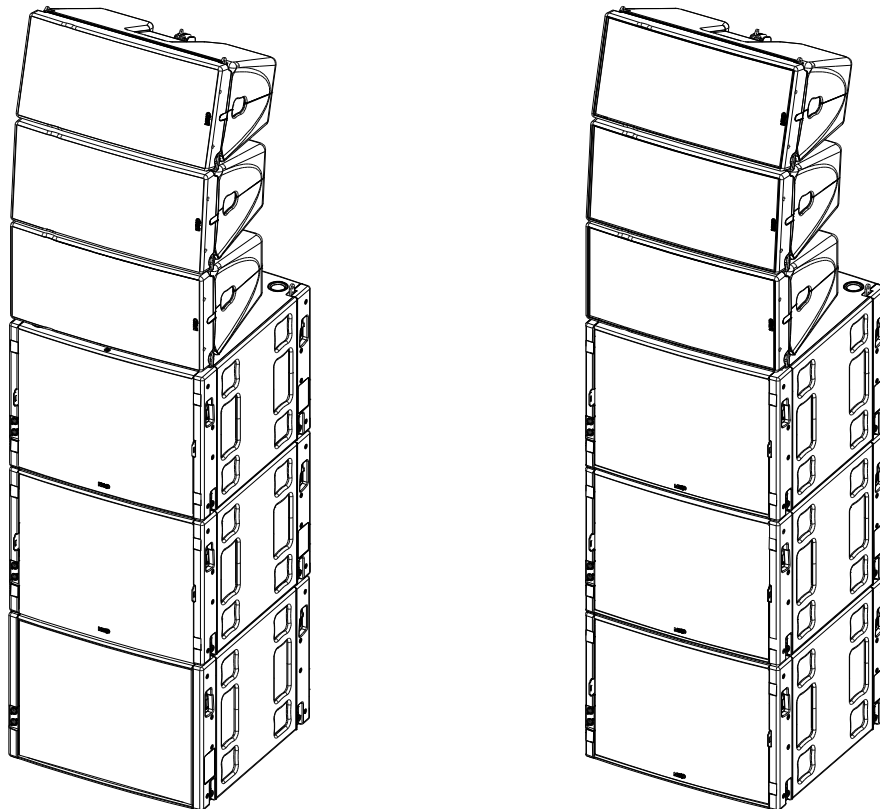


Default Cross over on one box 50 Hz Front Fill, multi-diff, sound reinforcement all short throw application;
High SPL Small system using 2x GEOM12 and 2x MSUB18 in 85 Hz;

2-3 Boxes

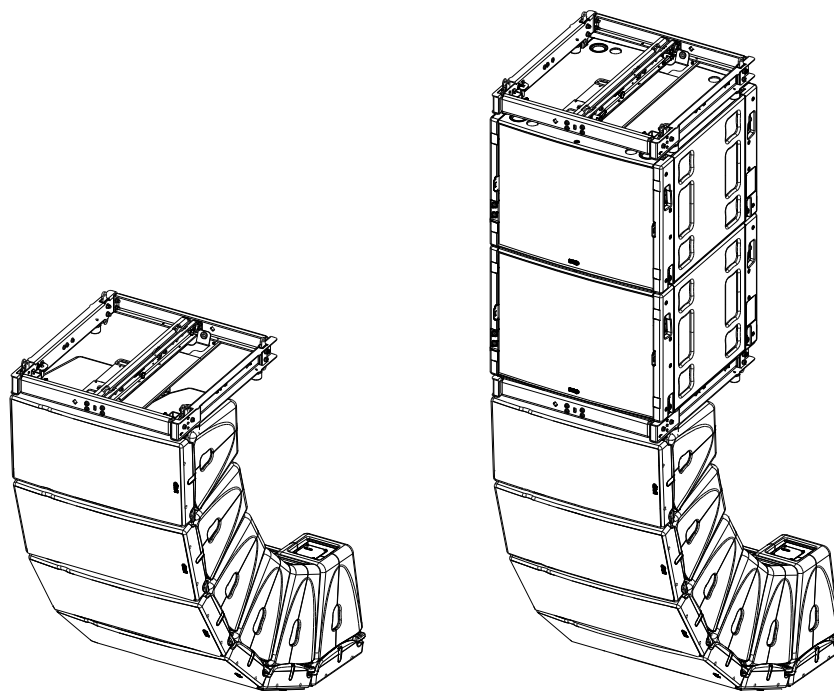


For small flying or stacking configuration, mid throw application used at 60 Hz without MSUB18 and default 85 Hz with MSUB18 at 85 Hz too.

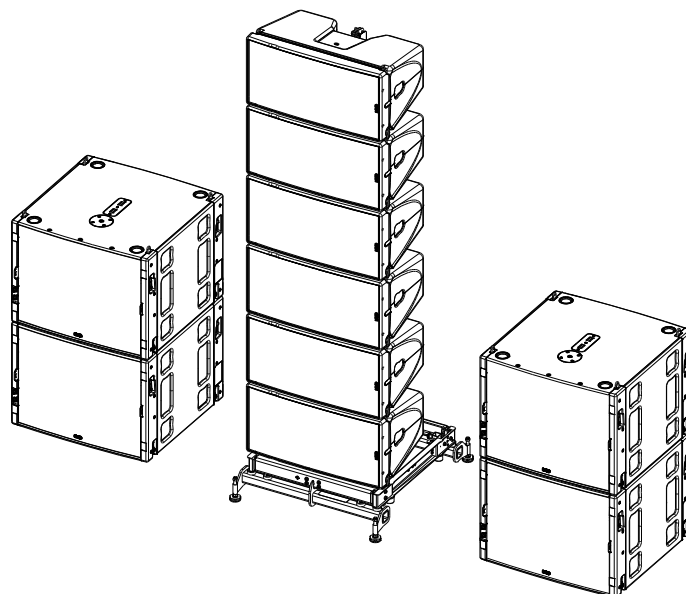


Possibilities to use 2-3Box setup in stack configuration using MSUB18 in OMNI or CARDIO mode with 1 Back and 2 Front and 3 GEOM12 on top of them, application venue up to 25 meters, default cross over 85 Hz but small overlap could have impact if needed, for example (MSUB18 120Hz and GEOM12 75 Hz).

4-6 Boxes

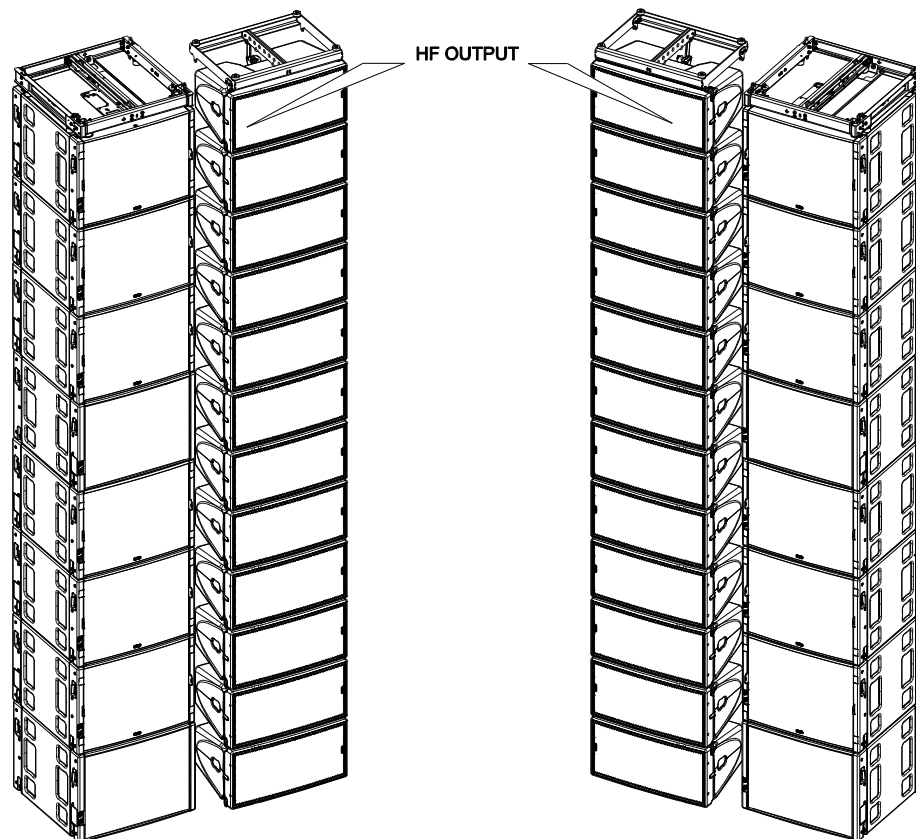


For long throw flying application used in GEOM12 at 60 Hz without sub and GEOM12 at 85 Hz with flying MSUB18 in Omni mode at 95 Hz.

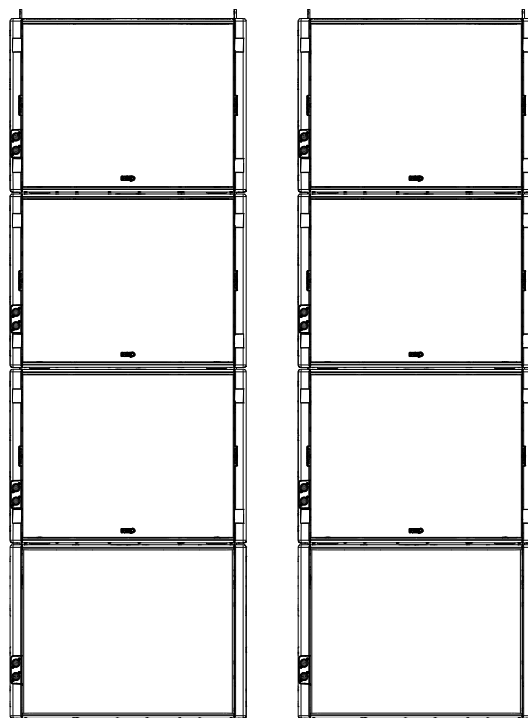


For long throw stacking application on floor or on MSUB18, up to 6 boxes used at 60 Hz without Sub and 85 Hz with MSUB18 at 85 Hz.

7-12 Boxes



For very long throw flying application used with Sub either ground stack or flying, recommended MSUB18 cardioid mode, cross over MSUB18 95 Hz and 12 GEOM12 cross over 75 Hz for maximum impact. Don't forget to put HF Waveguide either to the exterior or the interior of the venue.



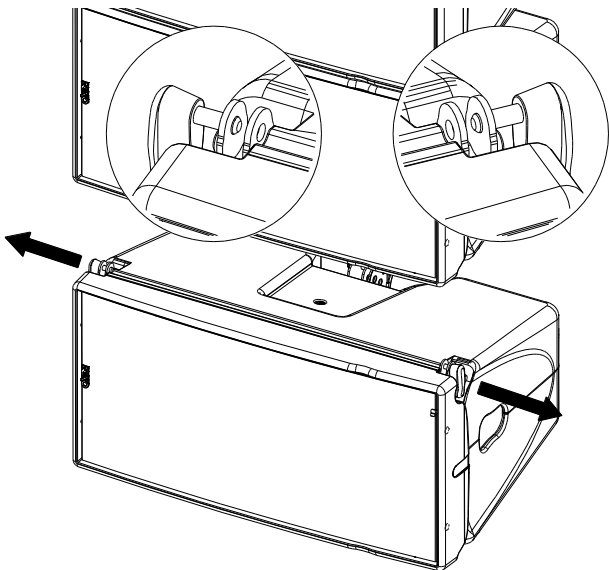
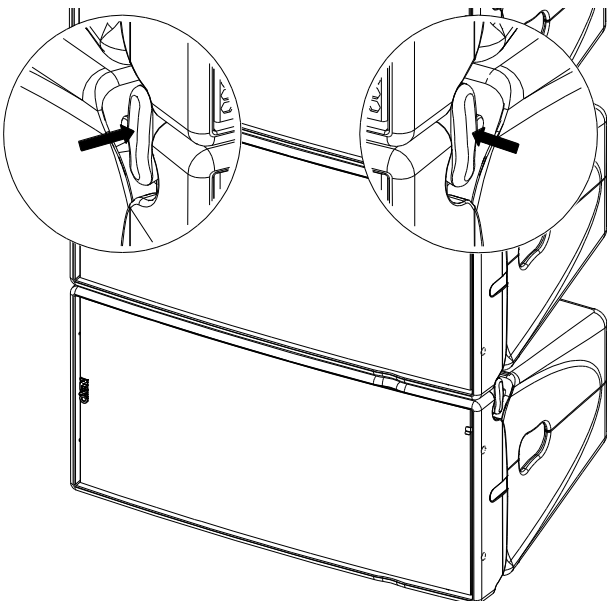
Ground Stack Sub design

GEOM12 RIGGING

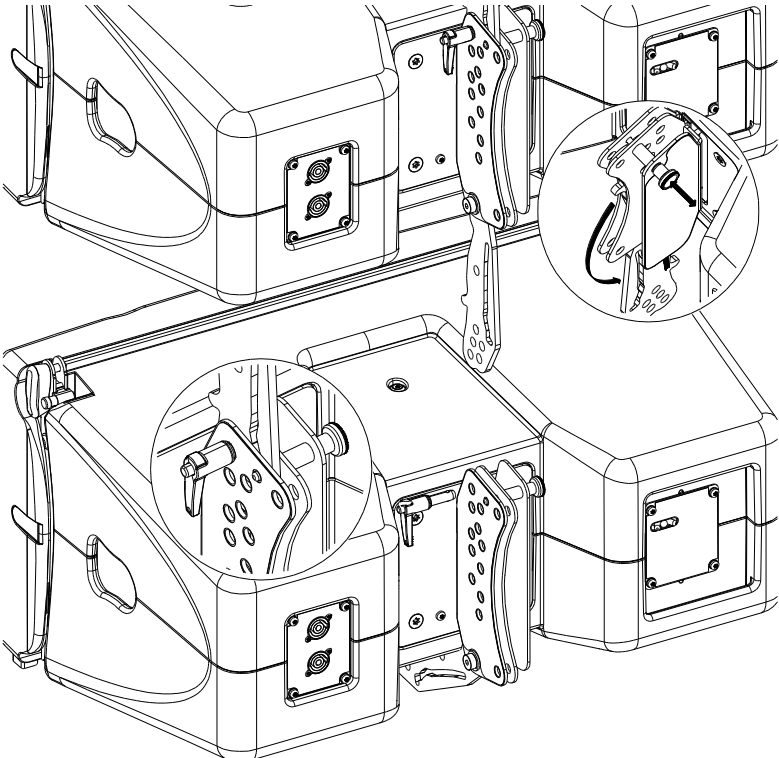
Note: The instructions below show the assembly for an array with the AutoRig™ system up (HF output on the right of the front panel). Same procedure can be used for an array with the AutoRig™ system down (HF output on the left of the front panel).

Assembly

Front

On both side, pull AutoRig™ in open position.	Position GEOM12 on top, front points will lock automatically. Ensure that all AutoRig™ systems are locked.
	

Back

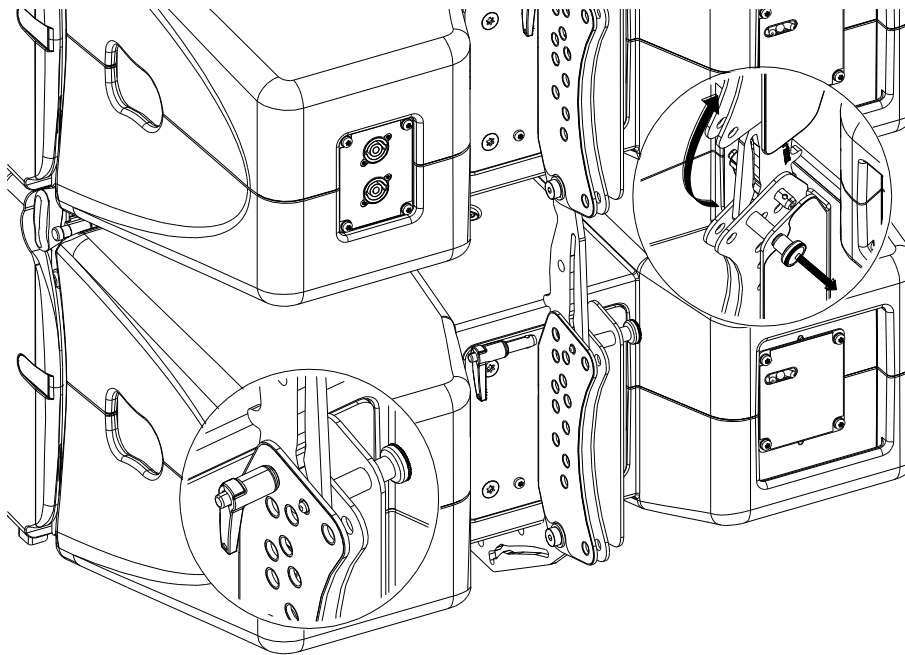
Unlock GEOM12 link bar. Pull out the latch to engage the guide in the slot. Adjust the angle with the quick release pin.


Disassembly

Note: Start to unlock the rear rigging, unlock the side AutoRig™ after.

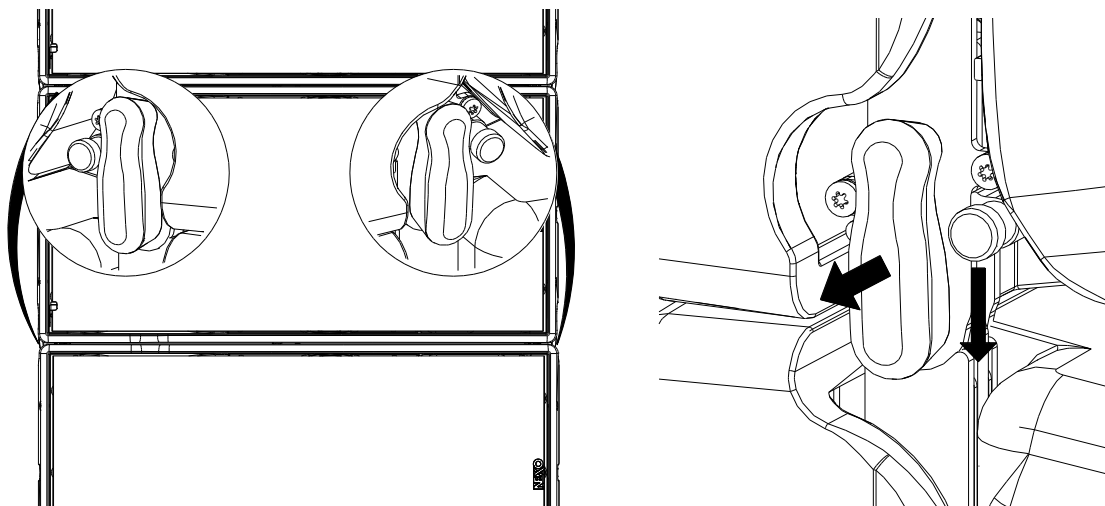
Back

Remove the quick release pin. Unlock the GEOM12 link bar by pulling the latch.



Front (stacked or unflown)

On both side, pull AutoRig™ and holding the knob. AutoRig™ remains in the open position.



GEOM12 – ACCESSORIES

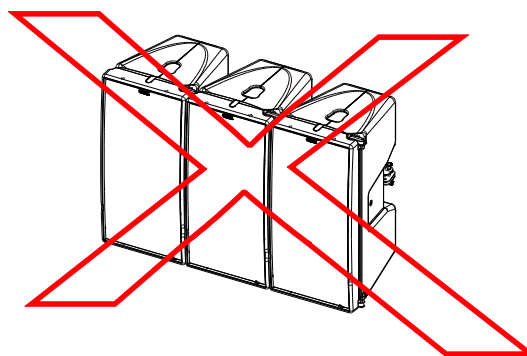
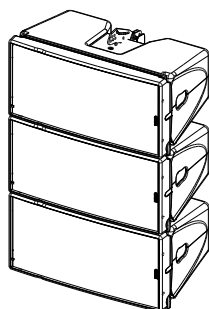
WARNINGS

All GEOM12 accessories are specifically rated in agreement with structural computations.

Never use other accessories – including push-pins – when assembling GEOM12 cabinets than the ones provided by NEXO: NEXO will decline responsibility over the entire GEOM12 accessory range if any component is purchased from different supplier.

All GEOM12 accessories have been designed so that cabinet are arrayed vertically.

GEOM12 horizontal assemblies as shown in figure below are UNSAFE and STRICTLY PROHIBITED



VNI-BUMPM12 / VNT-BUMPM12

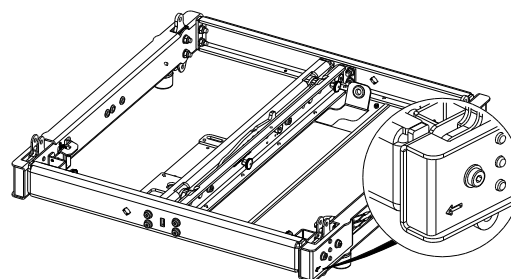
Rated for a maximum of 12 GEOM12 or 8 MSUB18, or a combination with a maximum of 4 MSUB18 and 6 GEOM12.

Flown on 2 rigging points with retractable rings.

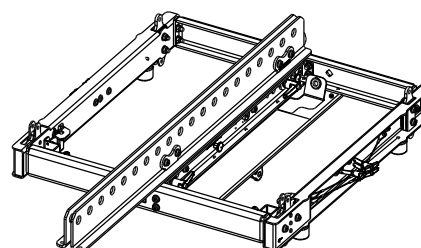
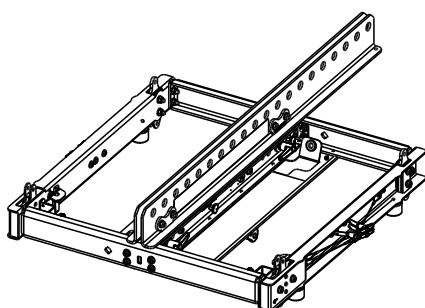
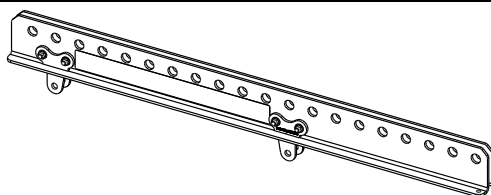
Usable with VNT-EXBARM12 for extra tilt angle and flown on one or two rigging points.

Ground stack assembly alone, or with VNT-GSTKM10M12S / VNT-GSTKM10M12L for adding stability.

2 locations for laser/clinometer (VNT-BUMPM12 only).

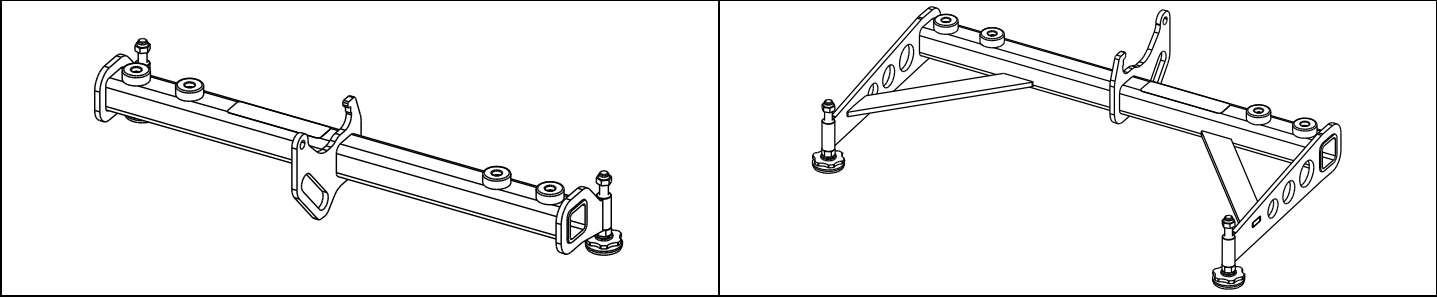


VNT-EXBARM12



GEOM12 – ACCESSORIES

VNT-GSTKM10M12S – VNT-GSTKM10M12L



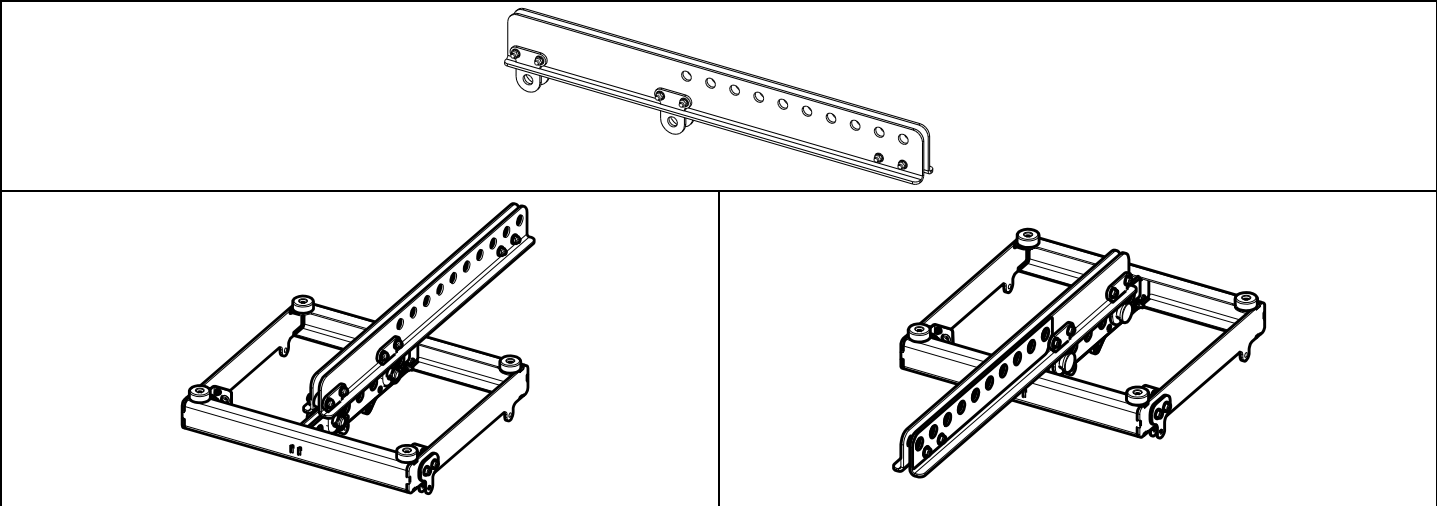
VNT-MNSTKM12

<p>Rated for a maximum of 3 GEOM12 on the top of MSUB18.</p>	
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GMT-LBUMPM12

<p>Rated for a maximum of 12 GEOM12. Usable with GMT-EXBARM12L for a one rigging point.</p>	
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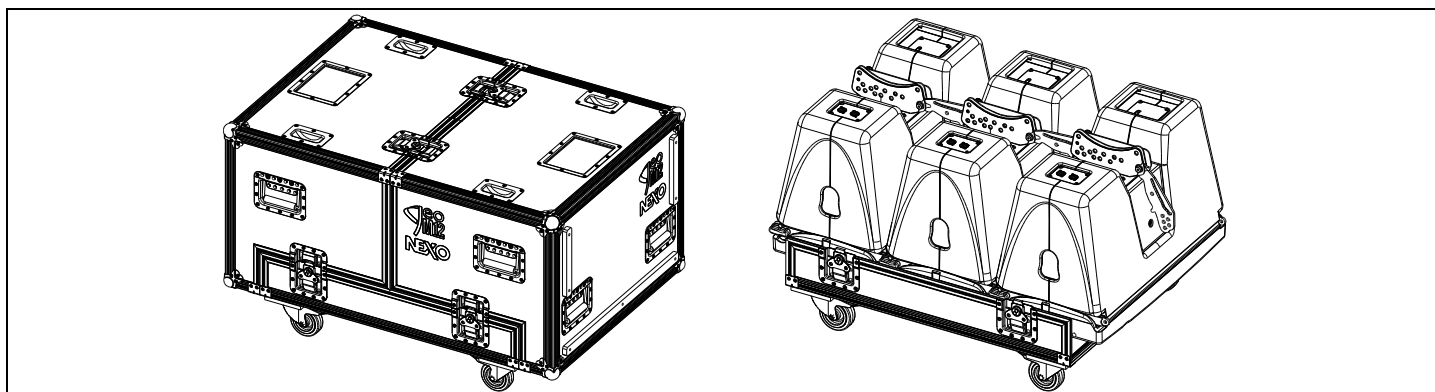
GMT-EXBARM12L



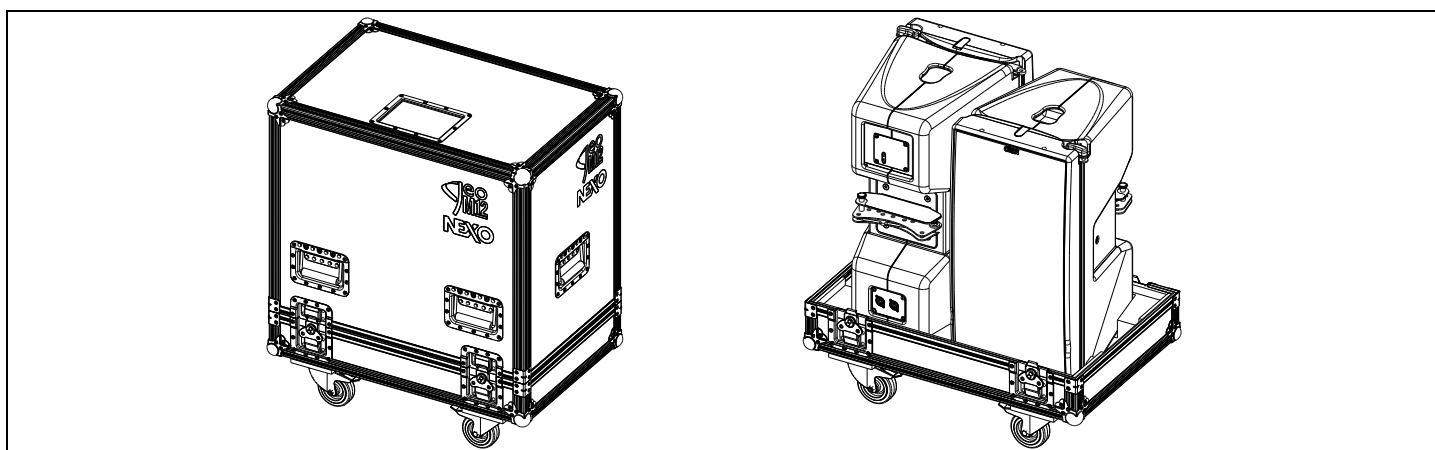
GMT-FLGM12

<p>Pair of flanges for 120°horizontal directivity. No tools, magnetic clamp.</p>	
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GMT-3CASEM12

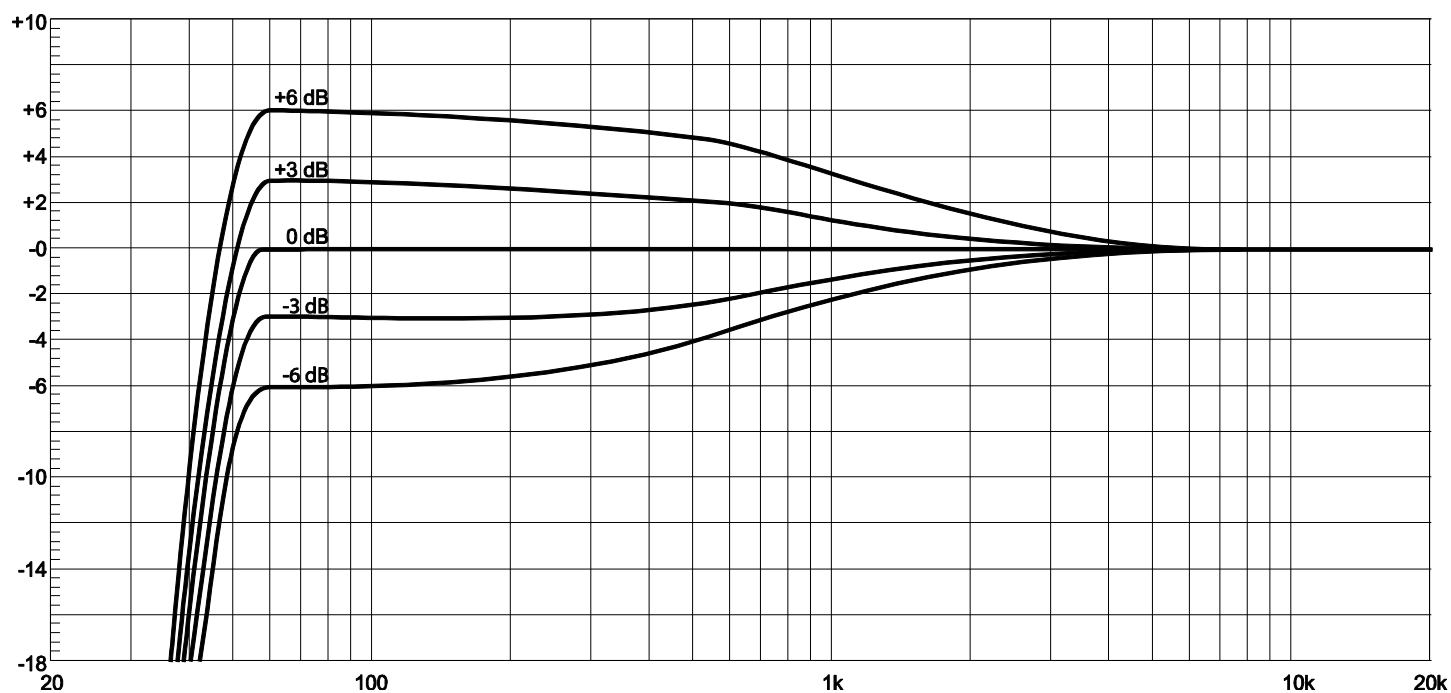


GMT-2CASEM12



ARRAY EQ

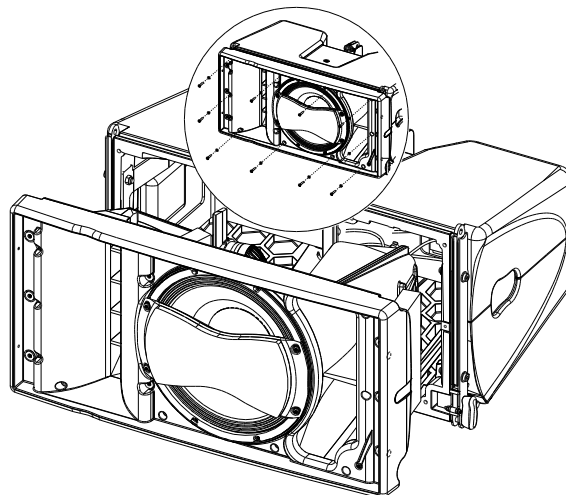
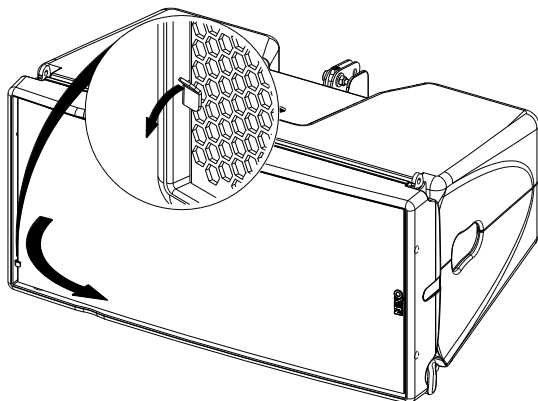
The ArrayEQ allows to adjust the system frequency response in its lower range
(see curves below, with different ArrayEq values):



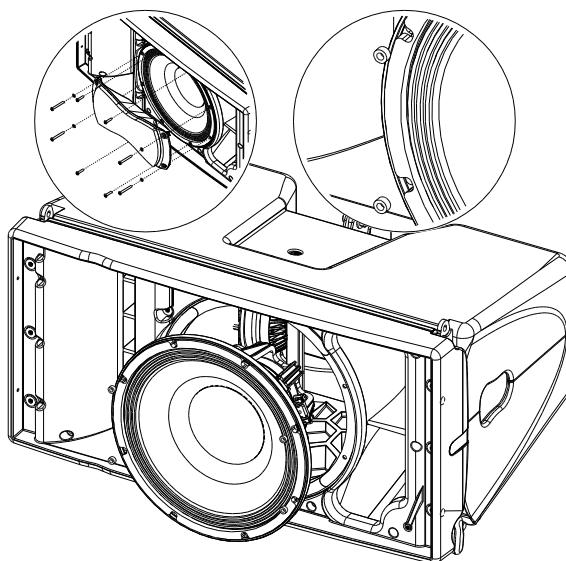
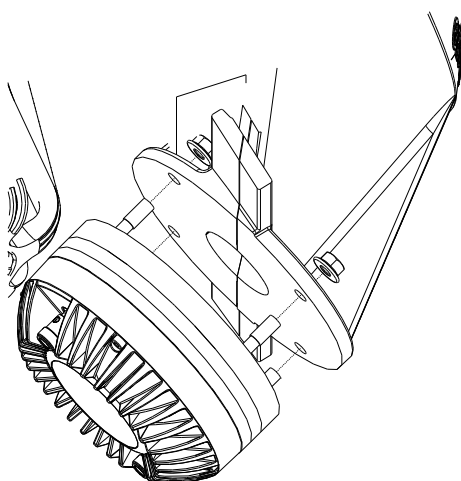
MAINTENANCE

Front panel disassembly

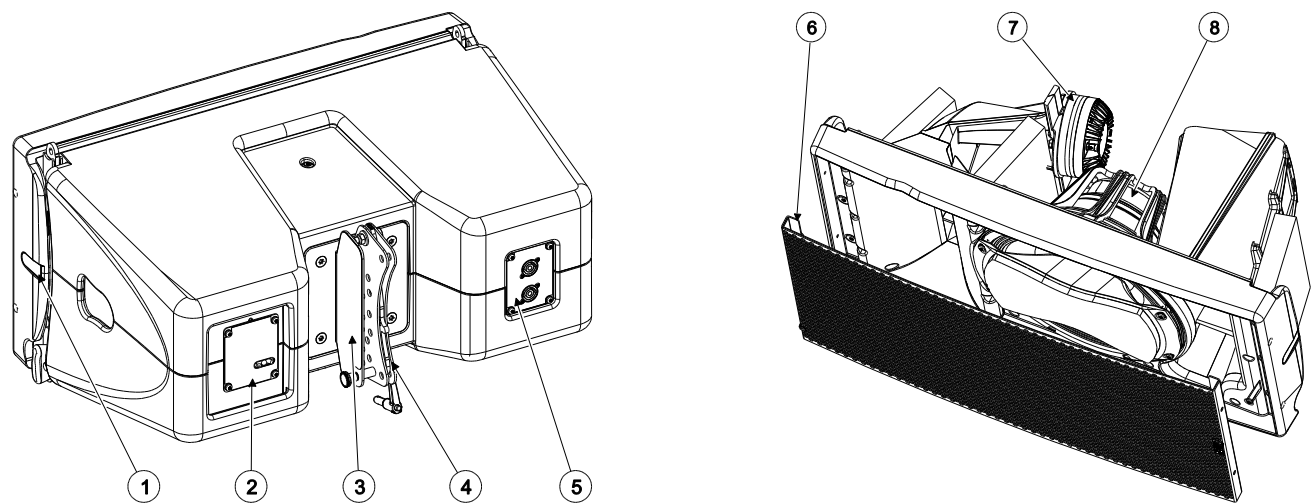
- 1 Pull the lever to remove the grille on the side (attached with a sling).
- 2 Remove the front panel (10 screws Tx25)



- 3 To remove the HF Driver, unscrew the 4 nuts, and remove it from the wave guide.
- 4 To remove the 12" driver, remove the 8 screws (Tx25). Pay attention to the 4 spacers below the PMP. Tightening torque for the 12": 3,5 Nm



Spare parts



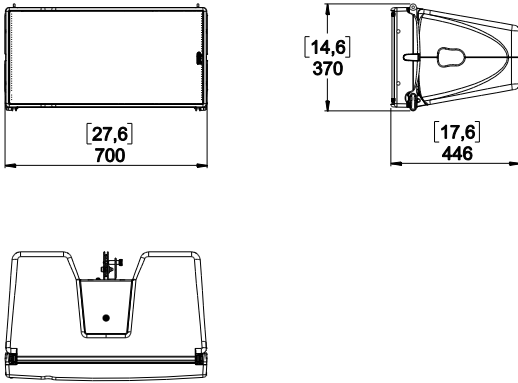
MARK	QUANTITY	REFERENCE	DESIGNATION
1	2	05LEXM1012	Lexan GEOM1210 black
	2	05LEXM1012-PW	Lexan GEOM1210 white
	2	05LEXM1025	Lexan GEOM1220 black
	2	05LEXM1025-PW	Lexan GEOM1220 white
	1	05LEXWAR1	Lexan Warning
	1	05LEXWAR1-PW	Lexan Warning White
3	1	05LEXRIG-EXPL1	Lexan Rigging Explain
	1	05LEXRIG-EXPL1-PW	Lexan Rigging Explain White
4	1	05LEXRIG-ANGL1	Lexan Rigging Angles
	1	05LEXRIG-ANGL1-PW	Lexan Rigging Angles White
5	1	05LEXCNX-M1210	Lexan CNX GEOM1210
	1	05LEXCNX-M1210	Lexan CNX GEOM1210 White
	1	05LEXCNX-M1220	Lexan CNX GEOM1220
	1	05LEXCNX-M1220-PW	Lexan CNX GEOM1220 White
6	1	05GEOM12-UA	Complete grille Touring Black
	1	05GEOM12-UAW	Complete grille Touring White
7	1	05NH78TN-16	HF driver complete (with screws)
	1	05NH78TN-16-RK	HF Diaphragm
8	1	05HPB12PN-8	12" Driver
	1	05HPB12PN-8-RK	Recone kit HPB12PN-8

TECHNICAL SPECIFICATIONS

GEOM12 WITH NEXO ELECTRONICS

Model	GEOM12
Frequency range (± 6 dB)	50Hz – 20kHz
Sensitivity (1W / 1m)	105dB SPL Nominal
Peak SPL Level (1m)	140dB
Operating voltage	50 Vrms (180 Vpeak)
Vertical Dispersion	10° for GEOM1210 20° for GEOM1220
Horizontal Dispersion	80° or 120° (with magnetic flanges GMT-FLGM12)
Crossover Frequency	LF-HF: 1.1kHz Passive
Nominal Impedance	Active mode: (8 Ω LF - 16 Ω HF) – Passive mode: 8 Ω
Recommended Amplification	Active mode: (1250W LF + 650W HF) – Passive mode: 1250 W per cabinet

SPECIFICATIONS

Model	GEOM12
Components	LF: 1x 12" - 8 Ω - Long excursion – Neodymium driver with PDD™ HF: 1x3" voice coil 1.4" throat driver on a BEA/FEA optimized HRW™
Material	Lightweight polyurethane composite
Finish	Black or white structural paint
Front finish	Steel front grille Black or white paint Black or white mesh
Fittings	2 Side handles horizontal – Back grip Semi-auto front rigging
Connector	2x NL4 connectors, 4 poles connectors
Weight	34 kg – 75 lb
Dimensions	

USER NOTES

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