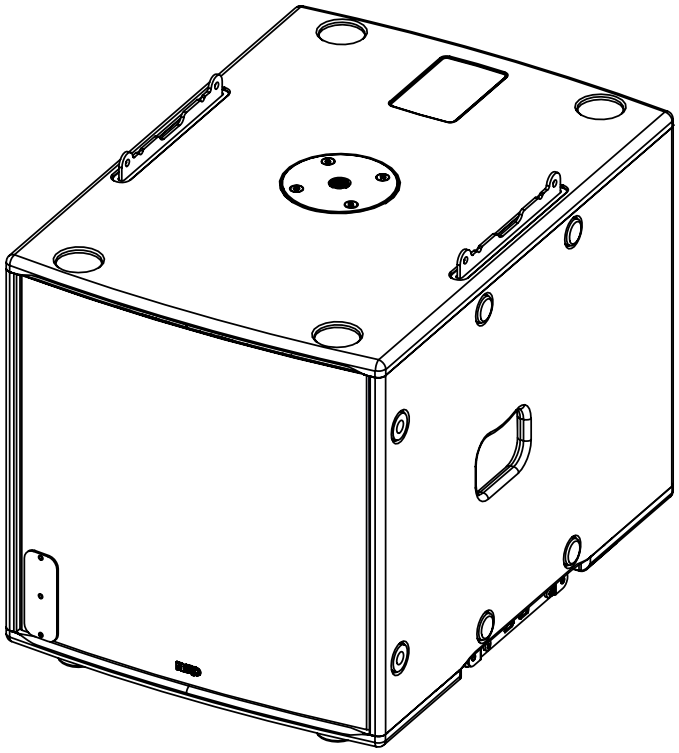
MSUB12

DP5252-01d-DI

NEXO

MSUB12-I



User Manual

TÜV NORD TÜV NORD CERT GmbH Type Tested

WARRANTY 5 YEARS WARRANTY

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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	**MSUB12**
Serial number	**On the product**
Is in conformity with the provisions of the following directive including all applicable amendments:	**2014/35/UE (Low Voltage Directive)**
Applied rules and standards:	**EN 13155, EN 62368**
Plailly, August 2020	**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 INFORMATIONS

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 ACOUSTIC 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

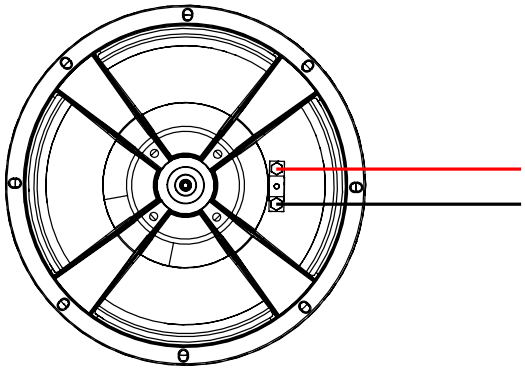
→ The MSUB12 is a compact high technology arrayable sub, the ideal companion for the GEOM6 line array element, sharing same aesthetic design and arrayable in the same flown or stacked cluster.

→ Versions:

- MSUB12-I: for fix applications; Black
- MSUB12-IPW: for fix applications; White

→ Connectors:

- MSUB12-I: 2 cable-glands (clamping range, Ø 10 to 14mm).
- MSUB12-I is supplied with a fixed cable (HO7ZZ-F), 2x2.5mm^2 section, length 4m, outside diameter 11.5mm ±1.5mm.
- **(+): Brown / Red ; (-): Blue / Black**



→ Amplification:

- The MSUB12 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 MSUB12 subwoofers usable with each solution.

	DTD + DTDAMP4x0.7	DTD + DTDAMP4x1.3	NXAMP4x1MK2	NXAMP4x2MK2	NXAMP4x4MK2
GEOM620	Up to 2 per channel	Up to 2 per channel	Up to 3 per channel	Up to 4 per channel	Up to 4 per channel
GEOM6B	Up to 2 per channel	Up to 2 per channel	Up to 3 per channel	Up to 4 per channel	Up to 4 per channel
MSUB12	1 per channel	1 per channel	Up to 2 per channel	Up to 3 per channel	Up to 3 per channel
			Recommended		

SETTING RANGE

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

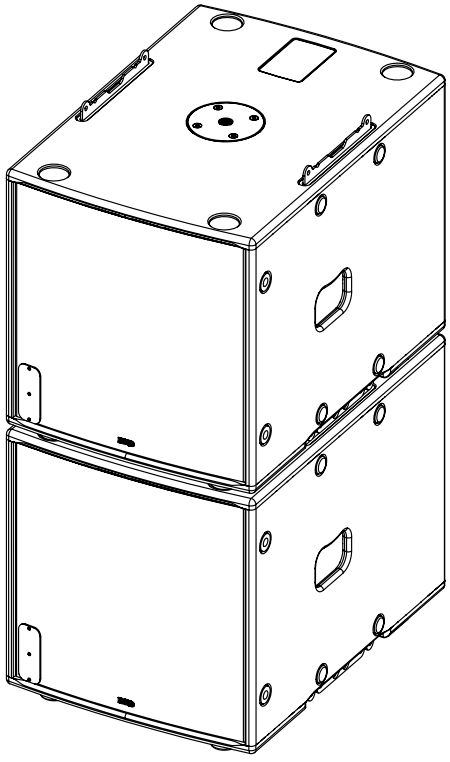
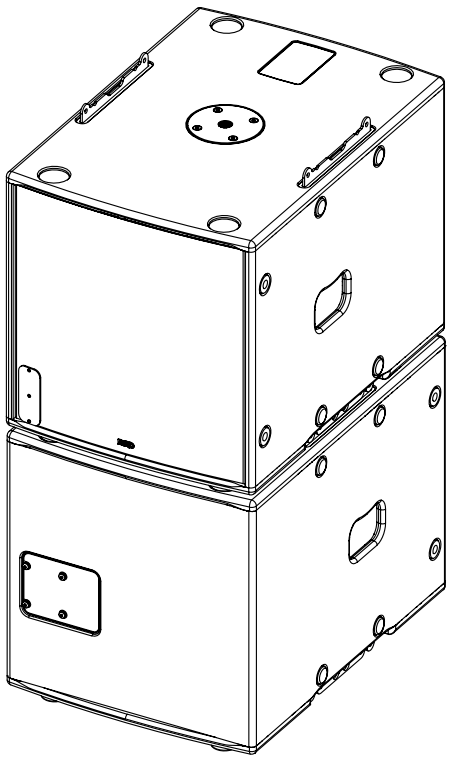
There are two setting ranges for surrounding speaker MSUB12:

→ « OMNI » setups; For a traditional use of the subwoofer in omnidirectional radiation (require at least one subwoofer and a channel of amplifier).

- 45 – 85 Hz
- 45 – 120 Hz
- 45 – 150 Hz
- 63 – 120 Hz
- 63 – 150 Hz

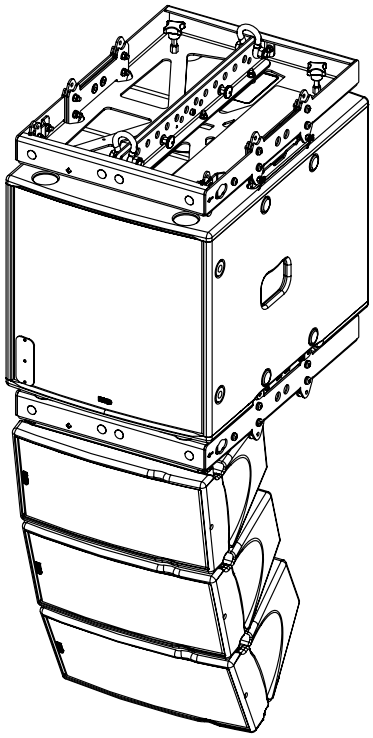
→ « CARDIO » setups; For a directional use (cardioid) of subwoofers (require at least two subwoofers and two channels of amplifier):

- Setups « FR » (Front)
  - 45 – 85 Hz
  - 45 – 120 Hz
  - 45 – 150 Hz
- Setups « BA » (Back)
  - 45 – 85 Hz
  - 45 – 120 Hz
  - 45 – 150 Hz
- The ideal ratio for a directional use is 2 x MSUB12 in CARDIO FRONT mode on top of 1x Reversed MSUB12 in CARDIO BACK mode. From 1:1 to 4:1 ratio can be used

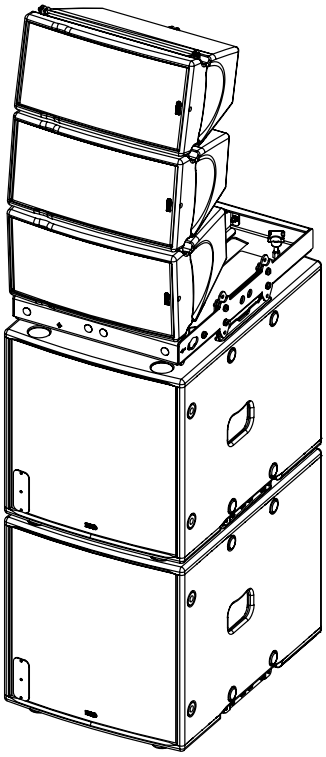
	
OMNI Assembly	CARDIO Assembly

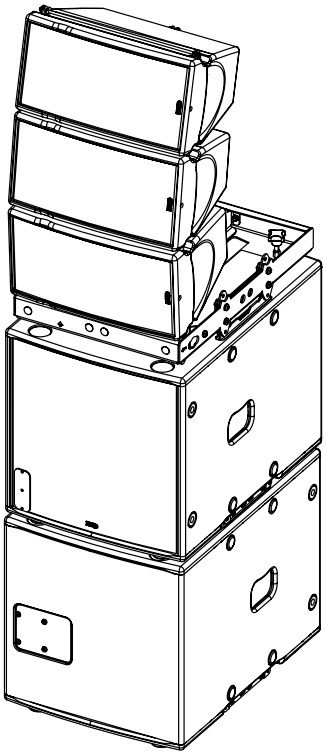
SETTING RANGE

With 1 to 3 GEOM6



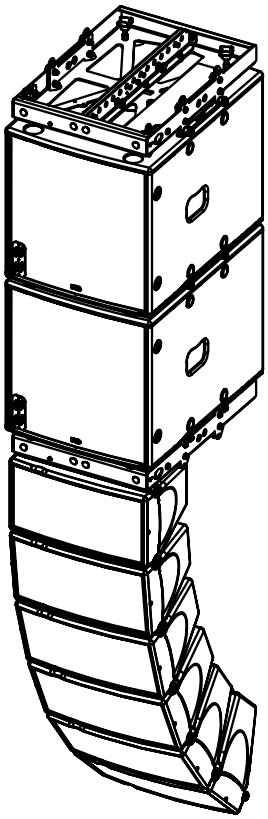
For these configurations, MSUB12 should use the 45-85 Hz setup (85 Hz crossover should be used for GEOM6 as well).

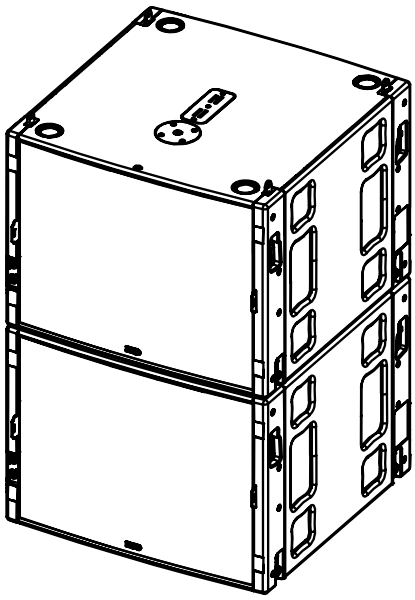




For stack configuration using MSUB12 in OMNI or CARDIO mode with 1 Back and 2 Front and GEOM6 on top of them, MSUB12 should use the 45-85 Hz setup (85 Hz crossover should be used for GEOM6 as well). A small overlap could have impact if needed, for example use MSUB12 with 45-120 Hz setup.

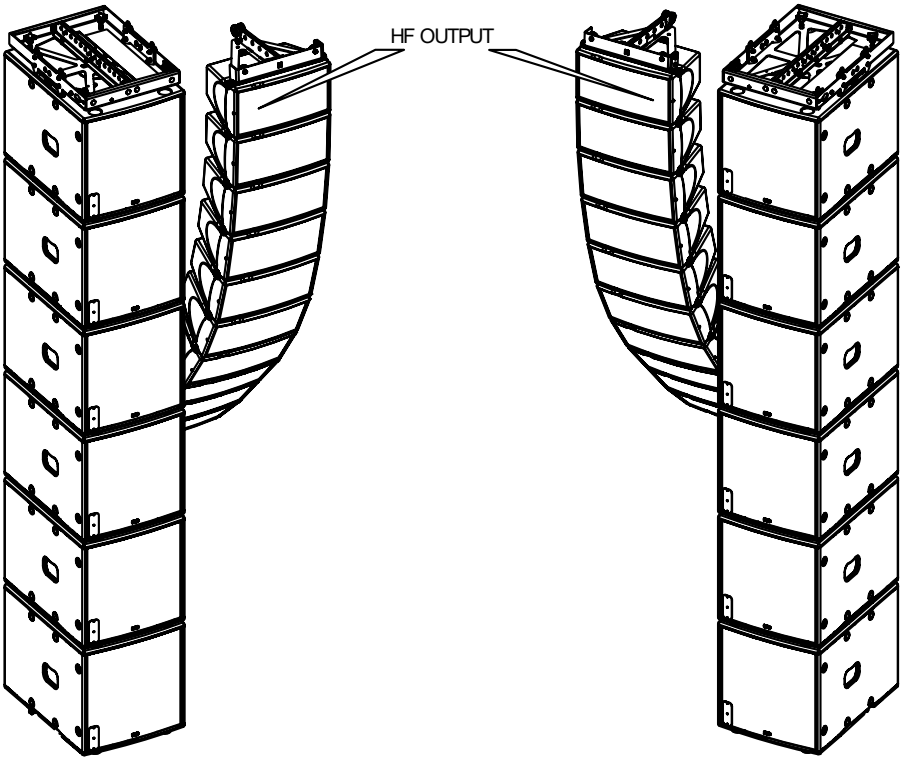
With 4 to 6 GEOM6



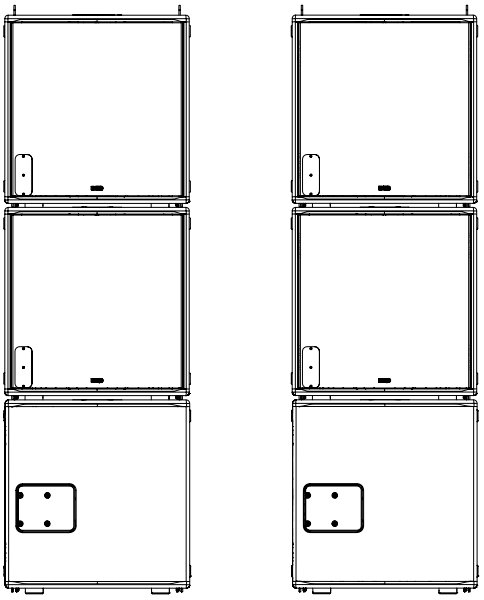


For long throw application, MSUB12 should use the 45-120 Hz setup (120 Hz crossover should be used for GEOM6 as well). If a larger stacked Sub is used all together, MSUB12 should use the 63-120 Hz setup.

With 7 to 12 GEOM6



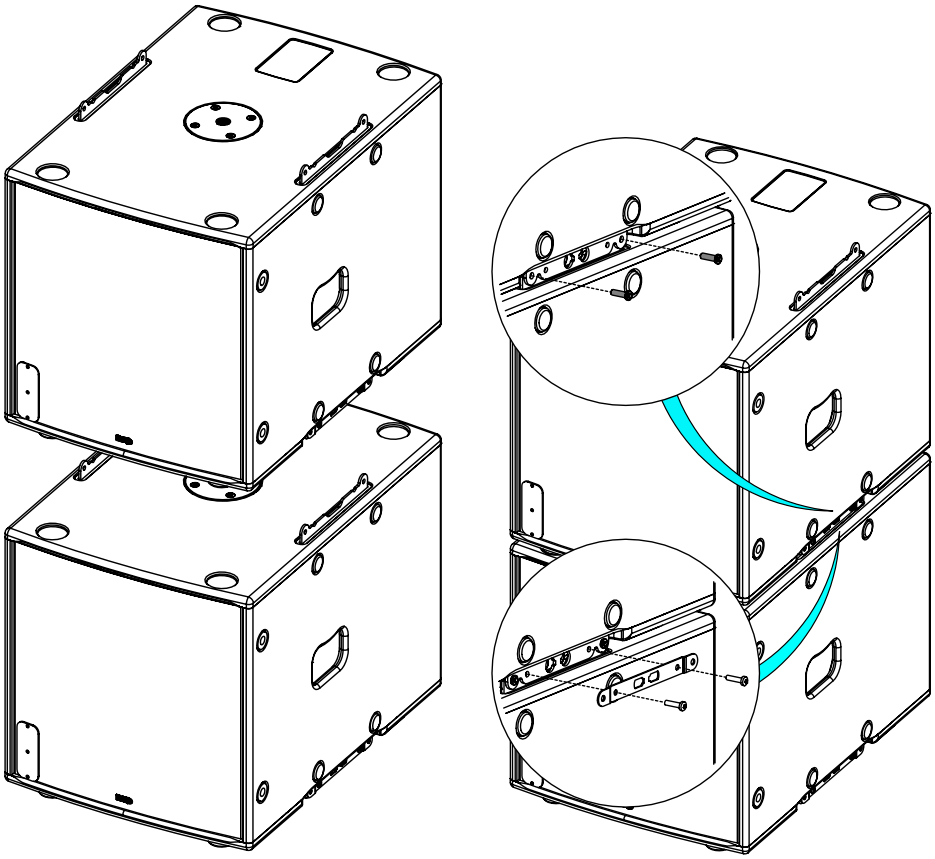
For very long throw application, MSUB12 should be deployed using the 45-120 Hz setup (120 Hz crossover should be used for GEOM6).



Ground Stack Sub design

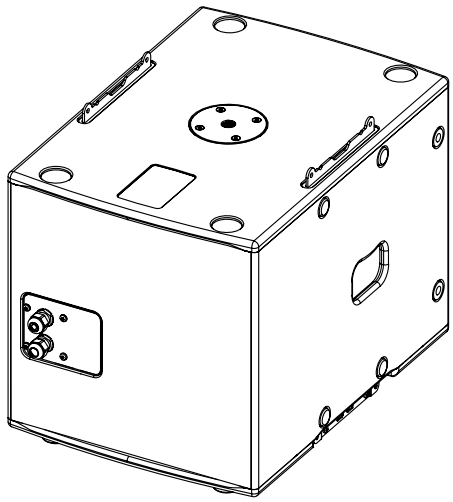
MSUB12 RIGGING

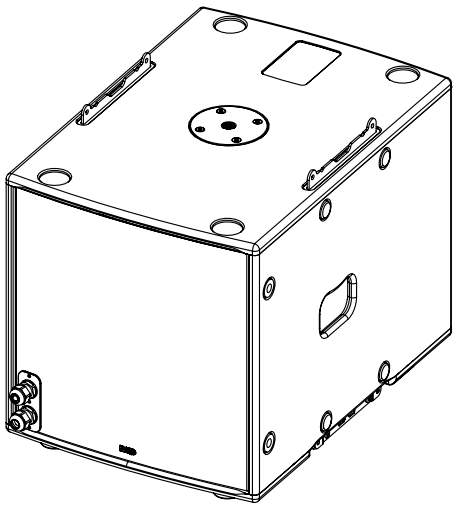
Place MSUB12 on the top of a second MSUB12.
Insert 4 pins (2 on both sides), provided with MSUB12-I.
Secure with the provided plates and the screws.



MSUB12 CABLING

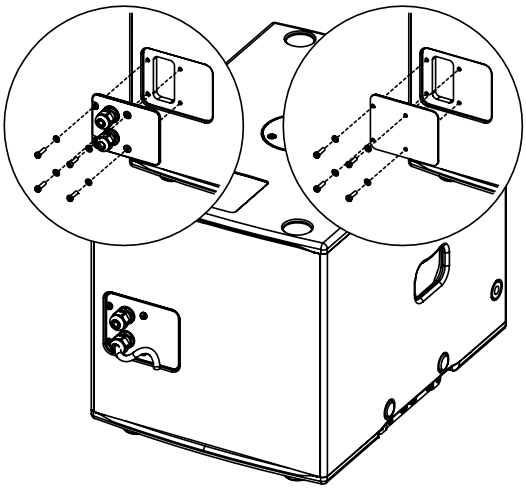
MSUB12-I is packaged with the connection plate on the back. You can place a connection plate on the front.

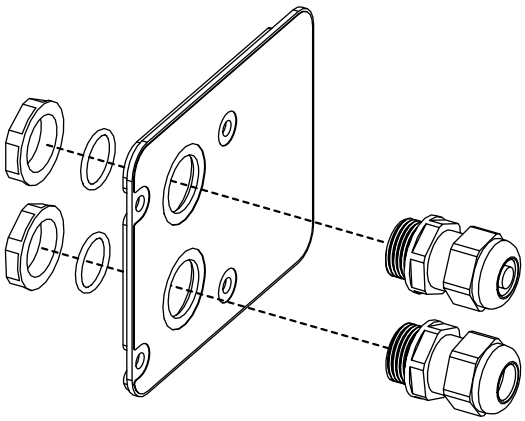




Remove the connection plate with the cable glands. Place the provided plate.

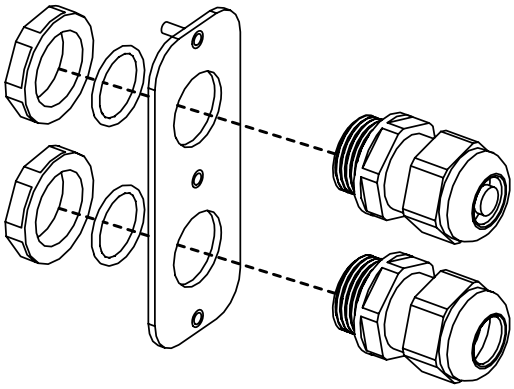
Remove the cable glands.

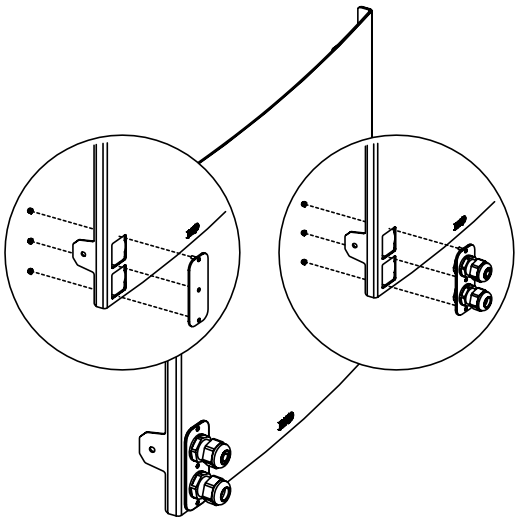




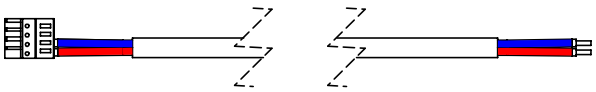
Assemble the cable glands on the front plate

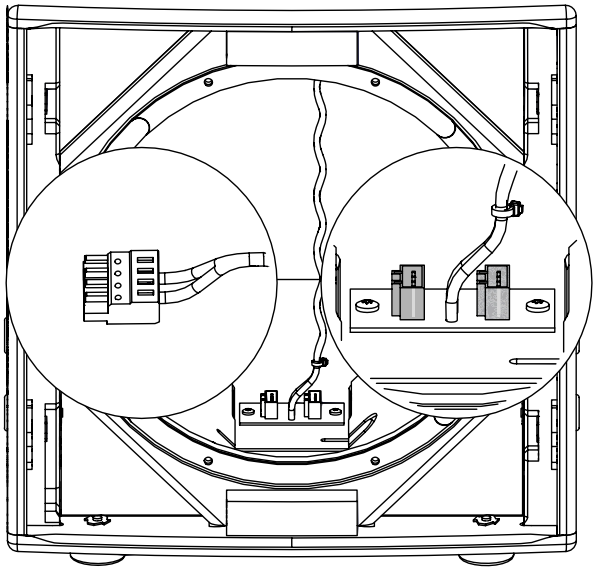
Place the front plate on the grille. Pass the cable before closing the front grille. The cable must pass through the lower left vent.





How to connect a second cable?





Remove the driver.
Wire the provided connector WAGO 4pt.
Plug it to the free connector.
Pass the cable through the cable-gland.
Tight the cable-gland.
Close MSUB12.

MSUB12 - ACCESSORIES

WARNINGS

All MSUB12 accessories are specifically rated in agreement with structural computations.

Never use other accessories – including push-pins – when assembling MSUB12 cabinets than the ones provided by NEXO: NEXO will decline responsibility over the entire MSUB12 accessory range if any component is purchased from different supplier.

All MSUB12 accessories have been designed so that cabinet are arrayed vertically.

VNT-BUMPM6

Rated for a maximum of 12 GEOM6 or 8 MSUB12, or a combination with a maximum of 4 MSUB12 and 6 GEOM6.

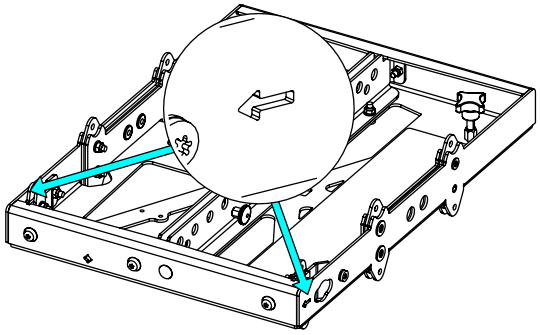
Flown on 1 or 2 rigging points.

Usable with VNT-EXBARM6 for extra tilt angle and flown on one or two rigging points.

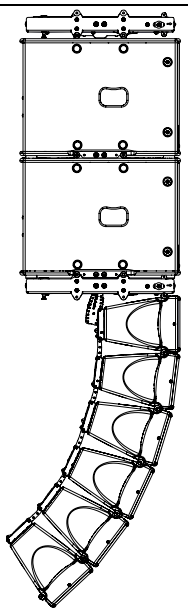
1 location for laser/clinometer

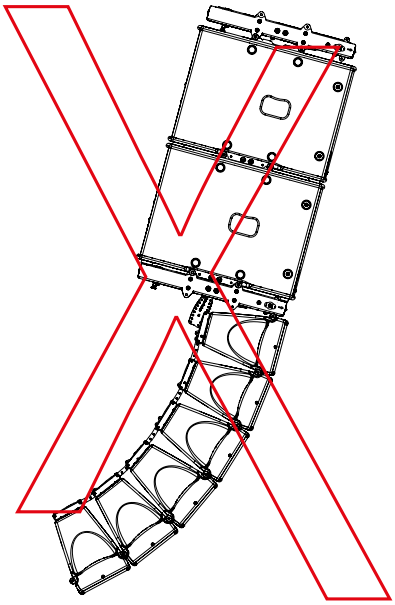
Use VXT-BL615 or VNI-FIXBUMPM6 with MSUB12.

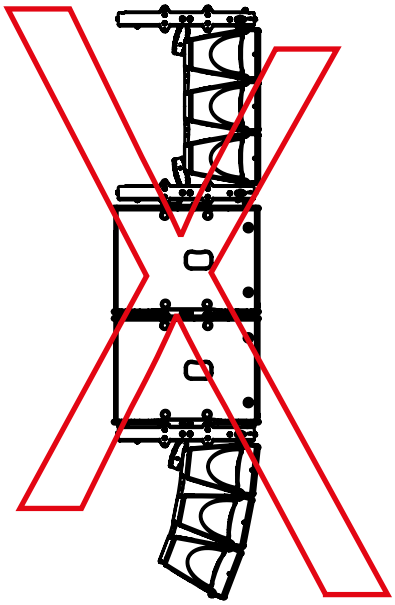
Use VXT-BL515 or GMI-BNFIX with GEOM6.



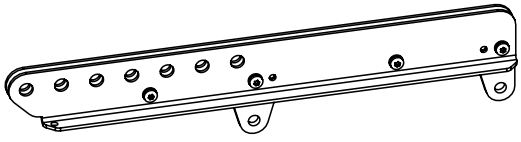
NO TILT – MSUB12 MUST ALWAYS BE POSITIONNED STRAIGHT AND ON THE TOP THE ARRAY

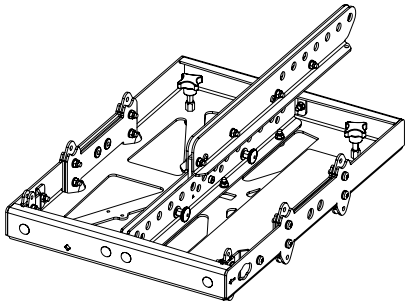


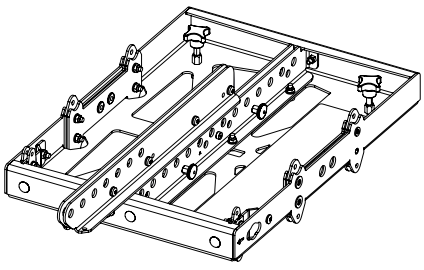




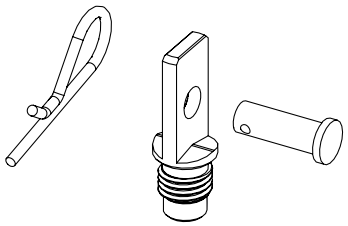
VNT-EXBARM6



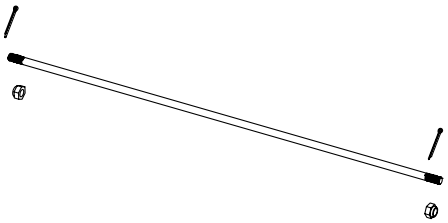




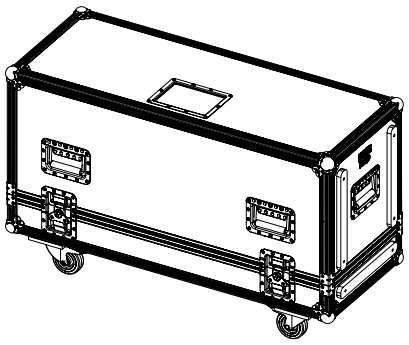
VNT-MNSTKM6

Stacking option for GEOM6 on top of MSUB12 (with GMT-BUMPER).	

VNI-FIXBUMPM6

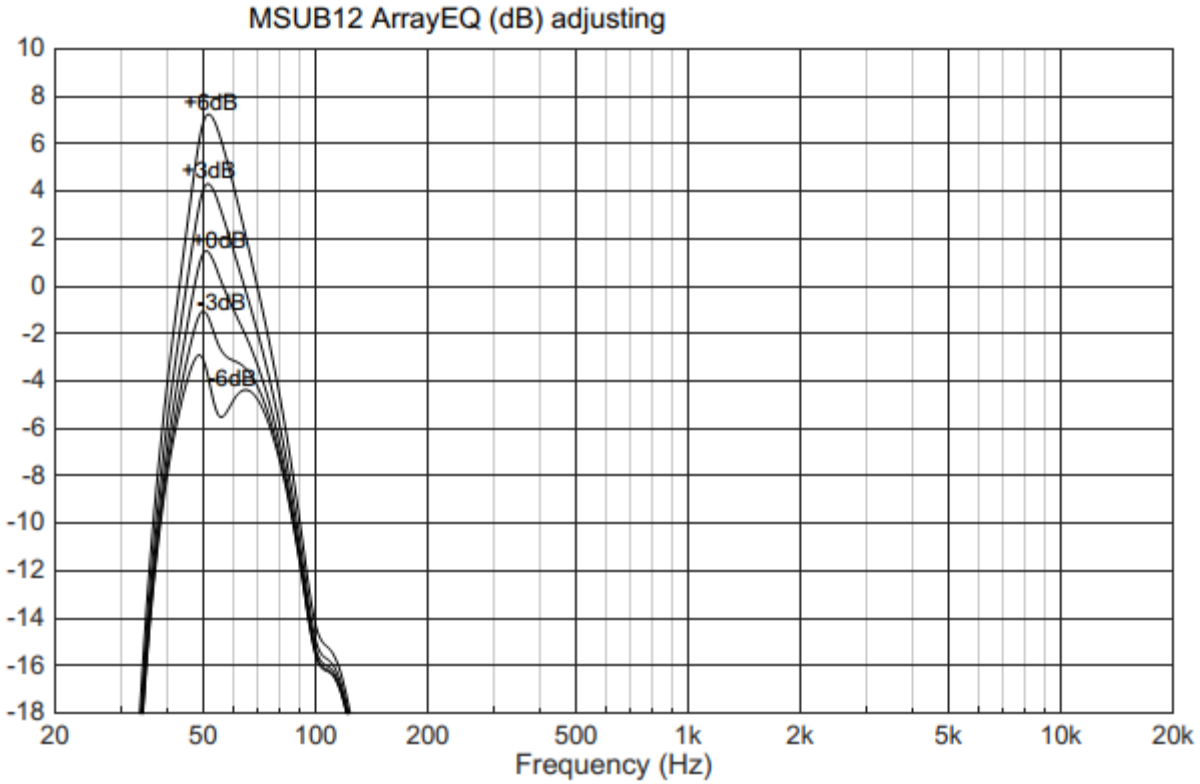
Fixing kit for VNT-BUMPM6 – MSUB12.	

MST-2CASEMSUB12

For 2xMSUB12 and VNT-BUMPM6 / VNT-EXBARM6	

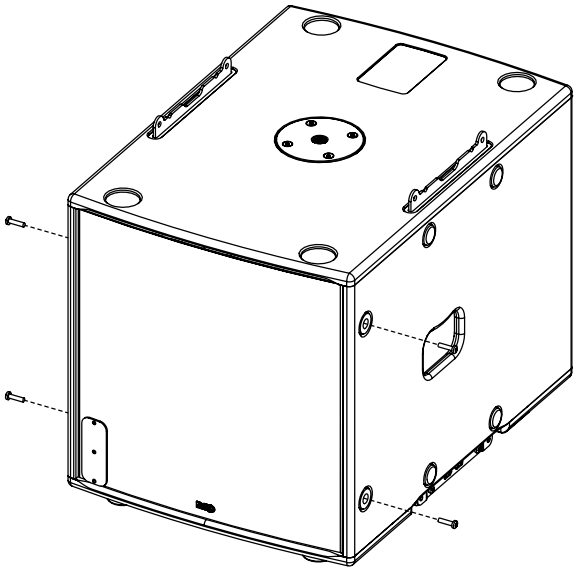
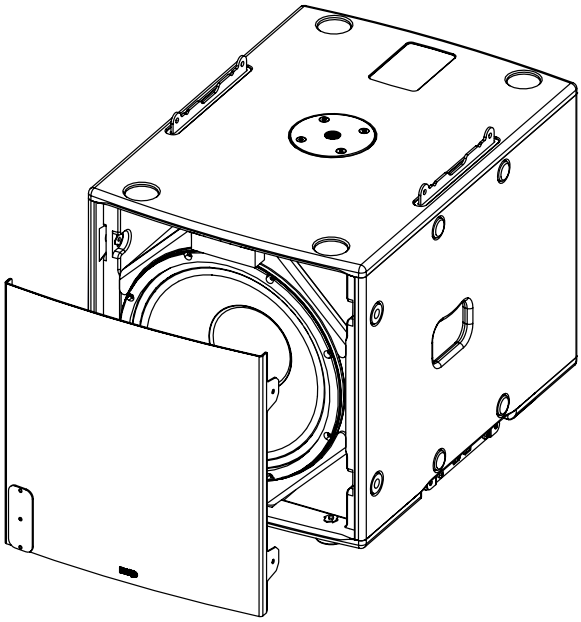
ARRAY EQ

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

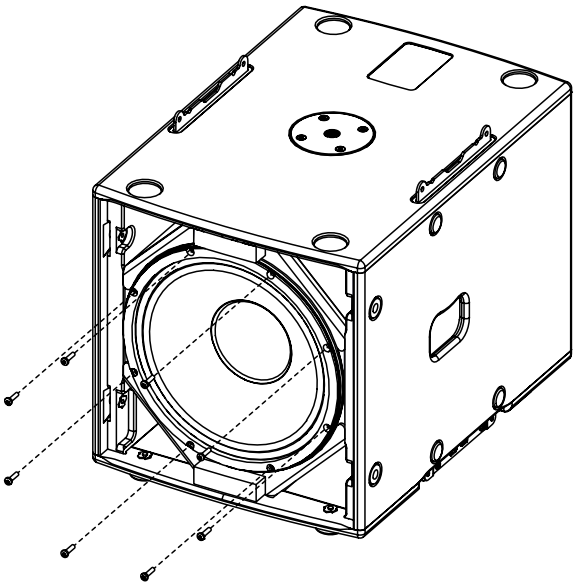
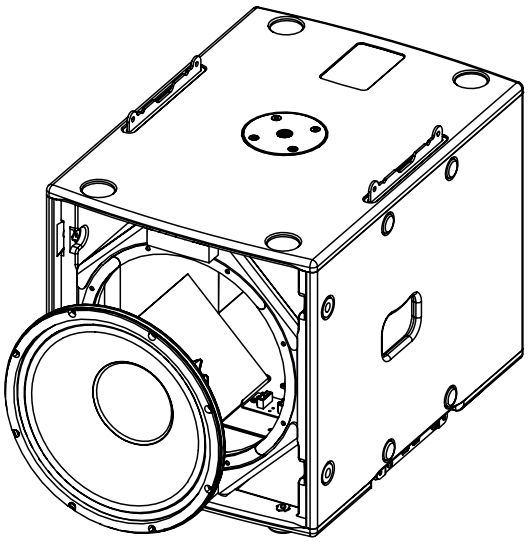


MAINTENANCE

Grille changing

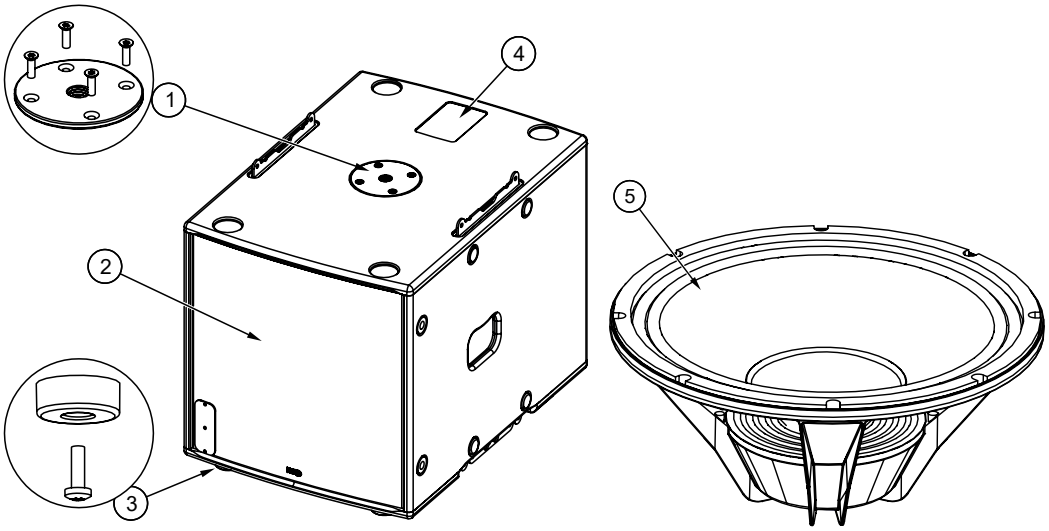
Remove 4 screws (Tx25).	Remove the grille.
	

12'' Driver

Remove 8 screws (Tx25) to remove the Driver.	Remove the driver.
	

Red / Brown (+) / Black / Blue (-)

Spare parts



MARK	QUANTITY	REFERENCE	DESIGNATION
1	1	05DOUILM20	Connector Plate M20 Black (with screws)
	1	05DOUILM20W	Connector Plate M20 White (with screws)
2	1	05MSUB12-UAI	Complete grille Installation Black (with fasteners)
	1	05MSUB12-UAIPW	Complete grille Installation White (with fasteners)
3	4	05FTCC38x15	Pad 15/38 (x10)
4	1	05LEXSUB12I	Lexan MSUB12-I
	1	05LEXSUB12I-PW	Lexan MSUB12-I White
5	1	05HPB12ND	12'' Driver (6 ohms)
	1	05N12ND-4R/K	Recone Kit 12'' (6 ohms)

NOTE:

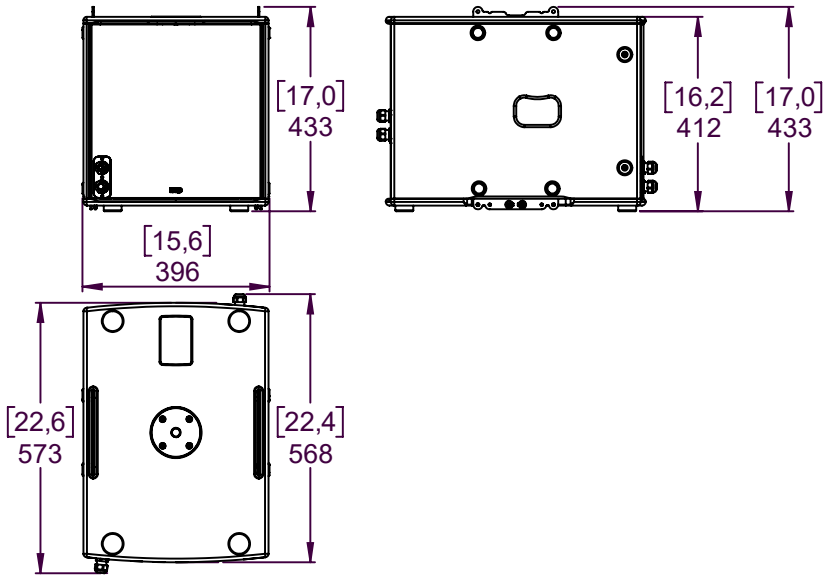
Speakers and Grills can be sent back to NEXO for recycling

TECHNICAL SPECIFICATIONS

MSUB12 WITH NEXO ELECTRONICS

Frequency range (±6dB)	45Hz – 150Hz
Sensibility (1W / 1m)	102dB SPL Nominal
Peak SPL Level (1m)	130 dB
Operating voltage	35 Vrms
Crossover Frequency	45-85; 45-120; 45-150 Hz / 63-120; 63-150 Hz
Nominal Impedance	6Ω
Recommended Amplification	450 to 700 W / 6 Ω (requires a 700 to 1000 W / 4 Ω amplifier)

SPECIFICATIONS

Model	**MSUB12**
Components	1x 12 ‘’ – 6 Ohms – Long excursion – Neodymium driver
Material	Baltic birch plywood
Finish	Black or white structural paint
Front finish	UV Resistant acoustic fabric fitted Magnelis® front grille
Fittings	2x Side handles Stand fitting M20
Connectors	2 x cable gland, 2 cores cables
Weight	23 kg – 51 lb
Dimensions	

USER NOTES

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