KGEAR
Smart Audio Solutions

GT12

12" passive full-range loudspeaker with compression driver and sealed aluminum cabinet

USER GUIDE

• 20260505 • V.1

Thank you for choosing KGEAR!

To ensure proper operation, please carefully read this owner's manual and safety instruction before using the product. After reading this manual, be sure to keep it for future reference.

If you have any questions about your new device please contact K-array customer service at info@kgear.it or contact the local distributor in your country.

The GT12 is a passive full-range loudspeaker featuring a 12" ferrite magnet woofer, a patented 1.4" compression driver, and a 12" passive radiator, all housed in a sealed aluminum cabinet for maximum reliability and resistance in demanding environments.

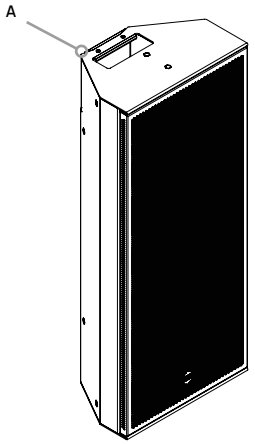
With a 70 Hz – 19 kHz (-6 dB) frequency response, 136 dB peak output (half space), and a rotatable 60° × 90° dispersion, the GT12 delivers powerful, controlled sound for both speech and music reinforcement.

Thanks to its compact form factor, rugged build, and compatibility with a wide range of mounting accessories, the GT12 is ideal for fixed installations, live sound, stage monitoring, and modular array configurations, both indoor and outdoor (IP54 with dedicated accessories).

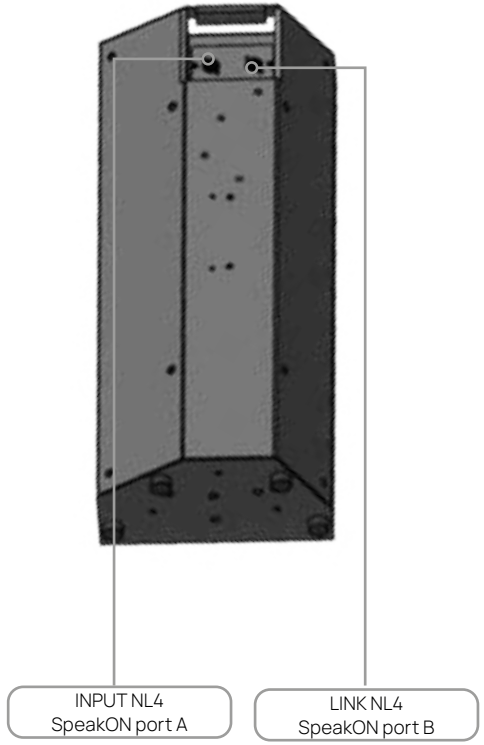
Unpacking

Each KGEAR device is inspected before leaving the factory. Upon arrival, carefully inspect the shipping carton, then examine and test your new device. If you find any damage, immediately notify the shipping company. Check that the following parts are supplied with the product:

A. 1x GT12 12" passive full-range loudspeaker.



GT12 Rear Panel



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Wiring

The GT12 is a two-way passive loudspeaker. The incoming audio signal is connected to the 1+ / 1– pins of each one of the SpeakON NL4 connectors.

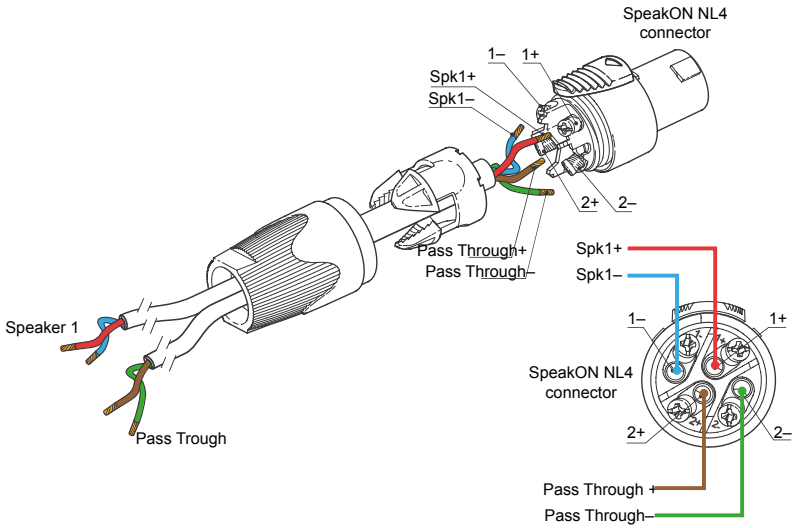
An internal passive crossover distributes the frequencies between the 12" woofer and the 1.4" compression driver, ensuring optimal performance without the need for external processing.

The enclosure also includes a 12" passive radiator, which is not directly connected to the input circuit. Instead, it vibrates in sympathy with the woofer's movement, reinforcing and extending the system's low-frequency response.

The 2+ / 2– pins are wired in parallel (pass-through) and can be used to route the signal to an additional loudspeaker.

SpeakON pin-out		GT12	
A 	1	1+ 1–	SIGNAL / IN
		2+ 2–	TROUGH / LINK OUT
B 	2	1+ 1–	SIGNAL / IN
		2+ 2–	TROUGH / LINK OUT

1+1- / 2+ 2-
SIG IN / LINK OUT trough



Amplifier Channel Matching

Amplifier Matching

Before connecting the loudspeaker, make sure the correct impedance value for your audio system is set. Always connect the unit to a suitable KGEAR or K-array amplifier designed to handle the required load.

When connecting multiple loudspeakers in parallel, the total impedance decreases. To prevent overload or damage to the amplifier, please refer to the appropriate matching table, available at the links below:

KGEAR-to-KGEAR

K-array-to -KGEAR

Always check the loudspeaker impedance before connecting the amplifier.

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Speaker Positioning and configurations

The GT12 can be installed in different ways depending on the application. Correct positioning is essential to achieve balanced frequency response and uniform coverage.

Single-unit applications

stand-alone installations (fig.a)

1. **Stand mounting** – The GT12 is not equipped with an integrated pole socket. The rear panel provides threaded mounting points that allow the installation of a standard 35 mm pole **G-POLEMOUN**T adapter, enabling direct mounting on an adjustable loudspeaker stand (typically from about 70 cm up to over 1.5 m in height). This configuration is particularly suitable for mobile use, live events, or temporary installations.
2. **Wall-mounting,** the GT12 can be wall-mounted using the **GT12-UBRACKET**.

- Keep enough distance from walls, corners, and large surfaces to avoid unwanted reflections or low-frequency build-up.
- In indoor installations, it is advisable to fine-tune the system to optimize the response.
- When mounted vertically on a wall, angle the loudspeaker downward toward the listening area.
- When mounted horizontally from a ceiling, tilt the loudspeaker down to direct the coverage properly.

Multiple units - Cluster configurations

The GT12 can also be combined in clusters to increase and inprove coverage and output:

3. **Horizontal clusters - with GT12-JOINT + GT12-BUMPER**
4. **Vertical clusters - with GT12-FLYV flying hardware**

- **Horizontal clusters (2–3 units)**: Units can be mounted side by side and suspended from multiple rigging points. Clusters can also be arranged in circular arrays to achieve 360° coverage. The horn orientation (typically 60° V × 90° H) should be considered based on the required dispersion. These setups provide effective near-field coverage, but attention should be paid to possible low-frequency interactions.
- **Vertical clusters (up to 4 units)**: With the **GT12-FLYV** frame, multiple GT12s can be flown to form a coherent source. Using the standard horn orientation (60° V × 90° H), this configuration provides consistent near-field coverage and controlled projection for longer distances.

For detailed mounting instructions, please refer to the dedicated chapter in the following pages.

Stage monitor applications - live clubs and events

With GT12-WEDGE (fig.B)

The **GT12-WEDGE** is an accessory consisting of two brackets with adjustable tilt, allowing flexible orientation of the GT12.
It transforms the loudspeaker into a reliable stage monitor with an adjustable angle from 30° to 55°.
Thanks to its stable structure, it is ideal for live performances and can also be used in angled front-fill configurations.

- Adjustable tilt from 30° to 55°
- Two-bracket system for stable orientation
- Ideal for stage monitoring in live performances

Pole Mounting Warnings

Ensure that the pole and its base (subwoofer or stand) are stable, properly positioned, and rated to support the total load of the loudspeaker and any additional accessories.

Do not exceed the maximum allowable load of the pole or the supporting structure. Always verify that the pole is fully inserted and securely locked in place before mounting the loudspeaker.

Use only compatible and approved pole mounting systems. Avoid installing the system on uneven or unstable surfaces.

Do not apply excessive force, tilt, or side load to the pole, as this may compromise stability. In outdoor or high-traffic environments, additional safety measures (e.g., securing straps or safety cables) are strongly recommended.

Never climb, lean, or hang objects on the mounted system.

Failure to follow these instructions may result in equipment damage, personal injury, or death.

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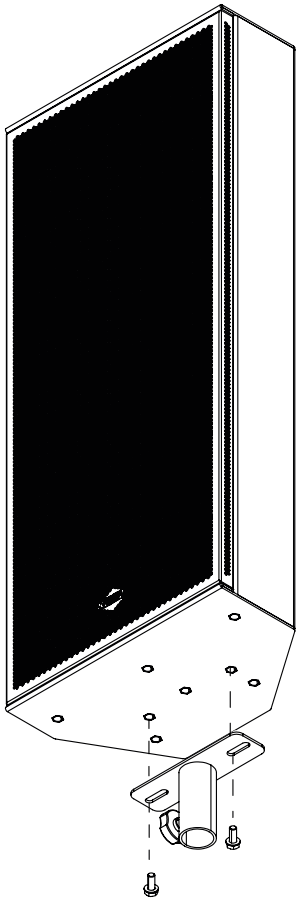
Stand mounting on standard (1,8m max) - G-POLE

a



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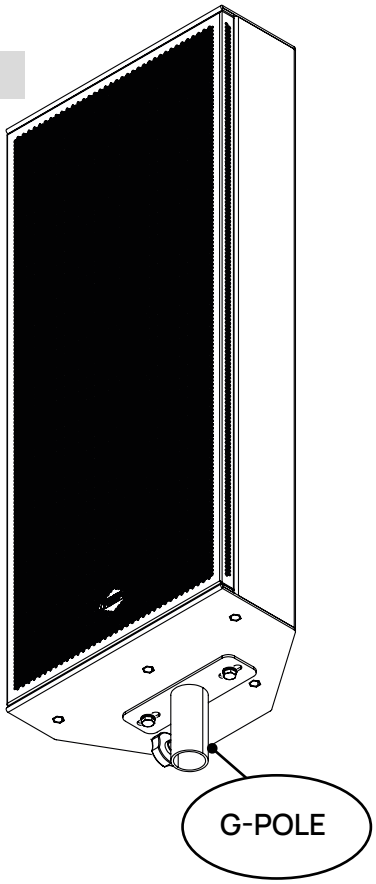
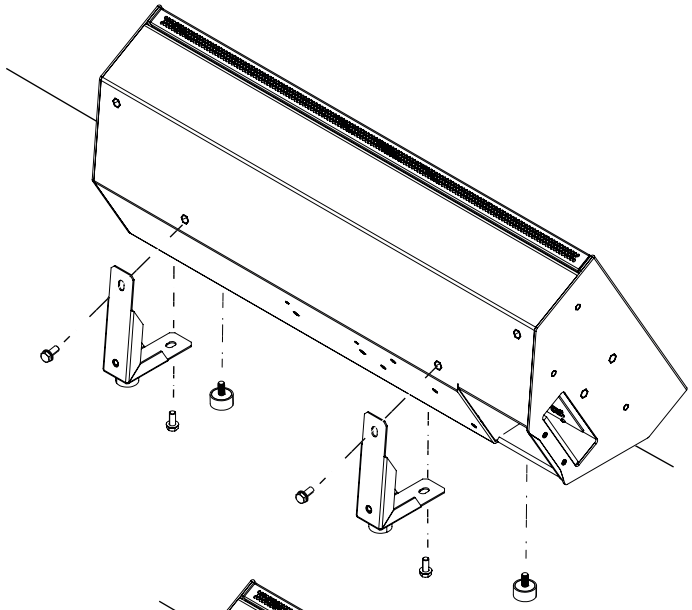


Stage-mounting with GT12-WEDGE

B



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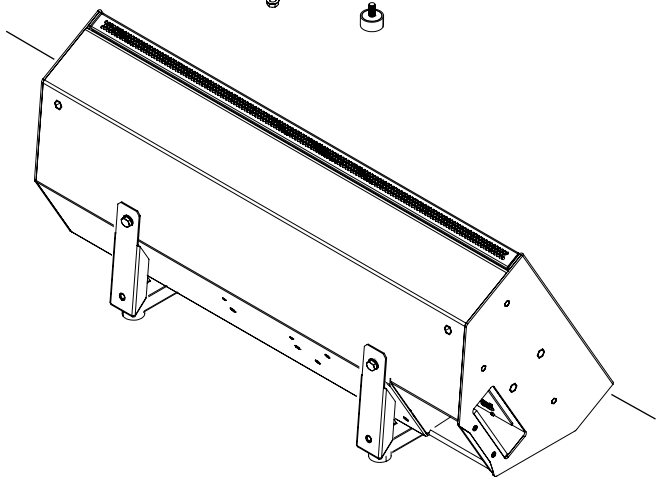

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Rigging and Hanging procedures

Suspended Units and Array

Key rigging components must be inspected before each use.
Any rigging components found to be defective, or even suspect might be defective should be replaced with equivalent approved part.

Always use properly rated rigging hardware.

K-array is not responsible for any rigging equipment and accessories that are not manufactured by K-array.

K-array loudspeaker and hardware are intended for suspension from approved rigging points only.
Ensure that the total weight of the loudspeakers and additional hardware assembly in use is lower than the Working Load Limit (WLL) of the suspension points.

Rigging and flying loudspeaker systems shall be accomplished by knowledgeable and experienced professionals.

It is the user's responsibility to ensure that the use and suspension of heavy loudspeaker systems conform to all applicable laws and regulations in force at the time and location.

Cluster Safety Factors and Max Units (Vertical/Horizontal)

Configuration	N. Elements	N. of lifting beams	Safety factor
Vertical	3/4	2	10
Horizontal	3	1	6
Horizontal	3	2	7
Horizontal	3	1	7

Cluster configurations and Safety Guidelines

The following table provides the safety factors and the maximum number of units allowed per cluster in both vertical and horizontal configurations. These values are determined based on standard operating conditions and are intended to ensure safe and reliable installation when using approved rigging accessories.

Always verify that the total load, including all connected elements (loudspeakers, rigging hardware, cabling, and any additional accessories), does not exceed the specified limits. The safety factors indicated in the table must be strictly observed.

Do not exceed the maximum number of units per cluster under any circumstances.

Ensure that all supporting structures (trusses, ceilings, mounting points) are properly rated to handle the total load with an adequate safety margin.

Regularly inspect all rigging components for wear, deformation, or damage before installation.

Dynamic loads (e.g., vibrations, wind, movement) must be taken into account, as they can significantly affect the overall safety of the system.

The manufacturer declines any responsibility for improper use, incorrect installation, or failure to comply with these guidelines.

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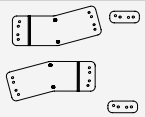
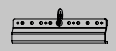
Horizzontal Cluster Assembly

Needed Equipment

Name	Description	Image	Apply to
GT12-JOINT	Hardware joining kit with 2 plates, M8 bolts and spacer for horizontal cluster assembly with 15° or 30° inclination.		GT12
GT12-BUMPER	Bumper kit with M8 bolts, for use with GT12-JOINT in horizontal cluster suspension (1 bumper per 2 speakers).		GT12

* See technical tables and mechanical drawings at the end of this guide for full dimensional details

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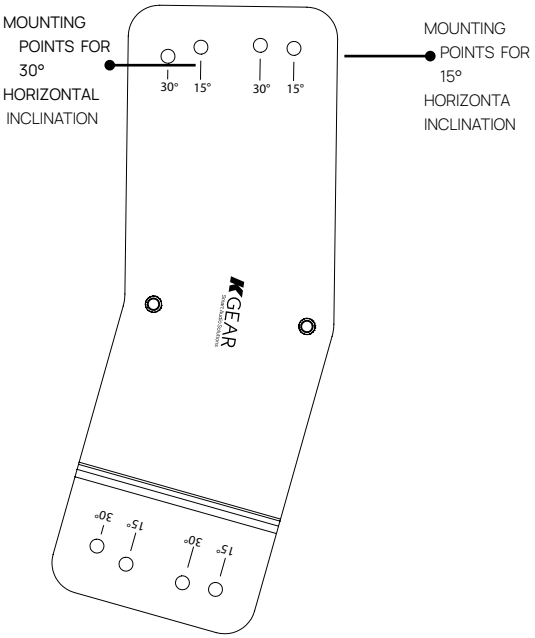


Horizontal Cluster Assembly

To create a horizontal cluster of GT12 loudspeakers, the following accessories are required:

- 2x **GT12-JOINT**: hardware kit consisting of two stainless steel side plates (one upper and one lower) to connect multiple GT12 elements together in horizontal or vertical clusters.
- 1x **GT12-BUMPER**: rigging frame for suspending the cluster.

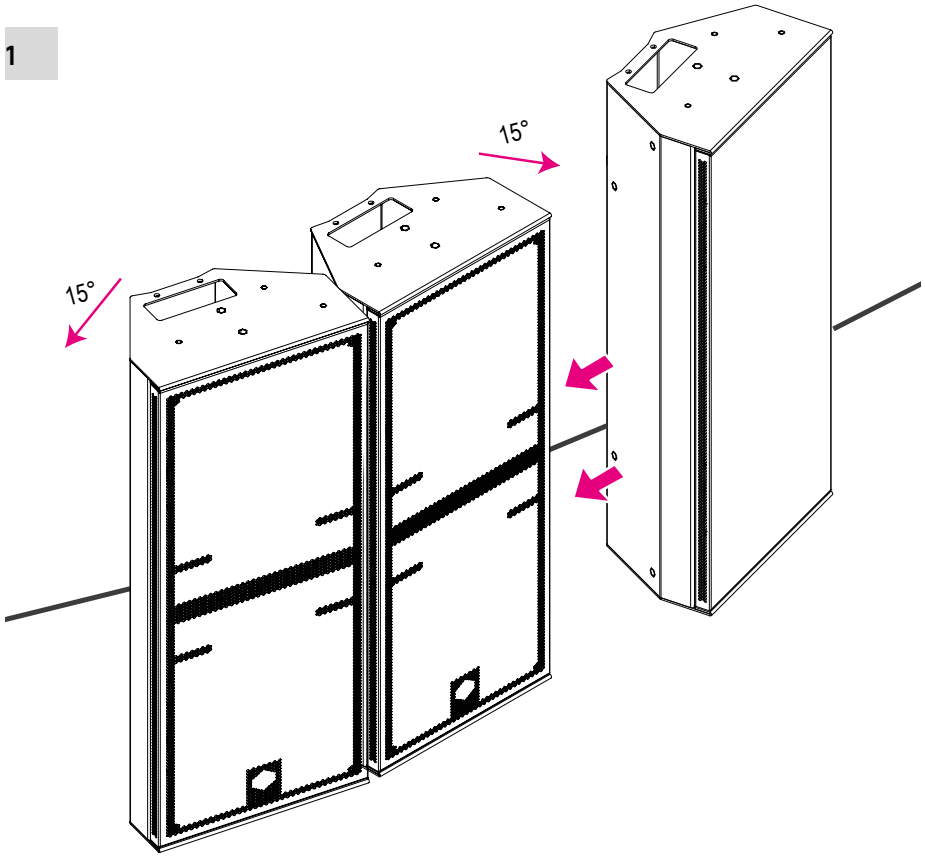
The GT12-JOINT plates allow the speakers to be set at 15° or 30° relative angles, depending on the desired coverage. The fixing points for each angle are clearly marked on the plate itself. **(fig.a)**

Assembly procedure:

1. Place the GT12 loudspeakers on a flat surface, side by side, and align them at the desired angle to achive the desired coverage (15° or 30°).
2. Use one **GT12-JOINT** kit to connect two loudspeakers: fix the upper plate and the lower plate to the central M8 inserts located on the upper and lower sides of the cabinet.
3. Insert the supplied spacer between the joint plate and the cabinet before tightening the bolts to ensure proper fitting.
4. Repeat the same procedure for each additional loudspeaker.
5. When assembling a 3-element horizontal cluster, mount the **GT12-BUMPER** at the junction between the two upper joints. The bumper is fixed with M8 bolts through the overlapped joint plates of the two loudspeakers.

Note: the **GT12-JOINT** plates feature a stepped section that must always be overlapped with the flat section of the next plate. This ensures proper alignment and secure stacking when connecting multiple elements.

1



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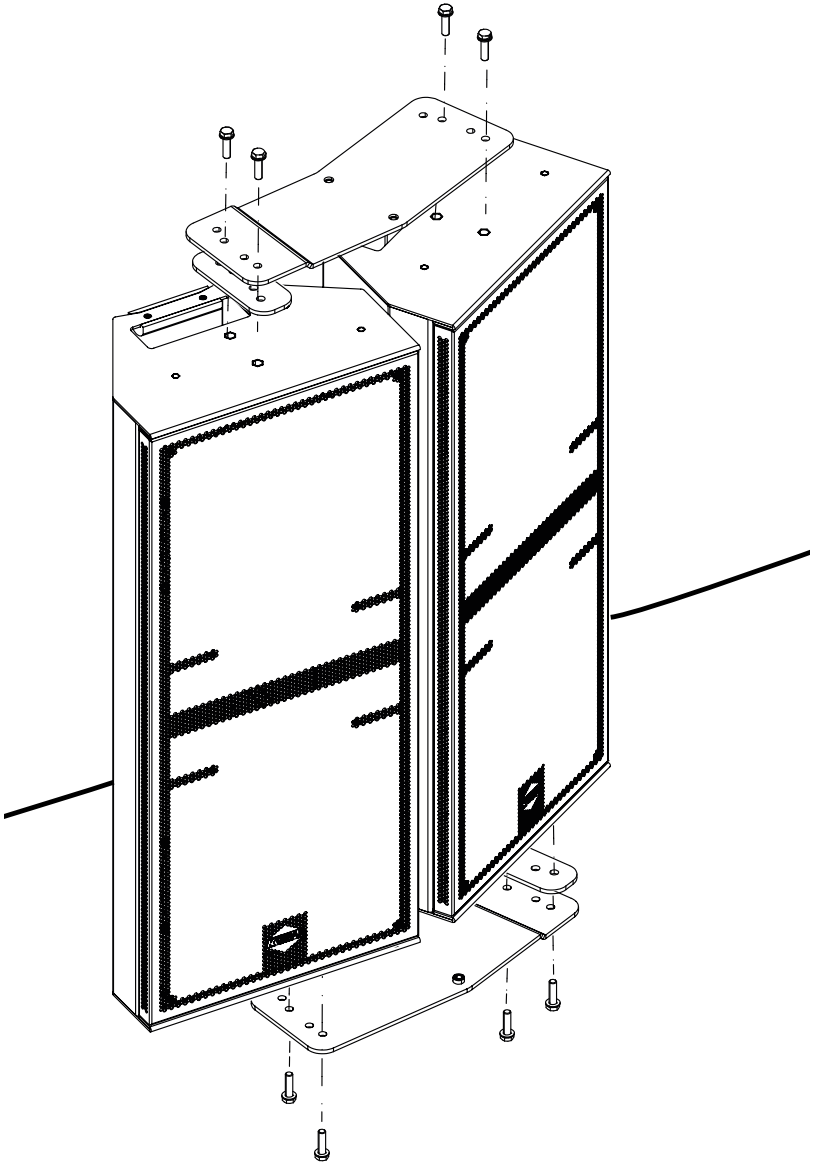
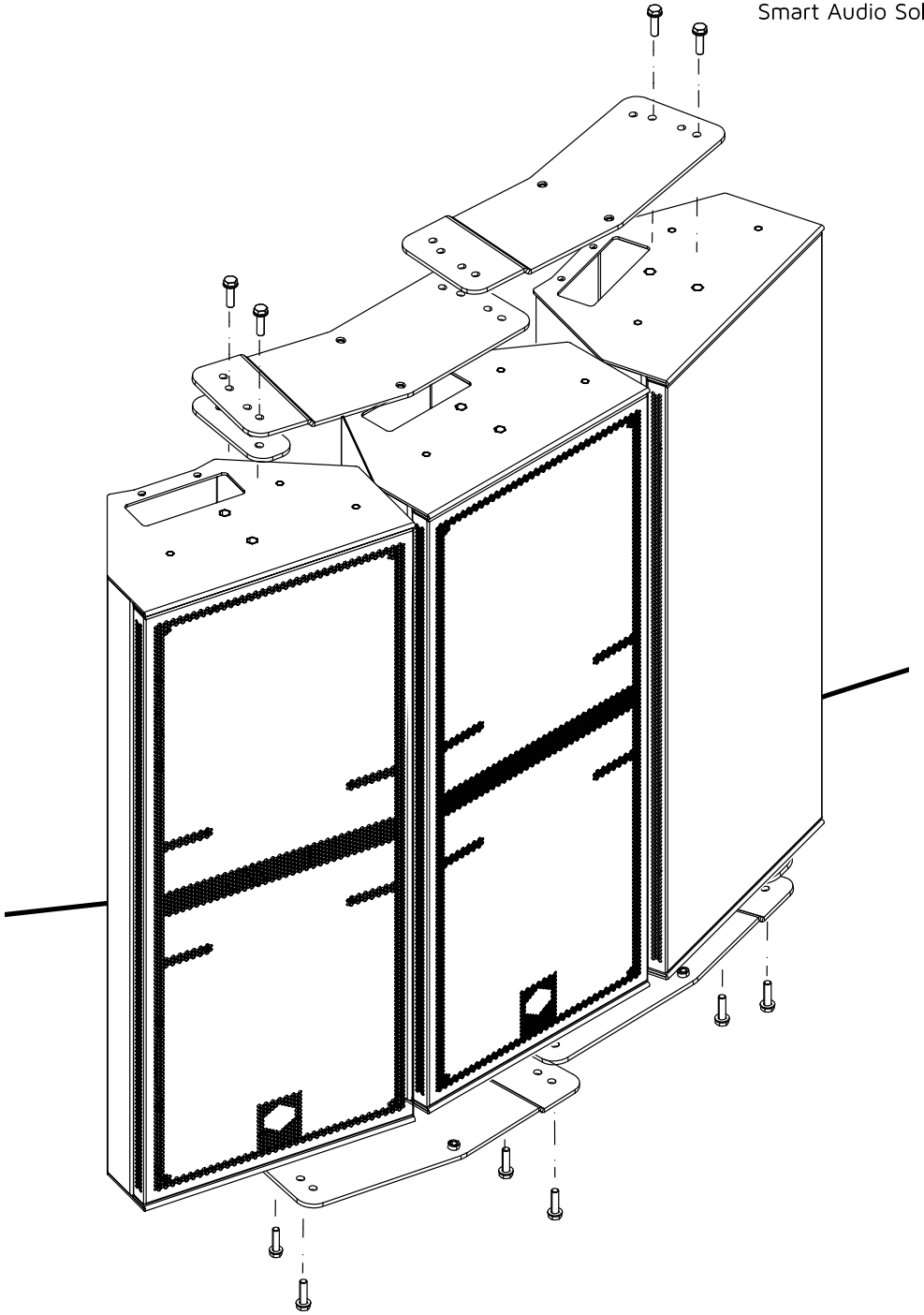
2





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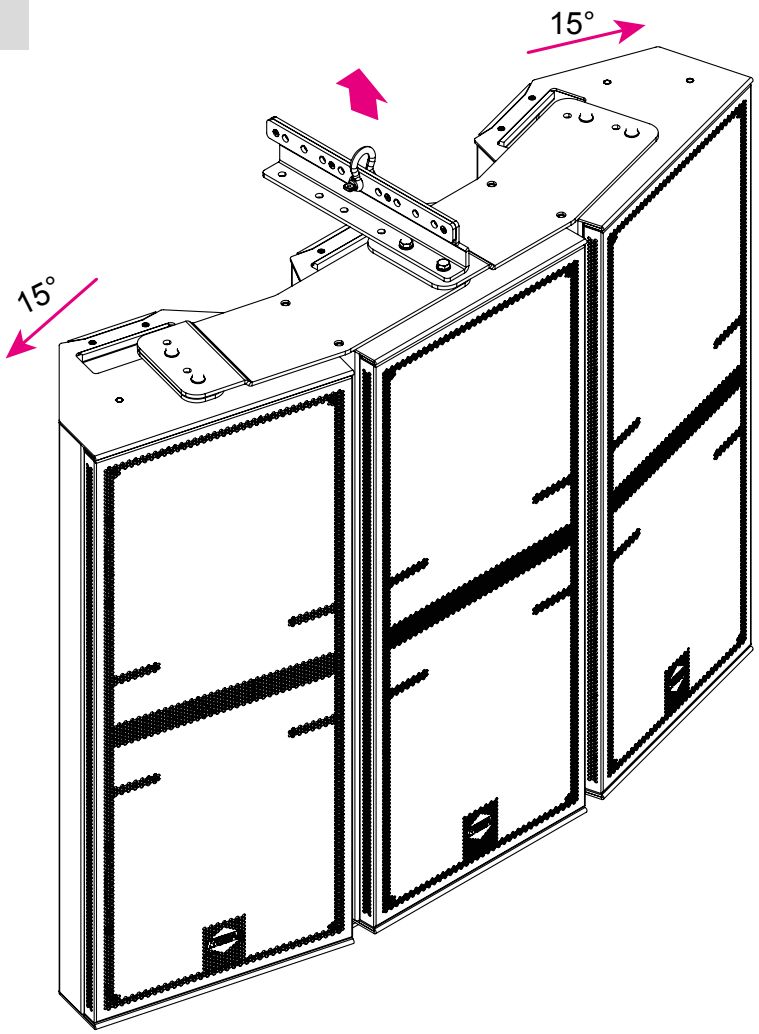
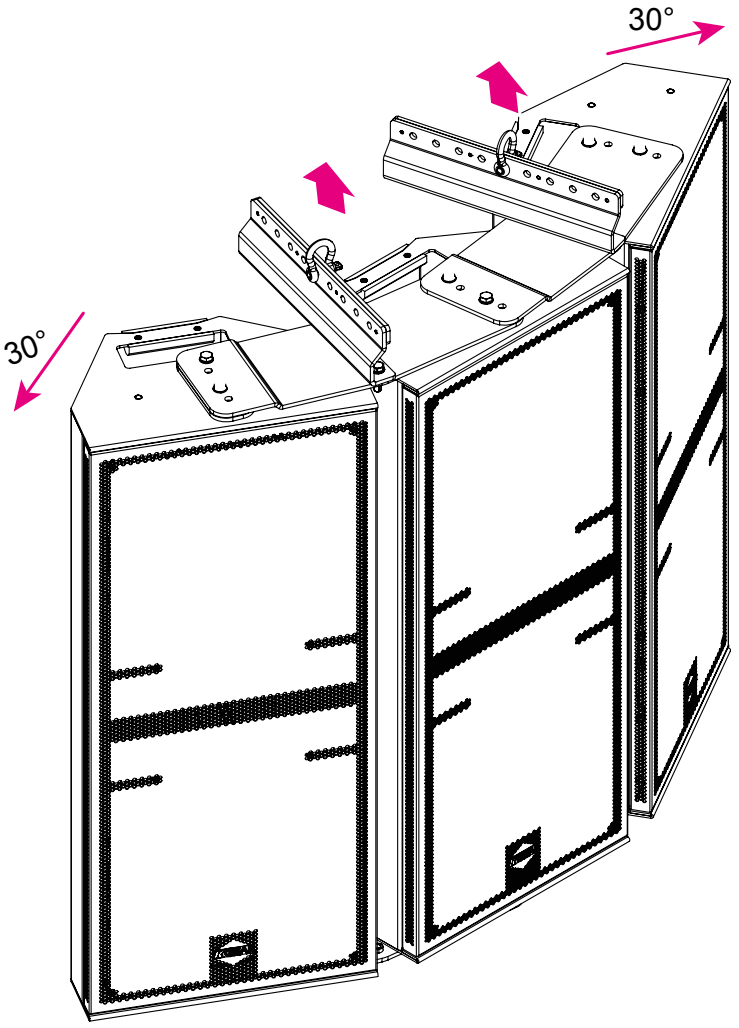


Horizontal cluster tilt orientation 15°



Horizontal cluster tilt orientation 30°

Rigging and Hanging procedures

Suspended Unit and Array

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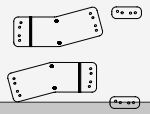
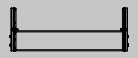
Vertical Cluster Assembly

Needed Equipment

Name	Description	Image	Apply to
GT12-JOINT	Hardware joining kit with 2 plates, M8 bolts and spacer for horizontal cluster assembly with 15° or 30° inclination.		GT12
GT12-FLYV	Flying kit with fly bar and 2 bumpers for 2 rigging points - to suspend up to 4 elements		GT12

* See technical tables and mechanical drawings at the end of this guide for full dimensional details

Vertical Cluster Assembly

Prepare the loudspeakers

The assembly procedure must not be performed in suspension. As with the horizontal cluster configuration, the setup should be carried out on the ground or on a stable surface before lifting.

1. Attach the joints
- Use the GT12-JOINT hardware (stainless steel side plates) to connect the cabinets.
- The plates feature reference marks that allow you to set the angle between elements (e.g., 15° or 30°).
2. Stack the joints
- Overlap the stepped section of one plate with the flat section of the next, aligning them properly, and fix the units together with the supplied bolts.
- Repeat for all elements
- Continue the procedure for each additional loudspeaker until the desired cluster is completed (up to 4 GT12 units).
3. Suspension
- Once the cluster is assembled, connect the GT12-FLY flying kit (fly bar with 2 bumpers for 2 rigging points) to the joint of the top element.
- Secure with the supplied M8 bolts and attach the rigging points as required.

Vertical cluster configuration limits

When assembling suspended vertical arrays with the GT12-FLY + GT12-JOINT, the maximum number of elements depends on the chosen splay angle:

Angle between cabinets	Maximum number of elements
15°	up to 4 units
30°	up to 3 units

4. Final check

Verify that all bolts are tightened correctly and that the suspension system is secure before lifting the array.

WARNING – Structural safety limit
The suspension system allows the creation of a vertical cluster of maximum: Maximum number of elements depends on angles between cabinets
15° : up to 4 units
30°: up to 3 units

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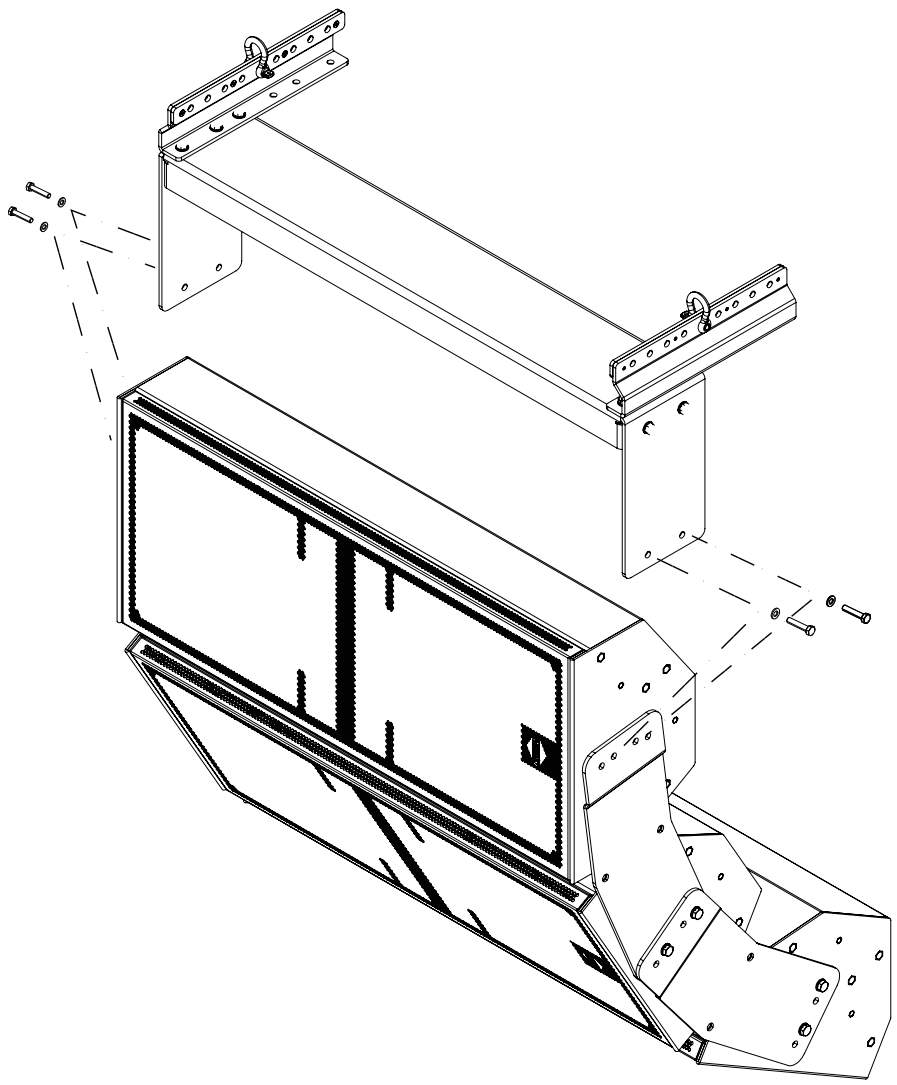
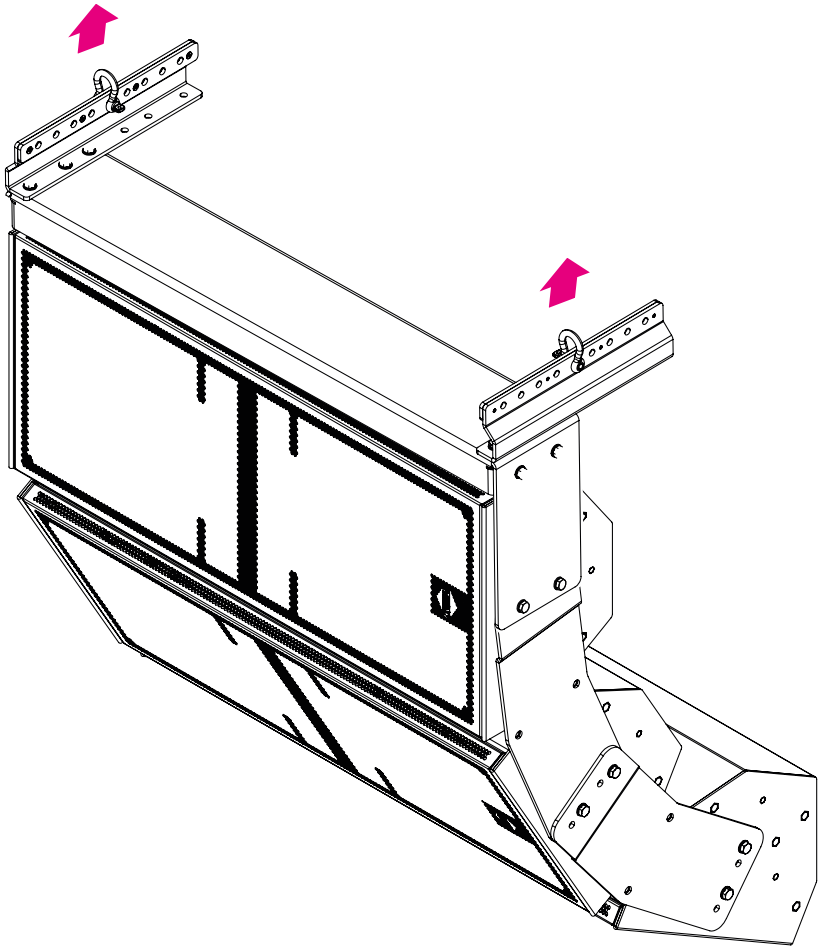
1 2



3 4



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Wall / Ceiling Mounting – GT12-UBRACKET

The GT12-UBRACKET allows:

- Wall or ceiling mounting
- Adjustable tilt from 0° to ±45° both vertical and horizontal orientation (fig. a.1)
- Vertical or horizontal installation

Needed Equipment

Name	Description	Image	Apply to
GT12-UBRACKET	U-bracket for secure wall, ceiling or stack mounting of the GT12 loudspeaker		**GT12**

* See technical tables and mechanical drawings at the end of this guide for full dimensional details

Installation Steps

1. Choose the mounting location

Select a suitable wall or ceiling surface capable of supporting the weight of the bracket and the loudspeaker. Ensure the surface is flat, stable, and free of vibrations.

2. Mark and drill the holes

Position the **GT12-UBRACKET** in the desired orientation (vertical or horizontal). Mark the fixing points on the surface and drill the holes according to the dimensions (130mm)provided in the mechanical drawings. (fig. a)

3. Secure the bracket

Fasten the **GT12-UBRACKET** to the wall or ceiling using the appropriate screws and anchors. Make sure the bracket is firmly fixed and level. (fig. b)

4. Attach the loudspeaker

Place the loudspeaker onto the bracket and secure it using the supplied fixing hardware. Verify that the loudspeaker is properly seated and stable.

5. Adjust the tilt angle

Set the desired tilt angle (from 0° to ±45°) by loosening the adjustment knobs, positioning the loudspeaker, and tightening the knobs again.

Final check

Ensure all screws are firmly tightened and the installation is safe. Verify that the loudspeaker is correctly oriented and that the bracket holds it securely. (fig. d)

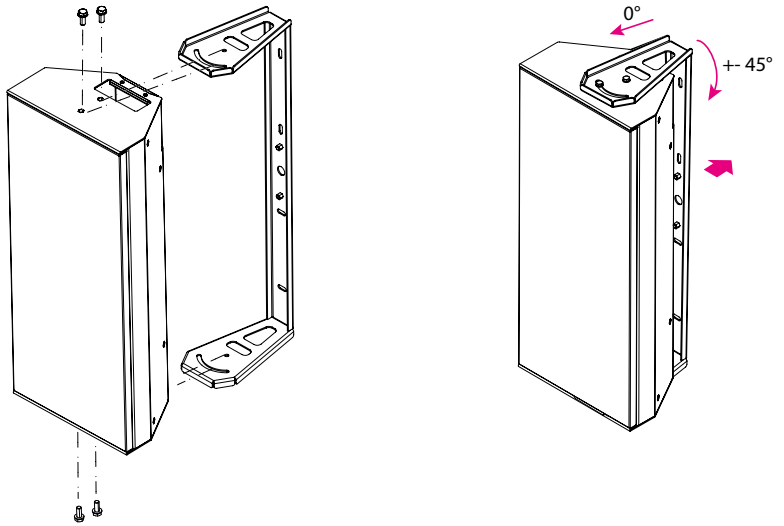
Ceiling Installation

The installation procedure on the ceiling is identical to wall mounting. In this case as well, make sure the ceiling surface is solid and capable of supporting the full weight of the bracket and loudspeaker. Carefully verify the strength and stability of the mounting surface before proceeding.

WARNING

Make sure the mounting surface is solid and capable of supporting the full weight of both the bracket and the loudspeaker. Improper installation may result in equipment falling and potential damage.

a.1



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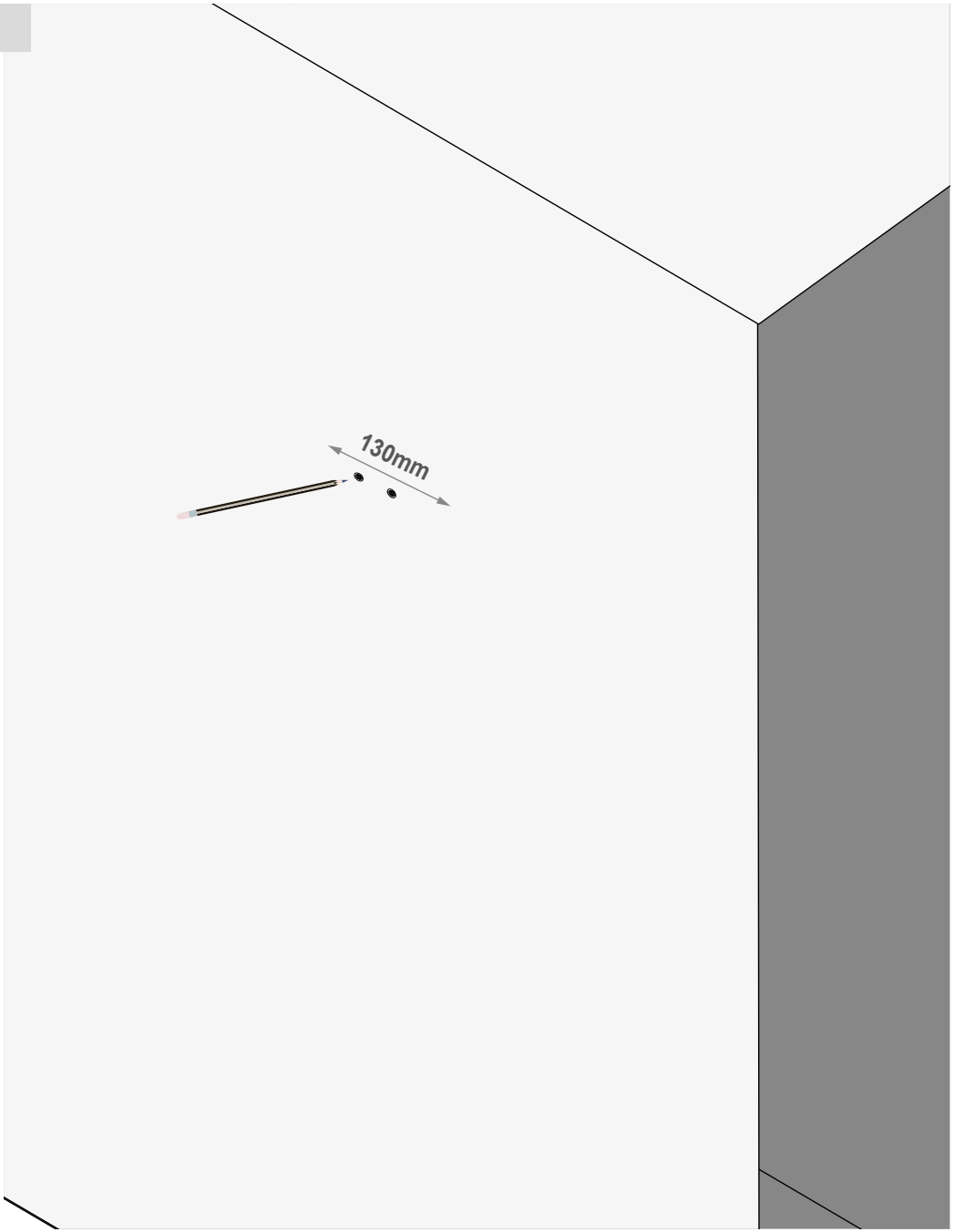

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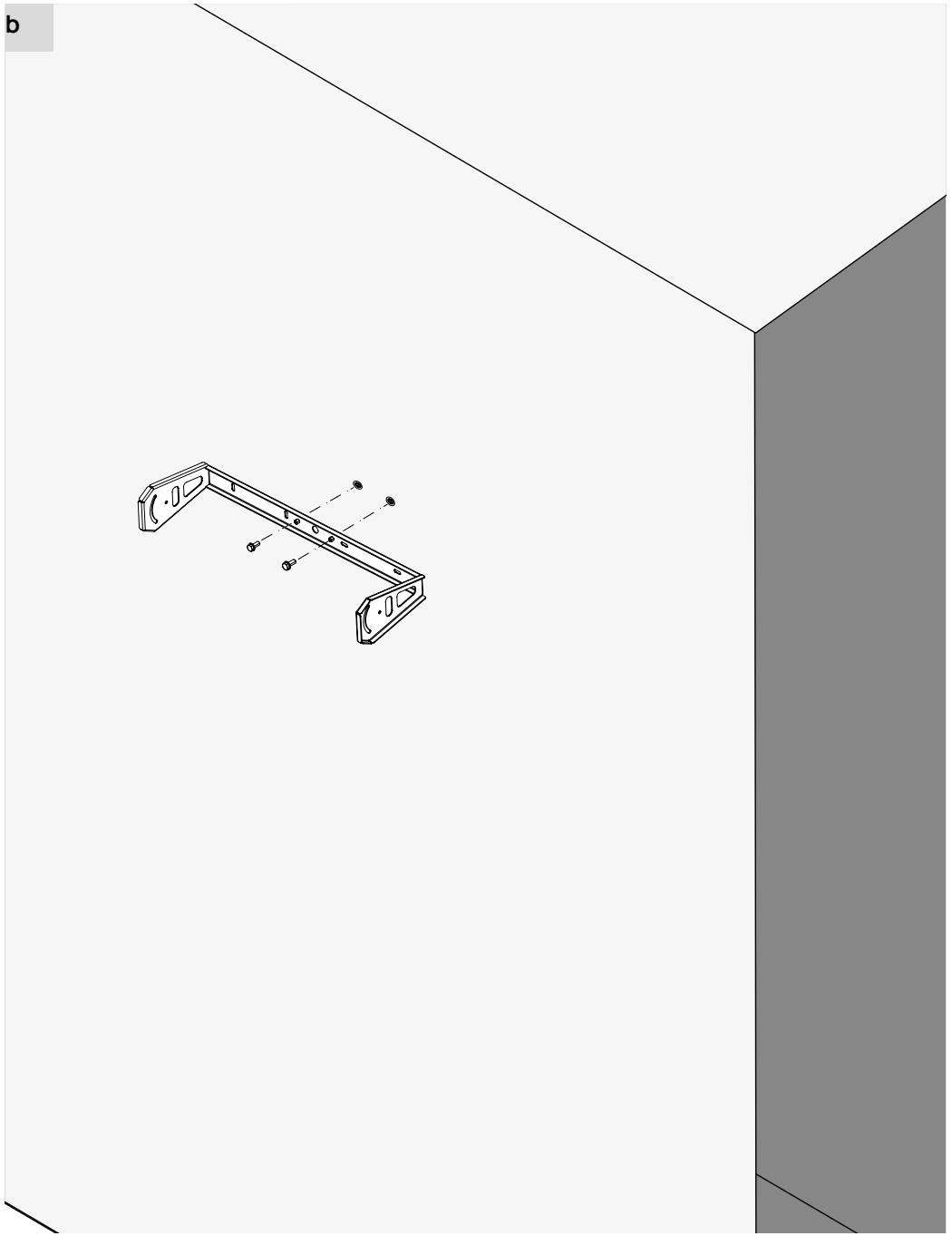

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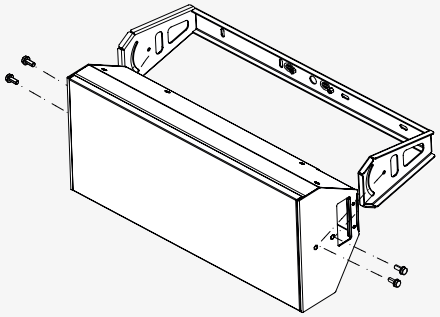

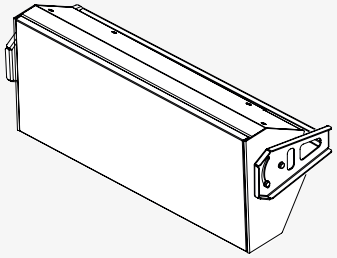

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Mechanical Drawings

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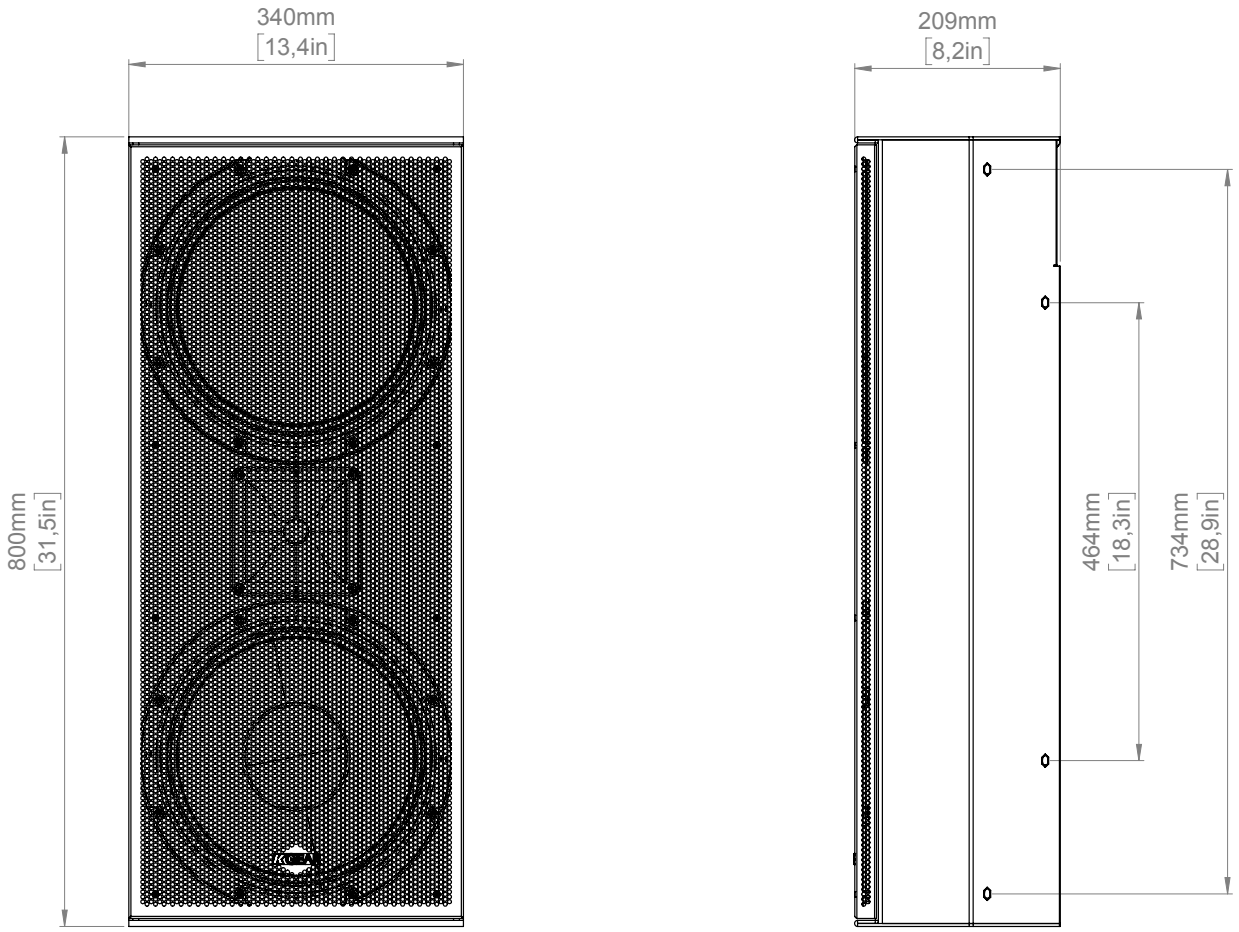

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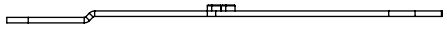
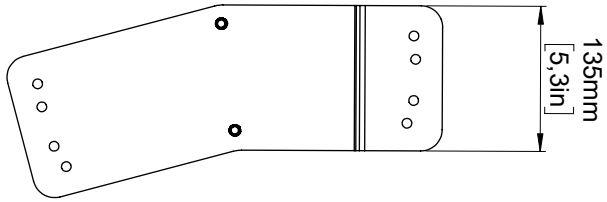
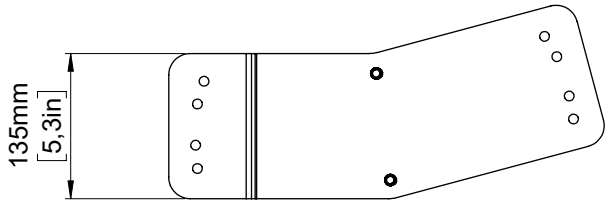
Mechanical Drawings - Accessories

GT12-JOINT







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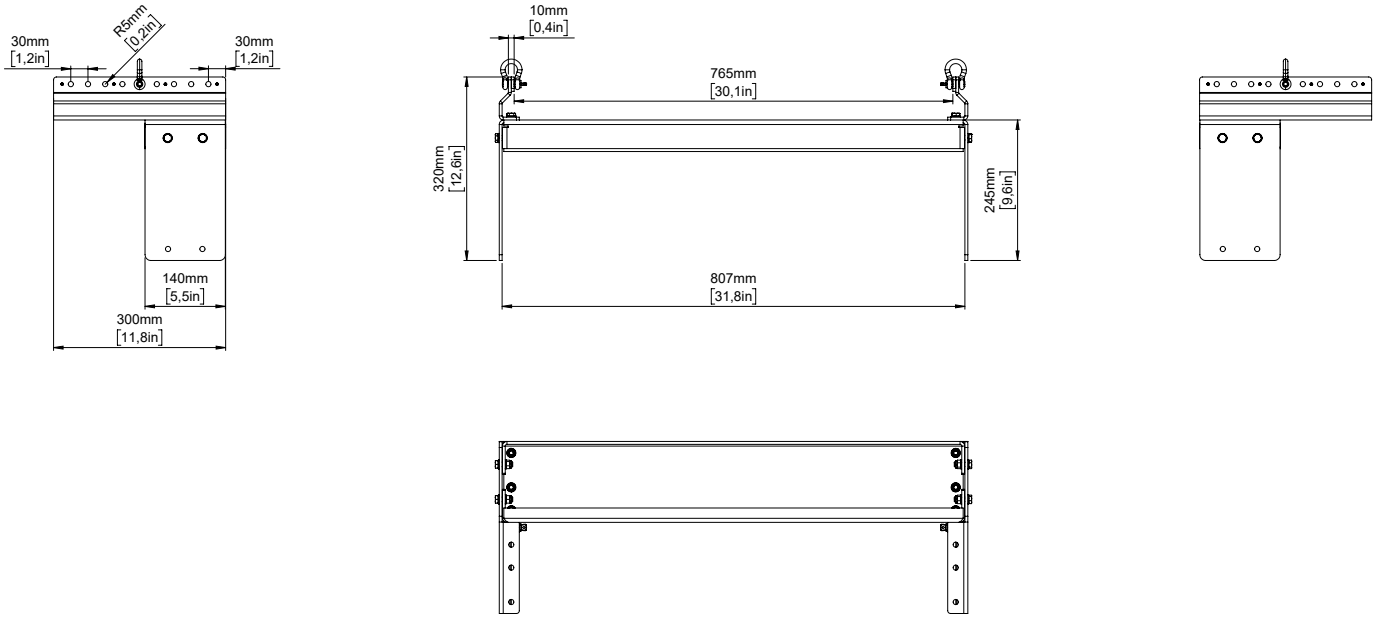
GT12-FLYV



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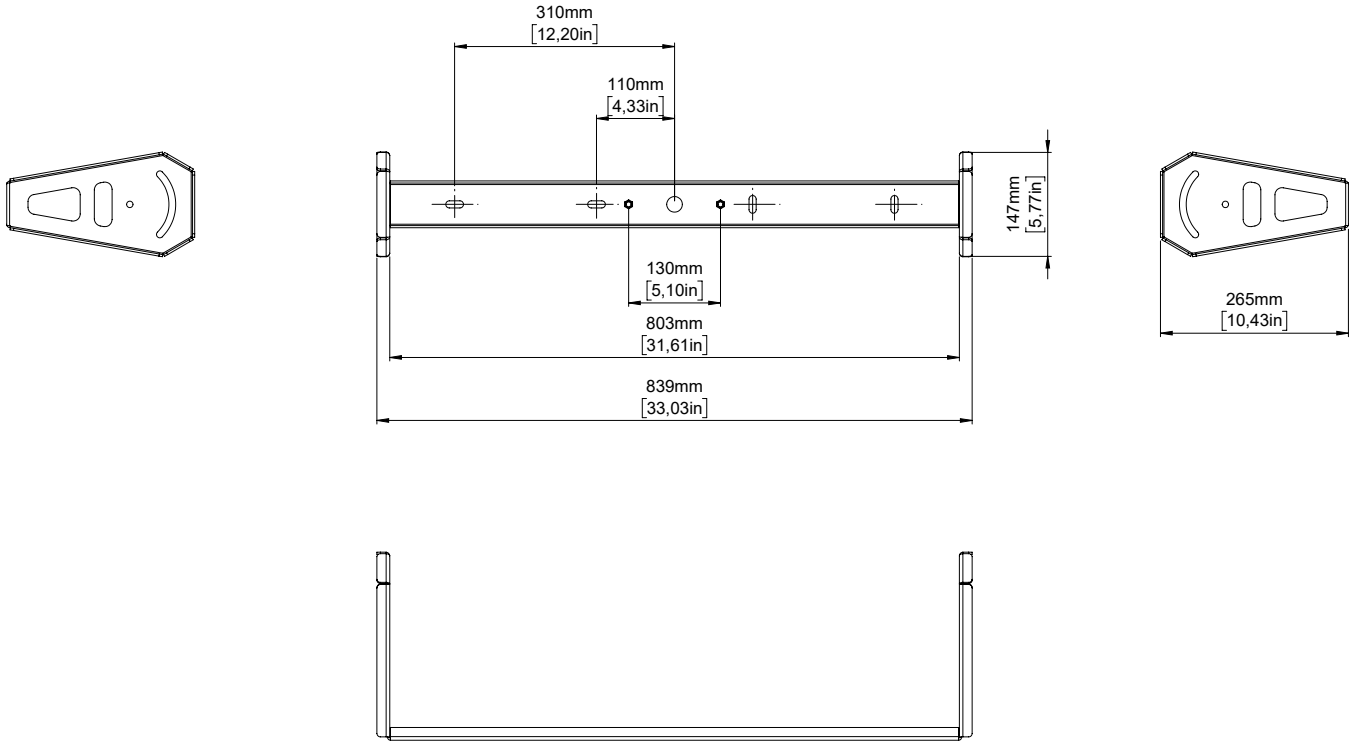
GT12-UBRACKET



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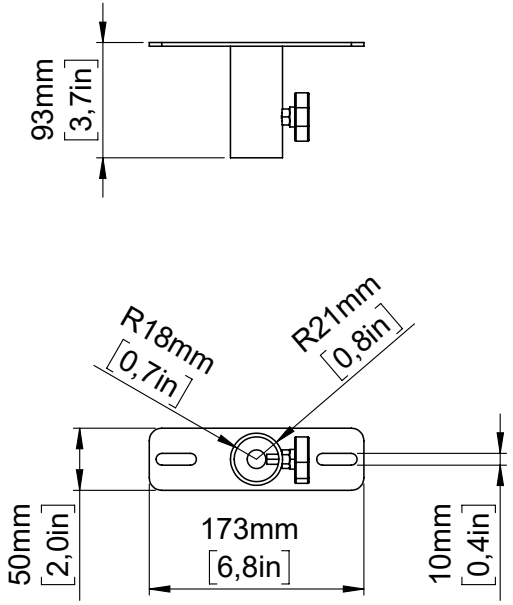
GT12

GT12-POLEMOUNT



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KGEAR
Smart Audio Solutions

IMPORTANT SAFETY INSTRUCTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol alerts the user to the presence of recommendations about the product's use and maintenance.

The lighting flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated, dangerous voltage within the product enclosure that may be of magnitude to constitute a risk of electrical shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in this guide.

Operator's manual; operating instructions
This symbol identifies the operator's manual that relates to the operating instructions and indicates that the operating instructions should be considered when operating the device or control close to where the symbol is placed.

For indoor use only
This electrical equipment is designed primarily for indoor use.

WEEE
Please dispose of this product at the end of its operational lifetime by bringing it to your local collection point or recycling center for such equipment.

This device complies with Restriction of Hazardous Substances Directive.

Warning. Failure to follow these safety instructions could result in fire, shock or other injury or damage to the device or other property.

General heed and warnings

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
- Only use attachments/accessories specified by the manufacturer.
- Clean the product only with a soft and dry fabric. Never use liquid cleaning products, as this may damage the products cosmetic surfaces.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

These apparatus are intended for professional use.

Installation and commissioning may only be carried out by qualified and authorized personnel.

WARNING: Only use attachments/accessories specified or provided by the manufacturer (such as the exclusive supply adapter, battery, etc.)
Use only speaker cables for connecting speakers to the speaker terminals. Be sure to observe the amplifier's rated load impedance particularly when connecting speakers in parallel. Connecting an impedance load outside the amplifier's rated range can damage the apparatus.
KGEAR will not shoulder any responsibilities for products modified without prior authorization.

Service

To obtain service:

1. Please have the serial number(s) of the unit(s) available for reference.
2. Contact the official KGEAR distributor in your country: or KGEAR headquarter at info@kgear.it. Please describe the problem clearly and completely to the Customer Service.
3. You will be contacted back for on-line servicing.
4. If the problem cannot be resolved over the phone, you may be required to send the unit in for service. In this instance, you will be provided with an RA (Return Authorization) number which should be included on all shipping documents and correspondence regarding the repair. Shipping charges are the responsibility of the purchaser.

Any attempt to modify or replace components of the device will invalidate your warranty. Service must be performed by an authorized K-array service center.

Cleaning

Use only a soft, dry cloth to clean the housing. Do not use any solvents, chemicals, or cleaning solutions containing alcohol, ammonia, or abrasives. Do not use any sprays near the product or allow liquids to spill into any openings.

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Technical specifications
Type Passive loudspeaker
Transducer "12" ferrite magnet woofer, 1.4" compression driver (patented) 12'' passive radiator
Frequency Response[1] 70 Hz - 19 kHz (-6dB)
Max SPL[2] 136 dB (peak) half space
Power Handling 650 W
Coverage V. 60° - H. 90° Rotatable
Connectors 2x SpeakOn NL4, 1+ 1- (signal); 2+ 2- (through)
Nominal Impedance 8 Ω
IP Rating IP64
Handling & Finishes
Dimensions (WxHxD) 340 mm (13,38in) 800mm (31,49in) 215mm (8,46in)
Weight 17 kg (37,47lbs)
Material Aluminum
Color Black

1 With dedicated preset
2 Maximum SPL is calculated using a signal with crest factor 4 (12 dB) measured at 8 m then scaled at 1 m

USER GUIDE

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