

Thank you for choosing KGEAR line by K-array!

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@k-array.com or contact the local distributor in your country.

The GH412 is a passive line array element with 4x12" coaxial transducer housed in a compact stainless steel, weather resistant cabinet that benefits from K-array SAT® Slim Array Technology.

Its cardioid dispersion pattern limits the loss of energy in unwanted directions. More units can be joined together to form an array line and scale up the system.

Designed for high performance outdoor/indoor applications both for fixed and moving installation for live events in auditoriums, stadiums, theme parks and clubs.

To ensure a correct performance GH412 must be driven by GA46 or Kommander-KA208 amplifier from KGEAR amplifiers family.



Unpacking

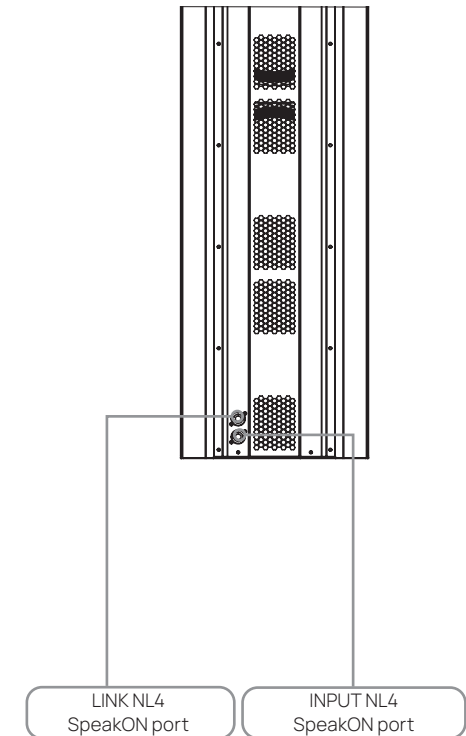
Each KGEAR device is inspected before leaving the factory. Upon arrival, carefully inspect the shipping carton, then examine and test your new device. If you find any damage, immediately notify the shipping company. Check that the following parts are supplied with the product:

1. 1 x GH412



Rear Panel

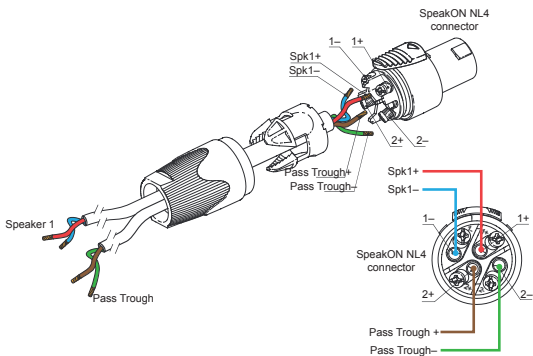
The rear panel features two SpeakON connectors: the bottom panel connector is used as input from an amplifier or active subwoofer, while the top connector serves as a link output to distribute the signal to additional speakers in a line array configuration.



Wiring and connections

- The GH412 uses NL4 SpeakON connectors with 1+ / 1- for signal and 2+ / 2- for pass-through.
- Both rear connectors are wired identically, allowing input from the amplifier and link to additional speakers.
- In standard use, connect the amplifier to the lower connector.

SpeakON		GH412
1/2	1	1+ 1- INPUT (SIGNAL)
		2+ 2- Through
3/4	2	1+ 1- LINK OUT (SIGNAL)
		2+ 2- Through



Rigging and Hanging procedures

Suspended Units in 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.

! 1. 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.

Needed Equipment

Name	Description	Image	Apply to
GH-JOINT	Adjustable Joining Hardware + 2 Lugs + 8 Pins		GH12 GH412
GH-FLY	Stainless Steel Fly Bar		GH12 GH412

GH-JOINT & GH-FLY

Rigging Hardware accessories

GH412 elements can be assembled in an array using the GH-JOINT and GH-FLY adjustable rigging system.

First, connect the first unit to the dedicated fly-bar / bumper system and connect the elements together one by one using the joining kit (2 lugs and 8 pins). After connecting the first element to the fly-bar, suspend it via the omega shackles or rigging point.

1. Connect the first unit to the fly-bar (bumper) system. (fig1)
2. Suspend the first element from the rigging point using omega shackles, leaving enough space to connect the next element. (fig2)
3. Attach each subsequent element using the dedicated joining kit (2 lugs and 8 pins per element). (fig3)
4. Repeat the procedure according to the system configuration requirements, without exceeding the maximum number of elements allowed for suspension.

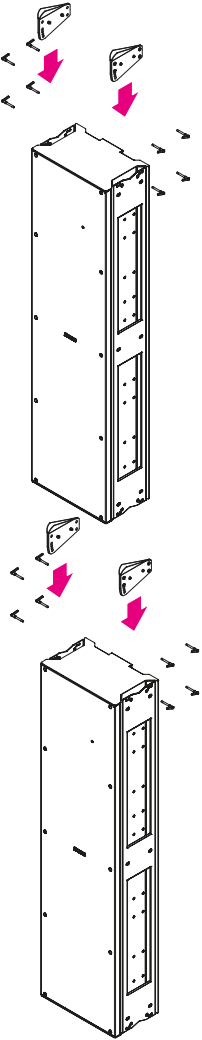
2

Attach the GH-FLY bar to the speaker frame using the provided pins, adjust the bumper to the desired height and angle, and suspend the array from the rigging point, leaving enough space to connect the next element.

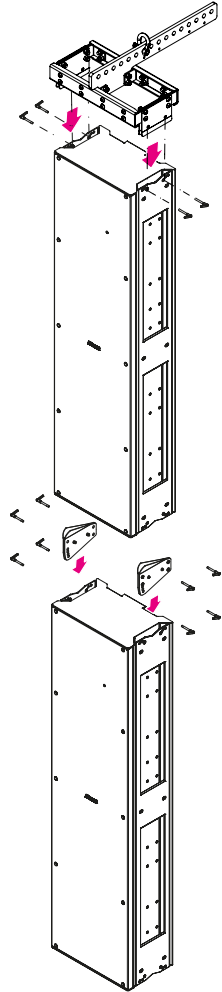
When flying multiple GH12 units, do not exceed the GH-FLY bar's maximum load capacity. Use only certified accessories to ensure safe operation and prevent damage.



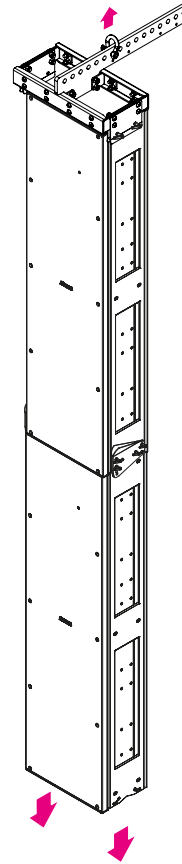
GH-JOINT (fig3)



GH412 + GH-FLY + GH-JOINT
In array configurations (fig1)

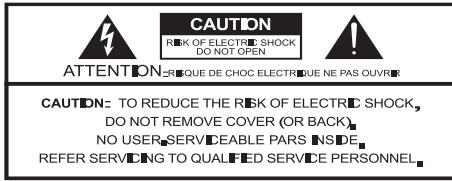


Suspend array
From the rigging point (fig1 - fig2)



IMPORTANT SAFETY INSTRUCTIONS

General heed and warnings



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.

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.
WARNING: Operation of this equipment in a residential environment could cause radio interference.
KGEAR will not shoulder any responsibilities for products modified without prior authorization.

Service

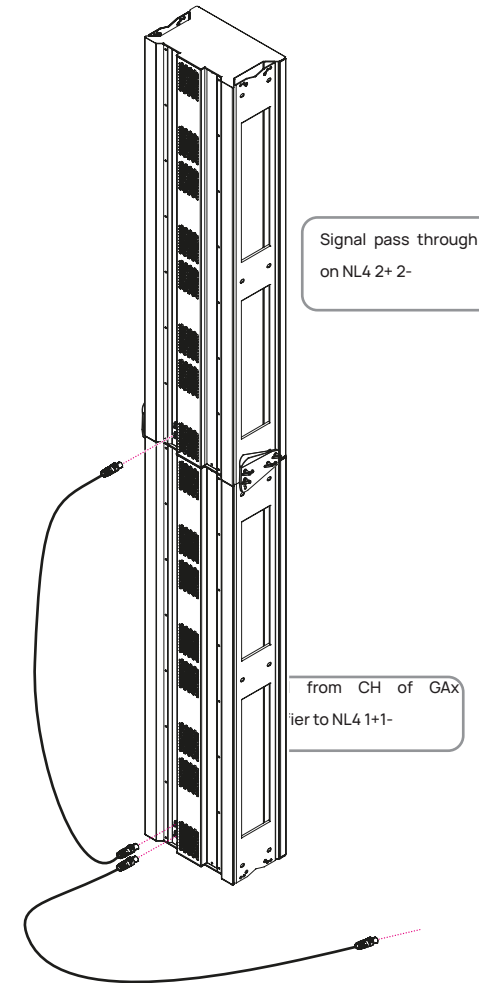
To obtain service:
Please have the serial number(s) of the unit(s) available for reference.
Contact the official KGEAR distributor in your country: find the Distributors and Dealers list on www.kgear.com website. Please describe the problem clearly and completely to the Customer Service.
You will be contacted back for on-line servicing.
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.

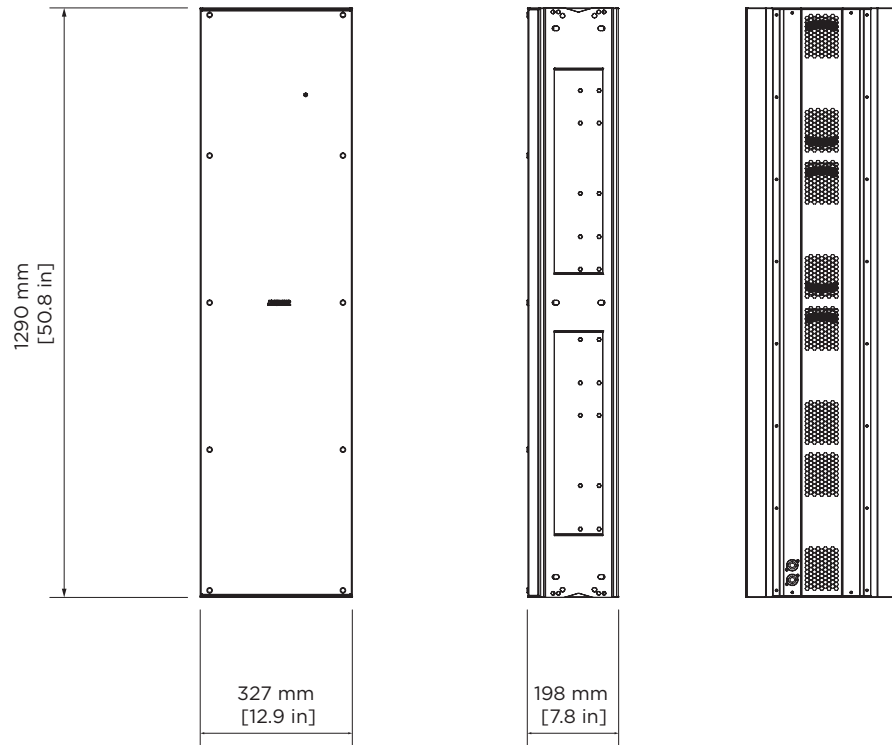
Cleaning

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.

...up to 2x GH412 in array configuration driven by 1x Ch of a GAX amplifier



Mechanical Drawings



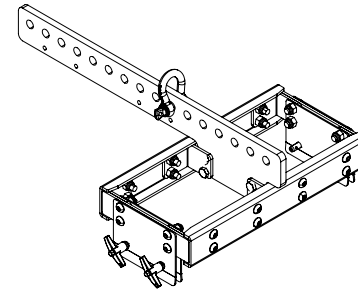
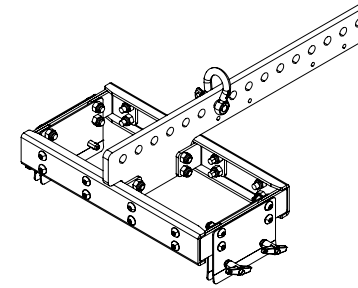
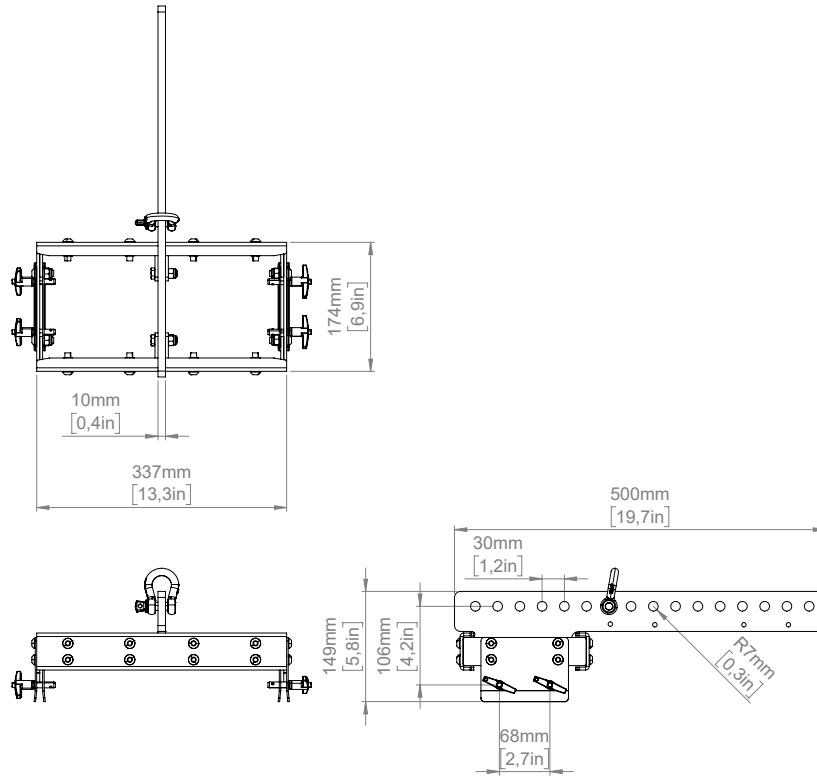
Technical specifications

Type	Passive loudspeaker
Transducer	4x 12" ferrite magnet woofer - 1" compression driver
Frequency Response ¹	125 Hz - 20 kHz (-6dB)
Max SPL ²	140 dB Peak
Power Handling	1600 W
Coverage	V.30 H.90°
Connectors	SpealOn NL4 1+ 1- (signal) 2+ 2- through
Nominal Impedance	8Ω
IP-rating	IP54
Handling & Finishes	
Dimensions (WxLxH)	(WxHxD) 327 x1298 x 198mm (12.8 x 50.7 x 7.7 in)
Weight	55.2 kg (121.69 lb)
Material	Stainless Steel
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

Mechanical Drawings - GH-FLY



Mechanical Drawings - GH -JOINT

