

KGEAR

KGEAR

GH4 - GH4A	4" High Performance Full-Range Speaker - passive or active
GH4LIVE	4" High Performance Full-Range Speaker with SpeakON connectors

**GH4R - GH4RT** 4" High Performance Recessed-Mount Full-Range Speaker - with built in transformer



#### 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 newwith the product:device please contact K-array customer service atA. 1x GH4 - (GH4info@kgear.it or contact the local distributor in yourb. 1x Phoenix connectorcountry.(4 pin - Euroblock 1,5/ 4-

Introducing the GH4 family of stainless steel full-range speakers, featuring 4-inch dual-cone drivers, combining compactness, durability, and high performance to deliver quality audio in various configurations. The GH4 is a compact passive loudspeaker featuring a 4" full-range driver, dual-coil neodymium magnet, and variable impedance (4  $\Omega$  – 16  $\Omega$ ). It's suitable for diverse installations such as hospitality, transportation, broadcast, theaters, and residential areas. Multiple GH4 units can be combined for enhanced performance and long throw distance.

Encased in stainless steel, the GH4R model is fully sealed and recessed, while the GH4RT variant, equipped with a built-in transformer, is compatible with high voltage lines at 100V and 70V, offering different power taps. Both models feature removable magnetic grilles for fast installation.

The GH4A active version boasts a built-in amplifier, balanced line input, mute contact, and auto ON/OFF switch, with the ability to power additional KGEAR speakers or passive subwoofers.

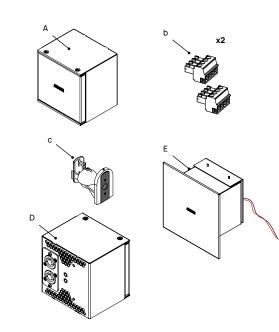
The GH4LIVE now includes 2x SpeakON connectors, ideal for live entertainment setups, with one connector offering LINK OUT for expanded speaker arrays, supporting a 16-ohm load impedance for added versatility.

### 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:

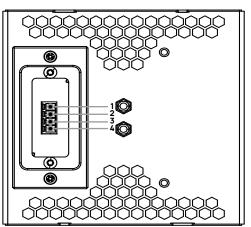
A. 1 x GH4 - (GH4A) mini array element plus:
b. 1 x Phoenix connector (GH4) - 2x Phoenix connectors (GH4A)
(4 pin - Euroblock 1.5/ 4-ST-3.81) with dedicated jumper cables to selectable impedance wiring.

- c. 1x GF-WALL x GH4 on-wall mounting bracket + screws and plugs
- D. 1x GH4R (1x GH4RT)
- E. 1x GH4LIVE



### GH4 passive loudspeaker

GH4 passive speaker is equipped with 1x Phoenix connector 4 pin - Euroblock 1,5/ 4-ST-3,81.





### Wiring

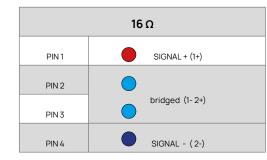
#### Impedance selection

To offer flexibility in impedance settings, the GH4 allows to wire the two voice coils in either parallel or series configuration. Wiring in parallel results in a total impedance of  $4\Omega$ , while series wiring yields a total impedance of  $16\Omega$ . The chosen impedance value can have an impact on the speaker's performance and compatibility with your audio setup.

To set the desired impedance value use the dedicated jumper cable:

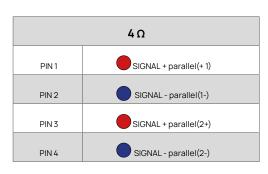
#### 16Ω High-Z





4Ω Low-Z





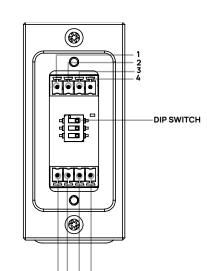
#### **Amplifier Channel Matching**

After correctly setting the impedance value for your audio system, ensure it is connected to the suitable KGEAR or K-array amplifier unit. For parallel connection of multiple units, please consult the provided table at the following link. - KGEAR amplifier to KGEAR speaker Matching Table. Please remember that the parallel connection lowers the total load impedance.





Always check the loudspeaker impedance before connecting the amplifier.



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**GH4A** active

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of GH4A.

contact - power output sand ON-OFF switch selector

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GH4A features 2 x Phoenix connectors (4-pin Signal polarity balanced line Input (MONO) - mute Euroblock 1,5/4-ST-3,81) with: INPUTS:

- 1x balanced line input (mono)
- DC power input (DC+, DC-)
- 1x mute contact (normally open) more information about mute wiring and connections can be found in the GH4A rear panel section in the next pages. OUTPUTS:
- 1x power outputs to connect another KGEAR speaker or passive subwoofer driven by the builtin amplifier module,  $4 \Omega$  minimum load. CONTROLS:
- 1x auto ON/OFF switch with selectable thresholds The dip switch controls the auto-standby mode of the speaker and can be set to 3 different thresholds - see the Dip switch modes section.

GH4A - Wiring					
	Connector 1	Connector 2			
PIN 1	POWER OUT -	GND			
PIN 2	POWER OUT +	LINE -			
PIN 3	- DC POWER IN	LINE +			
PIN 4	+ DC POWER IN				

It is possible to use the G-AL120 power supply accessory to provide power to the internal amplifier module. This accessory is able to drive up to 1x GH4A amplifier module and 1xGH4 connected with the LOW-Z  $\rightarrow$  4  $\Omega$  impedance selection.

With a minimum load of 4  $\Omega$ , the amplifier module is capable of delivering a power of 100 W with a maximum consumption of 6.5 A (Irms).



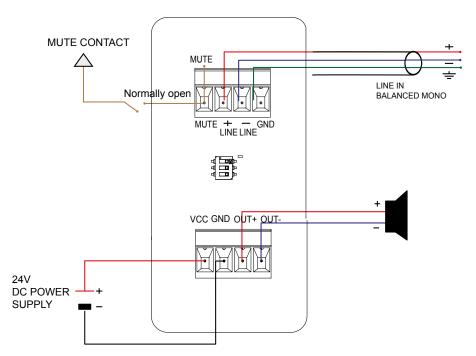
### GH4A rear panel

It is possible to connect an external switch to the Mute contact input to close the circuit down and switch the speaker off. For any other connection, power output and balanced input connections, please follow the scheme below.

### DIP Switch modes

The table below illustrates three different modes along with their corresponding input signal threshold values, which can be used to configure the ON/OFF switch.

ON/OFF SWITCH MODES				
MODES		Thresholds Values	Description	
NO THRESHOLDS		1		
HIGH THRESHOLDS LOW + MID + HGH	A ARA		The amplifier switches or only after a stronger signa has passed the choser threshold. This mode is useful to avoid noisy signa to enter the circuit	
		-42 dBu		
MEDIUM LOW+MID ON	A DUC	-46 dBu	This mode requires the input signal to be stable and exceed the minimum threshold for an extender period to keep the speake switched on.	
LOW THRESHOLDS	Contraction of the second seco		The amplifier module switches ON immediately when the signal is higher than this minimum threshold, this mode is useful when a quick	
LOW ON		-52 dBu	response is needed.	





# G-IPCAP1 mounting and speaker wiring

GH4 and GH4A can be protected against external agents and water using the G-IPCAP1 accessory. This is a dedicated IP sealing CAP made by highly resistant and tight rubber, thought to be mounted on the rear panel of the speaker to protect connectors from water.

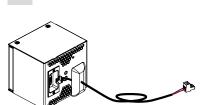
To install GH4 with the dedicated accessory, please follow the procedure shown below:

- 1. Take the dedicated accessory G-IPCAP1 and make a hole into the rubber material with a cutting saw.
- 2. Choose a cable with a sheath for greater insulation and pass it through the hole.
  - 1. 2.

- Connect the wires to pins 1 4 of the provided Euroblock connector and plug it to the speaker's terminals.
- 4. Use the jumper cables for the desired impedance configuration.



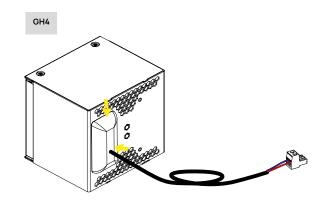
GH4A



5. GH4A connections are shown in the picture below . For external input, connect the wires to line+ line- and GND (balanced line input - mono) as shown in the scheme in the previous page, and to DC- DC+ for external power supply. Take the power from out+ out- for power connection to drive an other speaker. 6. Ensure a secure fit by firmly pressing down the accessory's gasket to close the connector compartment.



7. For GH4 passive speaker - connect the speaker to the dedicated amplifier channel. GH4 is finally installed with the G-IPCAP1 accessory.



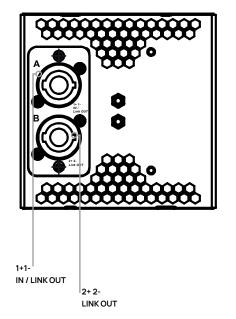


### **GH4LIVE** Rear panel

The GH4LIVE is fully equipped for live entertainment applications - like GH4 it has 1x 4" full-range driver with dual-cone for extended frequency response.

The rear panel of the speaker hosted 2x SpeakON NL4 connector: The internal voice coils are connected to pins 1+ 1- of the SpeakON A located at the bottom of the panel - as INPUT connector, for receiving the signal from the amplifier or active subwoofer.

The connector at the bottom serves as a passthrough, with the signal passing through pins 2+ 2of SpeakON B to link with other speakers in array or multiple-speakers in parallel configurations.



SpeakON		GH4LIVE	
A	1	1+ 1-	SIGNAL / IN
		2+2-	TROUGH / LINK OUT
в		1+ 1-	SIGNAL / IN
	2	2+2-	TROUGH / LINK OUT

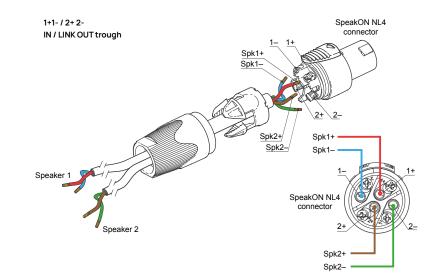
#### Impedance settings

GH4LIVE dual cone drivers are connected at 16 $\Omega$  impedance. The number of GH4LIVE that can be driven in parallel to the same amplifier channel depends on the amplifier model and power, loudspeaker impedance and amplifier power. The parallel connection lowers the total load impedance. Using GA43 (4x 750W @4  $\Omega$ ) KGEAR amplifier - is possible to connect up to 4 GH4LIVE in parallel to the same amplifier channel to have maximum power and optimal configuration. (See previous page for KGEAR amplifier to KGEAR speakers Matching table link.)





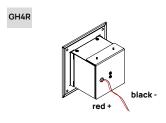
K-array-to -KGEAR





The GH4R recessed model shares the same acoustic characteristics as the GH4 and features an external frame with holes for convenient and swift wall or ceiling recessed installation. The grille is magnetized, ensuring effortless removal and replacement when inserting the speaker into the wall.

The speaker is fully enclosed to provide optimal protection against external elements, ensuring durability once installed. Additionally, for added convenience, the back panel is equipped with cable pass-through and already includes two terminal wires, red and black (+/-), for easy connection to the amplification system.



#### Impedance settings

The GH4R dual cone speakers are internally connected at 16  $\Omega$  impedance. Please ensure to adhere to this impedance value when selecting the necessary amplifier to drive the speaker, and when connecting multiple speakers in parallel for distributed installations.



Always check the loudspeaker impedance before connecting to the amplifier.

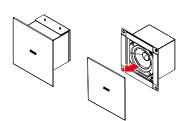
### r Installation

To recessed installation in-wall please follow this steps:

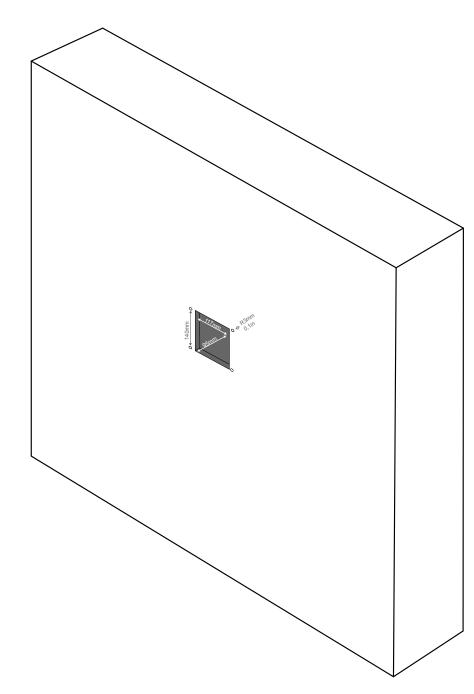
- Determine the optimal position on the wall for speaker installation, taking into account desired audio coverage, listening area, mounting height, room layout, and acoustic properties.
- Gather the necessary tools to drill a hole in the wall measuring at least 117x117x95 mm(LxWxD), based on the speaker's dimensions provided in the mechanical drawing.
- The GH4R speaker frame includes four 0.1mm holes for wall mounting. Use a drill to create four additional small holes, each spaced 140mm <u>(frame exterior dimension)</u> apart from the previously drilled hole.
- 4. Remove the magnetic grille from the speaker.
- Use the cables already routed within the wall to connect the speaker to the designated amplifier, ensuring careful attention to impedance settings, particularly for multiple distributed speaker installations.
- 6. Recess the speaker into the wall and secure it using four 3mm screws and wall plugs.
- 7. Reattach the grille to the speaker.

4

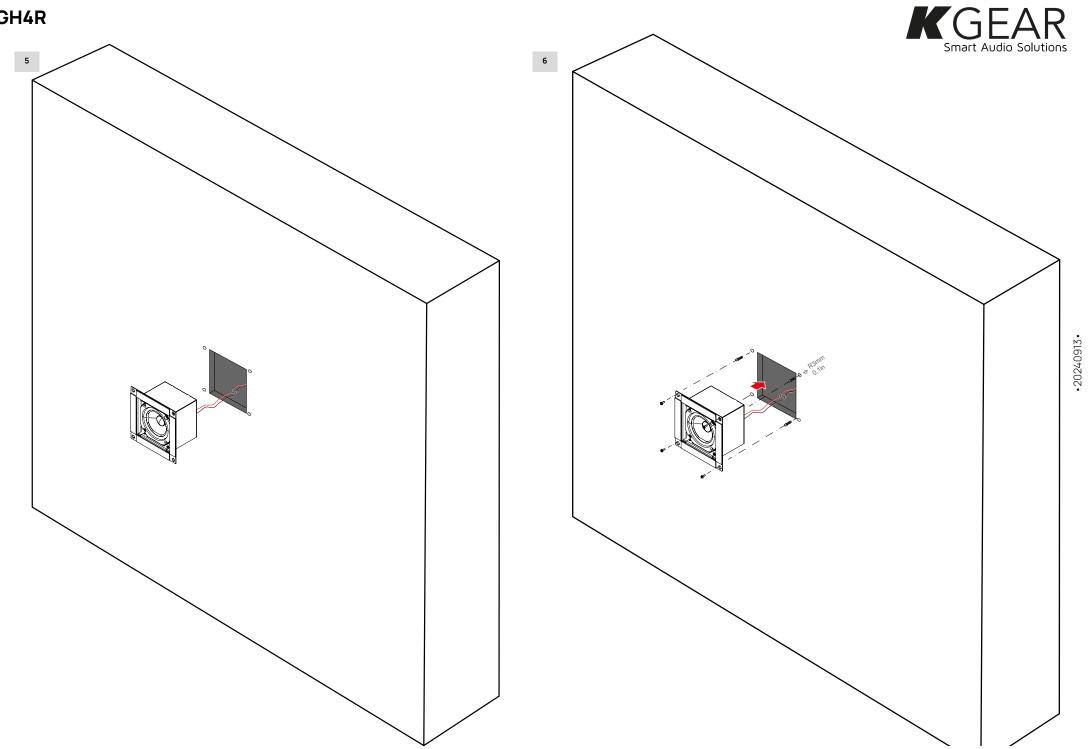
 Test your audio system to ensure proper functionality and enjoy your music!



2 3

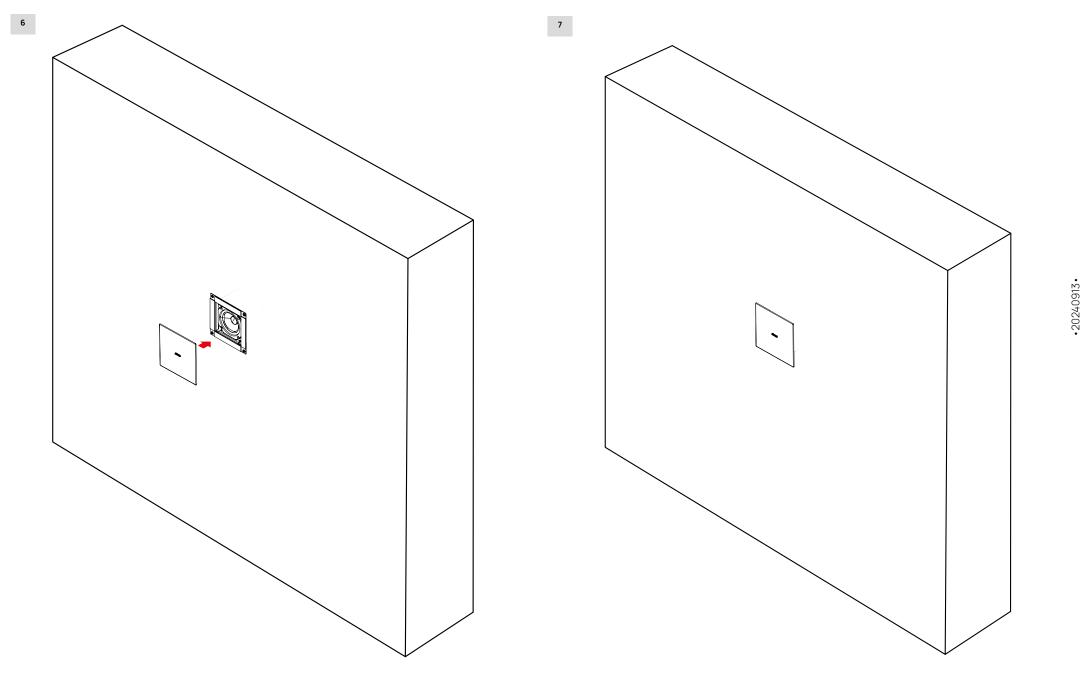


GH4R



GH4R





### GH4 + K-WALL2LMINI

# Installation on wall - maximum inclination and tilting

The K-WALL2LMINI is a miniature bracket derived from the larger K-WALL2L model by K-array<sup>™</sup>. This bracket is designed for wall installation of audio columns and allows the speaker to be tilted downward by at least 45 degrees. Despite its small size, the K-WALL2LMINI retains the functionality of the larger model, offering a compact solution for securely mounting speakers while providing the option to direct the sound towards the audience or the desired area. The standout feature of the K-WALL2LMINI is its ability to allow for an even greater tilt, and it can also be used for ceiling installations. This added flexibility makes it an ideal choice for various setups, providing more options for precise sound direction and versatile mounting configurations.

1.1



### **Installation:** First, disassemble the K-WALL2L by removing the bottom screw of the bracket to be fixed on the surface.

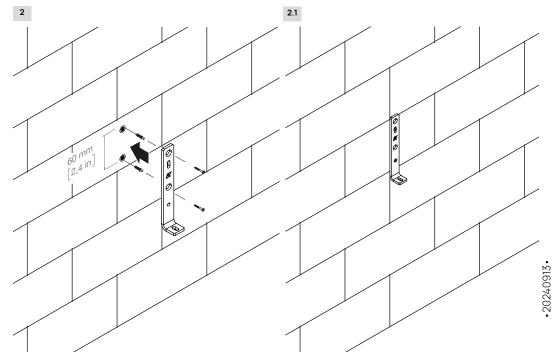


The bracket's plate with the flatter end is the one that gets mounted on the wall, acting as the base for the other bracket. Thanks to a freely rotating washer, the second bracket allows the speaker to be easily tilted to the desired angle.

1. First, determine the ideal position for mounting the speaker on the wall, considering both the height and distance relative to the area you want to cover and properly sound.

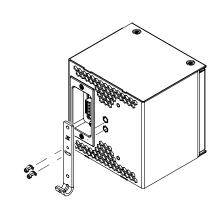
3

- 2. Mount the plate to the wall using two screws and anchors, spaced 60mm apart
- After the plate has been mounted on the wall, the other plate should be secured to the speaker using the provided mounting screws.
- 4. Then, reattach the bracket to the wall-mounted plate, and if needed, adjust the speaker to the desired angle.
- 5. GH4 is installed on wall with the K-WALL2LMINI bracket accessory.

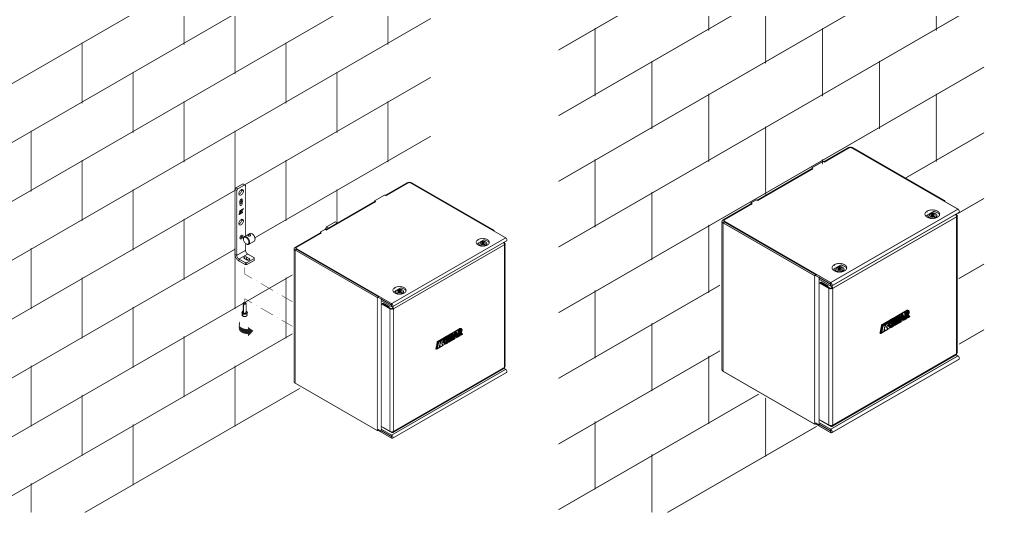


KGFAR

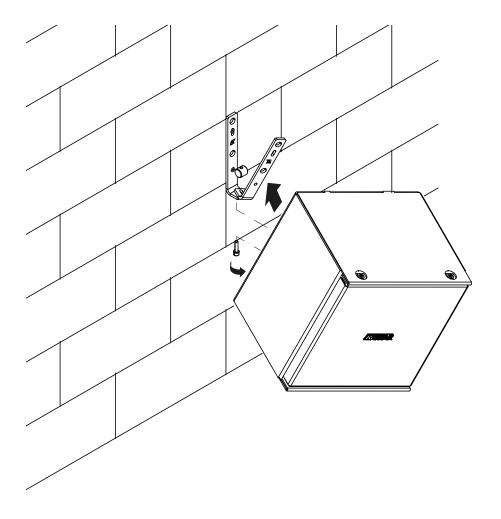
Smart Audio Solution

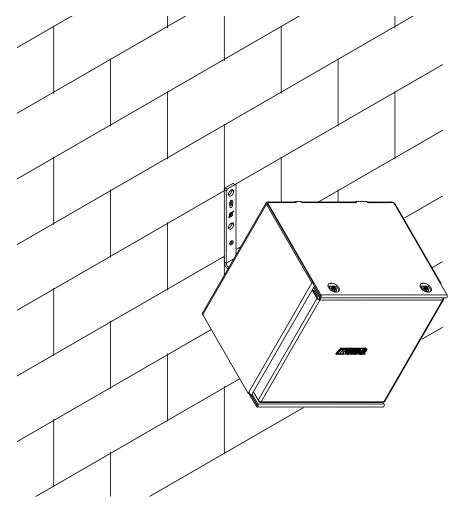














# GH4RT passive loudspeaker with built-in transformer

The GH4RT recessed model passive loudspeaker incorporates a built-in transformer - this system allows for seamless parallel connection of multiple speakers while maximizing power efficiency.

### Power settings

Users can select from a range of power outputs: 4/8/16/32W @ 70V or 8/16/32/64W @ 100V, enabling precise adjustment of output levels for each connected speaker.

#### TRANSFORMER'S POWER TAPS

GH4RT wiring				
Termin	al wires	Gauge	70 V	100 V
Black		AWG22 0,32 <sup>2</sup> mm	COMMON -	COMMON -
Brown		AWG22 3,322mm	64 W	32 W
Red		AWG22 0,322mm	32 W	16 W
Orange	<b>ø</b>	AWG22 0,322mm	16 W	8 W
Yellow	<b>ø</b>	AW222 0,32 <sup>2</sup> mm	8 W	4 W

#### Impedance settings

The GH4R dual cone drivers are internally connected at 4  $\Omega$  impedance. This low value of impedance allows for efficient power transfer and minimizes signal loss, ensuring compatibility with higher voltage lines at 100V and 70V, thus enabling seamless integration into diverse electrical systems.

KGFAR

Smart Audio Solutions

### Handling and finishes

As for GH4R, GH4RT has an external frame to ensure a secure fixation and the grille is magnetized, ensuring effortless removal and replacement when inserting the speaker into the wall. The speaker is fully enclosed to provide optimal protection against external elements, ensuring durability once installed

32W common 0 ۵ : 0 0 70V 64W **T** ÷щ Hann. common 100V ۵ : 0: 0 3 •



## On-wall installation

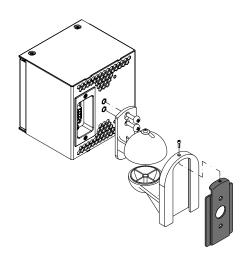
Any GH4 element comes included with a dedicated mounting bracket for on-wall installation (GF-WALL), with M4 12mm (0,5 in) screws provided for easy mounting. To install the speaker with the dedicated GF-WALL accessory please follow these easy steps:

- 1. Be sure to have all the GF-WALL components required for the installation
- 2. Find the proper position on the wall according to the listening area that needs to be covered

GF-WALL Bracket x GH4 M4 (12mm) screws

 Mount the bracket to the rear panel of the speaker using the dedicated M4 screws provided
 Finally install the speaker to the wall and connect the speaker with the provided Euroblock

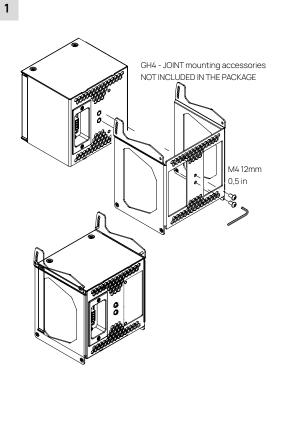
connector taking care of the impedance settings.



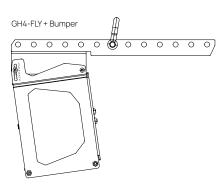
# Rigging / Array Mounting

Any GH4 element can be mounted in array configuration with GH4-JOINT & GH4-FLY adjustable wall mount bracket accessories. (To be purchased separately).

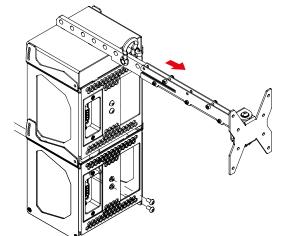
- First, the user can join multiple elements together thanks to the dedicated joining frame with (M4) screws GH-JOINT accessory to be mount to the rear panel of the speakers.
- 2. Then use the GH4-FLY bar to suspend the array in vertical or fix it to the wall inserting it into GH4-WALL bracket's rail.



2



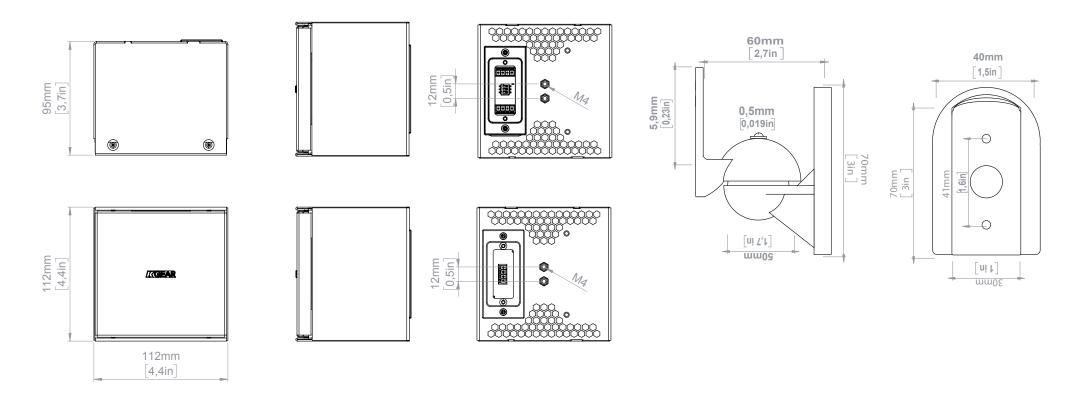
Rigging Hardware -GH4-JOINT + GH-FLY



GH4-GH4A



# Mechanical Drawings - GF-WALL

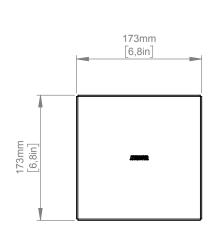


### **GH4R-GH4RT**

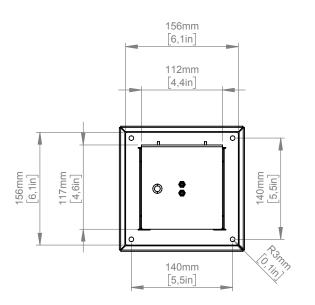


# Mechanical Drawings - GH4R

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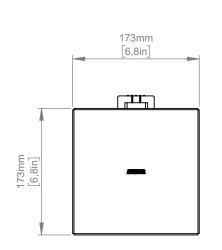


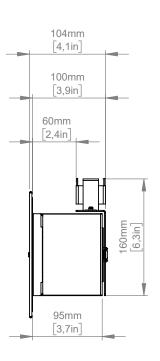


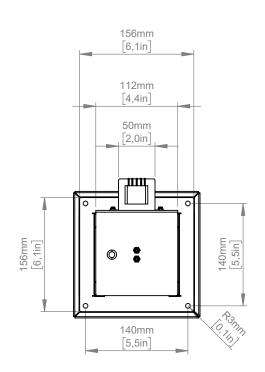
### **GHR-GH4RT**



# Mechanical Drawings - GH4RT



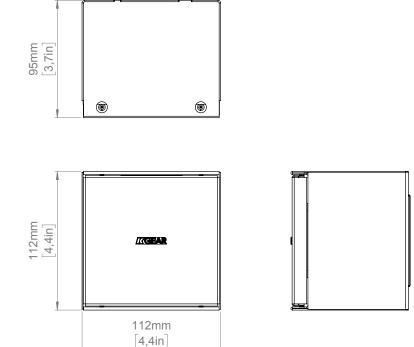


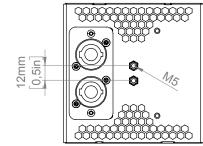


**GH4LIVE** 



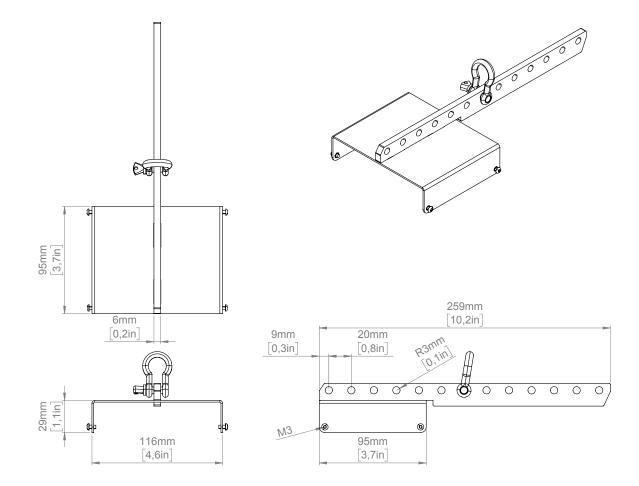
# Mechanical Drawings - GH4LIVE





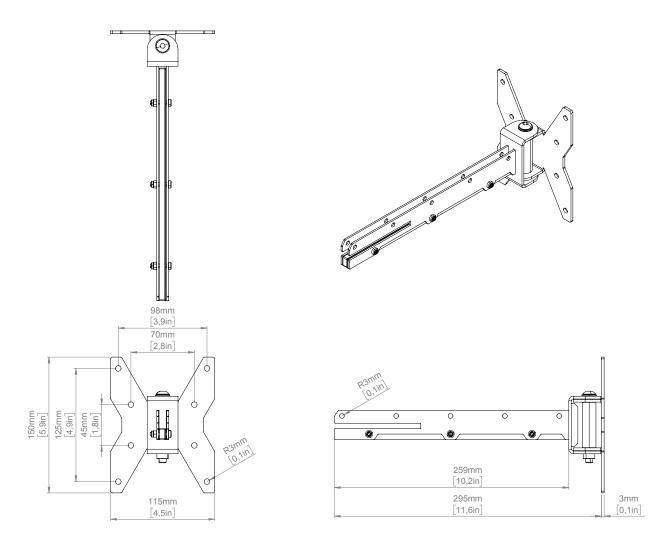


# Mechanical Drawings - GH4-FLY





Mechanical Drawings - GH4-WALL





#### IMPORTANT SAFETY INSTRUCTIONS



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 unisulated, 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.

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.

Operator's manual; operating instructions



WEEE Please dispose of this product at the end of its operational lifetime by bringing it to your local collection point or



This device complies with Restriction of Hazardous Substances Directive.

recycling center for such equipment.

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-

- 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.
- 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.



Technical specifications
Type Passive loudspeaker
Transducer 4" neodymium magnet full range driver
Frequency Response <sup>1</sup> 150 Hz - 20 kHz (-6dB)
Max SPL <sup>2</sup> 122 dB (peak)
Power Handling 140 W
Coverage V.901H.90°
Connectors 1x Phoenix connector (4-pin Euroblock)
Nominal Impedance 4Ω - 16Ω selectable
IP Rating IP64
Handling & Finishes
Dimensions (WxHxD) 112x 112x 94mm (4.4x 4.4x 3.07 in)

#### 112x 112x 94mm (4.4x 4.4x 3.07 in) Weight 1,2 kg (2.87 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

# GH4A

Type Active loudspeaker			
Transducer 4" neodymium magnet full-ra	nge driver		
Frequency Response <sup>1</sup> 150 Hz - 20 kHz (-6dB)			
Max SPL² 116 dB (peak)			
Coverage V.901H.90°			
Nominal Impedance 4Ω			
Connectors 2x Phoenix connector (4-pin Balanced line in Mute Contact Power out 24V DC IN (power supply not			
Controllers Auto ON/OFF with selectable	threshold		
Amp Module 1-channel Class D amplifier			
Output Power 100W @ 2 Ω (24V power)			
Power Consumption 30W Power Load 1/8 Max Pow	er		
Protections Thermal Protections (Power-Limiting - Thermal Sh Short - circuit/overload outp Operating Range			
12-24 V DC			

# GH4A

Handling & Finishes	;
Dimensions (WxLxH) 112 x 112 x 94 mm (4.4 x 4.4 x 3.70 ir	)
Weight 1,2 kg (2.87 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

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# GH4R

peaker for recessed in-wall mount
magnet full-range dual cone transducer
ponse <sup>1</sup> : (-6dB)
]
(red+ black-) AWG 3,3mm
ance

Dimensions (WxHxD)
173 x 173 x 104 mm (6.8x 6.8 x 5.5 in)- 173 x 173 x 95mm (without frame depth)
Weight
1,2 kg (2.65 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

# GH4RT

### Technical specifications

Туре
Passive loudspeaker with built-in transformer for recessed in-wall mount
Transducer
4" neodymium magnet full-range dual cone transducer
Frequency Response <sup>1</sup>
150 Hz - 20 kHz (-6dB)
Max SPL <sup>2</sup>
122 dB (peak)
Transformer power taps
64/32/16/8 W @100V - 32/16/8/4 W 70V
Coverage
V.901H.90°
Connectors
5x terminal wires (black - brown - red - orange - yellow) AWG 3,3mm
Nominal Impedance
4Ω
IP Rating
IP64
Llandling C Finishes
Handling & Finishes
Dimensions (WxHxD)

173 x 173 x 104 mm (6.8x 6.8 x 5.5 in) - 173 x 173 x 95mm (without frame depth)

Weight

1,7 kg (3,7 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



# **GH4LIVE**

Technical specifications
Type Passive loudspeaker
Transducer 4" neodymium magnet full range driver
Frequency Response <sup>1</sup> 150 Hz - 20 kHz (-6dB)
Max SPL <sup>2</sup> 122 dB (peak)
Power Handling 140 W
Coverage V.901H.90°
Connectors 2x SpeakON NL4 1+ 1- (signal) 2+ 2- (trough)
Nominal Impedance 4Ω - 16Ω selectable
IP Rating IP64
Handling & Finishes
Dimensions (WxHxD) 112x 112x 94mm (4.4x 4.4x 3.07 in)

Weight	
,2 kg (2.87 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