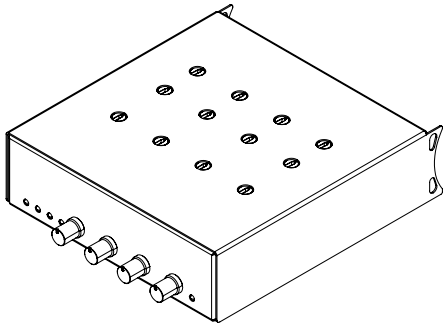
KGEAR
Smart Audio Solutions

GM44L

4 x 4 - Zone Analog Audio Matrix

USER GUIDE



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.

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

GM44L is a compact 4-Zone analog audio matrix that features 4x Stereo Line Inputs with Gain Control, 1x Auxiliary Input (Switch assignable) and 1x Dry Contact / Mute, 4x Stereo Line Outputs assignable by 4x Zone Input selectors plus Treble and Bass adjustment. More GM44L units can be linked together to increase the number of outputs / zones selactable, thanks to 5x Output Links (Including Aux).

1 x GM44L and up to 4 x GA201 can be mounted in just one Rack Unit space thanks to our G-RACKMINI2 accessory, making it a great solution for multi-zone sound distribution and public address solution for bars and restaurants, hospitality, corporate, conference and residential applications.

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:

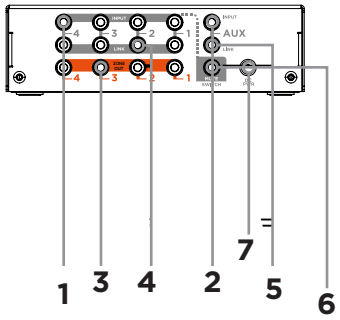
- 1x GM44L unit
- 1x Power supply
- 4x Patch cable with 3,5 mm minijack TRS (30 cm lenght).

AC MAINS Supply

In order to switch on the GM44L analog audio matrix use the dedicated AC/DC power adapter provided in the package.

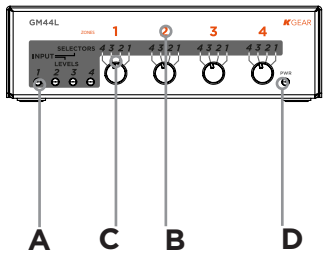
- Connect the GM44L audio amplifier to the power adapter.
- Plug the power adapter to a reliable inlet feeding 100-24V ~ AC, 50-60 Hz.
- When the power is ON the led on the Front Panel will turn Green

Rear Panel



1. 4x Inputs (3.5 jackTRS connectors)
2. 1x Aux Input
3. 4x Outputs Zones
4. 4x Output links
5. 1x Aux link
6. Mute Switch Input (3.5 jackTRS connector)
7. DC Power Input (24V)

Front Panel



A. 4x monitoring leds for input signal levels: each led will turn Red if the input signal exceeds the Headroom level (+20dBu) -> Input level +4 dBu
B. 4x Zones Output
C. 4x Input selectors (to route input signal to each one of the selectable outputs/zones)
D. PWR monitoring led (green if ON)

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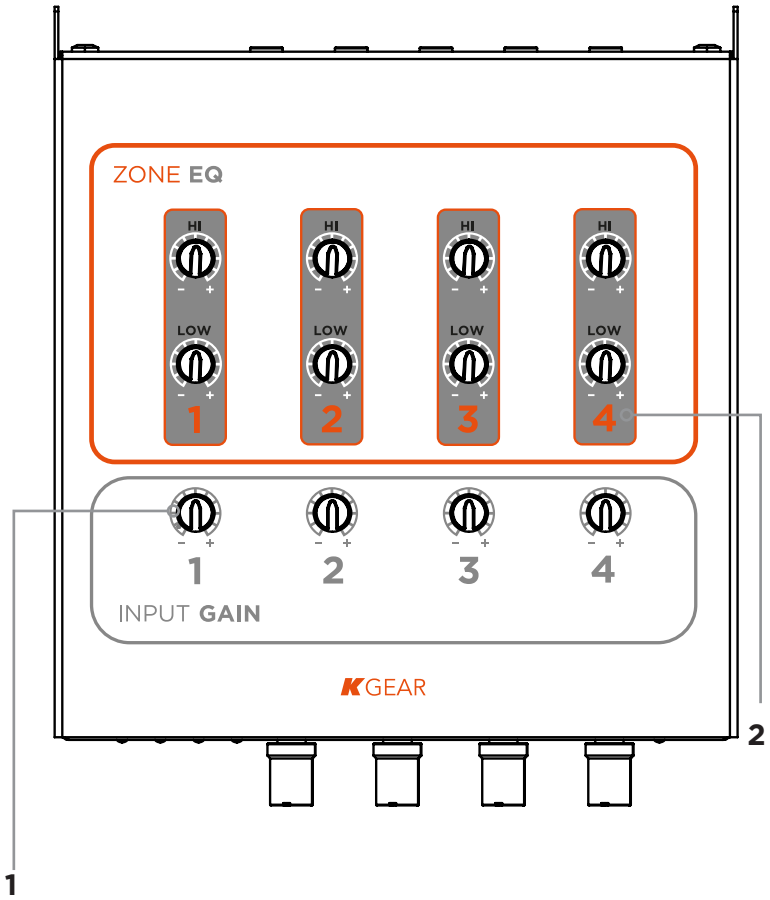
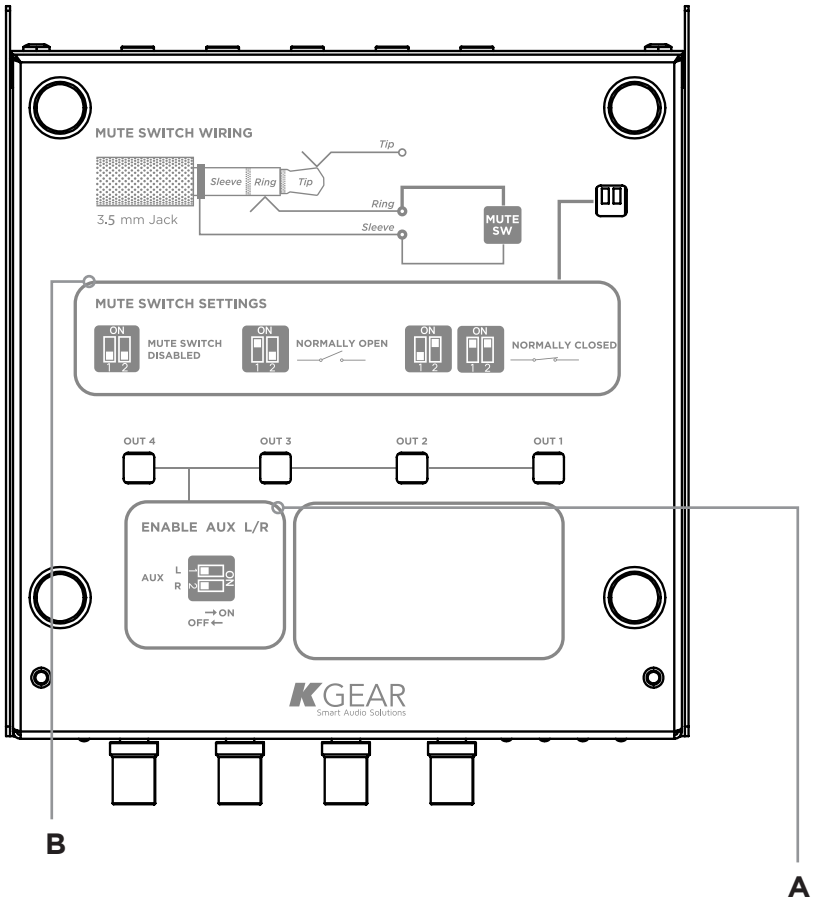
GM44L

Top Panel



Bottom Panel



1. 4x INPUT GAIN control trimmers (+-12dB) - Unity Gain 0dB.
2. 8x ZONE EQ trimmers - 1x trimmer for HIGH frequencies adjustment - 1x trimmer for LOW frequencies adjustment

On the top panel, there are 4x input gain control trimmers that enable users to increase or attenuate the input signal form -12 to +12dB.

IT SHOULD BE NOTED THAT THE GAIN OF THE AUXILIARY INPUT CANNOT BE ADJUSTED.

Additionally, there is an EQ section with 2x dedicated trimmers for treble and bass adjustment for each output channel.

The EQ includes 2x fixed shelving filters that are set at 150 Hz for bass attenuation/boost and at 10 kHz for high-frequency attenuation/boost.

The bottom panel features:

A. 4x DIP SWITCHES for AUX ENABLE: enable routing of the signal coming from AUX input to each individual output. When the switch is set to ON (Left and Right channels enabled), the signal is directed to the selected output, whereas setting it to OFF disables the reproduction of the AUX input signal for that output.

LEFT or RIGHT channel of each stereo output can be enable independently.

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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
- Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Only use attachments/accessories specified by the manufacturer.
- Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
- 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.
- Avoid placing the product in a location under direct sunlight or near any appliance that generates UV (Ultra Violet) light, as this may change the product surface finishing and cause a change in color.
- 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.
- **WARNING**: Only use attachments/accessories specified or provided by the manufacturer (such as the exclusive supply adapter, battery, etc.)
- Before turning the power on or off for all devices, set all volume levels to minimum.
- 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.

These apparatus are intended for professional use.

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

Service

To obtain service:

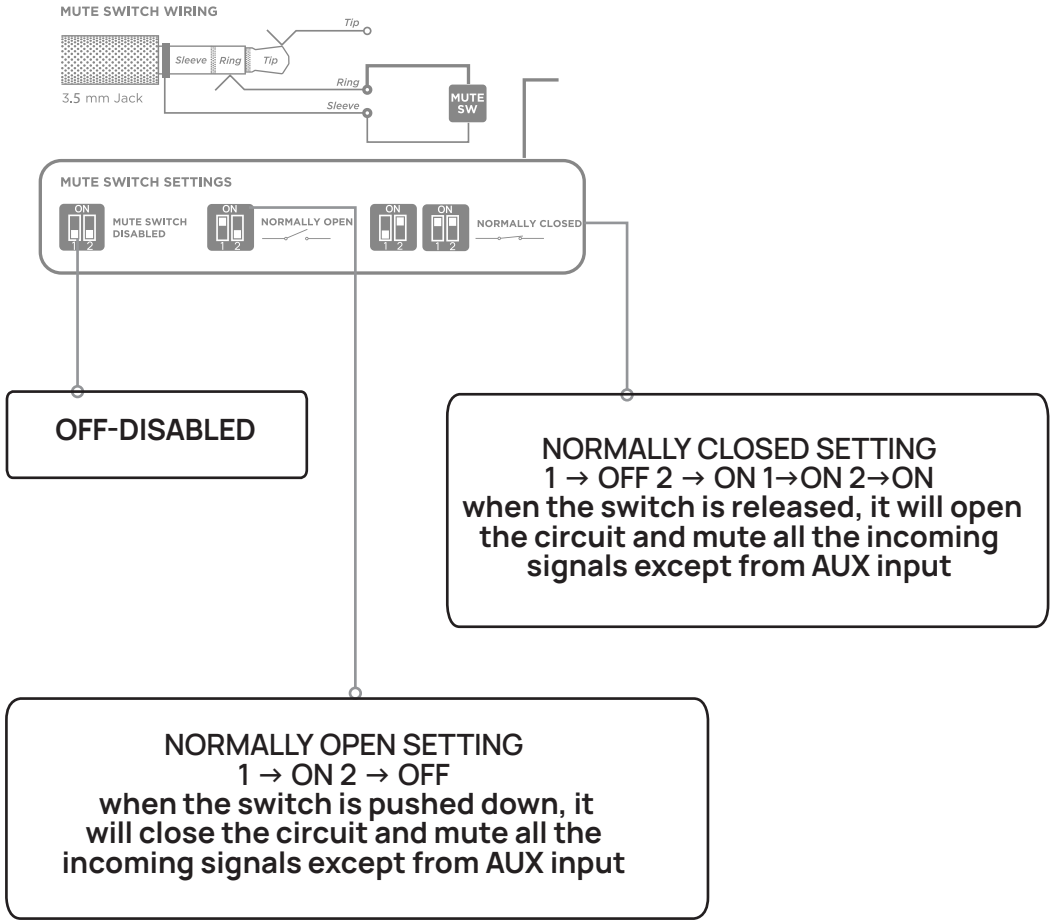
1. Please have the serial number(s) of the unit(s) available for reference.
2. Contact the official KGEAR distributor in your country: find the Distributors and Dealers list on www.kgear.it website. Please describe the problem clearly and completely to the Customer Service.
3. You will be contacted back 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.

B. It is possible to connect a switch to the MUTE contact input using a 3.5 mm jack TRS connector (Factory Default Settings - Disabled).



Example of configuration

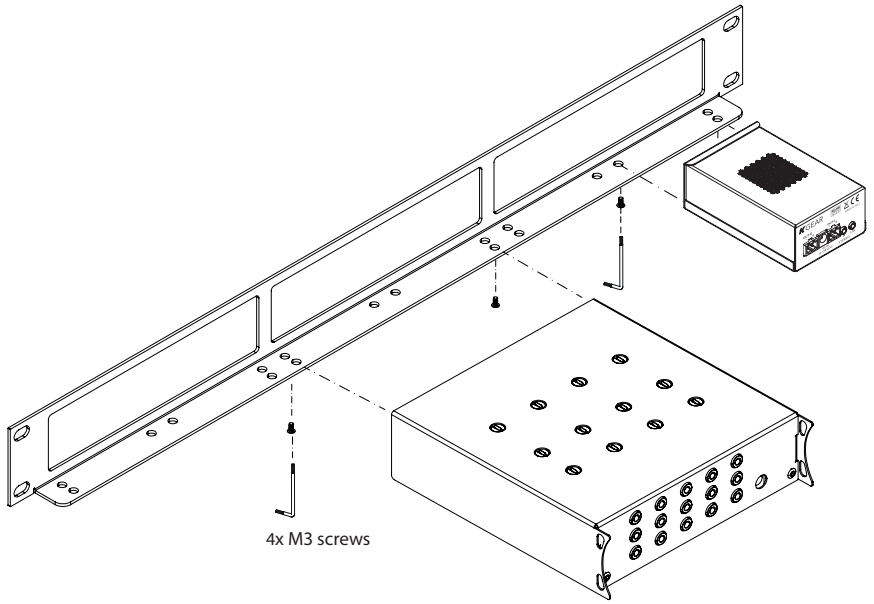
Typical application:

GM44L can be largely used for set up and control a multi-zones system with different sources, connecting each of the output/zone to 1x GA201 amplifier module.

It is possible to mount 1x GM44L within up to 4x GA201 in one rack using G-RACKMINI2 rack-mounting hardware accessory. The output of each amplifier will be direct to the dedicated speakers installed in the designated location.

Use the GA201 amplifier to adjust the output level for each different signal coming from GM44L outputs.

First, set up 1x GM44L and 4x GA201 in their rack cabinet:



Then, route the signal from each matrix input to the desired output/zone and connect each output channel to the dedicated amplifier input, using the 3.5 mm jack TRS cables provided.

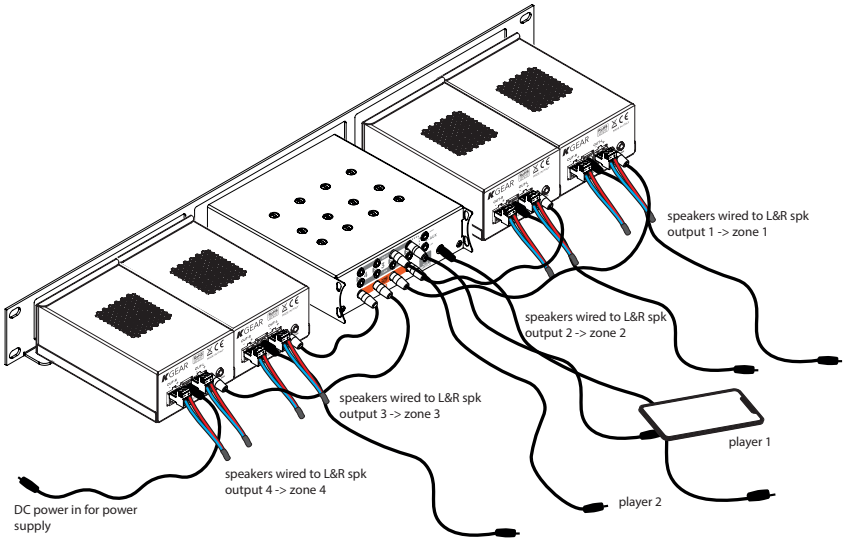
Use the **zone selectors** located on the front panel to set the proper output configuration.

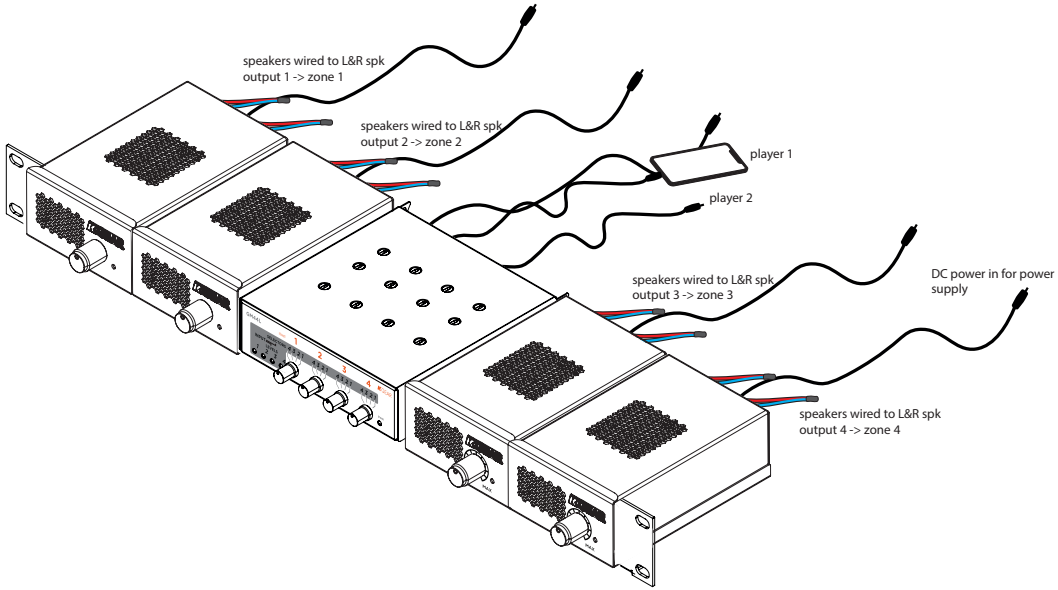
Adjust the output level for each zone form the level control of GA201.

> NOTE! THE GAIN TRIMMERS ON THE TOP PANEL REGULATE THE LEVEL OF THE **INPUT** SIGNAL. USING THOSE TRIMMERS TO REGULATE OUTPUTS CAN CAUSE DISTORTION TO THE OUTPUT STAGE.

Routing Example:

ROUTING																
	MATRIX INPUTS CH.				OUTPUTS/ZONES CH.				AMPLIFIER INPUT				SPEAKER OUTPUT (x unit)			
	1	2	3	4	4	3	2	1	1	2	3	4	1	2	3	4
Player 1	x						x		x	x	x	x	x	x	x	x
Player 2		x				x			x	x	x	x	x	x	x	x
Player 3																
Player 4																

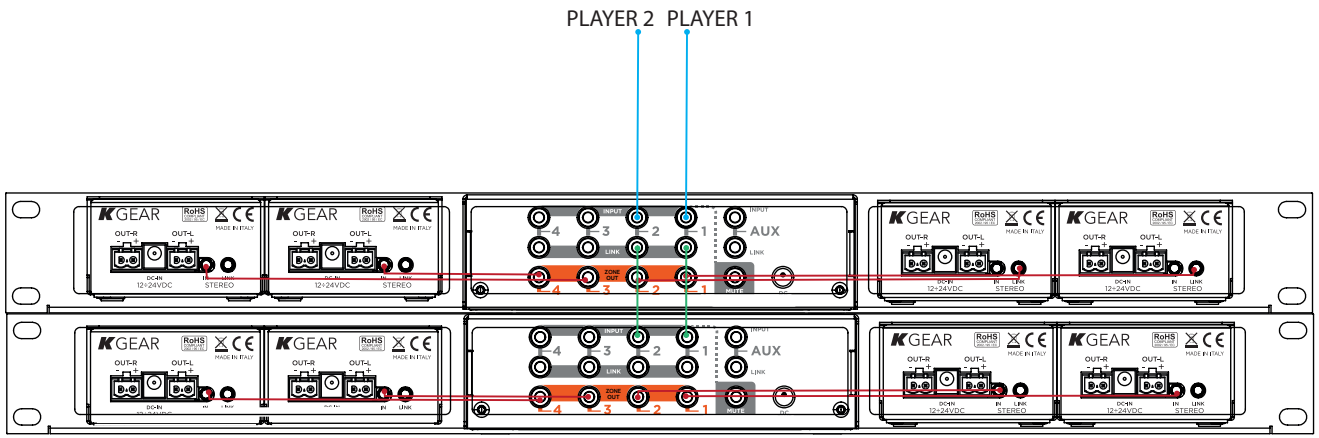




GM44L

Advanced Application

It is possible to increase the number of output/ zones up to 8x, connecting 2x GM44L and using the dedicated **links/outputs** to extract the signal from each input of the first matrix and route it to the selected input of the second matrix. The outputs of the second matrix will be connected to 2x GA201 amplifier modules and then to up to 4x speakers that can be installed in different locations.



Routing Example:

ROUTING																																
	MATRIX 1 INPUT CH.				OUTPUTS/ZONES (MATRIX 1)				AMPLIFIER INPUT				SPEAKER OUTPUT (x unit)				MATRIX 1 LINKS/OUTPUTS CH.				MATRIX 2 INPUT CH.				OUTPUTS/ZONES (MATRIX 2)				AMPLIFIER INPUT				SPEAKER OUTPUTS (x unit)			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5	6	7	8	5	6	7	8
Player 1	**X**				x	x	x	x	x	x	x	x	x	x	x	x	x				x				x	x	x	x	x	x	x	x	x	x	x	x
Player 2		**X**			x	x	x	x	x	x	x	x	x	x	x	x		x				x			x	x	x	x	x	x	x	x	x	x	x	x
Player 3																																				
Player 4																																				

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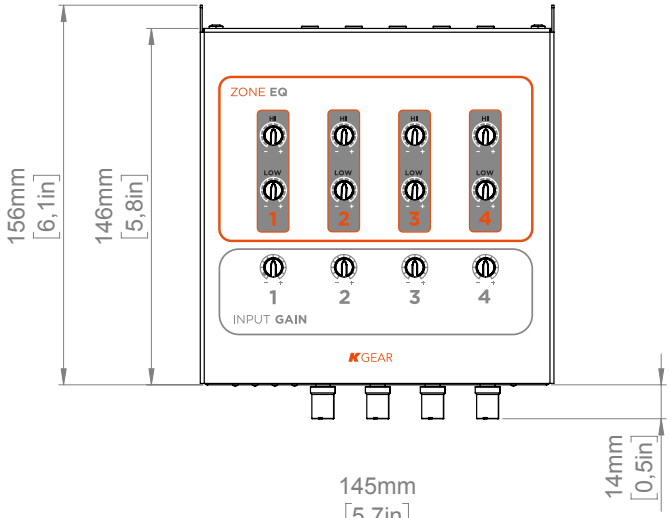
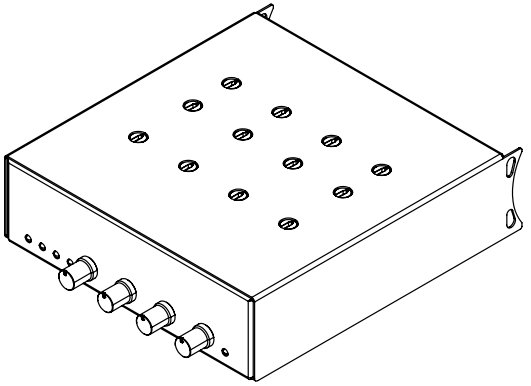
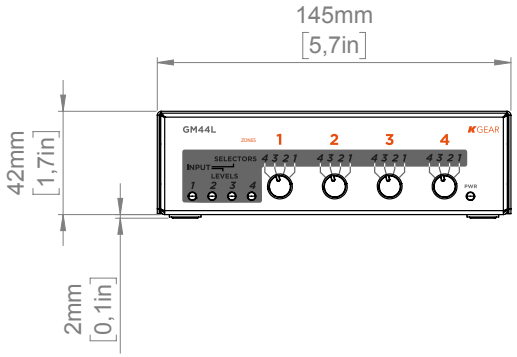
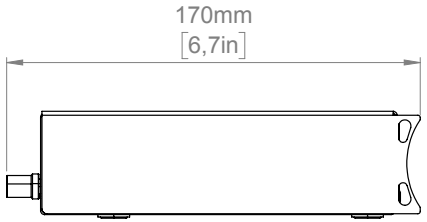
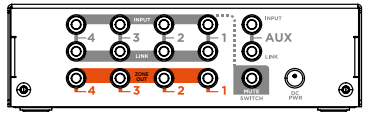
Mechanical Drawings

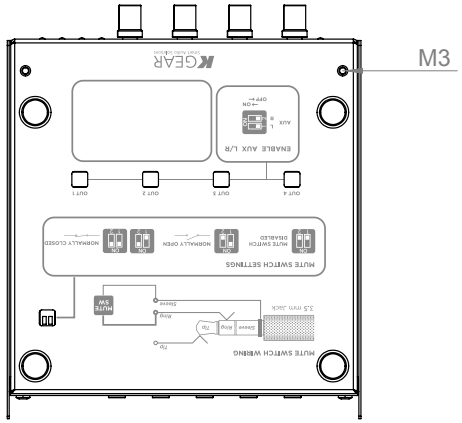






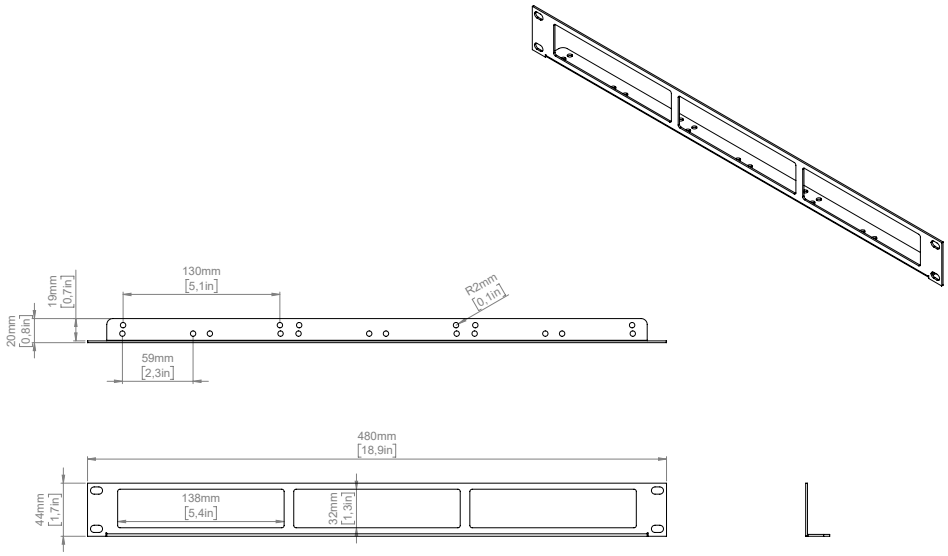






GM44L

GRACKMINI2



Technical Specifications

General
Type
4 Zone Analog Matrix
Inputs
4x Stereo Inputs (+20 dB)
1x Stereo Aux-In
1x Dry Contact In (Mute Switch Enable)
Outputs
4x Stereo Outputs (Normalized 1 V)
4x Stereo Links
Top Panel Controls
4x Input gain controls (± 12 dB)
EQ section with 4x treble - 4x bass adjustment trimmers
(Low Shelf @ 150 Hz fc-low - High Shelf @ 10 kHz fc-high)
Bottom Panel Controls
AUX Switch Enable L/R (ON/OFF)
MUTE Switch 3 modes settings
Connectors
3,5 mm Jack TRS
Input Power
DC power input 24V

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