Azimut

USER GUIDE

Minimalist design, maximum connectivity

Azimut-KAMUT2L1

Azimut-KAMUT2L14

Azimut-KAMUT2V25

Azimut-KAMUT2L

K-ARRAY
Unique Audio Solutions

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IMPORTANT SAFETY INSTRUCTIONS

Read these instructions - Keep these instructions
Heed all warnings

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

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

Switch-off the mains power supply before carrying out any connection or maintenance operations.

Symbols

K-array declares that this device is in compliance with applicable CE standards and regulations. Before putting the device into operation, please observe the respective country-specific regulations!

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 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.

This device complies with Restriction of Hazardous Substances Directive.

General heed and warnings

- Read these instructions.
- Keep this 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.
- 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.
- This loudspeaker system is intended for professional use.
- Beware of sound levels. Do not stay within close proximity of loudspeakers in operation. Loudspeaker systems are capable of producing very high sound pressure levels (SPL) which can instantaneously lead to permanent hearing damage. Hearing damage can also occur at moderate level with prolonged exposure to sound. Check the applicable laws and regulations relating to maximum sound levels and exposure times.
- Before connecting the loudspeakers to other devices, turn off the power for all devices.
- 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 devices.
- 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.
- K-array will not shoulder any responsibilities for products modified without prior authorization.
- K-array cannot be held responsible for damage caused by improper use of the loudspeakers.

Thank you for choosing a K-array product!

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

Your new speaker has Spotify Connect built in.
You need a Spotify account to take advantage of Spotify Connect.
Spotify Connect lets you control the music playing on your device, using the Spotify app on your mobile, tablet or PC. Listening is seamless. You can take calls, play games, even switch your phone off – all without interrupting the music. Learn more at spotify.com/connect
The Spotify software is subject to third party licenses found here: www.spotify.com/connect/third-party-licenses

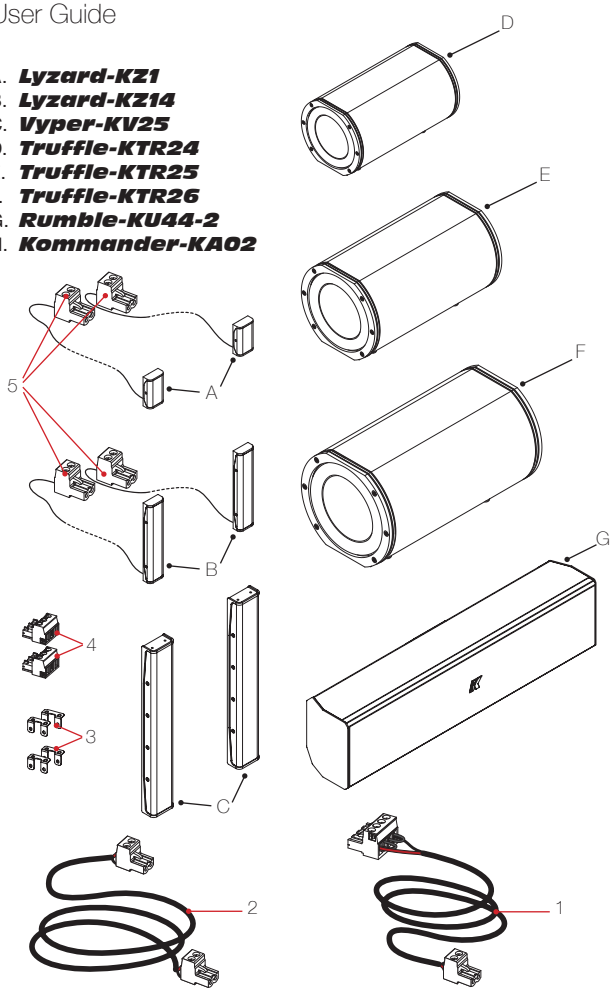
Listen out loud with Spotify Connect

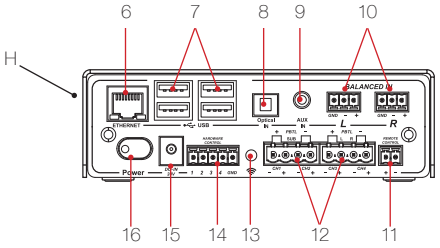
1. Connect your Azimut-KA02 to your local network;
2. Open up the Spotify app on your phone, tablet or laptop using the same network;
3. Play a song and select Devices Available;
4. Select your Azimut-KA02 and start listening.

Azimut

User Guide

A. **Lyzard-KZ1**
B. **Lyzard-KZ14**
C. **Vyper-KV25**
D. **Truffle-KTR24**
E. **Truffle-KTR25**
F. **Truffle-KTR26**
G. **Rumble-KU44-2**
H. **Kommander-KA02**





Unpacking

Each K-array amplifier is built to the highest standard and thoroughly inspected before leaving the factory. Upon arrival, carefully inspect the shipping carton, then examine and test your new amplifier. If you find any damage, immediately notify the shipping company. Check that the following parts are supplied with the product.

Azimut-KAMUT2L1
- 1x Kommander-KA02 amplifier
- 1x Truffle-KTR24 subwoofer
- 2x Lyzard-KZ1 ultra miniaturized loudspeaker w/cable
- 1x K-Audioctrl remote control w/cable
- 1x Subwoofer cable
- 1x Power supply w/power cord
- 2x Line input connectors (Phoenix MC 1.5/3-G-3.81)
- 3x Adhesive magnetic strip
- 3x Double-sided removable adhesive strip

Azimut-KAMUT2L14
- 1x Kommander-KA02 amplifier
- 1x Truffle-KTR25 subwoofer
- 2x Lyzard-KZ14 ultra miniaturized line-array element w/cable
- 1x K-Audioctrl remote control w/cable
- 1x Subwoofer cable
- 1x Power supply w/power cord
- 2x Line input connectors (Phoenix MC 1.5/3-G-3.81)
- 3x Adhesive magnetic strip
- 3x Double-sided removable adhesive strip

Azimut-KAMUT2V25
- 1x Kommander-KA02 amplifier
- 1x Truffle-KTR26 subwoofer
- 2x Vyper-KV25 line-array element
- 1x K-Audioctrl remote control w/cable
- 1x Subwoofer cable
- 2x Loudspeaker cables
- 1x Power supply w/power cord
- 2x Line input connectors (Phoenix MC 1.5/3-G-3.81)
- 4x Pairs of 3M Dual Lock pads
- 4x Wall mount brackets

Azimut-KAMUT2L
- 1x Kommander-KA02 amplifier
- 1x Rumble-KU44-2 subwoofer
- 2x Lyzard-KZ14 ultra miniaturized line-array element w/cable
- 1x K-Audioctrl remote control w/cable
- 1x Subwoofer cable
- 1x Power supply w/power cord
- 2x Line input connectors (Phoenix MC 1.5/3-G-3.81)
- 3x Adhesive magnetic strip
- 3x Double-sided removable adhesive strip

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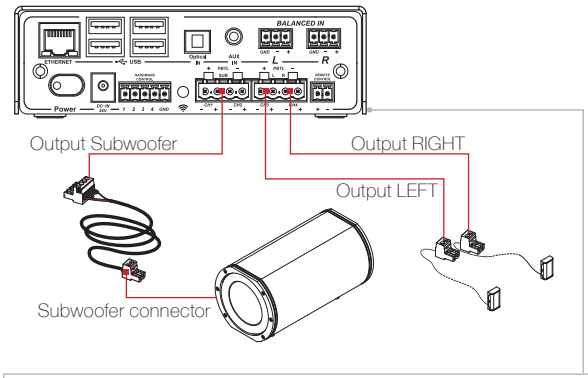
1. Subwoofer cable
2. Vyper-KV25 cable*
3. Brackets for Vyper-KV25*
4. Balanced connection plugs
5. Wired loudspeaker plugs
6. Ethernet Port
7. USB ports
8. Optical input
9. 3,5 mm jack analog input
10. Balanced analog inputs
11. Remote Control connector
12. Output connections
13. Wi-Fi reset switch
14. GPIO port
15. DC inlet
16. Power switch

* Available for Azimut-KAMUT2V25 only.

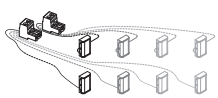
Hardware configuration

Azimut-KAMUT2L1

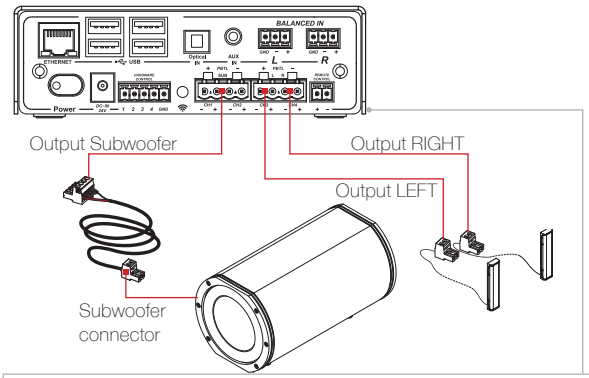


!

Available optional: Lyzard-KZ1, Truffle-KTR24
Up to 4 Lyzard-KZ1 per channel can be connected in parallel.
Up to 2 Truffle-KTR24 per channel can be connected in parallel.

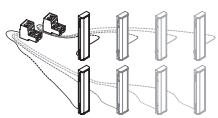


Azimut-KAMUT2L14

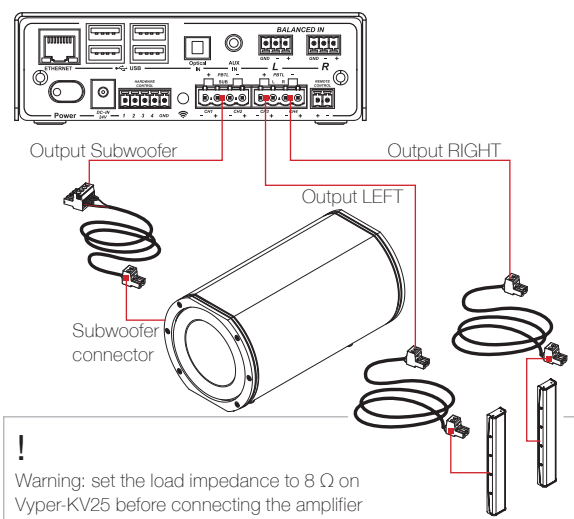


!

Available optional: Lyzard-KZ14, Truffle-KTR25
Up to 4 Lyzard-KZ14 per channel can be connected in parallel.
Up to 2 Truffle-KTR25 per channel can be connected in parallel.



Azimut-KAMUT2V25



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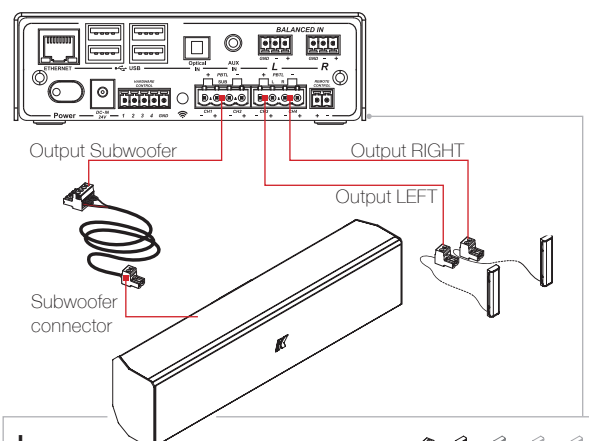
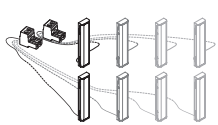
Warning: set the load impedance to 8 Ω on Vyper-KV25 before connecting the amplifier

Azimut-KAMUT2L



!

Available optional: Lyzard-KZ14
Up to 4 Lyzard-KZ14 per channel can be connected in parallel.



Loudspeaker wirings

Cables with proper terminal connectors are provided within the package: follow the hardware configuration section for setting the connections.

Lyzard wirings

Lyzard loudspeakers are already pre-wired with 5 m (16.4 ft) of ultra-thin speaker cable to be directly connected to the K-array Kommander-KA02 power amplifier.
Before connecting the loudspeaker cable to the amplifier:

- insure the amplifier's minimum loading impedance is matched, especially when connecting multiple loudspeakers in parallel (see next paragraph);
- insure that the amplifier is switched off.

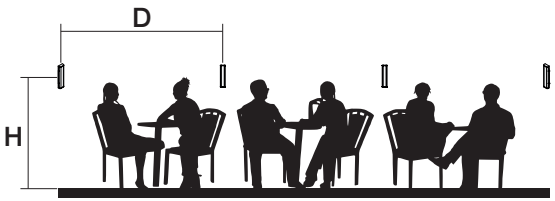
> The Lyzard's ultra-thin speaker cable **should not be cut, jointed or soldered**. Instead of altering the wiring, replace the cable.

In case of cable replacement, for a cable run of up to 5 m (16.4 ft) use wire gauge of 0,5 mm^2 (24 AWG) at least.
For longer cable runs a wider gauge is recommended.

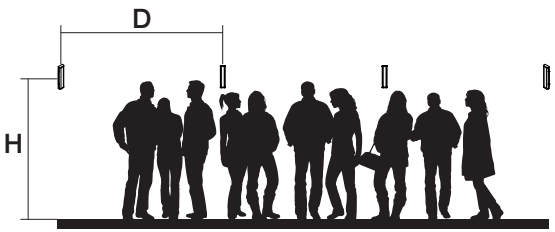
In order to screw the terminals of the Lyzard loudspeakers, use 2 mm (5/64 in) standard (flat-blade) screwdriver.

Setup

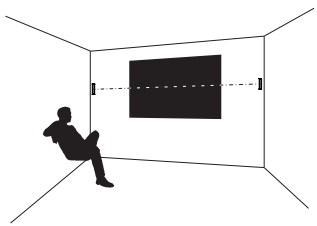
Lyzard and Vyper loudspeakers perform best when positioned on a planar surface such as a wall.
Find the proper installation height, aiming the loudspeaker at the listening position. We suggest the following configurations:



Sitting people
H: min height 1,5 m (5 ft) / max height 2,5 m (8¼ ft)
D: min distance: 2,5 m (8¼ ft)



Standing people
H: min height 1,7 m (5⅔ ft) / max height 2,7 m (9 ft)
D: min distance: 2,5 m (8¼ ft)

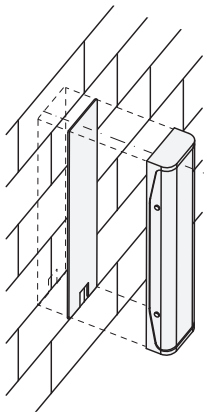


TV screens or displays

Installation

Adhesive strips and Dual Lock pads

The adhesive strips and Dual Lock pads are intended for quick and clean installation on flat surfaces, being ready to use for either fixed and temporary installations.

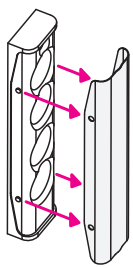


Permanent installation, wall plug

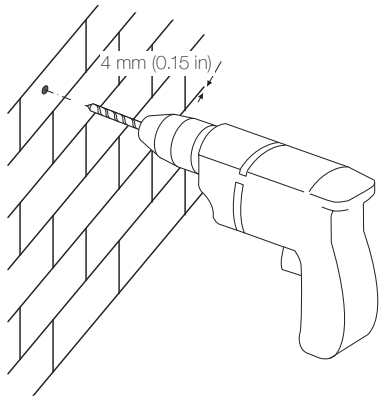
For permanent installation a kit including a proper screw and plug is provided.

Follow these operating instructions:

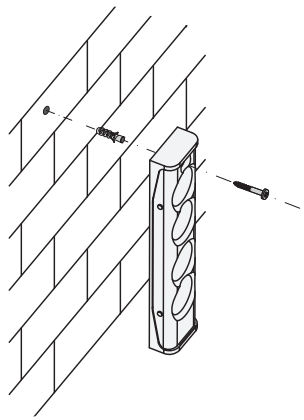
1. Before permanently affixing the loudspeaker to the surface, gently remove the outer grill;



2. Drill a 4 mm (0.15 in) diameter hole in the surface with a deep of at least 20 mm (0.80 in);



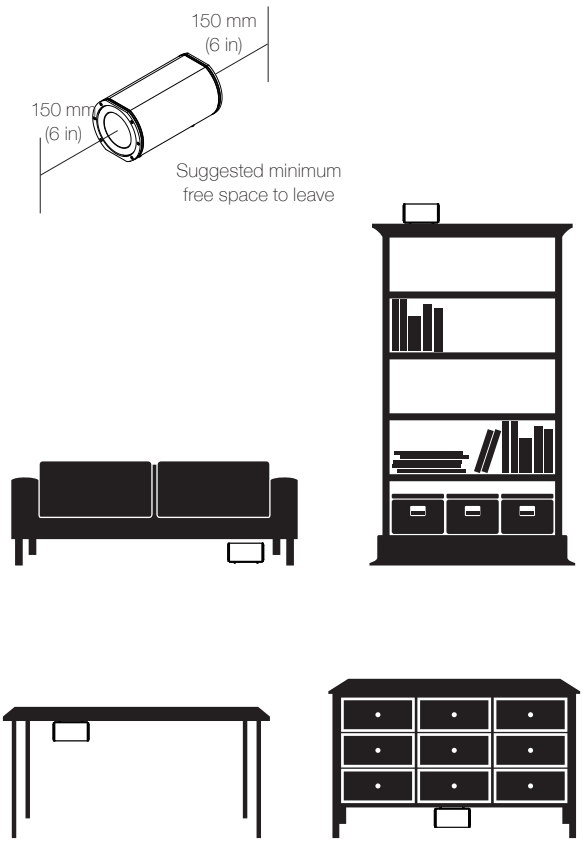
3. Set the wall plug in place and gently screw the loudspeaker to the surface;



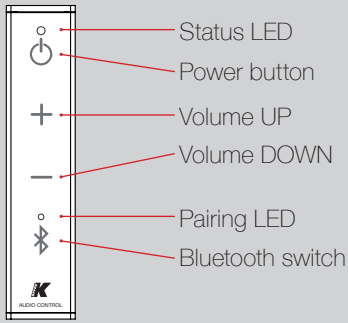
4. Reposition the outer grill on the loudspeaker.

Subwoofer

Truffle subwoofer are designed to be easy to conceal on top or bottom of the furnitures. Insure to leave enough free space all around the subwoofer in order to let the sound propagate properly.



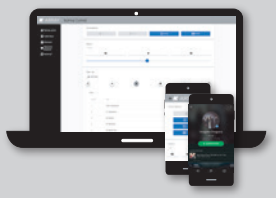
Remote control



	Standby	Power On
Status LED	Pulse Blinking	Solid White
Bluetooth switch	Keep pressed for 10 s for pairing	

The Azimut system can be completely controlled by any mobile device or desktop PC via the Azimut Control Interface. We strongly suggest to implement the Azimut system within your network environment and then access its features relying on your wireless access point or wired devices.

Bluetooth Connectivity is dedicated to direct streaming from any mobile device supporting the Bluetooth 4.1 protocol.



Remote connections

Name and password for accessing the **Azimut Control Interface** are collected on a label underneath the Kommander-KA02 amplifier.

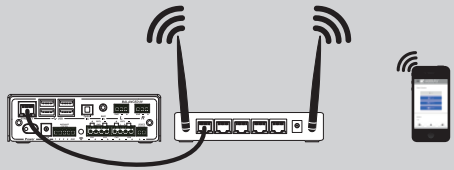
Default IP: 192.168.10.1
Default password: 12345678

Azimut Discovery app

Download the Azimut Discovery App for your device:
Connect the Azimut to your Wi-Fi access point via a dedicated

Ethernet cable.

Use the Azimut Discovery app to discover and direct access



the Azimut Control Interface within your Wi-Fi network.

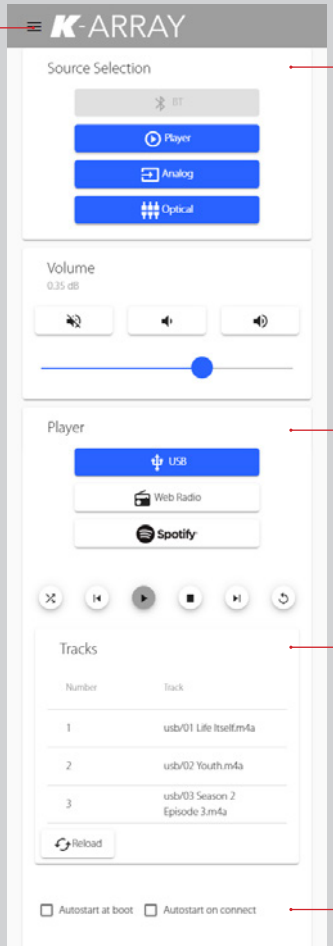
Bluetooth pairing

Keep pressed the Bluetooth switch on the wired remote for 10s. When the blue LED starts blinking you can pair your device with the Azimut.

Bluetooth pairing can be achieved by the Network & Bluetooth section in the Azimuth Control Interface as well. See the Network & Bluetooth for more details.

Azimut control interface

Main menu

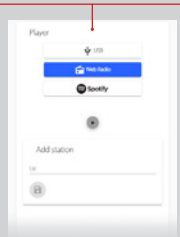


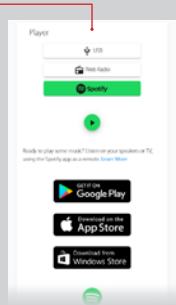
Audio sources
Blue buttons highlight active inputs

Player controls
Audio controls change according to the player selected

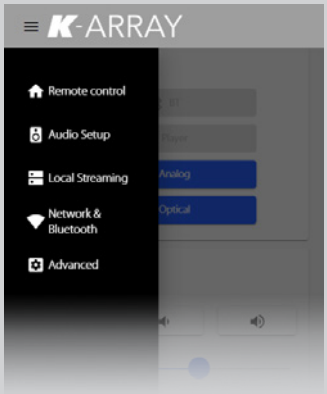
USB tracks list

Startup options





Main menu



Remote control
The default view with Audio sources and Players selections.

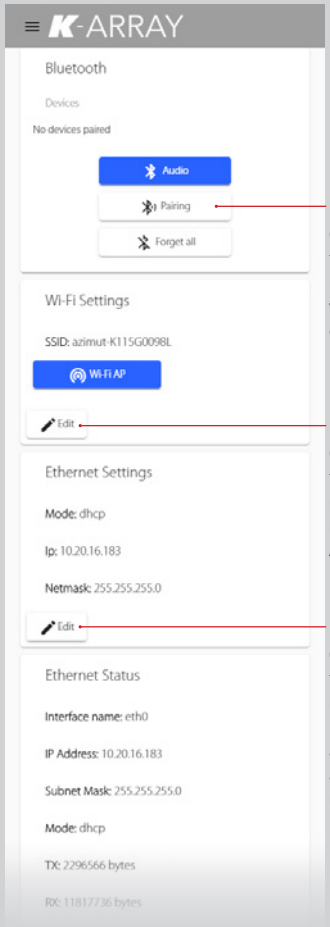
Audio Setup
User equalizer and level tuning.

Local Streaming
Manage a group of devices by a single Azimut system.

Network & Bluetooth
Modify network and Bluetooth settings.

Advanced
Set advanced features.

Network & Bluetooth



Pairing
Click this button to set the system in Pairing mode waiting for a connection.

Edit Password
Click this button to set a new password for the local Wi-Fi of the Azimut system

Edit Ethernet
Click this button to change Ethernet settings (i.e. a static IP address and a different netmask)

Local streaming

Master
This device will stream audio to any Slave system in the network

Free
This device will playback audio from local sources or internet independently.

Slave
This device will playback the same audio played by the Master Azimut system

This feature allows to Manage a group of Kommander KA02 Azimut amplifiers by a single Azimut system.

Preliminary setup:

- Connect all the Kommander KA02 to the same network;
- Set a unique name on each device in order to ease its detection and setup (see Advanced section for details);
- Select one Azimut system as Master device on the network: this device will stream its music to any other Azimut system marked as Slave.

Local streaming setup:

1. Connect to one Azimut system and access its Azimut Control Interface;
2. Browse the Main menu and click on Local streaming: the view will show the complete list of the Azimut systems within the network of the Azimut you are connected to;
3. For each listed Azimut system you can:
   - set it as Master: this device will stream the music to any other Slave Azimut system in the network.
     WARNING: only one Master device is allowed within the network
   - set it as Slave: this device will playback the music streamed by the Master;
   - toggle the standby mode in order to wake up or turn off the system (resume or stop playback accordingly);
   - set the playback volume.

By accessing the Azimut Control Interface of an Azimut system within the network it is possible to override the Local streaming setting and free the device.

Advanced settings

SYSTEM UPDATE

The Kommander-KA02 Azimut amplifier can be easily updated in the Advanced settings view.

1. Connect to the Azimut system and access its Azimut Control Interface;
2. Browse the **Main menu** and click on **Advanced**;
3. Expand the **Version Info** section: if the Azimut system is connected to Internet, the system will look for updates on K-array website. When a new firmware version is available, the **Download** button lights on.
4. Click on the **Download** button and wait for the firmware update file to be saved on-board.
5. When the **Install** button lights on: click on the Install button to start the system update.

Do not reboot the system until the alert message appears.

During firmware update, please don't modify any parameter of the device on the web interface.

UPDATE VIA USB

1. Download the firmware packages form the Azimut support webpage in www.k-array.com;
2. Format the USB memory stick with FAT16 or FAT32 file system;
3. Create a folder named "update" (case sensitive) in the root of the USB memory stick;
4. Copy the firmware packages marked as "update" into the update folder: files must follow the correct naming pattern, and both .package and .package.sha256 files must be present into the folder:

```
|-update\
    |-rootfs-update-1.0.5.0.package
    |-rootfs-update-1.0.5.0.package.sha256
```

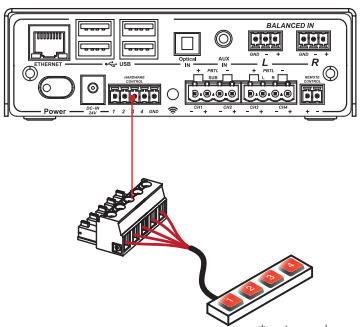
5. Connect the USB memory to the Azimut;
6. Connect to the Azimut system and access its Azimut Control Interface;
7. Browse the **Main menu** and click on **Advanced**;
8. Expand the **Version Info** section;
9. Click on the **Install via USB** button.

Hardware control setup

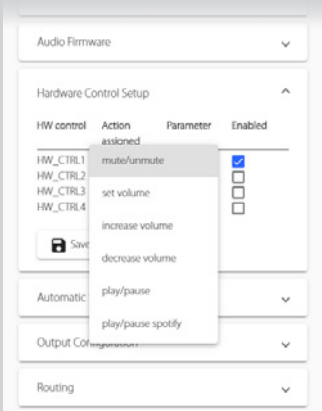
The Kommander-KA02 Azimut amplifier provides a General Purpose Input connector designed to connect up to four external normally open (NO) switches* to be set as a further remote user customizable controls.

In order to bind the remote control to an Azimut operating functionality (actions) follow these step:

1. Connect the external NO switch to the ground (GND) terminal and to one of the four available terminals of the flying plug;
2. Plug the flying plug to the Hardware Control port on the Kommander-KA02 back panel;
3. Open the Azimut user interface, click on the Main Menu icon and select Advanced;
4. Scroll down and find the Hardware Control section;
5. Find the control with the number corresponding to the hardware control terminal where you plugged the remote switch and set the proper action;
6. Enable the remote control;
7. Click on Save setup to make the settings effective.



*external normally open (NO) switches are not provided with the Azimut system.



Actions
mute/unmute
set volume (max: +12, min: -90)
Increase volume
Decrease volume
play/pause
play/pause Spotify

Output configuration

This view allows to modify the loudspeaker assignment to the Kommander-KA02 amplifier output channels.

These configuration shall be set by authorized operators.

WARNING: wrong loudspeaker selection
may seriously damage connected loudspeakers.

Routing

This view allows to modify the LEFT and RIGHT input channel assignment to the Kommander-KA02 amplifier output channels.

Technical specifications

	Lyzard-KZ1	Lyzard-KZ14	Vyper-KV25
Type	Point source	Line array	Line array
Rated Power	3.5 W	15 W	75 W
Frequency Response	500 Hz – 18 kHz (-10 dB)[1]	500 Hz – 18 kHz (-10 dB)[1]	150 Hz – 18 kHz (-10 dB)
Maximum SPL	86 dB (peak)[2]	98 dB (peak)[2]	108 dB (peak)[2]
Coverage	V. 140° | H. 140°	V. 40° | H. 140°	V. 25° | H. 120°
Transducers	0,5” neodymium magnet driver with 0,5” voice coil	4x 0,5” neodymium magnet drivers with 0,5” voice coil	4x 1” neodymium magnet drivers with 0,75” voice coil
Colors	Black, white, custom RAL		
Finishes	Brushed and polished stainless steel, 24K gold finishes		
Material	Aluminium		
Dimensions (WxHxD)	22 x 37 x 10,8 mm (0.87 x 1.46 x 0.42 in)	22 x 100 x 10,8 mm (0.87 x 3.9 x 0.42 in)	39,5 x 260 x 21,5 mm (1.6 x 10.24 x 0.8 in)
Weight	0.021 kg (0.046 lb)	0,059 kg (0.130 lb)	0,4 kg (0.88 lb)
IP Rating	IP54		
Impedance	16 Ω	16 Ω	8 Ω / 32 Ω selectable

[1] 250 Hz – 18 kHz with dedicated preset.
[2] Maximum SPL is calculated using crest factor 4 (12dB) from sensitivity scaled @1m and power handling specifications, exclusive of power compression.

	Truffle-KTR24	Truffle-KTR25	Truffle-KTR26	Rumble-KU44-2
Type	Point source	Point source	Point source	Point source
Rated Power	60 W	80 W	100 W	120 W
Frequency Response	45 Hz – 150 Hz (-6 dB)	45 Hz – 150 Hz (-6 dB)	45 Hz – 150 Hz (-6 dB)	50 Hz – 150 Hz (-6 dB)
Maximum SPL	112 dB (peak)[1]	115 dB (peak)[1]	120 dB (peak)[1]	116 dB (peak)[1]
Coverage	Omni	Omni	Omni	Omni
Transducers	4" woofer + passive radiator	5.25" woofer + passive radiator	6.5" woofer + passive radiator	2 x 4” neodymium magnet 2 x 4” passive transducer
Colors	Black			Black, white, Custom RAL
Finishes	Powder Matte			Gold, Polished, Brushed
Material	Aluminium			Stainless Steel
Dimensions (WxHxD)	122 x 117 x 199 mm (4.8 x 4.6 x 7.8 in)	152 x 147 x 258 mm (6.0 x 5.8 x 10.2 in)	182 x 176 x 341 mm (7.1 x 6.9 x 13.4 in)	500 x 116 x 100 mm [2] (19.7 x 4.6 x 4.0 in)
Weight	1,5 kg (3.31 lb)	2,5 kg (5.51 lb)	3,5 kg (7.72 lb)	5,9 kg (13.0 lb)
IP Rating	IP54			IP54
Impedance	4 Ω	4 Ω	2 Ω	2 Ω

[1] Maximum SPL is calculated using crest factor 4 (12dB) from sensitivity scaled @1m and power handling specifications, exclusive of power compression.
[2] Removable rubber feet not included

	Kommander-KA02	
Type	4-channel Class D audio amplifier	
Rated Power	4x 50W @ 4Ω	
Frequency Response	20 Hz – 20 kHz (±1 dB)	
Connectivity	Bluetooth 4.1 Low Energy, Wi-Fi, Ethernet	2x Phoenix Connectors (bal) 3.5 mm Jack Stereo (unbal) Toslink Optical Connector
Control	Dedicated Azimut Control Interface / wired Remote Control	
Operating range	Dedicated AC/DC power adapter 100-240V ~ AC, 50-60 Hz input / 24 V, 4 A DC output	
Colors and Finishes	Black / Powder Matte	
Material	Aluminium	
Dimensions (WxHxD)	144 x 46 x 144 mm (5.6 x 1.8 x 5.6 in)	
Weight	0,5 kg (11 lb)	
Impedance	minimum 4 Ω	

Regulatory information

EC DECLARATION OF CONFORMITY

Manufacturer:
K-array surl
via Paolina Romagnoli 17
50038 - Scarperia e San Piero a Sieve
Firenze - Italy

CE

We declare that under our sole responsibility the products:
Model Names: KA02
Intended use: Professional Audio Amplifier
Is in conformity with the provisions of the following EC Directives, including all amendments, and with national legislation implementing these directives:

- 2006/95/EC Low Voltage Directive
- 2004/108/EC Electromagnetic Compatibility Directive
- 2011/65/UE RoHs II Directive

The following armonized standards are applied:

- EN 55103-1:2009
- EN 55103-2:2009
- EN 61000-3-2:2006 /A1:2009 /A2: 2009
- EN 61000-3-3:2013
- EN 61000-3-11:2000

Scarperia e San Piero a Sieve
20 March 2019

Franco Spataro
Technical Manager

WEEE DIRECTIVE

If the time arises to throw away your product, please recycle all the components possible.
This symbol indicates that when the end-user wishes to discard this product, it must be sent to separate collection facilities for recovery and recycling. By separating this product from other household-type waste, the volume of waste sent to incinerators o r land-fills will be reduced and natural resources will thus be conserved.
The Waste Electrical and Electronic Equipment Directive (WEEE Directive) aims to minimise the impact of electrical and electronic goods on the environment. K-array surl comply with the Directive 2002/96/EC and 2003/108/EC of the European Parliament on waste electrical finance the cost of treatment and recovery of electronic equipment (WEEE) in order to reduce the amount of WEEE that is being disposed of in land-fill site.
All of our products are marked with the WEEE symbol; this indicates that this product must NOT be disposed of with other waste. Instead it is the user's responsibility to dispose of their waste electrical and electronic equipment by handing it over to an approved reprocessor, or by returning it to K-array surl for reprocessing. For more information about
where you can send your waste equipment for recycling, please contact K-array surl or one of your local distributors.

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Designed and Made in Italy

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