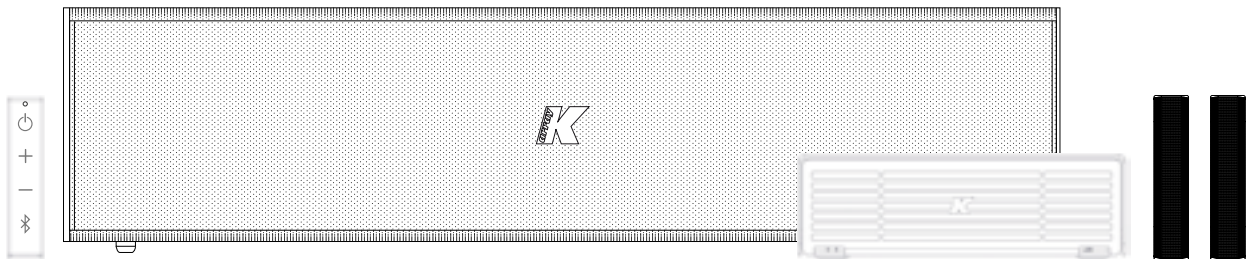# Azimut

Minimalist design,
maximum connectivity

REFERENCE GUIDE

Complete audio solution
with plug and play capabilities
Bluetooth connectivity
Dedicated app via Wi-Fi

K-ARRAY
Unique Audio Solutions

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.

- 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.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 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.
- 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.

SYMBOLS

C E 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.

RoHS This device complies with Restriction of Hazardous 2002/95/EC Substances Directive.

Thank you for choosing a K-array product!
To ensure proper operation, please read this owner's manual and safety instruction carefully 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 customare service at support@k-array.com or contact the official K-array distributor in your country.

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.

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 Self adhesive magnet strip
3x Double-sided bonding strip

CONNECTING

Find the device name on the label sticked on the amplifier bottom side (i.e. AZIMUT-1021).

Wired connection
On your preferred browser go to the address field and write the path to the built in web interface (i.e. http://AZIMUT-1021).

Wi-Fi connection
Connect your Wi-Fi device to the hotspot with the name of your Azimut (i.e. AZIMUT-1021). On your preferred browser go to the address field and write http://192.168.10.1
When asked, insert the password 12345678

Bluetooth
Pair your device with the Azimut.
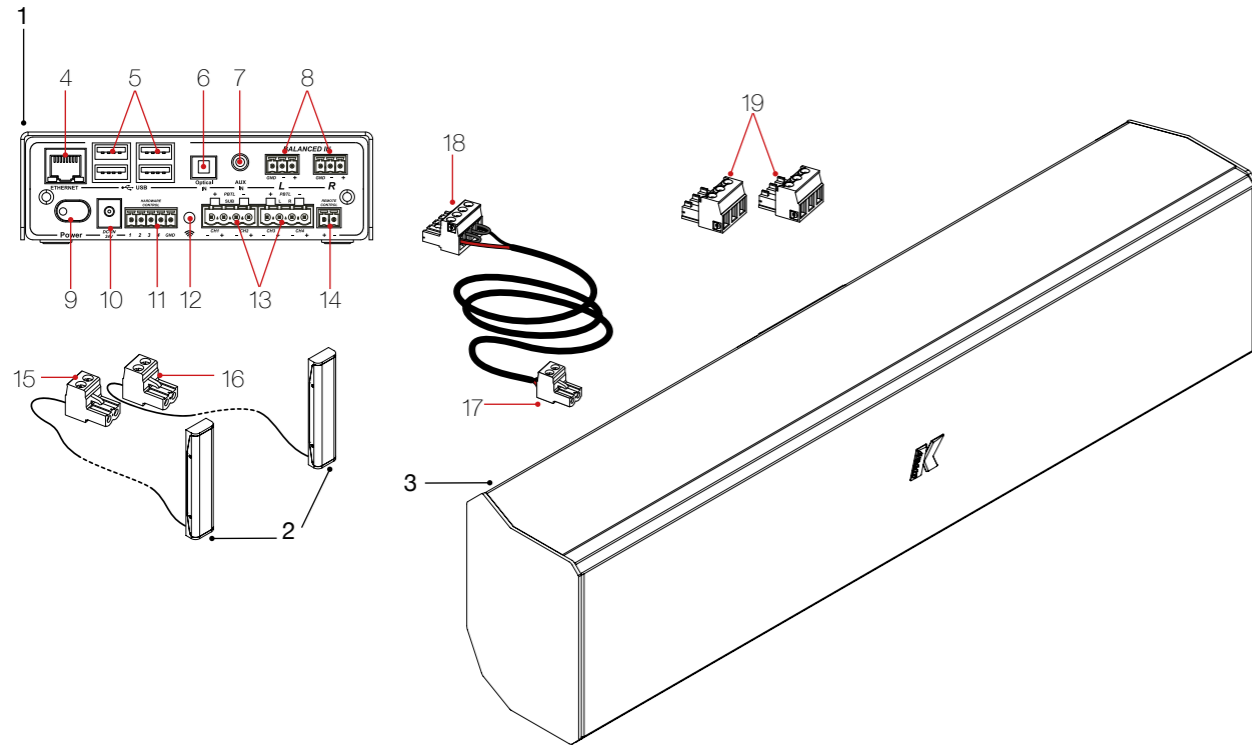
1. **Kommander-KA02**

2. **Lyzard-KZ14**

3. **Rumble-KU44-2**

4. Ethernet Port	8. Balanced LEFT/RIGHT input	12. Wi-Fi reset switch	16. Output RIGHT
5. USB ports	9. Power switch	13. Output connection	17. Subwoofer connector
6. Optical input	10. DC inlet	14. Remote control port	18. Output Subwoofer
7. Analog input	11. GPIO	15. Output LEFT	19. Balanced connectors

CONFIGURATION

Output RIGHT

Output LEFT

Output Subwoofer

Subwoofer connector

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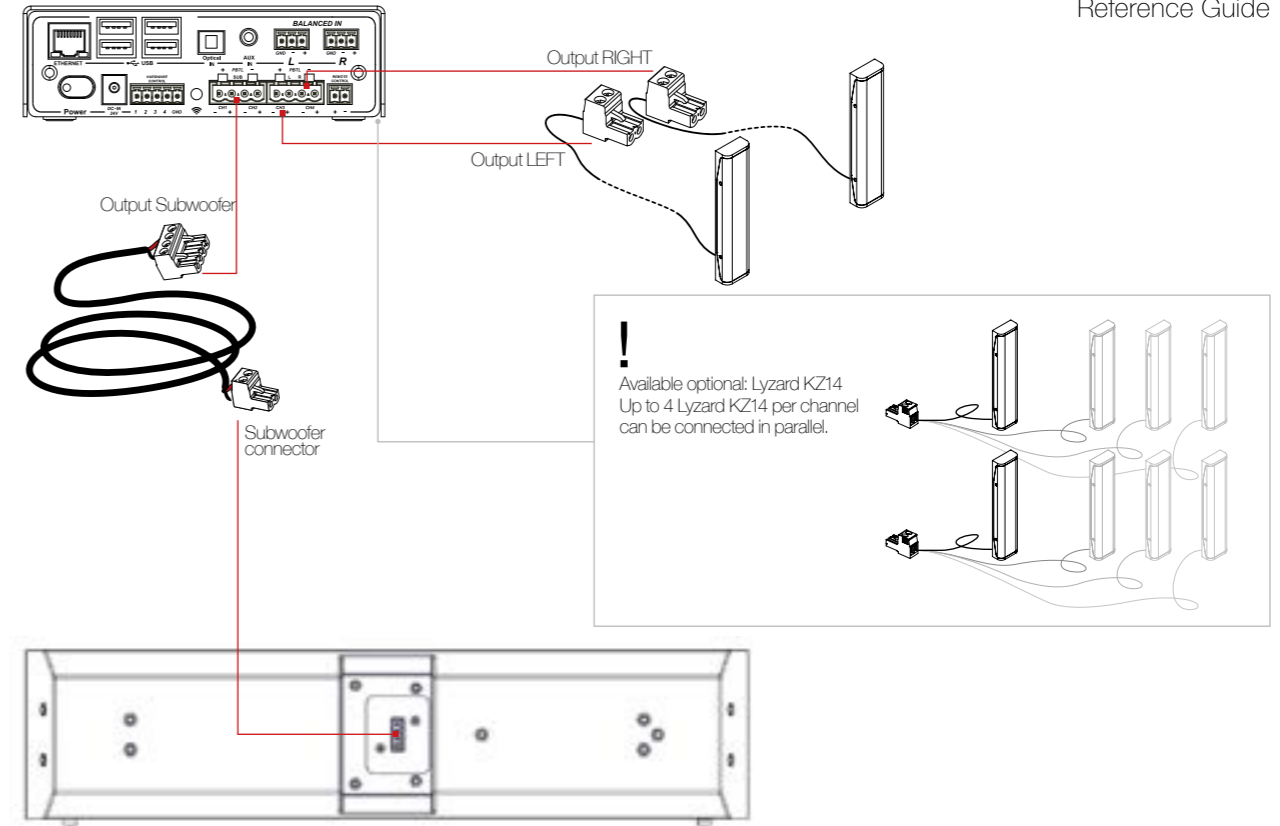
HARDWARE CONTROL

The Kommander-KA02 Azimut amplifier unit 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:

- Connect the external NO switch to one of the four available terminals of the flying plug + ground (see picture below)
- Plug the flying plug to the Hardware Control inlet on the Kommander-KA02 back panel
- Open the Azimut user interface, click on the Main Menu icon and select Advanced
- Scroll down the view and find the Hardware Control section
- Find the control with the number corresponding to the hardware control inlet where you plugged the remote switch and set the proper function among the following:

- Enable the remote control
- Click on Save setup to make the settings effective.

Action	Parameter
mute/unmute	n/a
set volume	number of decibels (dB) min: -200 max: 24
play/pause	n/a

REMOTE CONTROL

- Status LED
- Power button
- Volume UP
- Volume DOWN
- Bluetooth switch
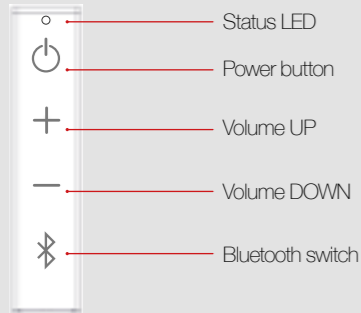
	Standby	Power On
Status LED	Pulse Blinking	Solid White
Bluetooth switch	Keep pressed for 10 s for pairing	

Connection parameters are collected on a label underneath the Kommander-KA02 amplifier.
For Wi-Fi connection, default parameters are:
Default IP: 192.168.10.1 Default password: 12345678

APP

- Main menu
- Toggle Bluetooth
- Toggle Built-in player
- Toggle Analog input
- Toggle Optical input
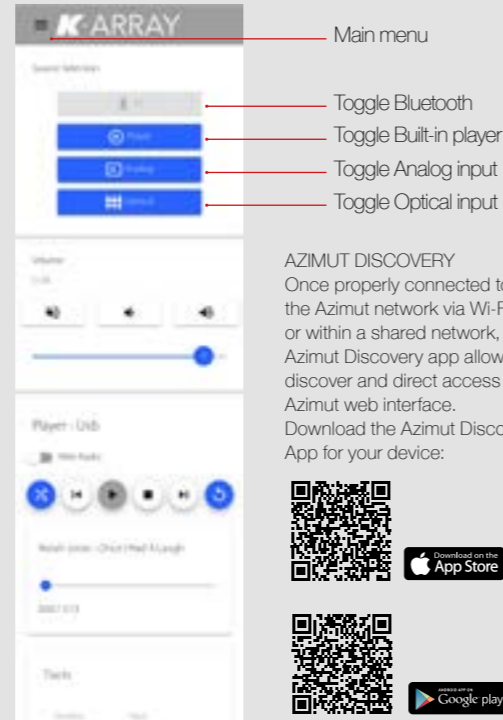
AZIMUT DISCOVERY
Once properly connected to the Azimut network via Wi-Fi or within a shared network, the Azimut Discovery app allows to discover and direct access the Azimut web interface.
Download the Azimut Discovery App for your device:

Download on the App Store

ANDROID APP ON Google play

Please consider that when streaming music via Bluetooth the Wi-Fi connection turns off. Wi-Fi connectivity turns back on when stop streaming.

SYSTEM UPDATE VIA USB

Azimut firmware and DSP can be updated by connecting to the Kommander-KA02 Azimut amplifier unit a USB memory stick formatted as follow:

1. Create a folder named "update" (case sensitive) in the root of the USB memory stick

2. Copy the firmware files 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-1.0.1.0.package
    |-rootfs-update-1.0.1.0.package.sha256
```

3. Connect to the Azimut Control interface, open the main menu and click on Advanced. Find the System Firmware section and click on the install via USB button. During firmware update, please don't modify any parameter of the device via the web interface.

The update files can be downloaded by the Azimut support webpage in www.k-array.com

TECHNICAL SPECIFICATIONS

ACOUSTICS	
Power handling	Subwoofer: 80W Mid-high speakers: 15W each
Impedance	Subwoofer: 2Ω Mid-high speakers: 16Ω
Frequency range	45Hz – 19kHz (-10dB)
SPL 1W@1mt	Subwoofer: 87dB$_{SPL}$ Mid-high speakers: 82dB$_{SPL}$
Maximum SPL	Subwoofer: 100dB$_{SPL}$ (continuous) - 106dB$_{SPL}$ (peak) Mid-high speakers: 92dB$_{SPL}$ (continuous) - 98dB$_{SPL}$ (peak)
COVERAGE	
Horizontal	Subwoofer: omni Mid-high speakers: 140°
Vertical	Subwoofer: omni Mid-high speakers: 20°
CROSSOVER	
Type	Internal digital crossover
TRANSDUCERS	
Low frequency	2 x 4" Ferrite Magnet with 1" voice coil 2 x 4" Passive Radiator
Mid-High frequency	4 x 0.5" Neodymium Magnet with 0.5" voice coil
AUDIO INPUT	
Analog Balanced	Left: 3-pin phoenix Right: 3-pin phoenix
Analog Unbalanced	3.5mm Jack Stereo
Optic	Fibre Optic Jack Connector
USB	4 x USB 2.0
Bluetooth	4.1 Bluetooth Low Energy
POWER AUDIO OUTPUT	
Subwoofer	4-pin phoenix
Mid-high speakers	Left: 2-pin phoenix Right: 2-pin phoenix

REMOTE	
Wired Remote Control	2-pin phoenix
Hardware Control	5-pin phoenix (4 x GPIO ports)
Network	10-100 Mbps Ethernet (RJ45), Wirelss LAN 802.11n
DSP PROCESSING	
Sample Rate	96 kHz
Bit Depth	32 bit
AMPLIFIER	
Type	4-channel Class-D audio amplifier
Power	4 x 50W @ 4Ω - 10% THD
Azimut Config	Subwoofer: 100 W @ 2Ω (Ch1-Ch2 PBTL config) Mid-high out left: 50 W @ 4Ω (Ch3 BTL config) Mid-high out right: 50 W @ 4Ω (Ch4 BTL config)
PROTECTION	
Type	Output Short Circuit Protection DC Offset Overtemperature Undervoltage and Overvoltage 40V Load Dump Open Ground and Power Tolerant
DC POWER	
Operating range	24Vdc - 5A
Connector	2.5mm power jack
PHYSICAL OVERVIEW	
Dimensions	Mid-high: 2.2 x 10.0 x 1.2 cm (0.8"x 3.9"x 0.4") Subwoofer: 50.0 x 11.6 x 10.1 cm (19.7"x 4.6"x 4.0") Amplifier: 14.4 x 4.6 x 14.4 cm (5.7"x 1.8"x 5.7") Remote: 2.2 x 10.0 x 1.2 cm (0.8"x 3.9"x 0.4")
Weight	Mid-high: 0.065 kg (0,14 lbs) Subwoofer: 5.2 kg (11.46 lbs) Amplifier: 0.5 kg (1.10 lbs) Remote: 0.045 kg (0.10 lbs)

Karray

Designed and Made in Italy