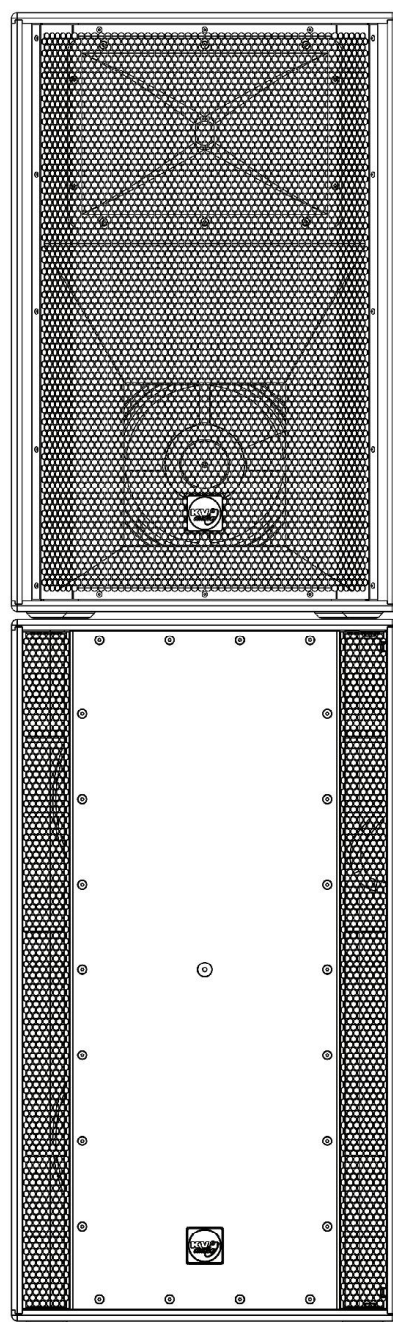


- **KT2.0**
- **KT2.15**
- **K-PAK2600**



## The future of sound. Made perfectly clear.

At KV2 Audio our vision is to constantly develop technologies that eliminate distortion and loss of information providing a true dynamic representation of the source.

Our aim is to create audio products that absorb you, place you within the performance and deliver a listening experience beyond expectation.



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## K-RIG Series

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## KPAK Groudstack System Amplifier



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## KT2.0 - Groudstack Active-Driven Mid-Hi module



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## KT2.15 - Groudstack Active-Driven Bass module



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## Introducing the K-RIG Series

Thank you for purchasing this KV2 Audio - K-RIG system, consisting of the KPAK2600 controller/amplifier unit, KT2.0 Mid/Hi speakers and one or two KT2.15 subwoofers per side of the stereo system. The K-RIG system has been developed as a high output, easy to use system, where a competitive price is important. The K-RIG system has purposely been designed to be used as a ground stack, accordingly the KT2.0 cannot be used separately without the KT2.15 and K-RIG must be assembled as described in the enclosed user guide part "Using the system".

Similar to our popular ES range, the K-RIG cabinets are fully active - driven by a proprietary amplifier, which delivers equalized, and time aligned accurate signal to each of the components. One KT2.0 mid hi enclosure and up to two KT2.15 subwoofers can be driven by a single KPAK2600 Amplifier, which houses all signal processing and amplification, as well as providing signal outputs for external additional subwoofer cabinets if required.

Please take some time to read this manual, to familiarize yourself with the advanced features of this system.

### **The amplifier compliment inside the KPAK2600 Amplifier is configured as:**

High Frequency - 200-watt, Class AB, Push pull, Low intermodulation design

Mid Frequency - 500-watt, Class AB, High efficiency, Switch mode, Low intermodulation design

Low Frequency - 1600-watt, High-efficiency, Current-enhancing switch mode with Linear Active Filter

In most cases it would be advisable to use a KV2 Audio Line driver, (LD4) in addition between the mixer outputs and KPAK2600 Amplifier, to ensure that the line to the amplifier is driven correctly and the signal integrity maintained. Although this system is simple to operate, improper use can be dangerous. This is a very high-powered device that can put out high voltages and sizeable currents. Always use safe operating techniques with the K-RIG system.

**FOR YOUR SAFETY, READ THE IMPORTANT PRECAUTIONS SECTION AS WELL AS THE INPUT, OUTPUT AND POWER CONNECTION SECTIONS OF THIS MANUAL.**

### **Warranty**

Your K-RIG System is warranted against defects in material and workmanship. Please refer to your supplier for more warranty details.

### **Service**

**WARNING!** Electronic components, risk of SHOCK!

In the unlikely event that your product requires service, it must be returned to an authorized KV2 Audio distributor, service centre or shipped directly to the factory. All warranty and service repairs must be undertaken by qualified technical personnel. If the unit/s needs to be shipped back to the factory, we advise using the original packing to reduce the risk of damage in transit. Please contact your nearest KV2 Audio centre for service details. Distributors list can be found at [www.kv2audio.com](http://www.kv2audio.com).

## Introducing the KPAK2600

The KPAK2600 is a three-way, active control and amplification system specifically designed for the KV2 Audio K-RIG loudspeaker systems. It houses all signal processing and amplification as well as providing control for subwoofer or multiple subwoofers, powered by the internal subwoofer amplifier.

Unlike most other speaker manufacturers, KV2 Audio is equally expert in electronic design - in fact, we're fifty-year veterans at building rugged, high-current power amps. When you're able to perfectly match an amp with a transducer, you unlock incredible performance that is not achievable with passive systems.

The amplifier can perfectly handle the impedance swings of the transducer. It can deliver exactly the right amount and type of power. Reliability goes up dramatically as does sound quality.

Each amplifier in the KPAK2600 perfectly complements the transducers it is coupled to. They are therefore very different from each other with respect to construction and purpose.

The High frequency amplifier inside the KPAK2600 is Class AB, with Push-Pull amplifier circuits using (MOSFET) Transistor output stage devices. The entire performance strategy for this type of design is based on producing the lowest inter-modulation distortion possible and the highest audio quality in the critical mid and high operating bands. The Amplifier is coupled to the high driver through a transformer balanced speaker output.

The Mid frequency amplifier is a high efficiency design with reduced intermodulation distortion.

With the Low frequency amplifier, we've selected a very high efficiency and refined low frequency amplifier topology. The unique part of the design is in the voltage amplifier's ideal method in supplying current to the output stage. It's based on a switcher design that supplies current both in it's on and off position and presents superior bass reproduction quality. The system is also 95% efficient, lowering typical amplifier losses and eliminating the need for forced cooling systems.

The amplifier compliment inside the KPAK2600 is as follows:

High Frequency - 200-watt, Class AB, push pull, low intermodulation design

Mid Frequency - 500-watt, Class AB, high efficiency, switch mode, low intermodulation design

Subwoofer - 1600-watt, high efficiency, current-enhancing switch mode with Linear Active Filter

Robust mechanical design.

The KPAK2600 is enclosed in a road-rugged case with two corner handles, aluminium corners and edge covers. The case has a removable front panel with built-in cable storage compartment.

## KPAK™ 2600 Electronic Control & Amplification System



KPAK 115V part number KVV 987 323  
 KPAK 230V part number KVV 987 317  
 KPAK 250V part number KVV 987 324

### Features:

- 3-way, 2300W Control and Amplification system for use specifically with KT2.0 and KT2.15 speaker cabinets
- High Frequency, 200W, Class AB, push-pull, low intermodulation amplifier with transformer balanced outputs
- Mid frequency, 500W, Class AB, high efficiency, switch mode, low intermodulation design amplifier
- Subwoofer, 1600W, high efficiency, current enhancing, switching amplifier
- Complete, on board speaker management system including equalization, time alignment, crossover filters, amplifier overdrive protection, harmonics and output level controls
- AC soft start circuitry with ON/OFF AC breaker switch provides thorough power protection
- Passive heat dissipation design with demand-sensitive forced cooling back-up system
- Professional enclosure using exterior-grade Baltic birch with wear resistant polymer coating
- Removable front cover provides storage of all AC and speaker cables
- Bass Character- Attack or extension switch alters the low frequency character
- Includes all speaker cables for a single stack K-RIG system

### Applications

- Specifically designed as the amplification and control elements for the K-PAK loudspeaker systems
- Portable PA
- Dance clubs
- Reproduced music

### Mounting

For additional reliability, the amplifier unit is mounted on a suspension system that isolates it from the shocks and impacts typically encountered on the road.

For installations, use the EPAK2500 Wall mounting kit KVV 987 024.

### Unpacking

Unpack the KPAK2600 and check to see if there is any damage to it. If you find any damage notify your supplier immediately. Only the consignee may institute a claim with the carrier for any damage incurred during shipping. Be sure to save the carton and all packaging materials for the carrier's inspection.

Should you ever need to ship the unit, only use the original factory packing. If the shipping carton is unavailable, contact your supplier to obtain a replacement.

### The K-RIG Ground stack carton should contain:

- KPAK2600 Amplifier unit
- KT2.0 – Ground stack Active-Driven Mid-Hi module
- KT2.15 – Ground stack Active-Driven Bass module
- PowerCon detachable power cable
- Speakon cable 4.15 - 1,5m 4pin Speakon cable
- Speakon cable 4.40 - 4m 4pin Speakon cable for KT2.15
- Speakon cable 8.60 - 6m 8pin Speakon cable for KT2.0

## AC Power requirements

The KPAK2600 uses a standard PowerCon connector. The device must be connected to a suitable mains socket outlet with protective earthing connection.

### CAUTION:

The PowerCon is a connector without breaking capacity, i.e. the PowerCon should not be connected or disconnected under load or while it is alive. Always isolate your AC supply before disconnecting the Power-Con connector.

## Voltage requirements

Your KPAK2600 will be supplied pre set to the voltage used in your area. The table below provides typical current draw figures for the KPAK2600.

### CAUTION:

If the On LED does not illuminate or the system does not respond to audio input remove AC power immediately. Verify that the voltage is within the proper range. If the problem persists, please contact KV2 Audio or an authorized service center.

## Cooling

The KPAK2600 has a comprehensive passive cooling system with demand-sensitive forced cooling back-up, via speed controlled fans.

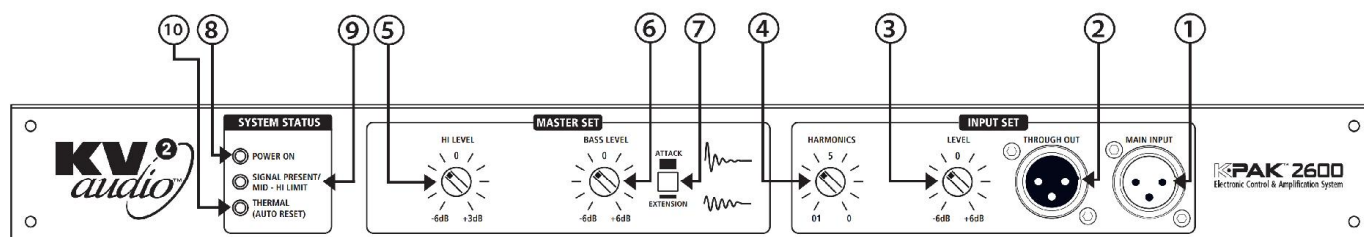
This means that the cooling system never drives air across PCB boards, connectors or components, ensuring prolonged electronic component lifespan and minimizing maintenance cycles.

It is important to have an adequate air supply around the amplifier allow the cooling air to flow. Do not expose the amplifier heat sink to direct sunlight.

If the heat sink gets too hot, its sensing circuit will open the output relay, disconnecting the load.

AC Input	Current draw with amplifier running at Average Power	Current draw with amplifier running at Peak Power
250V	8.25A	12.5A
230V	9A	14A
115V	18A	28A

## Upper panel



## INPUT SET

### 1) Main input

This is the main system balanced signal input connector.

### 2) Through signal out

'Through Signal Output' connector associated in parallel with Main input for sending unprocessed signal to other devices, such as more KPAK2600's to power more KPAK2600's in a system.

### 3) Level

Adjusts the output level from -6dB to +6dB. This is the master level control for the system and will act on both the KT2.0 and the subwoofer output for the KT2.15.

### 4) Harmonics

This level knob serves as a harmonic expander, and adds harmonics to the original sound. This control serves to optimize performance of poor quality recordings, audio sources and devices. The Harmonics knob creates more high frequencies from the mid frequencies and 'lights up' the sound, giving an impression of space and improved intelligibility.

## MASTER SET

### 5) Hi Level

This is the level control for the Hi frequency driver output from -6dB to +3dB; it is 'post' the Master Level control.

### 6) Bass Level

This is the level control for the Subwoofer output from -6dB to +6dB; it is 'post' the Master Level control.

## SYSTEM STATUS

### 7) Attack / Extension

This switch turns on the low frequency enhancement circuitry (EXTENSION position) which boosts frequencies around 60Hz to enhance the lowest frequency band.

### 8) Power ON / Bass limit

This is a dual color LED, when green it indicates that the AC power is on. When red it indicates that the audio bass amplifier limiter has been activated.

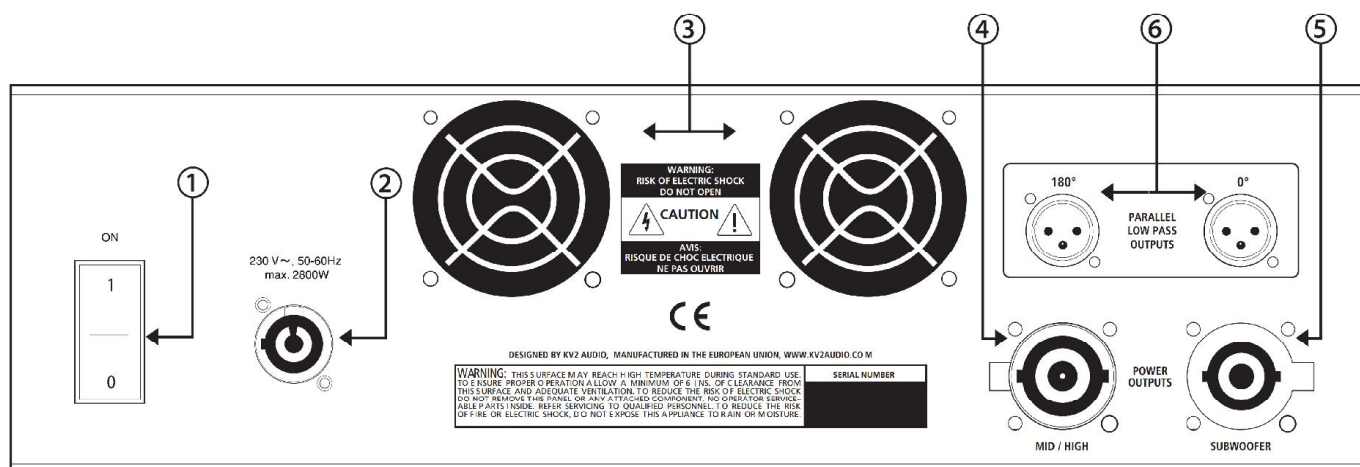
### 9) Signal preset / Mid - Hi limit

This is a dual color LED, green indicates when audio signal is present at the KPAK2600's input. When red it indicates that the audio mid-hi amplifier limiter has been activated.

### 10) Thermal (auto reset)

When red it indicates that the thermal limit of the KPAK2600 has been exceeded and the unit has shut down because of this.

## Bottom panel



### 1) AC Mains switch

The KPAK2600 has a combination AC Mains switch/circuit breaker on the bottom panel. If the switch shuts off during normal use, push it back to the ON position once. If it will not stay on you should take the unit to qualified service personnel to have it serviced.

### 2) PowerCon Power Connector

Accepts a standard PowerCon terminated AC cable.

### 3) Fans

The cooling fans operate continuously while the KPAK2600 is on. An internal temperature sensor increases the speed of the fans during high temperature conditions.

### 4) Mid/Hi power output connector

Accepts a standard 8-pole Speakon terminated loudspeaker cable for connecting up to a single KT2.0 cabinet. We recommend using original KV2 Audio cables (1.5m, 4pole Speakon cable - KVV 987 326 or 4m, 4pole Speakon cable – KVV 987 327)

### 5) Subwoofer power output connector

Accepts a standard 4-pole terminated loudspeaker cable for connecting up to single KT2.15 or two KT2.15 subwoofers in parallel. We recommend using original KV2 Audio cables (8pole Speakon cable – KVV 987 328).

### 6) Parallel low pass outputs

Allows you to connect additional subwoofers. Output 0° is in phase with the KT2.15 subwoofer output. Output 180° is phase reversed to the KT2.15 subwoofer output.

## Specification

### High Frequency Amplifier Specification

Type	Class AB Push-Pull low intermodulation Mosfet design with transformer balanced output
Rated Continuous Power	200W
Distortion	<0.05%
Operating Bandwidth	1.4kHz ÷ 20kHz

### Mid Frequency Amplifier Specification

Type	Class AB, High efficiency, Switch mode, Low intermodulation design
Rated Continuous Power	500W
Distortion	<0.05%
Operating Bandwidth	180Hz ÷ 1.4kHz

### Low Frequency Amplifier Specification

Type	High efficiency, Low frequency, Current-enhancing switch mode
Rated Continuous Power	1600W
Distortion	<0.05%
Operating Bandwidth	20Hz ÷ 180Hz

### Signal Input

Input Sensitivity	1V RMS
Input Impedance	20kΩ (balanced)

### Speaker Output

Speaker Output	Speakon 8pin (Mid/Hi), 4pin (Sub)
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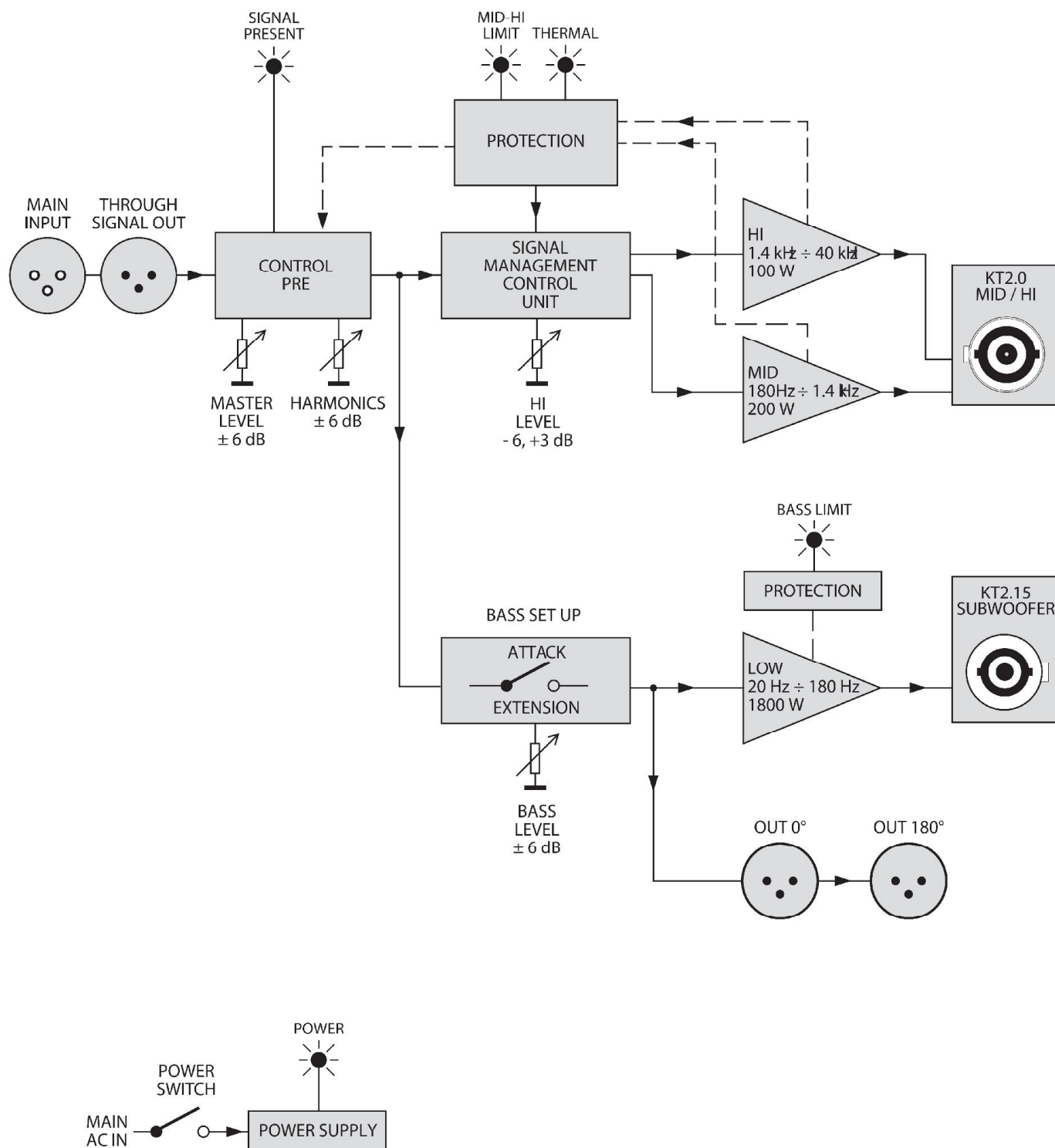
### Power

Power Connector	Neutrik PowerCon®
Operating Voltage	100÷120V@60Hz   205÷240V@50Hz   225÷260V@50Hz
Recommended Amperage	20A 115V   10A 230V   10A 250V

### Physical Dimensions

Height	700mm (27.55")
Width	450mm (17.71")
Depth	290mm (11.41")
Weight	38kg (83.78lbs)

## Block diagram



KPAK2600

Block diagram

## Using the system

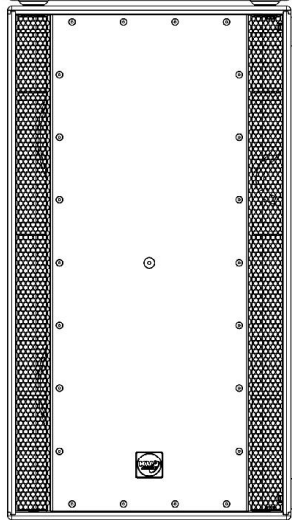
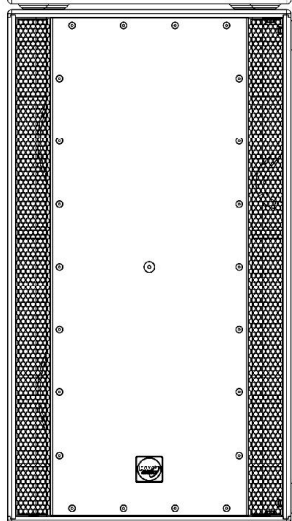
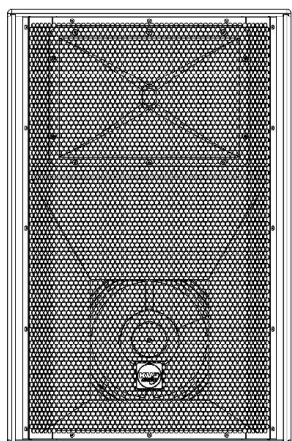
The KPAK2600 is designed to actively power one KT2.0 Mid/Hi cabinet and associated one KT2.15 or two KT2.15 subwoofers in parallel.

The K-RIG System is designed to be used as a ground stack. The KT2.15 subwoofers serve as the base for the KT2.0 Mid/Hi cabinet and the KT2.0 and KT2.15 cabinets **MUST** be installed close together.

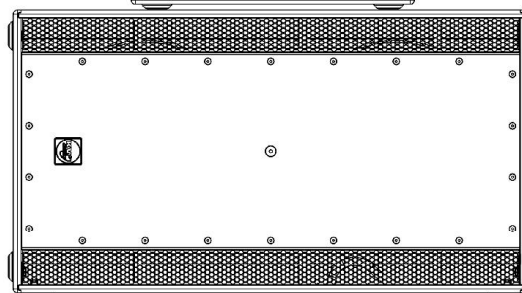
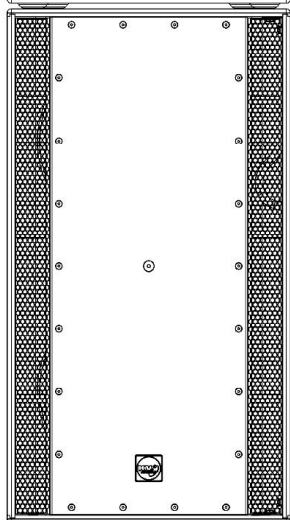
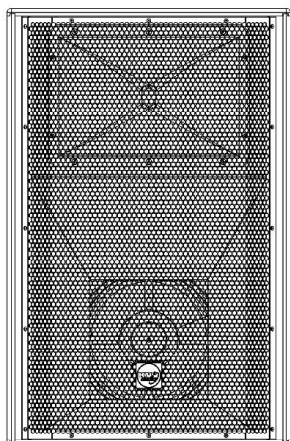
If the system were installed separately, it negatively affects the sound quality and dispersion because of the incorrect phase addition of the low mid drivers.

The KT2.0 Mid/Hi can be stacked on the one or two KT2.15 subwoofers.

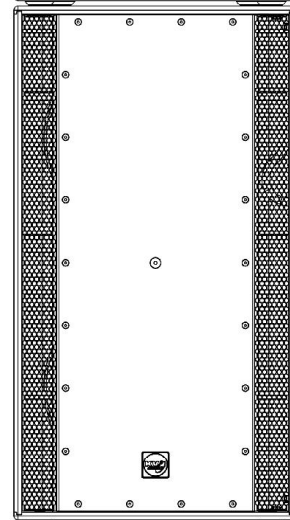
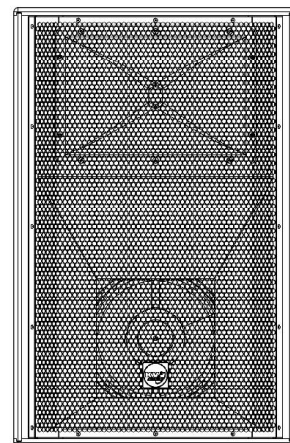
### KT2.0 Mid/Hi with two KT2.15 subwoofers



### KT2.0 Mid/Hi with two KT2.15 subwoofers – KT2.15 horizontal



### KT2.0 Mid/Hi with one KT2.15 subwoofer



# KT2.0

MID/HI MODULE



KT2.0 part number: KVV 987 314

## Description

The KT2.0 is a mid/Hi loudspeaker designed as an integrated and non-separable part of the K-RIG loudspeaker system.

Incorporating quality components specially matched with electronics, the unit is designed for varied applications, with extreme output and quality performance when accompanied by KT2.15 subwoofers as a system.

Parts of the Ground stack Active Driven System The KT2.0 contains a horn loaded 12" midrange and 2.5" titanium high frequency driver Active Driven by the KPAK amplifier / processor

## Features:

- Professional Baltic birch construction with wear resistant polymer coating 132dB sustained output, 135dB peak
- Controlled wide dispersion 80° x 40°
- 2.5" (64mm) Titanium diaphragm compression driver with complex geometry phase plug and ferrite magnetic structure
- Horn loaded, 12" mid-bass driver, with a 2.5" (64mm) voice coil and ferrite magnetic structure
- Two way active requirement - 700W from the KPAK Amplifier providing 500W for the 12" low mid and 200W for the high frequency driver
- Proprietary side - handle design for simplified handling and carrying
- High impact low friction feet, for lock-in and easy cabinet movement

## Applications

- Specifically designed as a mid/Hi speaker for the K-RIG loudspeaker systems
- Portable PA
- Dance clubs
- Reproduced music

## Specification

KT2.0

### System Acoustic Performance

Max SPL Long-term	132dB
Max SPL Peak	135dB
-3dB Response	42Hz ÷ 18kHz
Crossover Point	180Hz / 1.4kHz

### High Frequency Section

Acoustic Design	Horn Loaded
High Horn Coverage Horizontal / Vertical	80° x 40°
Throat Exit Diameter / Diaphragm Size	1.4" / 2.5"
Diaphragm Material	Titanium
Magnet Type	Ferrite

### Mid-Bass Section

Woofers Size / Voice Coil Diameter / Design	12" / 2.5" / Inside Outside
Diaphragm Material	Epoxy Reinforced Cellulose
Throat Exit Diameter / Diaphragm Size	1.4" / 2.5"
Magnet Type	Ferrite

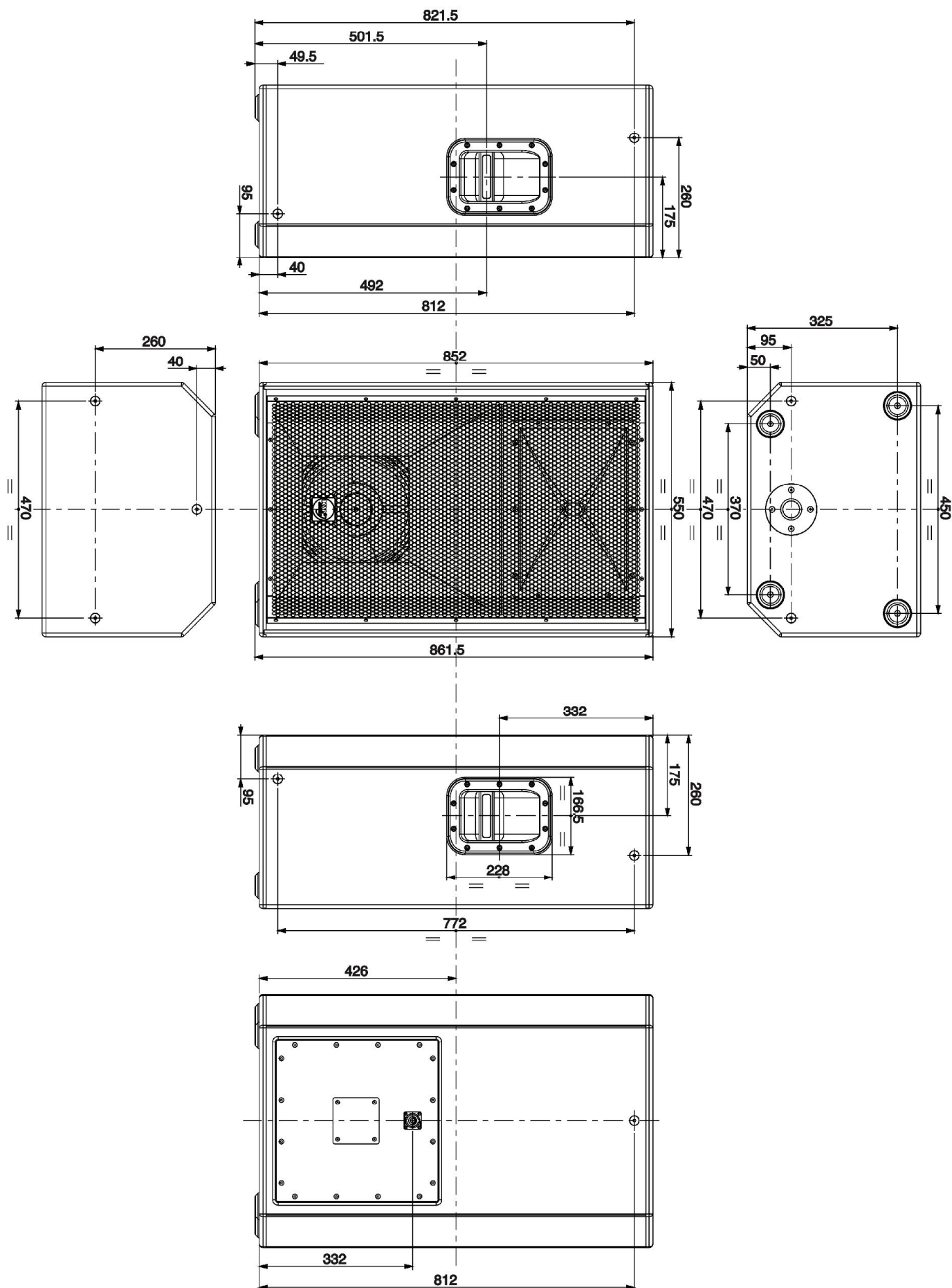
### Speaker Input

Speaker Input	Neutrik Speakon® - NL8
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### Physical Dimensions

Height	861.5mm (33,92")
Width	550mm (21.66")
Depth	325mm (12.8")
Weight	40kg (88.2lbs)

Specification



KPAK2600

Drawing

# KT2.15

## BASS MODULE



KT2.15 part number: KVV 987 315

### Description

The KT2.15 is a subwoofer designed as a part of K-RIG loudspeaker system. Incorporating quality components specially matched with electronics, the unit is designed for varied applications, with extreme output and quality performance when accompanied by the KT2.0 Mid/Hi module as a system.

Parts of the Ground stack Active Driven System The KT2.15 double 15" subwoofer is compact, designed as a part of the K-RIG system Active Driven by the KPAK amplifier / processor

### Features:

- Professional Baltic birch construction with wear resistant polymer coating 132dB sustained output, 135dB peak
- Controlled wide dispersion 80° x 40°
- 2.5" (64mm) Titanium diaphragm compression driver with complex geometry phase plug and ferrite magnetic structure
- Horn loaded, 12" mid-bass driver, with a 2.5" (64mm) voice coil and ferrite magnetic structure
- Two way active requirement - 700W from the KPAK Amplifier providing 500W for the 12" low mid and 200W for the high frequency driver
- Proprietary side - handle design for simplified handling and carrying
- High impact low friction feet, for lock-in and easy cabinet movement

### Applications

- Specifically designed as a Subwoofer speaker for the K-RIG loudspeaker systems
- Portable PA
- Dance clubs
- Reproduced music

## Specification

### System Acoustic Performance

Max SPL Long-term	130dB
Max SPL Peak	133dB
-3dB Response	42Hz ÷ 180Hz
Impedance	8Ω

### Low Frequency Section

Acoustic Design	Twin Asymmetrical loading
Woofer Size / Voice Coil Diameter / Design	15" / 3" / Inside outside

### Speaker Input

Speaker Input	2x Neutrik Speakon® - NL4
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### Cabinet

Handles	2
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### Physical Dimensions

Height	1010mm (39.76")
Width	550mm (21.66")
Depth	570mm (22.45")
Weight	61kg (134.5lbs)

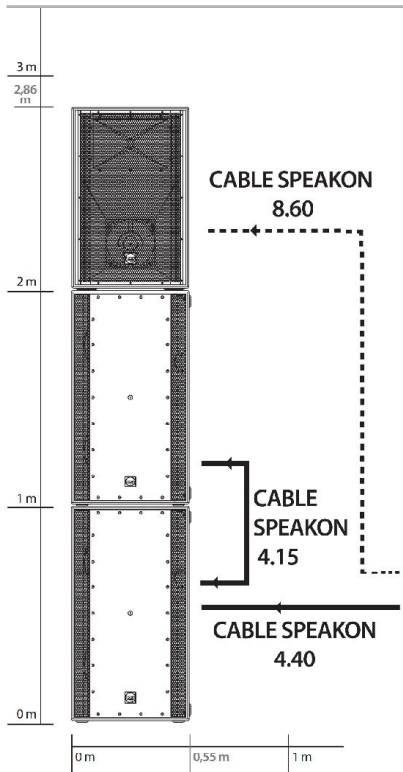


<p><b>Short joining bracket for K-RIG</b>                  Part name: K-RIG BRACKET                  Part number: KVV 987 318                  - 2 pcs in pack                  - 4 pcs Quick-lock-pins 6,3mm included                  - 4 pcs M10 hex screws with a hole included</p>	
<p><b>K-RIG Ground stack</b>                  Part name: K-RIG GROUND STACK                  Part number: KVV 987 319</p>	
<p><b>K-RIG Security pole</b>                  Part name: K-RIG SECURITY POLE                  Part number: KVV 987 325                  - 4 pcs in pack</p>	
<p><b>Bass speaker cable Speakon 4.15</b>                  Part name: CABLE SPEAKON 4.15                  Part number: KVV 987 326                  - 4 wire speaker cable                  - Speakon NL4 connectors                  - 1,5m (5ft)                  - for K-RIG Bass Module hook-up</p>	
<p><b>Bass speaker cable Speakon 4.40</b>                  Part name: CABLE SPEAKON 4.40                  Part number: KVV 987 327                  - 4 wire speaker cable                  - Speakon NL4 connectors                  - 4m (13ft)                  - for K-RIG Bass Module hook-up</p>	
<p><b>Mid/Hi speaker cable Speakon 8.60</b>                  Part name: CABLE SPEAKON 8.60                  Part number: KVV 987 328                  - 6 wire speaker cable                  - Speakon NL8 connectors                  - 6m (20ft)                  - for K-RIG Mid/Hi Module hook-up</p>	

KT2.15

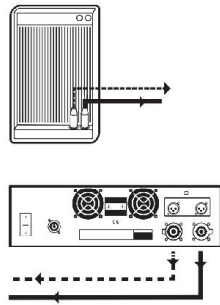
Accessories

## KT2.0 with one KT2.15

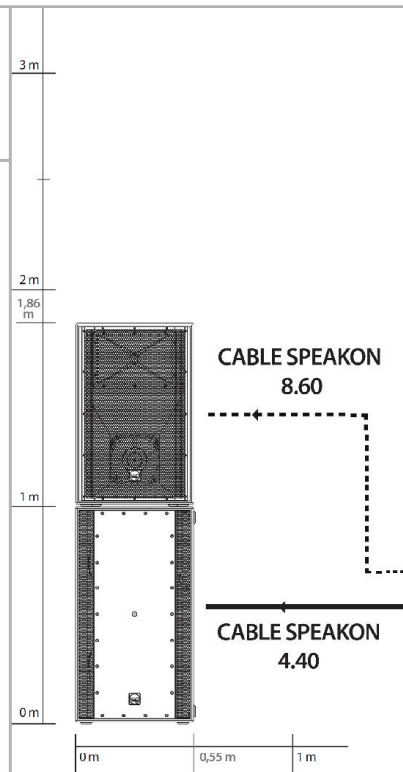


### Amplifiers

- KPAK2600

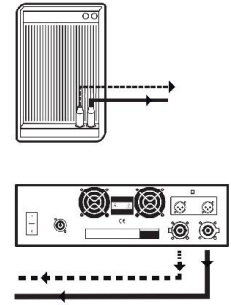


## KT2.0 with two KT2.15

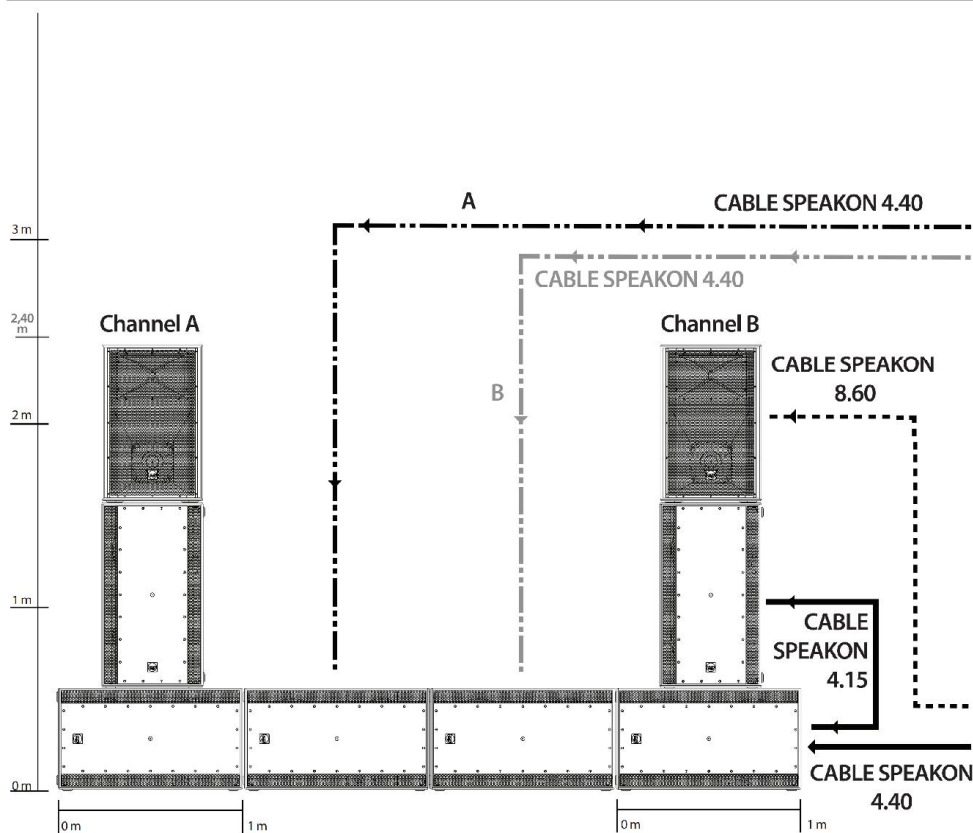


### Amplifiers

- KPAK2600

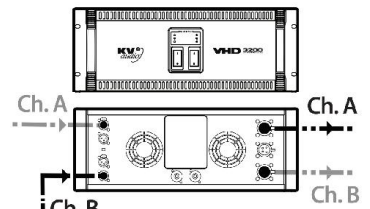


## Two KT2.0 with two KT2.15 with external subwoofer 1x KT2.15 per side

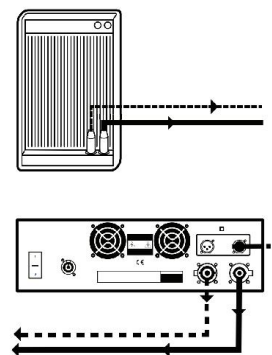


### Amplifiers

- VHD3200



- KPAK2600



Number of bass boxes and SUB LEVEL setup - depend on music style  
One side of stereo single system



# The future of sound. Made perfectly clear.

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Our aim is to create audio products that absorb you, place you within the performance and deliver a listening experience beyond expectation.



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