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AUDEZE

THE KING GUIDE





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THE KING
HEADPHONE AMPLIFIER

Thank you for purchasing Audeze's The King Headphone Amplifier. You are now a proud owner of one of the best headphone amplifiers that we highly recommend with all of our products, especially the recently released LCD-4. Together they will bring you the best sound that Audeze has to offer.

To get the most out of your purchase, please take the time to carefully read through this user guide and warranty.

Introduction

The King Headphone Amplifier was designed for Audeze by world-renowned circuit designer Bascom King. His long experience dates back to a time when tubes ruled the amplifier world. That, along with advances in solid-state technology, led to The King's unique combination of both.

The King is a class-A hybrid design featuring E88CC triode tube inputs driving MOSFET output devices. The tube section is a differential stage that's directly coupled to the MOSFET drivers. A current source ensures proper tube bias and improves their linearity. A DC servo circuit is in the loop between the input and output stage to keep DC offset as close to zero as possible (typically less than 5mV.)

Output devices are matched IRFZ20 MOSFETs chosen for their linearity and reliability. A symmetrical regulated power supply delivers 316V DC to the output devices and there are no capacitors in the signal path. This results in a virtually flat frequency response throughout the range of our Audio Precision APX 525 audio analyzer: -0.1dB at 1Hz to 80kHz.

Left and right channels are on separate PCBs and each has its own voltage regulators to reduce crosstalk between channels. Each PCB features a protective shield of perforated, powder-coated magnetic material.

The toroidal transformer is massively oversized, molded in epoxy and shielded to further improve signal-to-noise ratio. The main power supply and protection PCBs also feature shields of perforated powder-coated magnetic material.

A microprocessor provides overload protection. Voltage across a 1 ohm resistor connected to the source of the output MOSFETs is constantly monitored. The relay connecting the output to the headphone is powered off if it becomes higher than a predetermined value. The same relay disconnects the output until the servo eliminates DC offset as the amplifier powers on.

Headphone impedance connected to the output is checked during the initial power-on delay. If the impedance is lower than 10 ohms the microprocessor won't activate the relay. We recommend that you leave your headphone connected during power-on as The King checks for potential cable shorts.

There are two red and green LEDs that indicate the status of the output relays on both channels. During the initial power-on phase the red LEDs are on and that can be seen through holes in the top cover. After the relays connect the output to the headphone the red LEDs extinguish and green LEDs are lit.

The LED SPL Meter on the front panel indicates actual SPLs (Sound Pressure Levels) delivered by the LCD-4 on both channels. A removable calibrated display for other Audeze headphones will be offered at a later date.

The King delivers a full 6 watts at 20 ohms and will drive any headphone with ease.



Product Registration

Register your Audeze The King Headphone Amplifier at www.audeze.com for information, updates and news.

Safety Guide

Be sure to turn off The King Headphone Amplifier before connecting or removing audio or power cables. Lower the volume before connecting or removing your headphone cable, then gradually increase the volume until you reach a comfortable level.

The King's hybrid tube/MOSFET design generates heat so we recommend leaving at least a 1-inch clearance around the chassis for proper heat dissipation. Keep in mind that listening to music for long periods of time at excessive levels can cause irreparable damage to your ears.

AC Power

Ensure the voltage indicated on the rear panel of The King matches your AC mains supply. Attempting to use The King at any voltage other than that selected on the rear panel may cause damage not covered by the Warranty.

Safety Features

Microprocessor-controlled safety features abound and are not in the signal path. These include a soft-start timer delay, overcurrent and short-circuit protection, and relays connecting the amplifier's output to the headphone. The output impedance is checked during the initial power-on phase to avoid any output if the impedance is below preset limits.

Care and Maintenance

Regular maintenance is not required, but an occasional wipe with a clean, dry, lint-free cloth is recommended while The King is powered down.

Tube Replacement: The two matched E88CC tubes are long-life, shock and vibration resistant, and can last up to 10,000 hours. Compatible replacements include 6DJ8 and variants including 6922, 7308, 7DJ8, ECC88 and 6H23. To change the input tubes first switch off the power, remove the power cable for safety, and remove The King's top cover. Gently pull the tubes from their sockets and replace using the cotton gloves supplied. Replace the top cover, reconnect the power cable and power on.

The heaters for both tubes are connected in series; if one of them is defective the other will not function.

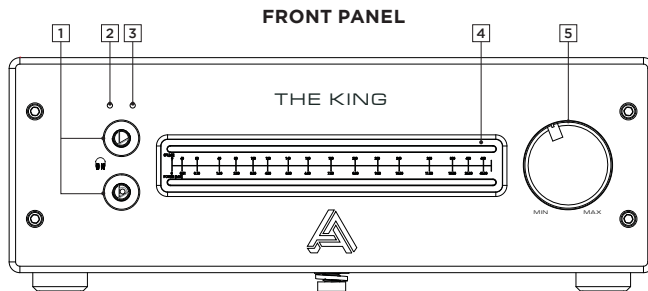
WARNING: Do not use any tube types other than those indicated above. Doing so will void the warranty.

TIP: If you leave your cables connected to The King for long periods of time, Audeze recommends that every six months you power down The King and disconnect and reconnect the cables several times; the wiping action cleans the RCA terminals of oxidation.

NOTE: Keep the product, accessories and packaging out of the reach of children.

Real-Time Metering

The front panel LED SPL meters are calibrated to show actual SPLs when used with the LCD-4. The 75-segment LEDs display true SPLs from 90dB to 120dB. The last red LED segment warns of SPLs greater than 120dB. You should NEVER see this red LED if you value your hearing!



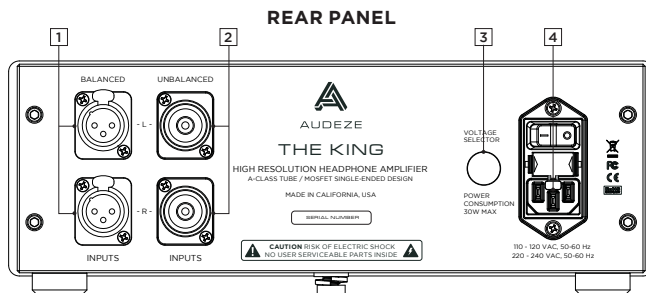
1. Quarter-Inch TRS Headphone Connectors - Two output connectors allows sharing your music or comparing two headphones.
2. Overload Protection - A red LED indicates that an overload condition has occurred; the output relay will disconnect the headphone as long as the problem persists.
3. Low Impedance (Short) - A yellow LED indicates that the connected headphone impedance is lower than 10 ohms; the output relay will not activate with this load.
4. LED SPL Meter - Two rows of green LEDs show momentary SPL levels on the LCD-4; peak level follows current level with a slight hold. The scale is held in place with magnets and is removable.
5. Volume Control



Connecting the King Headphone Amplifier

Connect the left and right source component output cables to the left and right RCA or XLR analog inputs on the back of The King. XLR inputs are provided for balanced devices but The King is internally wired for single-ended operation and only the positive XLR input is active. The negative XLR input is terminated to ground through a 22k ohm resistor.

Connect the AC power cord, and then your headphone to the standard quarter-inch stereo output connector on the front panel. Be sure to keep the volume low on first listen.



1. 3-Pin XLR Connectors - XLR inputs are provided for balanced devices but The King is wired for single-ended operation.
2. RCA Connectors - Main inputs, runs parallel to the XLR connectors.
3. Voltage Selector - Changes mains voltage from 110-120V AC to 220-240V AC depending on local line voltage.
4. Power Input - Standard three-prong IEC connector with line filter and fuse drawer. For 110V use 1.6A slow blow fuse, for 220V use 1A slow blow fuse.

Unpacking

Take care handling The King when unpacking and placing it in your system. Be aware of the weight (20lbs/9Kg) when choosing an appropriate location for it. Be sure to check if the package arrives undamaged with everything safely packed.

Package Includes

- Audeze The King Headphone Amplifier
- User Guide and warranty
- Certificate of authenticity
- 6-ft AC power cord
- 1 Allen key for top cover
- 1 Pair of cotton gloves

Specifications

Type	Class-A hybrid, tube input, MOSFET drivers and output
Tube Complement	Stock: E88CC, matched pair
	Compatible: 6922, 6DJ8, 6H23, 7308, 7DJ8, ECC88
Output Power	6W into 20 ohms
Frequency Response	10 Hz-100 kHz, -0.1dB
Total Harmonic Distortion	< 0.1%, 20 Hz-20 kHz at full output
SNR	120dB, A-weighted
Output Impedance	0.3 ohms
Input Impedance	10k ohms
Power requirements	110-120V AC, 50/60Hz, 220-240V AC, 50/60Hz, externally switchable
Fuse	1.6A slow blow for 110-120V AC, 1A slow blow for 220-240V AC
Power Consumption	30W maximum
Weight	20lbs/9Kg

Troubleshooting

Symptom	Solution
No lights	1. Check that power cable is connected to working AC outlet. 2. Check the fuse. 3. If both are OK, contact Audeze support.
No sound	1. Check signal source connection. 2. Check headphone and cable. 3. Check to see faint red glow in tubes; if you can't see the glow one of the tubes is defective or heater power is missing. 4. If everything above is OK contact Audeze support.
Red light visible through the top cover	1. Normal for first 75 seconds after power-on. 2. If yellow LED on Front Panel is lit, impedance lower than 10 ohms is connected. Disconnect headphone cable, yellow LED should be off and after maximum 75 seconds red light should turn to green. 3. If red light continues after that contact Audeze support.
Red LED on front panel is on	1. Reduce volume until red LED is off. 2. If reducing volume doesn't help, contact Audeze support.
Yellow LED on front switching on	This occurs only during initial power-on phase, if it persists: 1. Disconnect headphone and check the cable, there might be a short or the impedance of the headphone is below 10 ohms. 2. If both cable and headphones are OK, contact Audeze.
Volume is low even at maximum or distorted sound	1. Check your signal source. 2. Check your tubes for faint glow. 3. Check your tubes on tube tester if possible, they may have reached the end of their life cycle when the cathode is depleted (emission <50%). 4. If all above OK, contact Audeze support.

Warranty

The Audeze product comprising The King Headphone Amplifier (an "Audeze Product") is under warranty for three (3) years from the date of original retail purchase (the "Warranty Period").

Warranty on tubes is limited to 90 days and excludes physical damage other than from shipping. Note that shipping damage claims must be made within one week.

What's covered: Audeze warrants to the original purchaser that the Audeze Product will be free of defects related to manufacturing, parts, materials, and workmanship under normal and accepted use in accordance with Audeze's published guidelines. Audeze's guidelines include, but are not limited to, information contained in technical specifications, user manuals and service communications.

What's not covered: This warranty does not cover defects resulting from improper or unreasonable use or maintenance; cosmetic damage, including but not limited to scratches, dents and broken parts; failure to follow operating instructions; accident; excess moisture; excess temperature; power surges; connections to improper voltage supply; unauthorized alteration or modification of original condition; damage caused by use with non-Audeze products; products purchased from unauthorized dealers; or defects incurred during transportation for which claims must be presented to the carrier.

What we will do: We will, at our sole discretion and to the extent permitted by law, repair or replace (using new or refurbished Audeze Parts) Audeze Products that are under warranty for the period listed, from the date of original retail purchase.

What we will not do: Except as stated below, pay shipping, insurance or transportation charges from you to us, or any import fees, duties and taxes. If the Audeze Product is covered by this warranty and is provided to us within the first 30 days of the Warranty Period, then we will reimburse you for shipping charges.

If the Audeze Product you send to us is not covered by this warranty, you will be charged the shipping costs. If you are outside the USA and purchased this product directly from Audeze you must claim your warranty service from Audeze, not from a foreign dealer or distributor.

Warranty eligibility statement: To be eligible for service under this warranty you must include with the repair item(s) a valid bill of sale from an authorized Audeze retailer detailing the following information:

Retailer's name
Original date and proof of purchase
Model or SKU number of the product purchased
Serial Number

Additional product information and limitations

Warranty replacements: Audeze strives to improve the performance of our products, and therefore reserves the right to make changes to our design/specifications/materials at any time without notification. Audeze may, at its discretion, choose to replace the Audeze Product completely with a new or remanufactured product. In the event of product obsolescence, a suitable replacement will be chosen based upon the features, the intended use (as determined by Audeze) and the retail price of the original Audeze Product.

Product: All warranty replacements are guaranteed for 90 days or until the conclusion of the Warranty Period of the original Audeze Product, whichever period is greater. Audeze does not provide advance replacements for Audeze Products.

Determining authority: Audeze will be the final determining authority for all potential warranty claims for service and/or replacement. How to claim warranty service:

- A) If you reside in the United States and purchased direct from Audeze.com email Support@Audeze.com.
- B) If you reside in the United States and purchased from an authorized Audeze dealer contact your dealer or Support@Audeze.com.
- C) If you are an international customer who has purchased through your local dealer contact your local dealer or distributor for warranty service.
- D) If you are an international customer who purchased direct from Audeze.com you must contact Audeze at Support@Audeze.com for service and support. Any shipment back to Audeze for repair will be at the expense of the customer.

You will need your serial number and proof of purchase to complete any RMA process.

Other conditions/rights: EXCEPT AS PROVIDED IN THIS WARRANTY AND TO THE MAXIMUM EXTENT PERMITTED BY LAW, AUDEZE IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING BUT NOT LIMITED TO LOSS OF USE; LOSS OF REVENUE; LOSS OF ACTUAL OR ANTICIPATED PROFITS; LOSS OF GOODWILL; LOSS OF, DAMAGE TO, COMPROMISE OR CORRUPTION OF DATA; OR ANY INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE HOWSOEVER CAUSED INCLUDING THE REPLACEMENT OF EQUIPMENT AND PROPERTY.

THE FOREGOING LIMITATION SHALL NOT APPLY TO DEATH OR PERSONAL INJURY CLAIMS, OR ANY STATUTORY LIABILITY FOR INTENTIONAL AND GROSS NEGLIGENT ACTS AND/OR OMISSIONS. SOME STATES IN THE USA OR OTHER COUNTRIES. DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

TO THE EXTENT PERMITTED BY LAW, THIS WARRANTY AND THE REMEDIES SET FORTH ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL, WRITTEN, STATUTORY, EXPRESS OR IMPLIED. AUDEZE DISCLAIMS ALL STATUTORY AND IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND WARRANTIES AGAINST HIDDEN OR LATENT DEFECTS, TO THE EXTENT PERMITTED BY LAW. IN SO FAR AS SUCH WARRANTIES CANNOT BE DISCLAIMED, AUDEZE LIMITS THE DURATION AND REMEDIES OF SUCH WARRANTIES TO THE DURATION OF THIS EXPRESS WARRANTY AND, AT AUDEZE'S OPTION, THE REPAIR OR REPLACEMENT SERVICES DESCRIBED HEREIN. SOME STATES (INCLUDING COUNTRIES AND PROVINCES) DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY (OR CONDITION) MAY LAST, SO THE LIMITATION DESCRIBED ABOVE MAY NOT APPLY TO YOU.

Audeze LLC

<http://support.audeze.com>

Certifications

The aim of EU's Waste Electrical and Electronic Equipment (WEEE) directives 2002/96/EC and the RoHs directive is to reduce waste from electric and electronic products and to recycle as much of the materials as possible. Any remaining waste should be virtually risk-free to handle and the risk of hazardous emissions should be minimal.

Recycling

This product must either be sent for repairs and reused or sent for treatment and recycling through an approved disposal system. For recycling and waste disposal agents for Audeze products, contact us at support@audeze.com.

Toxic or Hazardous Substances and Elements 有毒或有害物质和元素						
Part Name 部件名称	Lead 铅 (Pb)	Mercury 汞 (Hg)	Cadmium 镉 (Cd)	Hexavalent Chromium 六价铬 (Cr6)	Polybrominated Biphenyls 多溴联苯 (PBB)	Polybrominated Diphenyl Ethers 多溴联苯醚 (PBDE)
THE KING	○	○	○	○	○	○
○: Indicates that this toxic or hazardous substance is below the specified limits as described in SJ/T11363-2006. ○: 表示该有毒物质或元素在SJ/ T 11363-2006 标准规定的限量要求以下。 ×: Indicates that this toxic or hazardous substance is above the specified limits as described in SJ/T11363-2006. ×: 表示该有毒物质或元素超出SJ/ T 11363-2006 标准规定的限量要求。						



No Toxic Substance

