



**KRELL**

*The Leader in Audio Engineering*

**KAV-500  
MULTI-CHANNEL  
POWER AMPLIFIER**

v 99.0

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**OWNER'S REFERENCE**

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## **CE MARKING**

This product complies with the EMC directive (89/336/EEC) and the low-voltage directive (73/23/EEC).

This product is manufactured in the United States of America. KRELL® is a registered trademark of KRELL Industries, Inc., and is restricted for use by KRELL Industries, Inc., its subsidiaries, and authorized agents.

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## **INTRODUCTION**

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Thank you for your purchase of the KRELL KAV-500 Multi-Channel Power Amplifier. The modular nature of the KAV-500 makes it the ideal amplifier for the variety of configurations encountered in music and home theater systems.

The KAV-500 can be configured with two to five channels of amplification. The operation of the amplifier remains the same whether it is equipped with two, three, four, or five amplifier channels. Each amplifier channel is rated at 100 watts @ 8Ω. Any two adjacent channels can be bridged together to form one 400 watt channel. The flexibility was a primary design feature for the KAV-500. The result is an amplifier that can be tailored to meet the requirements for a great variety of system arrangements.

To obtain the best performance from your KAV-500, careful attention should be paid to its placement, installation and operation. A thorough understanding of these details will help insure satisfactory operation and long life for the KAV-500 and related system components.

The Owner's Reference is divided into several sections, each designed to perform a different function. As you read through the Owner's Reference you will become better acquainted with the features and functions that make the KAV-500 a superb value. A Troubleshooting section is included with solutions to potential problems. Should you have any questions or suggestions, please feel free to contact your authorized dealer or the KRELL staff for assistance.

In the unlikely event that your KAV-500 should require service, you will be pleased to know that it is backed by a comprehensive Customer Satisfaction policy and one of the most advanced service facilities in the industry. For detailed information on the terms and conditions of service, please consult your warranty registration card, or your KRELL Dealer or Distributor.

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## **UNPACKING AND ASSEMBLY**

After opening the box and removing the top layer of foam, the KAV-500 and the following items will now be visible:

- 1 5/32" hex wrench
- 1 T-10 Torx wrench
- 1 T-15 Torx wrench
- 2 Bridging jumpers
- 1 20 Amp slow blow fuse (100/120 Volt only)
- 1 12 Amp slow blow fuse (200/220/240 Volt only)
- 4 12 Amp standard fuses
- 1 12 VDC (12 V trigger) cable
- 1 AC power cord
- 1 Owner's Reference
- 1 Warranty card

*NOTE: If any of these items are not included please contact your authorized KRELL dealer.*

*NOTE: Save all packing materials. If you must ship your KAV-500 in the future, re-pack the unit in its original packaging to prevent shipping damage.*

## **BASIC INSTALLATION**

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Place the unit on a firm level surface free from excessive dirt or moisture. When using custom racks or cabinetry, keep in mind the weight and ventilation requirements for this amplifier. It is preferable to run long balanced interconnect cables to the amplifier and keep speaker cable length to a minimum. Although the KAV-500 is designed to have minimal interaction with speaker cable, long runs of cable add impedance to the load the amplifier must drive. This is true regardless of the speaker cable's gauge.

## **CABINETS CONSIDERATIONS**

When the KAV-500 is in use, it can become quite warm. Therefore, the KAV-500 should be installed in a location that provides unobstructed ventilation. If you must locate the unit within a closed cabinet, extra ventilation is advised. This can often be accomplished with cabinet shelf spacing or alternate unit placement. In more extreme instances the use of small fans can aid in removing excessive heat from internal spaces. Consult your dealer for assistance.

Generally, with the front and rear of a cabinet open, one inch of clearance on each side and two inches of vertical clearance will provide adequate ventilation.

Since the bottom of the amplifier gets quite hot, caution should be used when placing the amplifier on deep pile carpeting, as discoloration may result through prolonged use.

## **AC CONSIDERATIONS**

While the KAV-500 does not require a dedicated circuit, we strongly advise against any connections through extension cords or multiple AC adapters. High quality 15 amp line conditioners or grounded AC strips are acceptable.

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## INPUT AND OUTPUT CONNECTIONS

*CAUTIONS: When making connections to this component or any other, make sure the power amplifier is off and the preamplifier/processor is in the mute or stand-by mode.*

The wiring to and from the amplifier, and all components in general, should be arranged in a neat, organized manner. Specifically, AC wires should be separated from audio cables. This practice avoids hum or other unwanted noise from being introduced into the system.

1. Connect the speaker cables to the amplifier's output terminals.

The KAV-500 utilizes standard binding posts for each amplifier channel. These connectors accept bare wire, banana plugs, pins, or spade lugs. The red terminal is used for the positive connection and the black terminal is used for the negative connection.

*CAUTION: Make sure all cable terminations are of the highest quality, free from frayed ends, shorts, or cold solder joints.*

2. Connect the interconnect cables from your preamplifier/processor to the inputs of the KAV-500.

Each KAV-500 channel has balanced and single-ended inputs. The balanced inputs use standard three pin XLR connectors and the single-ended inputs use standard RCA connectors. We recommend use of balanced interconnects; they reduce noise and do not incur significant sonic loss due to extreme cable lengths.

Use of a balanced connection in any channel will increase gain by 6 dB in that particular channel. This gain increase is a characteristic of balanced circuitry. For systems that include both balanced and single-ended connections, each KAV-500 channel is equipped with a gain switch, located next to the input connectors, to compensate for this difference. Generally, the appropriate position of this switch is dictated by the inputs used. The following two guidelines address the vast majority of systems:

a. All balanced or all single-ended connections:

All KAV-500 channel switch settings should be at either 0 dB or +6 dB. This choice will depend on the sensitivities of the speakers connected to the amplifier.

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b. Combination of balanced and single-ended connections:

All channels using balanced connections should be set at 0 dB. The channels utilizing single-ended connections should be set at +6 dB.

These settings are meant as starting points. Individual speaker sensitivities, processor adjustment capabilities and listening room characteristics are among the variables that dictate the final switch settings for each KAV-500 channel. Please consult your KRELL dealer for additional assistance.

*CAUTION: Use only one input to each amplifier channel at a time. The KAV-500 is shipped with shorting pins in the XLR inputs. These pins should remain in the XLR inputs if you are operating a KAV-500 channel in the single-ended mode. When the shorting pin is inserted, pins one and three are shorted together. The shorting pins must be removed to connect a KAV-500 channel for balanced operation.*

The pin assignments for the XLR connectors are:

- Pin 1      Shield (ground)
- Pin 2      Non-inverting input (hot)
- Pin 3      Inverting input

3. Power up the source components, preamplifier/processor and then engage the power switch on the KAV-500.

The KAV-500 power supply incorporates a slow start protection circuit that prevents excessive current from reaching the audio circuitry upon initial turn on.

After pressing the power switch, the pilot light will illuminate. There is a short delay, followed by an audible click. This click is the protection circuitry disengaging. The amplifier is now ready for operation. Should you have any questions regarding system set-up, contact your dealer or KRELL.



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### **USING A DEDICATED AC WALL OUTLET AND SWITCH**

The KAV-500 Multi-Channel Power Amplifier can be powered on from an AC wall receptacle with a dedicated wall switch rather than from the front panel power button or optional remote control. Please contact your authorized KRELL dealer, distributor, or KRELL for more information before you connect your amplifier to a dedicated AC wall outlet with a switch

### **12 VDC POWER OUT AND IN (12 V TRIGGER)**

The KAV-500 is equipped with an output that sends 12 VDC power on/off (12 V trigger) signals to other KRELL components and an input that recognizes 12 VDC power on/off signals from other KRELL components and devices that incorporate a 12 V trigger. This allows the remote turning on and off of the KAV-500 with the power activation of another KRELL component and with other components used in a custom installation.

## **CONFIGURATION CHANGES**

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The modular nature of the KAV-500 makes changing the original configuration of the amplifier a simple procedure. Configuration changes are made by adding, bridging or removing KAV-500 amplifier channels.

### **IMPORTANT**

Removing the cover to reconfigure for bridged operation and to change fuses (see Troubleshooting) are the **ONLY** instances you are authorized to remove the cover of any KRELL component without voiding your Warranty. For more information on product limitations and restrictions, see Warranty page.

#### **1. To install an additional amplifier channel.**

- a. Turn the amplifier off.
- b. Remove the two screws on the top rear edge of the amplifier channel and the two screws on the bottom rear edge of the amplifier channel that secure the blank panel to the rear of the KAV-500 at the new amplifier channel location.
- c. Each amplifier channel is equipped with three male banana plugs. Slide the amplifier channel into the chassis until the three plugs lock into place at the rear of the front panel.
- d. With the supplied 5/32" hex wrench, install the ten hex bolts on the bottom of the amplifier, firmly securing the T-bar heatsink to the chassis. Do not tighten the bolt until all ten are threaded.
- e. Install the two screws on the top rear edge of the amplifier channel and the two screws on the bottom rear edge of the amplifier channel. These screws are situated on the plate to which the binding posts are mounted.
- f. Connect input and output cables.
- g. Set the gain switch following the guidelines outlined previously.
- h. Power up all source and control components and then the KAV-500.

#### **2. Bridging two amplifier channels**

Any two adjacent channels can be combined, or bridged, to form one 400 watt channel. The KAV-500 can support two bridged 400 watt channels.

- a. Turn the amplifier off.
- b. Remove the top cover using the supplied T-10 and T-15 Torx wrenches.

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- c. Locate the bridging pins on each amplifier channel near the plate to which the binding posts are mounted. Facing the rear of the KAV-500, each amplifier channel is equipped with two bridging pins, one on each side. These pins are labeled J5 on the left side and J4 on the right side of each amplifier channel.
  - d. Facing the rear of the KAV-500, connect the supplied bridging jumper from the J4 pin on the left side amplifier channel to the J5 pin on the right side amplifier.
  - e. Facing the rear of the amplifier, connect the input cable to the XLR or the RCA input on the amplifier channel positioned to the left side of the pair to be bridged.
  - f. Connect the positive speaker lead (typically red) to the positive binding post on the amplifier channel to which the input cable has been connected. Facing the rear of the amplifier, connect the negative speaker lead (typically black) to the positive binding post on the amplifier channel positioned to the right side of the pair.

*NOTE: When operating two channels together in bridged mode via singled-ended (RCA) cables, be sure to remove the shorting pin from the balanced (XLR) input on the amplifier card positioned to the right side of the pair to be bridged.*

### **3. To remove an amplifier channel.**

Should a problem occur, it might become necessary to remove an amplifier channel. Please consult the trouble-shooting section of this Owner's Reference before removing any amplifier channels.

*CAUTION: The amplifier may be hot if it has recently been operating.*

- a. Turn the amplifier off.
- b. With the supplied 5/32" hex wrench, remove the ten hex bolts on the bottom of the amplifier that coincide with the amplifier channel to be removed.
- c. Using the supplied T-10 Torx wrench, remove the two screws on the top rear edge of the amplifier channel and the two screws on the bottom rear edge of the amplifier channel. These screws are situated on the plate to which the binding posts are mounted.
- d. Pull firmly on the RCA jack to remove the amplifier channel.

## **TROUBLESHOOTING**

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### **SYSTEM NOISE CONSIDERATIONS**

AC grounding often becomes critical when connecting high performance audio gear. When mixing and matching audio components, each with their own ground potentials, a low frequency hum can become present in one or both speakers. This can often occur when introducing a new component into the system.

If there is a low frequency hum coming from the speakers when the KAV-500 is connected into the system, follow these simple troubleshooting steps:

1. Check all input and output connections, making sure they are of sound construction. With the amplifier off, remove the interconnect wiring and turn the amplifier back on. If the hum disappears, shut the amplifier off and reinsert one of the interconnect cables and turn the amplifier back on. If the hum is present with one or both interconnects inserted, there may be a defective cable. Have the interconnect cabling checked before proceeding.
2. If the interconnects prove to be fine, you may be experiencing a ground loop. This can often be easily eliminated. Contact your dealer or KRELL for assistance.

### **POTENTIAL AMPLIFIER PROBLEMS**

1. If the amplifier will not turn on:
  - a. Check the power supply fuse located next to the AC power cord jack. Replace the fuse if the internal wire is broken or discolored. If the fuse fails a second time, call KRELL.

*NOTE: Use a fuse of the same value only when replacing original fuse.*

2. If one or more of the amplifier channels fail to produce sound:
  - a. Disconnect all input and output connections.
  - b. Check speaker fuse located next to the speaker binding posts. Replace the fuse if the internal wire is broken or discolored. If the fuse fails a second time, call KRELL.

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- c. If the amplifier channel is still not producing sound, remove the top cover and check the fuses located toward the rear of the amplifier channel. Replace either fuse if the internal wire is broken or discolored. If either fuse fails a second time, call KRELL.
  - d. Reinstall the top cover and reconnect both inputs and outputs.
  - e. If the amplifier channel is still not producing sound, call KRELL.

## WARRANTY

This Krell product has a limited warranty of five years for parts and labor on circuitry. Should this product fail to perform at any time during the warranty, Krell will repair it at no cost to the owner, except as set forth in this warranty.

The warranty does not apply to damage caused by acts of God or nature.

The warranty on this page shall be in lieu of any other warranty, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose. There are no warranties which exceed beyond those described in this document. If this product does not perform as warranted herein, the owner's sole remedy shall be repair. In no event will Krell be liable for incidental or consequential damages arising from purchase, use, or inability to use this product, even if Krell has been advised of the possibility of such damages.

Proof of purchase in the form of a bill of sale or receipted invoice substantiating that the unit is within the warranty period must be presented to obtain warranty service. The warranty begins on the date of retail purchase, as noted on the bill of sale or receipted invoice from an authorized Krell dealer or distributor.

The warranty for Krell products is valid only in the country to which they were originally shipped, through the authorized Krell distributor for that country, and at the factory. There may be restrictions on or changes to Krell's warranty because of regulations within a specific country. Please check with your distributor for a complete understanding of the warranty in your country.

If a unit is serviced by a distributor who did not import the unit, there may be a charge for service, even if the product is within the warranty period.

Freight to the factory is your responsibility. Return freight within the United States (U.S.A.) is included in the warranty. If you have purchased your Krell product outside the U.S.A. and wish to have it serviced at the factory, all freight and associated charges to the factory are your responsibility.

Krell will pay return freight to the U.S.A.-based freight forwarder of your choice. Freight and other charges to ship the unit from the freight forwarder to you are also your responsibility.

Krell is not responsible for any damage incurred in transit. Krell will file claims for damages as necessary for units damaged in transit to the factory. You are responsible for filing claims for shipping damages during the return shipment.

Krell does not supply replacement parts and/or products to the owner of the unit. Replacement parts and/or products will be furnished only to the distributor performing service on this unit on an exchange basis only; any parts and/or products returned to Krell for exchange become the property of Krell.

No expressed or implied warranty is made for any Krell product damaged by accident, abuse, misuse, natural or personal disaster, or unauthorized modification.

**Any unauthorized voltage conversion, disassembly, component replacement, perforation of chassis, updates, or modifications performed to the unit will void the warranty.**

The operating voltage of this unit is determined by the factory and can only be changed by an authorized Krell distributor or at the factory. The voltage for this product in the U.S.A. cannot be changed until six months from the original purchase date.

In the event that Krell receives a product for warranty service that has been modified in any way without Krell authorization, all warranties on that product will be void. The product will be returned to original factory layout specifications at the owner's expense before it is repaired. All repairs required after the product has been returned to original factory specifications will be charged to the customer, at current parts and labor rates.

All operational features, functions, and specifications and policies are subject to change without notification.

**To register your product for warranty benefits, complete and return the Warranty Registration Card enclosed in the shipping box within 15 days of purchase. Thank you.**

## **RETURN AUTHORIZATION PROCEDURE**

If you believe there is a problem with your component, please contact your dealer, distributor, or the Krell factory to discuss the problem before you return the component for repair. To expedite service, you may wish to complete and e-mail the Service Request Form in the Service Section of our website at:

[www.krellonline.com](http://www.krellonline.com)

### **To contact the Krell Service Department**

**TEL** 203-799-9954  
Monday-Friday  
9:00 AM to 5:00 PM EST

**FAX** 203-799-9796

**E-MAIL** [service@krellonline.com](mailto:service@krellonline.com)

**WEBSITE** [www.krellonline.com](http://www.krellonline.com)

### **KAV-500**

PRODUCT

SERIAL NUMBER

**To return this product to Krell, please follow this procedure so that we may serve you better:**

1. Obtain a Return Authorization Number (R/A number) and shipping address from the Krell Service Department.
2. Insure and accept all liability for loss of or damage to this product during shipment to the Krell factory and prepay all shipping charges. Please see the Warranty page in this manual, concerning liability for shipping damage and shipping charges.

This product may also be hand delivered if arrangements with the Service Department have been made in advance. Proof of purchase may be required for warranty validation at the time of hand delivery.

### **IMPORTANT**

*Use the original packaging to ensure safe transit of this product to the dealer, distributor, or factory. Krell may, at its discretion, return this product in new packaging and bill the owner for such packaging if the product received by Krell was boxed in non-standard packaging or if the original packaging was so damaged that it was unusable. If Krell determines that new packaging is required, the owner will be notified before this product is returned.*

To purchase additional packaging, please contact your authorized Krell dealer, distributor, or the Krell Service Department.

## **SPECIFICATIONS**

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<b>POWER/CHANNEL:</b>	<b>8 ohms</b>	<b>4 ohms</b>
5 channels	100 watts	200 watts
4 channels	120 watts	240 watts
3 channels	120 watts	240 watts
2 channels	120 watts	240 watts

Continuous, all channels driven

**SIGNAL TO NOISE:** -121dB; "A" wgt

**DISTORTION:** <.03% THD

**GAIN:** 23dB single-ended, 29dB balanced; Gain switch set to 0

**INPUT IMPEDANCE:** 100k ohms, both inputs

**TRANSFORMER:** 1,000 VA

**REMOTE CONTROL:** 1 12 VDC input (12 V trigger) with a 3.5" mini plug

**DIMENSIONS:**

**Unit:**

19" wide

17" Deep

6.25" High

**WEIGHT, 5 CHANNEL KAV-500:**

Unit only 47 lbs.

Packed 58 lbs.

*All operational features, functions, specifications and policies are subject to change without notification.*