



# **KRC-HR**

## **PREAMPLIFIER**

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**OWNER'S REFERENCE**

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## **INTRODUCTION**

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Thank you for your purchase of the KRELL KRC-HR remote control preamplifier. The KRC-HR combines refinements of the original KRC with a radical approach to volume control circuitry. The HR designation signifies HIGHEST RESOLUTION due to the substantial improvement in sonic quality provided by our most sophisticated electronic volume control. The unit also has a Theater-Throughput, which allows easy installation of the unit within a home theater system. Please see page 4 for details on setting the KRC-HR for the Theater Throughput function prior to installation.

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

This 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 KRC-HR a superb value. A Question and Answer section is included where answers to common questions are provided. If you have any questions or suggestions, please do not hesitate to contact your authorized dealer or the KRELL staff for assistance.

In the unlikely event that your KRC-HR requires 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 contact your authorized KRELL Dealer or Distributor.

1. Open the box and remove the top layer of foam.
2. Remove the KRC-HR and the foam tray surrounding it. The following items will now be visible:
  - 1 KRC-HR power supply
  - 1 KRC-HR remote control
  - 1 8 ft. DC power cable
  - 1 T-10 torx (for remote)
  - 1 T-15 torx
  - 1 AC power cord

If any of these items are not included, please contact your authorized dealer immediately for assistance.

3. Remove from the plastic bags, the preamplifier, power supply, remote control and power supply cable connectors.

*NOTE: Save all packing materials. If you must ship your KRC-HR in the future, repack the unit with the power supply and remote control in its original packing to prevent damage in transit.*

*CAUTION: Do not connect the power cord from the power supply into the AC mains before completing the 'Installation' section.*

## **THEATER-THROUGHPUT SETUP**

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*NOTE:* If the KRC-HR must be handled after the top cover has been removed, the unit must be held only on the sides of the chassis. Never move the KRC-HR while the top cover is off by holding the front panel.

When reinstalling the top cover, insert the four screws into the chassis sides first and lightly tighten them. Install the screws in the top surface and tighten them lightly. Then tighten all screws firmly, starting with the side screws and finishing with the top screws.

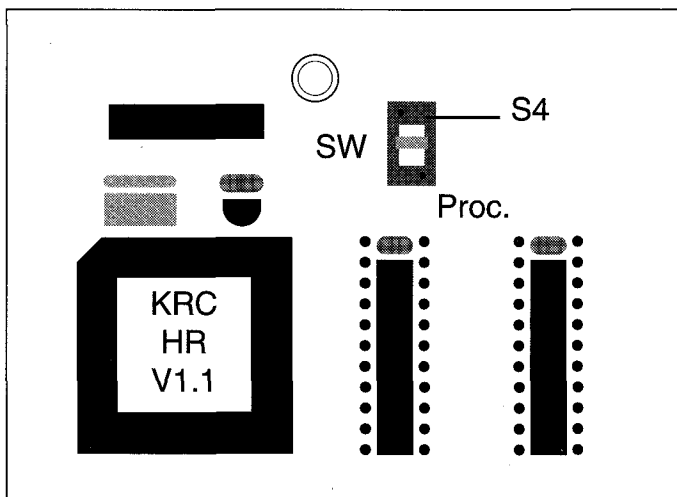
### **SETTING THE S4 INPUT FOR THROUGHPUT FUNCTIONS**

This procedure should be done with the unit OFF.

- a. Remove the KRC-HR top cover screws with the T-15 Torx wrench supplied.
- b. Locate the switch towards the front of the board that is labeled S4/Proc. Set the dip switch to the proc (processor) position.

*NOTE:* The default position of this switch sets the S4 input for standard operation. In this position, S4 is identical to the S1, S2 and S3 inputs.

- c. Place the top cover back on the KRC-HR and insert the cover screws.



1. Place the unit on a firm level surface free from excessive dirt or moisture. The KRC-HR is not particularly hum sensitive, allowing other components to be placed on or around it. If the optional phono card is installed in the KRC-HR, some components such as Digital to Analog converters, power supplies or components with motors can induce hum into the phono stage.
2. Place the power supply in a location away from hum sensitive components such as turntables or phonostages. Connect the male end of the DC power cable into the computer-type connector on the back of the supply. **DO NOT PLUG THE POWER SUPPLY INTO THE AC OUTLET AT THIS TIME.**
3. Connect the female end of the DC power cable to the computer-type connector on the back of the KRC-HR.

*CAUTION: ALWAYS CONNECT THE DC CABLE TO THE BACK OF THE KRC-HR AND TO THE POWER SUPPLY BEFORE YOU PLUG THE POWER SUPPLY INTO THE WALL OUTLET. FAILURE TO FOLLOW THE CONNECTION SEQUENCE WILL CAUSE DAMAGE TO THE KRC-HR.*

4. Plug the AC cord into the receptacle on the back of the power supply. Plug the remaining end into the wall AC receptacle.

*NOTE: While the KRC-HR has superb regulation and does not require a dedicated AC circuit, we strongly advise against any connections through extension cords or multiple AC adaptors. High quality 15 amp line conditioners or grounded AC strips are acceptable.*

5. When the KRC-HR power supply is plugged into the wall AC outlet the preamplifier will go through its power-up sequence:
  - a. The volume control will automatically rotate to the Off position, fully counterclockwise.
  - b. The Select section LEDs on the KRC-HR will remain unlit until an input or function is selected.
  - c. The Protection relays will open once the monitoring circuits have determined there are no input or output disturbances. See the PROTECTION CIRCUITRY section of this manual for more information.
6. The power-up sequence lasts about 15 seconds. Once completed, the KRC-HR can be operated from the front panel or the remote control.

## **INPUT AND OUTPUT CONNECTIONS**

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*CAUTIONS: When making connections to this component or any other, make sure that the power amplifier is OFF. Make sure all cable terminations are of the highest quality, free from frayed ends, shorts or cold solder joints.*

1. Connect the left and right inputs of your source equipment to the inputs on the KRC-HR. The KRC-HR is equipped with 4 single-ended inputs, 2 balanced capable inputs and 1 single-ended tape input.
2. If the optional phono card is included in your KRC-HR, the turntable's phono leads will be connected to the PH input. If the phono card is not in the KRC-HR, the PH input remains a standard line-level input.
3. If the Theater-Throughput option is to be used, connect the Main L/R outputs of the A/V surround processor to the S4 input.

When S4 is selected, the KRC-HR will act as a unity gain throughput, (no change in level), for this input. All control of level will now be performed by the A/V surround processor.

4. Connect the main output of the KRC-HR to the input of your power amplifier. The KRC-HR has both balanced outputs via XLR connectors and single-ended outputs via RCA connectors.

The pin assignment for the XLR inputs and outputs are:

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

The RCA center conductor for each channel is wired in parallel with pin 2. Only one of the preamp outputs should be connected to an individual amplifier. They can be used simultaneously to drive amplifiers in two different systems.

When connecting inputs or outputs to the KRC-HR, remember that the balanced connections will have 6dB more gain than the single-ended connections. When level matching is critical in your installation, keep this specification in mind.

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## **REAR PANEL DESCRIPTION**

### **INPUTS**

Four single-ended inputs via standard RCA connectors

**PH** (Line level input if phono board is not installed)

**S-2**

**S-3**

**S-4**

Two balanced inputs via standard XLR connectors

**B-1**

**B-2**

Tape input via standard RCA connectors

### **MAIN OUTPUTS**

Single ended RCA output connectors

Balanced XLR output connectors

Balanced XLR output pin configuration:

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

### **TAPE OUTPUT**

Record output via RCA connectors



## **BASIC PREAMPLIFIER OPERATION**

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The KRC-HR has the flexibility of a remote controlled device but does not require special attention in order to perform simple functions. The KRC-HR will function much like other KRELL preamplifiers. The unit can be operated from the front panel controls or via the remote control. All functions available on the front panel can also be accomplished from the KRC-HR remote control. This provides the ability to sit in your favorite listening position while controlling all system start-up preamplifier functions.

1. Press the Mute button on the KRC-HR.
2. Turn the volume control fully counterclockwise to the OFF position.
3. Turn the power amplifier ON.
4. Choose a listening source and select that input by pushing the corresponding input button on the KRC-HR.
5. Start play of the source.
6. Turn the volume control clockwise until you reach a comfortable listening level.
7. When changing sources, return to the Mute position and/or lower the volume. This insures that the next source you play will not be potentially damaging to your system with a high output level.

### **THEATER THROUGHPUT**

The S4 input of the KRC-HR can be set to operate as a unity gain stage. This removes the KRC-HR volume control from the signal path. Volume control is then transferred from the KRC-HR to an A/V surround processor connected to the S4 input. This feature greatly simplifies the installation of a surround-sound processor into a high performance audio/video surround system.

If the Theater-Throughput option is activated, select S-4 when your home theater/surround system will be used. In this mode, all control of volume is performed by the A/V surround processor connected to that input. Specifically, Level, Balance and Gain are disabled on the KRC-HR for the S-4 input only when the Theater-Throughput is engaged. Mute and Tape (monitor input) will function normally.

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## **FRONT PANEL DESCRIPTION**

### **INPUT SELECTION**

<b>PH</b>	Selects phono input (line level input when phono board not installed)
<b>S-2</b>	Selects S-2 input
<b>S-3</b>	Selects S-3 input
<b>S-4</b>	Selects S-4 input
<b>B-1</b>	Selects B-1 input
<b>B-2</b>	Selects B-2 input

### **FUNCTIONS**

<b>TAPE</b>	Selects tape input and allows monitoring of tape return
<b>PHASE</b>	Inverts absolute polarity of the main output 180 degrees LED illuminates when polarity is reversed
<b>GAIN</b>	Low 6dB, High 12dB. LED illuminates in High position
<b>MUTE</b>	No signal output when LED is on
<b>L BALANCE</b>	Left channel attenuation in 1 dB increments and OFF
<b>R BALANCE</b>	Right channel attenuation in 1 dB increments and OFF
<b>VOLUME</b>	Stepmotor driven optical encoder

## **REMOTE CONTROL**

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1. When a function button on the remote control is pressed and held, the blue pilot LED will flash on the KRC-HR. When the button is released, the flashing stops. This indicates that the KRC-HR has received a command.
2. The functions of the remote control are identical to the front panel functions.

### **BATTERY INSTALLATION**

Batteries should be replaced when the KRC-HR functions from the remote control become intermittent.

1. Remove the four hex head screws from the back of the control, with the T-10 torx supplied.
2. Remove the back plate to expose the battery storage compartment.
3. Replace batteries (Refer to the polarity (+-) markings while inserting the batteries for proper installation).
4. Replace the back plate and insert the four hex head screws.

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## **PROTECTION CIRCUITRY**

The KRC-HR is the first high-end preamplifier to have protection circuitry at the input and output. The indicators on the KRC-HR, which are described below, will give you a general location of a problem in your audio system.

1. When the KRC-HR's monitoring circuitry recognizes excessive DC levels at one of the inputs, the output disconnects from the front-end circuits and the LED corresponding to that input will flash repeatedly until the problem is removed. If you try to select that input, the preamplifier will not respond to the command.

To check the input, remove the cables corresponding to the flashing input and inspect them with an ohm meter. The flashing LED should become steady within 5 seconds of removing the suspect input. If the cabling appears to be sound, try another source component into the suspect input. If the KRC-HR LED continues to flash, unplug the unit and contact your dealer or KRELL. If the problem ceases, have the component originally connected to that input checked out at your dealer or at the factory.

2. If the KRC-HR's monitoring circuitry recognizes a short at the output, the output disconnects from the front end circuitry, the DC voltage to the preamplifier's circuits disconnects and the blue power LED flashes. Remove and check all the cabling and components connected to the KRC-HR. Unplug the KRC-HR from the AC wall socket. Wait for one minute and plug the unit back into the AC wall socket. The flashing blue power LED should now stop flashing and the unit should follow the standard turn on sequence. If the unit does not perform in this manner, contact your dealer or KRELL.

## QUESTIONS AND ANSWERS

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Q. When I turn up the volume on the KRC-HR, a loud hum is present from the loudspeakers. What could this be?

A. Hum can be caused by several different disturbances. Check to make sure that all of the cables, (in and out of the KRC-HR) are sound and making proper contact. Make sure that there are no power supplies or hum inducing components on top of or directly below the KRC-HR.

You could also be experiencing a ground loop in the system. Put a 3-prong to 2-prong AC adaptor, (cheater plug), on the KRC-HR power cord. The hum should go away. You may also need to float ground on other system components, if the hum remains. Please contact your dealer or the product manufacturer before a non-KRELL component's ground is lifted. **Remember to always keep at least one component grounded.** If these suggestions do not lead to a solution, please consult your dealer or KRELL.

Q. Can the KRC-HR be used to control more than one system?

A. Yes, the KRC-HR has both single-ended and balanced outputs that can be used simultaneously to control two different systems, but both systems will play from the same input, at identical volume settings.

Q. When I select the B-1 input on the KRC-HR, one channel seems to have less gain than the other. Is something wrong with the preamp?

A. Probably not. The balanced input or output internal cable terminals could be attached incorrectly. Locate the channel that appears to have less gain. Switch the cable connected to that channel's input to the other channel and vice versa, to determine whether a cable is defective. If there is no difference in level, do the same thing at the output of the KRC-HR. If the problem is not the cable, check to make sure that the input and output connections are connected at the correct locations on the preamp. There should be no LEDs illuminated in the Balance control section of the front panel (indicating a level imbalance).

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- Q. Why do I have to turn up the volume so high to get music at a normal listening level?
- A. If your system does not seem to have enough gain, you are probably not using the balanced input and output capabilities of the KRC-HR. Each balanced termination has 6dB more gain than a single-ended termination. More important, however, is that the balanced lines provide superior sonic quality. If you must use single-ended terminations, use the High gain setting, which has 6dB more gain than the Low position.
- Q. The pilot LED in the KRC-HR and its power supply are not illuminated. What should I do?
- A. Check the fuse in the back of the power supply. If there is a break in the wire inside the fuse, replace it. If there is no break in the fuse, call your dealer or KRELL. If, when you replace the fuse, the unit powers up and shuts off shortly thereafter, call the factory.
- Q. When I push the function buttons on the KRC-HR remote control, the preamp does not respond. What should I do?
- A. Check the batteries and change them, if necessary.
- Q. The selected input button on the KRC-HR is blinking on and off. I cannot stop the blinking, nor can I play music. What is wrong?
- A. That selected input has developed a problem, causing the KRC-HR to disable that input. After correcting the problem, the unit will return to normal. Refer to the section on Protection Circuitry (Page 11), for a more detailed explanation.

## **SPECIFICATIONS**

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**GAIN:**

6dB or 12dB

**SIGNAL TO NOISE:**

96dB unweighted

**THD:**

1KHz less than .01%

20KHz less than .01%

**INPUT IMPEDANCE:**

47,000 Ohms (47K Ohm)

**OUTPUT IMPEDANCE:**

5 Ohms

**OUTPUT VOLTAGE:**

14 volts R.M.S.

**DIMENSIONS:**

***Unit:***

19.0" Wide

14.5" Deep

2.75" High, with feet

***Power Supply:***

11" Wide

9" Deep

2.5" High

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

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## **WARRANTY AND SERVICE**

THERE ARE NO USER-SERVICEABLE PARTS INSIDE ANY KRELL PRODUCT.

The KRELL KRC-HR has a limited and transferable warranty of five years for parts and labor. The warranty period begins on the date of retail purchase, as noted on the retail sales slip provided by an authorized KRELL Dealer or Distributor, or on the warranty registration card sent to KRELL. In the event adequate proof of purchase date is unavailable, the warranty period will begin on the date the unit was originally shipped from the factory. The original ship date can be determined by KRELL from the serial number.

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.

Freight to the factory is your responsibility. Return freight within the United States is included in the warranty. If you have purchased your KRELL product outside the United States 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 US-based freight forwarder of your choice. Freight and other charges to ship the unit from the freight forwarder to you are also your responsibility.

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 the KRC-HR in the USA can not be changed for six months following the original purchase date. Any unauthorized voltage conversion, disassembly, component replacement, perforation of chassis, updates, or modifications performed to the unit will void the warranty.



## **WARRANTY AND SERVICE**

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KRELL is not responsible for any damage to units incurred in transit. If any shipping damages are incurred during transit of your units to the factory, you must initiate filing of the insurance claim. Likewise, KRELL will file claims for shipping damages incurred during transit of your units from the factory to you.

The use of any packing material other than original is not recommended. KRELL may, at its discretion, pack a unit in new material for the return shipment. Krell will bill you for such if the unit was shipped in non-standard packing or if the original packing is so damaged as to be unuseful. Should you need to purchase additional packaging please contact your authorized KRELL Dealer, Distributor or KRELL for assistance.

*IMPORTANT: If you think there are problems with your unit, please contact your Dealer, Distributor, or the factory immediately. Do not return any unit to KRELL for repair without first calling to discuss the problem and obtaining a Return Authorization number.*

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

**KRELL**

45 Connair Road ▪ Orange, CT 06477-3650 USA  
203-799-9954 ▪ Fax: 203-799-9796

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F/N 1960602000023