



Showcase 7
Showcase 6
Showcase 5
Multichannel Amplifier

Instructions for Use

Owner's Reference

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Showcase 6
Showcase 5
Multichannel Amplifier
Instructions for Use

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

WARNINGS

The amplifier must be placed on a firm, level surface where it is not exposed to dripping or splashing.

The ventilation grids on the top, bottom, and sides of the amplifier must be unobstructed at all times during operation. Do not place flammable material above or beneath the amplifier.

Contact your authorized Krell dealer, distributor, or Krell before using any devices designed to alter or stabilize the AC power for the Showcase Amplifier.

Before connecting the Showcase Amplifier, make sure the amplifier is turned off and any output device (such as a preamplifier) is in mute or stand-by mode. Make sure all cable terminations are of the highest quality and free from frayed ends, short circuits, or cold solder joints.

Use only one input to each amplifier channel at a time.

If the red LED flashes when the amplifier is in the stand-by mode, unplug the amplifier to reset the protection circuit. Check the loudspeakers and loudspeaker cables for potential short circuits before reconnecting the amplifier to your system.

THERE ARE NO USER SERVICEABLE PARTS INSIDE THE PREAMPLIFIER

Please contact your authorized Krell dealer, distributor, or Krell if you have any questions not addressed in this reference manual.

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. Krell Current Mode™ is a trademark of Krell Industries, Inc. All other trademarks and tradenames are registered to their respective companies.

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Introduction

Thank you for your purchase of a Krell Showcase Amplifier.

The Showcase Amplifier is a flexible design that delivers five, six, or seven channels of amplification. All three configurations include input and output connections for all seven channels. The amplifiers differ only by how many channels are housed within the amplifier. A Showcase 5 includes five amplifier channels, a Showcase 6 includes six amplifier channels, and a Showcase 7 includes seven amplifier channels. The Showcase 5 and Showcase 6 may be upgraded with additional channels, up to seven. The Showcase Amplifier has balanced and single-ended inputs for compatibility with other components. The amplifiers can be operated using the 12 VDC power on/off (12 V trigger) signals from other components. The Showcase Amplifier is versatile, fitting a variety of installations including rack-mounted and inside cabinetry.

Please contact your Krell-authorized dealer or distributor for information on upgrading your amplifier to six or seven channels.

This reference manual contains important information on placement, installation, and operation of the Showcase Amplifier. Please read this information carefully. A thorough understanding of these details helps ensure satisfactory operation and long life for your Showcase Amplifier and related system components.

Definition of Terms

Following are the definitions of key terms used in your owner's reference manual.

INPUT AND OUTPUT CONNECTIONS

Balanced

A symmetrical input or output circuit that has equal impedance from both input terminals to a common ground reference point. The industry standard for professional and sound recording installations, balanced connections have 6 dB more gain than single-ended connections and allow the use of long interconnect cables. Balanced connections are less susceptible than single-ended connections to induced noise from the system or the environment.

Single-ended

A two-wire input or output circuit. Use care when using single-ended connections as the ground connection is made last and broken first. Turn the system off prior to making or breaking single-ended connections. Single-ended connections are not recommended for connections requiring long cable runs.

OPERATION

Off

When the AC power cord is not plugged into the wall, the red stand-by LED is not illuminated and the component is off.

Stand-by Mode

When the AC power cord is plugged into the wall, the red stand-by LED illuminates, indicating that the component is in the stand-by mode. This low power consumption status keeps the audio and circuits at idle. Krell recommends leaving the component in the stand-by mode when it is not playing music.

Operational Mode

From the stand-by mode, when the power button on the front panel is pressed and the blue power LED illuminates, the component is in the operational mode and ready to play music.

TECHNOLOGY

Krell Current Mode

A proprietary Krell circuit topology in which the audio gain stages of a component operate in the current rather than the voltage domain. This unique technology provides the component with exceptional speed and a wide bandwidth.

Unpacking

1. Open the shipping box, and remove the top layer of foam. The following items are visible:

- 1 Showcase Amplifier
- 1 Accessory Kit containing:
 - 1 AC power cord
 - 1 12 VDC output (12 V trigger) cable
 - 1 spare AC mains fuse
 - 1 10 A slow-blow fuse for 100–120 VAC
 - 1 5 A slow-blow fuse for 220–240 VAC
- 1 packet containing the owner's reference manual and the warranty registration card.

IMPORTANT

Two people are needed to remove the amplifier from the shipping box.

- 2. Grasp the underside of the amplifier and lift it straight out of the shipping box.
- 3. Place the amplifier in a safe location and remove the protective plastic wrapping.

Notes

If any of these items are not included in the shipping box, please contact your authorized Krell dealer, distributor, or Krell for assistance.

*Save all packing materials. If you ship your amplifier in the future, repack the unit in its original packaging to prevent transit damage. See **Return Authorization Procedure**, on page 16, for more information.*

Placement

Before you integrate the Showcase Amplifier into your system, review the following guidelines to choose the location for the component. This will facilitate a clean, trouble-free installation.

The Showcase Amplifier requires at least two inches (5 cm) of clearance on each side and at least two inches (5 cm) of clearance above and below the component to provide adequate ventilation.

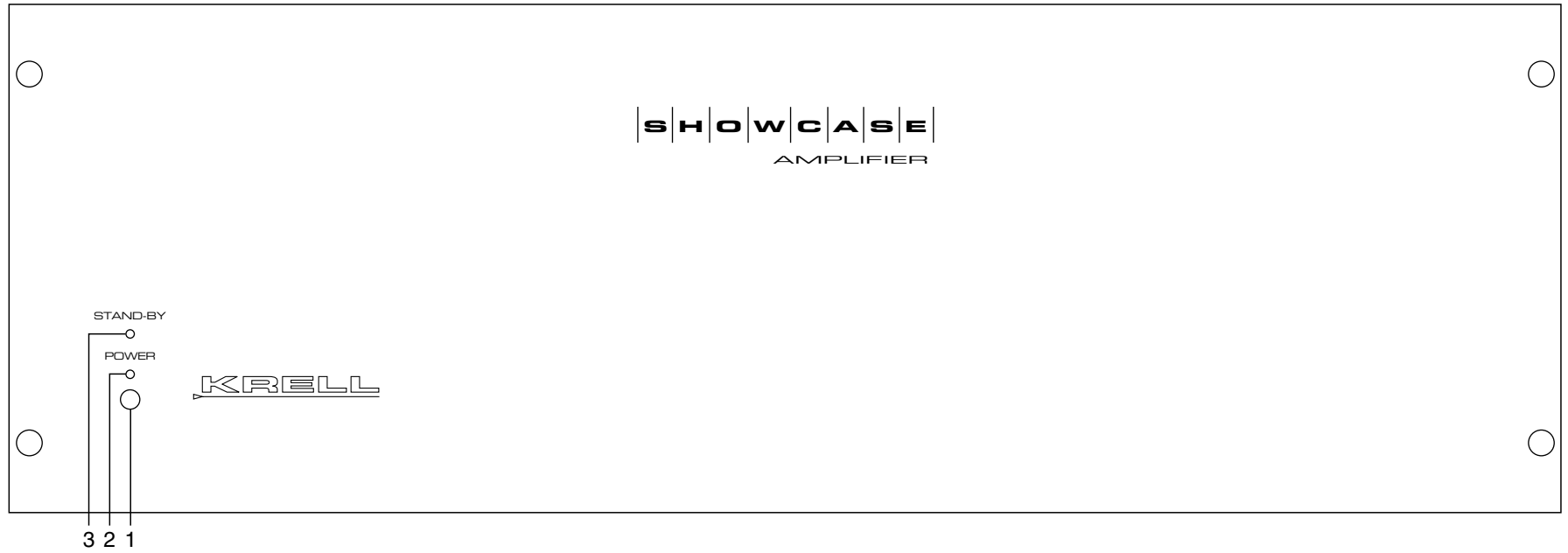
The Showcase Amplifier does not require any type of special rack or cabinet for installation. For the dimensions of your amplifier see Specifications, on page 17.

Place the amplifier as close to the loudspeakers as possible and keep the loudspeaker cable length to a minimum. Loudspeaker cable adds impedance to the load the amplifier must drive, regardless of the cable's gauge. Krell amplifiers drive the lowest impedances with ease, but long loudspeaker cables reduce the maximum power that is delivered to the loudspeakers.

AC POWER GUIDELINES

Krell recommends operating the Showcase Amplifier from a dedicated 15-amp AC power line. Please contact your Krell dealer, distributor, or Krell before using any devices designed to alter or stabilize the AC power for the Showcase Amplifier.

Figure 1 The Showcase Amplifier Front Panel



- 1 Power Button
- 2 Stand-by LED
- 3 Power LED

Front Panel Description

See Figure 1 on page 5

The Showcase Amplifier front panel provides power on and indicates operating status.

1 Power Button

Use this button to switch the Showcase Amplifier power between the stand-by and the operational modes and also to switch the 12 VDC output (12 V trigger) on and off.

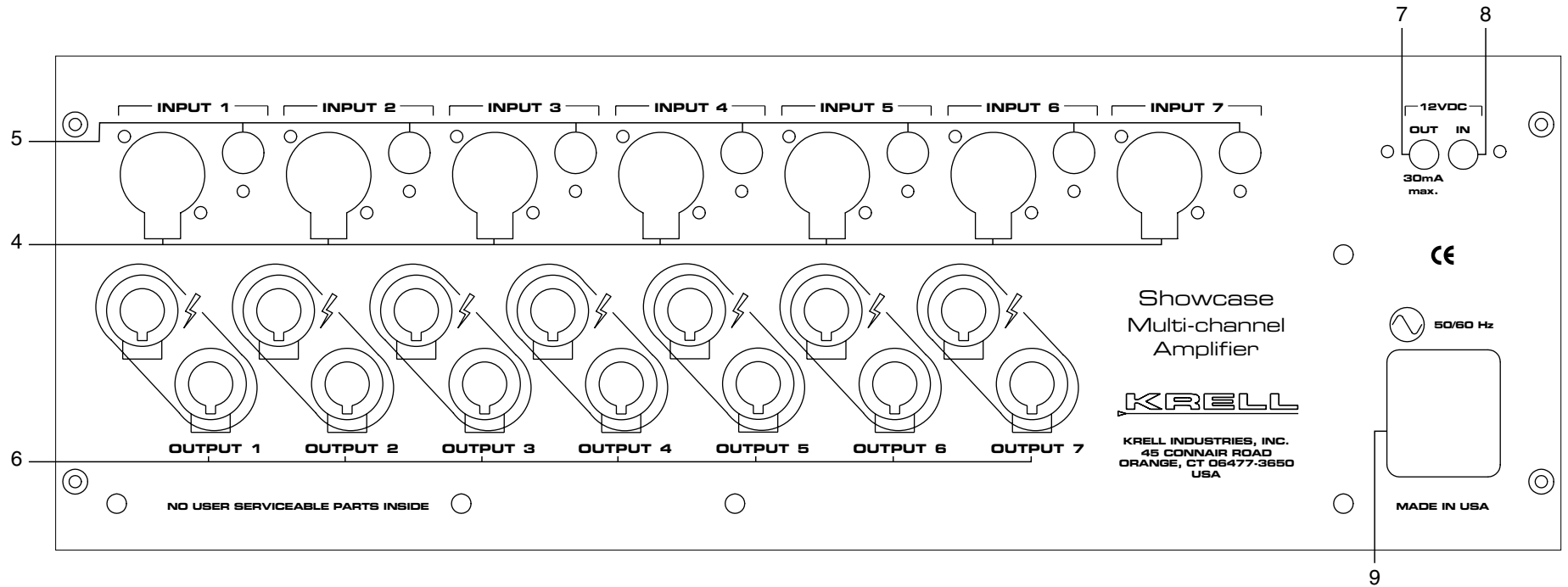
2 Stand-by LED

The red stand-by LED illuminates when the AC power cord is plugged into the wall. The stand-by LED flashes when the protection circuit is activated.

3 Power LED

The blue power LED illuminates when the amplifier is in the operational mode.

Figure 2 The Showcase Amplifier Back Panel



Balanced Inputs

4 Inputs 1-7

Single-Ended Inputs

5 Inputs 1-7

Amplifier Channel

Outputs

6 Outputs 1-7

Remote Connections

7 12 VDC Remote Power Out

8 12 VDC Remote Power In

Power

9 IEC Connector and Fuseholder

Back Panel Description

See Figure 2 on page 7

The Showcase Amplifier back panel provides connections for all inputs and outputs, remote connection input and output links, and the AC power supply.

BALANCED INPUTS

4 Inputs 1-7

The Showcase Amplifier has seven channel inputs for output devices with balanced XLR connectors.

SINGLE-ENDED INPUTS

5 Inputs 1-7

The Showcase Amplifier has seven channel inputs for output devices with single-ended RCA connectors.

IMPORTANT

Use only one input to each amplifier channel at a time. You may use the balanced inputs for some of the amplifier channels and the single-ended inputs for the remaining channels.

AMPLIFIER CHANNEL OUTPUTS

6 Outputs 1-7

The Showcase Amplifier has seven amplifier channel outputs. The loudspeaker binding post terminals accept spade lugs, bare wire, or pins. Use the red terminal for the positive connection and the black terminal for the negative connection.

IMPORTANT

Tighten loudspeaker binding posts by hand only.

BACK PANEL REMOTE CONNECTIONS

7 12 VDC Remote Power Out

The Showcase Amplifier is equipped with an output that sends 12 VDC power on/off (12 V trigger) signals to other Krell components and other devices that incorporate a 12 V trigger.

Notes

When the component is in the operational mode, the 12 VDC Out provides 12 V of DC output. When the component is in the stand-by mode or off, the DC output is 0 V.

12 VDC Out (12 V trigger) current is limited to 30 mA.

Back Panel Description, continued

**BACK PANEL REMOTE
CONNECTIONS,
continued**

8 12 VDC Remote Power In

The Showcase Amplifier is equipped with an input that receives 12 VDC power on/off (12 V trigger) signals from other Krell components and other devices that incorporate a 12 V trigger. This allows you to turn the Showcase Amplifier on and off using a Krell or other component in a custom installation.

Note

Consult the owner's manual of each component used in a custom installation to take full advantage of the Showcase Amplifier remote capability.

POWER

9 IEC Connector and Fuseholder

The connector is for use with the provided IEC standard 15 amp power cord. The AC mains fuse protects the Showcase Amplifier in the event of an internal fault.

Note

The AC mains fuse must be replaced with the spare fuse provided. Use the 10 A slow-blow fuse for 100–120 VAC or the 5 A slow-blow fuse for 220–240 VAC.

Connecting the Showcase Amplifier to Your System

INPUT AND OUTPUT CONNECTIONS

The Showcase Amplifier is equipped with balanced and single-ended inputs.

Krell recommends using balanced interconnect cables. Balanced interconnect cables not only can minimize sonic loss but are also immune to induced noise, especially with installations using long cables. Balanced connections have 6 dB more gain than single-ended connections. When level matching is critical, please keep this gain value in mind.

The Showcase Amplifier is shipped with shorting pins in the XLR inputs. These pins should remain in the XLR inputs if the amplifier is operating in the single-ended mode. When the shorting pin is inserted, pins 1 (lower left) and 3 (top) are shorted together. Remove the shorting pins to connect the amplifier for balanced operation.

The XLR pin configuration is described below:

Pin 1 Shield (ground)

Pin 2 Non-inverting (hot) (0°)

Pin 3 Inverting (cold) (180°)

Follow these steps to connect the Showcase Amplifier to your system.

1. Make sure all power sources and components are off before connecting inputs and outputs.
2. Neatly organize the wiring between the amplifier and all system components. Separate AC wires from audio cables to prevent hum or other unwanted noise from being introduced into the system.
3. Connect the interconnect cables from your output device to the amplifier inputs using the balanced (4) or single-ended (5) inputs located on the back panel. The balanced inputs use three-pin XLR connectors; the single-ended inputs use RCA connectors. The Showcase 5 uses only inputs 1 through 5 and the Showcase 6 uses inputs 1 through 6.

IMPORTANT

Use only one input to each amplifier channel at a time. You may use the balanced inputs for some of the amplifier channels and the single-ended inputs for the remaining channels.

Connecting the Showcase Amplifier, continued

**INPUT AND OUTPUT
CONNECTIONS,
continued**

4. Connect the loudspeaker cables to the Showcase Amplifier channel output binding posts (6) located on the back panel. The Showcase 5 uses only outputs 1-5 and has caps on the speaker binding posts for channels 6 and 7. The Showcase 6 uses outputs 1-6 and has caps on the speaker binding posts for channels 6 and 7.

The binding post terminals accept spade lugs, bare wire, or pins. Use the red terminal for the positive connection and the black terminal for the negative connection.

IMPORTANT

Tighten loudspeaker binding posts by hand only.

5. Plug the end of the AC power cord into the AC wall outlet.

The amplifier is now ready for operation. See ***Amplifier Operation***, on page 12.

Note

The Showcase 5 and Showcase 6 amplifiers may be upgraded with additional channels, up to seven. Please contact your Krell-authorized dealer or distributor for information on upgrading your amplifier to six or seven channels.

Amplifier Operation

ON/OFF AND OPERATION

When powering up your system, turn the amplifiers **on last**. When powering down your system, turn amplifiers **off first**. The procedures for amplifier operation follow.

1. Plug the end of the AC power cord into the AC wall outlet.
2. The red stand-by LED (2) illuminates.

When the amplifier is first plugged in, there is a brief delay before it can be put in the operational mode. Please wait approximately 10 seconds.

IMPORTANT

If the red LED flashes when the amplifier is in the stand-by mode, unplug the amplifier from the AC wall outlet to reset the protection circuit. Check the loudspeakers and loudspeaker cables for potential short circuits before plugging the amplifier back into the wall outlet.

3. Press the power button (1) on the front panel. The blue power LED (3) illuminates and you hear a click. The amplifier is in the operational mode.

Krell recommends leaving the Showcase Amplifier in the stand-by mode unless you will not be playing music for a long time.

IMPORTANT

Always turn the amplifier off before changing input connections, and mute or fully attenuate the preamplifier level when switching sources.

The Showcase Amplifier has tremendous reserves of power and safely drives loudspeakers to extremely high sound pressure levels. However, use care when setting high playback levels and lower the volume level at any sign of loudspeaker distress.

Troubleshooting System Noise

When you mix and match high-performance audio components, each with its own ground potential, a low frequency hum may occur in one or all loudspeakers. If this happens when you place the Showcase Amplifier into your system, follow these simple troubleshooting steps:

1. Check that all input and output connections are of sound construction.
2. With the amplifier off, remove all the interconnect cables, then turn the amplifier on. If the hum disappears, turn the amplifier off and reinsert one of the interconnect cables. Turn the amplifier back on.
3. If the hum reappears with the interconnect cable reinserted, the cable may need to be replaced. Turn the amplifier off and connect a different interconnect cable to the same location. Turn the amplifier back on.
4. If the hum disappears with the interconnect cable reinserted, that cable most likely is sound.
5. Turn the amplifier off, disconnect the interconnect cable, and reconnect one of the other interconnect cables.
6. Repeat steps 3 through 5 until you have checked each interconnect cable.
7. If all the interconnect cables appear to be sound, and you still have hum, you may be experiencing a ground loop. Please contact your authorized Krell dealer, distributor, or Krell for suggestions on how to eliminate the hum.

Questions and Answers

- Q.** Should I turn the Showcase Amplifier off (unplug the amplifier) when not playing music?
- A.** No. Leave the Showcase Amplifier in the stand-by mode when not playing music. The stand-by mode avoids cold starts as well as minimizes heat output and power consumption. Turn the amplifier off if you plan to be away for a period of time, for example, on vacation. See **Amplifier Operation**, on page 12.
- Q.** When I turn the amplifier on there is a loud hum through the loudspeakers. What should I do?
- A.** When a new component is introduced, a low frequency hum may occur in one or both loudspeakers. Check that all input and output connections and cables are of sound construction. See **Troubleshooting System Noise**, on page 13. If the connections and cables are sound, you may be experiencing a ground loop. This can often be easily eliminated. Please contact your authorized Krell dealer, distributor, or Krell for suggestions.
- Q.** When I connect the amplifier to my system using the single-ended inputs, a loud buzz comes from my loudspeakers. What is it?
- A.** Check that the shorting pins for the Showcase Amplifier are inserted into the XLR inputs (the unit is shipped with the pins in place). When using the single-ended inputs, shorting pins must be inserted between pins 1 and 3 to keep external noise from corrupting the signal. For more information, see **Connecting the Showcase Amplifier to Your System**, on page 10.
- Q.** I cannot turn the amplifier on. Why not?
- A.** Make sure the stand-by LED is not flashing. If the stand-by LED is flashing, unplug the amplifier from the AC wall receptacle and then plug it back into the AC wall receptacle. If the stand-by LED continues to flash, contact your Krell-authorized dealer or distributor, or Krell. If no LEDs are illuminated, check the power cord and check the AC mains fuse. To remove the fuse, unplug the power cord from the amplifier and slide out the fuseholder.
- Q.** I get no signal from one of the amplifier channels when the unit is on. Why not?
- A.** Make sure you are not connected to channels 6 or 7 on a Showcase 5, or to channel 7 on a Showcase 6. If you are using the single-ended input, make sure the shorting pin is inserted between pins 1 and 3, and not between pins 2 and 3.

Warranty

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

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 the original retail purchase, as noted on the bill of sale or receipted invoice from an authorized Krell dealer or distributor. Previously owned equipment, when re-purchased from an authorized Krell dealer or distributor, has the balance of the original warranty, based on the original date of manufacture.

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.

Return Authorization Procedure

HOW TO EXPEDITE SERVICE

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:

<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
WEBSITE	http://www.krellonline.com

HOW TO RETURN A PRODUCT

To return a 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 or damage to the product during shipment to the Krell factory and ensure all freight (shipping) charges are prepaid.

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

IMPORTANT

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

HOW TO PURCHASE ADDITIONAL PACKING

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

SERIAL NUMBER

Your Showcase Amplifier product serial number is:

Specifications

Showcase 7, Showcase 6, Showcase 5

	Showcase 7	Showcase 6	Showcase 5
FREQUENCY RESPONSE	20 Hz to 20 kHz +0 dB, -0.15 dB .2 Hz to 95 kHz +0 dB, -3 dB	20 Hz to 20 kHz +0 dB, -0.15 dB .2 Hz to 95 kHz +0 dB, -3 dB	20 Hz to 20 kHz +0 dB, -0.15 dB .2 Hz to 95 kHz +0 dB, -3 dB
SIGNAL TO NOISE RATIO “A” WEIGHTED	>110 dB	>110 dB	>110 dB
GAIN	26.2 dB	26.2 dB	26.2 dB
TOTAL HARMONIC DISTORTION (THD)	1 kHz < 0.03% 20 kHz < 0.20%	1 kHz < 0.03% 20 kHz < 0.20%	1 kHz < 0.03% 20 kHz < 0.20%
INPUT IMPEDANCE	45 kOhms	45 kOhms	45 kOhms
INPUT SENSITIVITY	1.55 Vrms	1.55 Vrms	1.55 Vrms
OUTPUT POWER EACH CHANNEL DRIVEN	8 Ohms 125 W 4 Ohms 250 W	8 Ohms 125 W 4 Ohms 250 W	8 Ohms 125 W 4 Ohms 250 W
OUTPUT VOLTAGE	Peak to Peak 90 V RMS 32 V	Peak to Peak 90 V RMS 32 V	Peak to Peak 90 V RMS 32 V
POWER CONSUMPTION	Stand-by 90 W Idle 150 W Max. 1600 W	Stand-by 80 W Idle 130 W Max. 1400 W	Stand-by 70 W Idle 110 W Max. 1200 W
INPUTS	7 single-ended via RCA connectors 7 balanced via XLR connectors	6 single-ended via RCA connectors 6 balanced via XLR connectors	5 single-ended via RCA connectors 5 balanced via XLR connectors
OUTPUTS	7 channels via 5-way binding posts	6 channels via 5-way binding posts	5 channels via 5-way binding posts
REMOTE CONNECTORS	12 VDC Out (12 V trigger) via a 3.5 mm connector	12 VDC Out (12 V trigger) via a 3.5 mm connector	12 VDC Out (12 V trigger) via a 3.5 mm connector
DIMENSIONS INCHES CENTIMETERS	17.3w x 5.7h x 19.8d 43.9w x 14.5h x 50.3d	17.3w x 5.7h x 19.8d 43.9w x 14.5h x 50.3d	17.3w x 5.7h x 19.8d 43.9w x 14.5h x 50.3d
WEIGHT SHIPPING UNIT ONLY	68 lb., 30.8 kg 60 lb., 27.1 kg	66 lb., 29.9 kg 58 lb., 26.2 kg	64 lb., 29.0 kg 56 lb., 25.3 kg

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

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