



MDA-300/MDA-500  
OWNER'S REFERENCE

## **A. INTRODUCTION**

Thank you for your purchase of the KRELL MDA-300 or MDA-500 power amplifiers. These amplifiers represent the latest evolution in amplifier technology and incorporate many innovative design features.

To obtain the best performance from your MDA-300/500s, careful attention should be paid to placement, installation and operation. A thorough understanding of these details will help insure satisfactory operation and long life for the MDA-300/500s and related system components.

This Owner's Reference is divided into several sections, each designed to perform a different function. As you read through this Owner's Reference you will become better acquainted with the features and functions that make the MDA-300/500s a superb value. A Question and Answer section is also included where answers to common questions are provided. 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 MDA-300/500s 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, your authorized KRELL Dealer or Distributor.

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## **B. UNPACKING AND ASSEMBLY**

**NOTE:** Do to the extreme weight of the MDA-300 or MDA-500 it is strongly advised that unpacking and placement is completed by at least two individuals.

1. Open the box on one end.
2. Fold back the flaps on all four sides of the box and carefully roll it over on to the exposed end.
3. Pull the box straight up and off exposing the foam packing material.
4. Pull the foam piece from the exposed end of the amplifier.
5. Roll the amplifier carefully onto its handles and remove the second piece of foam.

The following items will now be visible in each box:

- 1 MDA-300/500 monaural amplifier
- 1 Warranty card
- 1 AC power cord
- 4 or 5 Rubber bottoms (MDA-500 has 5 feet)

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

6. Remove the plastic bag from the amplifier.
7. Repeat procedure for the second amplifier.

**NOTE:** Save all packing materials. If you must ship your MDA-300/500s in the future, repack the unit in its original packaging to prevent transit damage.

**CAUTION:** Do not connect the power cords into the AC mains before completing the Installation section.

## **C. BASIC INSTALLATION AND OPERATION**

1. Place the MDA-300/500, on a firm level surface away from excessive dirt or moisture. Ideally the amplifiers should be placed as close to the speakers as possible. It is always preferable to run long interconnect cables to the amplifiers and keep speaker cable length to a minimum. Speaker cable does add an impedance at the output of the amplifier, regardless of the cable. All KRELL amplifiers will drive the lowest impedances with ease. When impedance is added, the amplifier's power is literally wasted in driving cable. Long speaker cables reduce the maximum power that can be delivered to the speakers.

2. Amplifiers dissipate much of the power they consume in heat. The MDA-300/500s should be installed in a location that provides unobstructed ventilation. If you have to install the units on shelves or in a cabinet, extra ventilation may be necessary. This can be accomplished with "whisper"-type fans. Consult your dealer for assistance.

Generally, with the front and rear of a cabinet open, 2-3 inches of clearance on each side and 8 inches of clearance above the amplifiers should provide adequate ventilation.

The exact dimensions for the MDA-300 and MDA-500 are in the Specifications Section below.

3. The MDA-300/500s should have a dedicated 20 amp line for each amplifier and should only be operated with the power cords supplied. Use of other power cords may damage the amplifiers or void its warranty. Please consult KRELL or your dealer BEFORE using any devices designed to alter or stabilize the AC power for the MDA-300/500s. If you have any questions about placement or AC power conditions please consult KRELL.

4. The feet on the MDA-300/500s can be used in several different ways. They are made from machined Delrin and are supplied with separate threaded rubber bottoms. The rubber bottoms can be screwed into the feet for protection of fragile surfaces such as hardwood floors or furniture. For use on rugs, we recommend using the feet without the rubber bottoms. MDA-300/500s feet can also accept the KRELL AMDs (Acoustic Mass Damper). These improve the amplifier's sonic performance in most installations.

## **D. INPUT AND OUTPUT CONNECTIONS**

**CAUTION:** When making connections to this component or any other, make sure the power amplifiers are OFF and the preamplifier is in the MUTE or STANDBY mode.

1. Connect the speaker cables to the output terminals of each amplifier. The MDA-300/500s utilize two sets of parallel 5 way binding posts for the left and right amplifiers. This configuration makes cable connections and bi-wiring simple.

**NOTE:** The binding posts are of the highest quality but will break if overtightened. Insert wire or spade lug into the connector and tighten until there is no movement from the cable.

**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 to the input of each MDA-300/500.

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

The MDA-300/500s have balanced and single-ended inputs. The balanced inputs use 3-pin XLR connectors and the single-ended inputs use standard RCA connectors.

**CAUTION:** Use only one input to the amplifier at a time.

The MDA-300/500s are shipped with shorting pins in the XLR inputs. These pins should remain in the XLR inputs if you are operating the MDA-300/500s in the single-ended mode. When the shorting pin is inserted, pin 1 and pin 3 are shorted together. The shorting pins must be removed to connect the MDA-300/500s for balanced operation.

The pin assignment for the XLR is:  
pin 1 = shield (ground)  
pin 2 = non-inverting input (hot)  
pin 3 = inverting input

**NOTE:** The RCA center conductor for each channel is wired in parallel with pin 2, the non-inverted input. Only one of these inputs should be connected to a preamplifier.

3. Insert the AC power cord into the receptacle located on the back of each MDA-300/500. Insert the other end into the wall AC receptacle. (Refer to section C, Basic Installation and Operation, for AC power requirements)

## E. AMPLIFIER OPERATION

1. Push the black button on the front of both amplifiers to turn them on. The blue LED on the front panels above each switch will illuminate.

When turning on the system, the amplifiers should always be last. The MDA-300/500s On/Off switch is part of a multi-level turn-on circuit that goes through several steps of protection. Upon turn-on, the amplifier's outputs are not connected to the speakers. After the protection circuits have determined that the unit has completely stabilized, the speaker relays will be engaged. You will hear a click at this point. The amplifiers are now ready to use. The amplifiers will be at temperature and sound their best after approximately 30 minutes.

2. With the preamplifier in the Mute position, or volume control fully attenuated, select a source. Turn the volume control up to your desired listening level.

3. Understanding the operation of these amplifiers is very easy. Equally important is an understanding of the care that should be exercised when operating the system as a whole, in relation to the enormous power output of the MDA-300/500s. Simple mistakes, such as switching between active sources without muting the preamplifier output, or bumping/miscuing a cartridge, can generate large transients at low frequencies. With this type of transient the MDA-300/500s can generate enough power to damage most loudspeakers. All switching of sources should be done with the preamplifier level either muted or fully attenuated. Inputs to the amplifier should not be changed while the amplifier is on.

**NOTE:** Care must be taken when setting high playback levels. Because of their tremendous reserve of clean power, KRELL amplifiers safely drive speakers to higher sound pressure levels than other amplifiers. This also means driving the speakers to their limit. Always turn the level down at the first sign of distortion.

When turning the system off, the amplifiers should **ALWAYS** be first. This avoids the possibility of a turn-off transient from some other component getting to the speakers.



## **F. PROTECTION CIRCUITRY**

There are no fuses in the MDA-300/500s. The amplifiers are protected by a series of non-intrusive, opto-coupled circuits that constantly evaluate the amplifier's operation. Appropriate protective action exists for DC conditions, short circuit, oscillation, AC power anomalies, high ground resistance and out-of-phase ground. Collectively the protection circuitry is designed to avoid damage to the amplifiers or speakers caused by other defective components, faulty wiring, mishandling of the system or amplifier failure. When the protection circuit is engaged, the amplifiers will shut off and short their output. After resolving either the input or output problem the amplifiers can be turned on.

The amplifiers also have circuit breakers on their backpanel for the AC power. Should the button in the center of the breaker pop out, push it in to reset the breaker. If the amplifiers still do not come back on, call Krell Industries.

## H. REAR PANEL DESCRIPTIONS

All descriptions are for each amplifier chassis

### INPUTS:

Balanced via 3 pin XLR connector  
Single ended via RCA connector

### XLR PIN CONFIGURATION

pin 1 Shield (ground)  
pin 2 Non-inverting or 0 degrees (hot)  
pin 3 Inverting or 180 degrees

### OUTPUT:

Two pairs of five-way binding posts in parallel

### OTHER:

Standard AC receptacle  
20 amp circuit breaker

### OPTIONS:

Black Faceplate

## **I. QUESTIONS AND ANSWERS**

**Q.** Should I leave the MDA-300/500 on at all times?

**A.** Although you could leave the MDA-300/500 on at all times without fear of damage to the amplifier, we recommend 30 minutes of warm-up before critical listening and switching the amplifier off when not in use.

**Q.** When I push the power button on the front of the MDA-300/500, the amplifier doesn't turn on. What should I do?

**A.** Unplug the amplifier from the AC receptacle and remove the input from the amplifier. Check the output connections, then plug the amplifier back in. Check the circuit breaker on the back of the unit and reset it if necessary. Push the power button on the front panel. If the problem persists, unplug the unit and call your dealer or Krell industries.

**Q.** When I turn the amplifier on there is a loud hum through the speakers. There was never a hum before the MDA-300/500 was in the system. What should I do?

**A.** Often when a new component is introduced into an audio system a hum may become present. This is often caused by a ground loop in the system. Try putting a 3 prong to 2 prong AC adaptor (cheater plug) on the AC power cord, lifting the ground from the unit. This should make the hum disappear. If not, try another adaptor elsewhere in the system.

**NOTE:** Always keep one major audio component grounded.

**NOTE:** Even though the ground is lifted from the power amplifier, it is still grounded via the interconnect cables throughout the rest of the system.

**Q.** Can I use special audio power cords on the MDA-300 or MDA-500?

**A.** You can experiment with special power cords as long as they are grounded on both ends and meet the amplifier's 15 amp power requirement.

Q. After the amplifier is on for about one hour it becomes very hot. Is this normal?

A. Yes. Due to the high bias design of the MDA-300/500 it will become quite warm. After approximately 1 hour the amplifier will be at its optimum operating temperature. If the amplifier should have a severe temperature imbalance between the left and right channel, unplug the unit and call your authorized dealer or Krell.

Q. I tried a new preamplifier in my audio system and when I turned the unit on the MDA-300/500 shut off. Is the amplifier defective?

A. More than likely the amplifier is not defective. When connecting components you should always keep the amplifier off. The amplifier sensed a bad input signal and shut off, protecting itself and the speakers. There also could have been a bad cable connection or excessive DC offset coming from the output of the preamplifier. Before turning the amplifier on, check the input cables. If that doesn't help, bring the preamplifier to the dealer for testing.

## **J. SPECIFICATIONS**

### **MDA-300**

**GAIN**  
26dB

**SIGNAL-TO-NOISE**  
106dB unweighted

**THD**  
1K at 8 ohms  
less than .2%

20K at 8 ohms  
less than .4%

**INPUT IMPEDANCE**  
47,000 ohms (47K)

**INPUT SENSITIVITY**  
2.5 volts for 300 watts out

**OUTPUT IMPEDANCE**  
.2 ohms

**OUTPUT VOLTAGE**  
139 volts peak to peak

### **OUTPUT POWER**

All readings  
are continuous output  
power, per channel

8 ohms	300 watts
4 ohms	600 watts
2 ohms	1200 watts
1 ohm	2400 watts

### **DIMENSIONS**

19.0" WIDE  
19.5" DEEP with handles  
8.5" HIGH with feet

### **SHIPPING WEIGHT**

105 pounds

### **MDA-500**

**GAIN**  
26dB

**SIGNAL-TO-NOISE**  
106dB unweighted

**THD**  
1K at 8 ohms  
less than .2%

20K at 8 ohms  
less then .5%

**INPUT IMPEDANCE**  
47,000 ohms (47K)

**INPUT SENSITIVITY**  
3.2 volts for 500 watts out

**OUTPUT IMPEDANCE**  
.15 ohms

**OUTPUT VOLTAGE**  
179 volts peak to peak

### **OUTPUT POWER**

All readings  
are continuous output  
power, per channel

8 ohms	500 watts
4 ohms	1000 watts
2 ohms	2000 watts
1 ohm	4000 watts

### **DIMENSIONS**

19.0" WIDE  
24.0" DEEP with handles  
8.5" HIGH with feet

### **SHIPPING WEIGHT**

144 pounds

## **K. WARRANTY AND SERVICE INFORMATION**

There are no user-serviceable parts inside the MDA-300/500. The MDA-300/500 has a limited warranty of five years parts and labor. Return freight is included in the warranty. The warranty period begins on the date of purchase and is activated with the return of the enclosed Warranty Card and a copy of the Sales receipt. Please return the warranty card immediately after successful installation and operation are completed.

The warranty for Krell products is valid **only** in the country to which they were originally shipped and at the factory. If you think there are problems with your unit please contact your dealer, distributor or the factory immediately.

Please do not return any unit to KRELL for repair without first calling to discuss the problem and to obtain a Return Authorization number. Freight to the factory or distributor is your responsibility. Return freight to you will be paid by the factory or distributor. Any unauthorized updates or modifications performed to the unit will void the warranty.



**KRELL INDUSTRIES**

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(MDA9204)

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