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KMA-160 OWNER'S MANUAL: INSTALLATION & OPERATION INSTRUCTIONS

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GENERAL INFORMATION

Thank you for purchasing the KMA-160 Monaural Amplifiers. The KMA-160 represents the absolute latest evolution in amplifier technology and has many innovative design features. It is one of four amplifiers in the new KRELL Programmable Series, the features of which are discussed below. There are several aspects of its operation that require your special attention and understanding before installation is begun. Also, this document contains much general information concerning audio system installation in addition to specifics of the KMA-160.

PURE CLASS A OPERATION AND POWER CONSIDERATIONS

The KMA-160 is rated as delivering 160 watts of Class A power into 8 ohms. One inherent aspect of Class A operation is the need for a large amount of current from the AC mains. The amplifier at idle draws 8 amps. However, the Class A rating does not completely reveal the true, overall power of the KMA-160, both in terms of output power or AC power consumption. The amplifiers' maximum output into 8 ohms is 240 watts per channel.

That every KRELL product uses Class A circuitry in all gain and supply stages is a foundation of our design philosophy. A second design commitment that relates to amplifiers is that every unit be capable of doubling its output into successively lower impedances. The KMA-160 will deliver 320 watts per channel into 4 ohms; 640 watts per channel into 2 ohms and 1280 watts per channel into 1 ohm. And there is headroom over these figures! It is capable of driving impedances below 1 ohm. Use below 1 ohm requires adjustment of the Programmable Low Impedance Limit Set circuit on the Protection Board. This adjustment is performed by the dealer or distributor.

Given the above, the AC power supplied to the amplifier is crucial to getting maximum performance. The KMA-160 pair should have a dedicated 20 amp line.

Amplifiers dissipate much of the power they consume in heat. The KMA-160 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 might be necessary. This can be easily done with fans in a variety of ways. Generally, with the front and rear open, 2 - 3 inches clearance each side and 8 inches above the amplifier, ventilation will be adequate.

The dimensions of the KMA-160 are: 23" wide x 22" deep x 9 high. The units weigh 80 pounds each; shipping weight is 100 pounds each.

INPUT CONNECTIONS

The KMA-160 has both balanced and single-ended inputs. The balanced input uses the 3-pin XLR connector and the single-ended input uses the RCA connector. The pin assignment for the XLR's is: pin 1 = signal ground; pin 2 = non-inverting input; pin 3 = inverting input. The RCA connector is wired in parallel with pin 2, the non-inverted input. Only one of these inputs should be connected to a preamplifier.

The input that is not connected to the preamplifier can be used as an output to a second amplifier for power-biamp applications. Before proceeding with such an installation you should consult your Dealer or the factory.

INSTALLATION

After inspection of the amplifiers for any shipping damage they are ready for installation. 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 avoids hum or other unwanted noise from being induced into the system.

The KMA-160 has four sets of five-way binding post speaker connectors. These are wired in parallel and have identical function.

It is always preferable to run long interconnect cables to the amplifiers and keep speaker cable length to a minimum. Speaker cable does add impedance between the amplifiers, regardless of its gauge. All KRELL amplifiers will drive the lowest impedances with ease. When impedance is added in any significant amount, amplifier power is literally wasted in driving the cable, thereby reducing the maximum power that can be delivered to the speaker.

The feet on the KMA-160 can be used two different ways. They are made from machined aluminum and are supplied with separate rubber bottoms and mounting screws. 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.

PROTECTION CIRCUITRY

The KMA-160 has a sophisticated series of circuits that protect it from dangerous input signals or loads on the output. They also analyze various amplifier functions to prevent speaker damage caused if the amp should fail.

When the protection circuit is engaged, the amplifier will stop functioning. The on/off switch will remain illuminated and in the on position. Switch it to the off position. After resolving either the input or output problem and leaving the unit off for a short time, it can be turned on. The minimum cycle time for the protection circuit is 10 seconds. Important: if the amplifier does not come on following this procedure, contact your dealer.

WARRANTY/SERVICE INFORMATION

There are no fuses or user-serviceable parts in the KMA-160. The warranty on the KMA-160 is 5 years for parts and labor, and includes return freight. Returns can be handled either through a dealer or by direct contact with the factory. Please do not return any unit to Krell for repair without first calling to discuss the problem, and to obtain a Return Authorization number if the unit must be repaired.

Once the amplifiers are in place and turned off, connect the speaker and interconnect cables. The preamplifier should be on at this point, with level fully attenuated; all other sources should be off. Connect the AC last.

OPERATION

When turning on the system, the amplifiers should always be last. The KMA-160 on/off switch is actually a circuit breaker that is involved in several protection circuits. Upon turn-on the amplifiers' outputs are not connected to the speaker. After the protection circuits have determined that the unit has completely stabilized, the speaker relays will be engaged. You will hear a click when at this point. The amplifiers are now ready to use. The amplifiers will be at temperature and sound their best after approximately 15 minutes.

Operating the amplifiers is, obviously, 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 KMA-160. 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 KMA-160 can generate enough power to damage most loudspeakers. All switching of sources should be done with the preamplifier level either muted or fully attenuated. Also, the inputs to the amplifiers should not be changed while they are on.

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 them to their limit. Always turn the level down at the first sign of distortion.

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