



Krell Industries, Inc.
45 Connair Drive
Orange, CT 06477-0533, USA

KRELL PAM-1 INSTRUCTION MANUAL

IMPORTANT

Congratulations on your purchase of the KRELL PAM-1 preamplifier! No expense has been spared to bring you the finest product obtainable through modern technology. Because your PAM-1 is a highly sophisticated device with a number of features unavailable elsewhere, we ask that before trying to operate it you carefully read the hook-up instructions in this booklet.

THE PAM-1

The KRELL PAM-1 preamplifier is a precision product representing the fruits of many years of research and practical experience. Sonic purity, not the proverbial bells and whistles, has been the goal. To achieve this end, the PAM-1 incorporates several significant advances in the circuit design, permitting unparalleled versatility and flexibility, as well as astonishing musical realism.

The PAM-1 is actually not a single preamp, but rather two completely separate monaural preamplifiers attached to the same chassis. The phono stages have incredibly high signal-to-noise ratios, and overload and voltage swing characteristics. Result: a dynamic range unprecedented in the industry. Your old records will reveal dynamics you never suspected were present, while you may rest assured the the PAM-1 can easily encompass the widest dynamic range achievable through the new digital technology.

The high-level stage of the PAM-1 is equally sophisticated. It contains a 5-watt Class A amplifier with a 7 ohm impedance. Because of this extraordinarily low impedance, the PAM-1 will actually **reduce** the distortion of the amplifier to which it is connected! Minimum feedback configurations and industrial grade parts at all levels of construction assure distortion specs at the limits of measurability. Moreover, the noise level of the PAM-1 sets an industry standard: it is essentially inaudible. You will hear music, not the equipment.

Additionally, KRELL's pacesetting design allows a range of adjustable impedance and capacitance loading of both moving coil and moving magnet cartridges, insuring optimum interfacing for practically any cartridge you are likely to own now or any time in the future. You can count on pleasurable listening through the PAM-1 for many years to come.

SOME BACKGROUND ON KRELL

KRELL is a small company dedicated to excellence. It produces the finest equipment possible regardless of cost. The parts are of the finest industrial grade, hand-picked for their sonic qualities. Connectors are gold plated, and all KRELL components are built to last a lifetime: under normal usage they are virtually indestructible. The designs are innovative applications of the most advanced technology. Distortion and noise have been eliminated to the point of immeasurability. KRELL exhaustively tests every new product before its release, but the people at KRELL realize that no equipment analyzer is as sensitive to music as the human ear. Thus before any component earns the right to bear the KRELL logo, it must prove itself on a wide range of sound systems with a wide range of program material. This assures the consumer a product that serves music, not science.

KRELL was founded in 1980 by the President, Rondi D'Agostino, and the Chief Engineer, Dan D'Agostino. The D'Agostinos bring with them an unusually rich background in high-end audio. Mrs. D'Agostino has previously worked in marketing for Mark Levinson and Mitchell Cotter. Mr. D'Agostino has contributed to the design of equipment for Dayton-Wright, and Gale and the Great White Whale, and has in addition considerable experience of his own in the marketing end of the industry.

UNPACKING YOUR PAM-1

Three separate units should be enclosed: the preamplifier proper, and two power supplies, one for each channel. Inspect these carefully; if there is any damage, contact your dealer or the KRELL factory immediately. Please retain all packing materials; these are specially designed to protect your equipment and will prove useful should you move, or in the unlikely event your PAM-1 should ever require servicing.

INSTALLATION

We know how eager you are to experience the unmatched sonic realism of the PAM-1 through your own system. While the PAM-1 is simple and convenient to operate, it is a complex product. To save time, frustration, and system damage, please take a few minutes to carefully read the following installation instructions before proceeding with your hook-up.

CONNECTIONS

Look at your power supplies. Each has an XLR connector. One of these should be inserted into the left channel input of the PAM-1, the other into the right channel input. Both inputs are found on the rear panel of the PAM-1. Next take the electrical plugs on each of the power supplies and insert these plugs into a convenient wall outlet. Now check the LED displays on both the PAM-1 and its power supplies. The red LED on the power supplies and the green LED's for each channel on the preamplifier should be lit. If **any** of these six LED's is out, DO

NOT ATTEMPT TO OPERATE YOUR PREAMP. Return it to your dealer or contact KRELL directly. If everything is in order, you may proceed.

Your PAM-1 is designed to be plugged in at all times. This allows the circuits to stabilize and maintain optimum sonic performance. Even in these days of exorbitant electrical costs, the expense of powering the unit is negligible. Consequently there is no reason to unplug your PAM-1 unless you will be out of the house for more than a week. We advise that you give your PAM-1 a minimum of five minutes warm-up before proceeding further with the initial hook-up; this permits the circuits to settle down. Meanwhile, you can continue reading these instructions.

POSITIONING

The best position for the PAM-1 is that which causes the least hum; ideally hum should be inaudible. To achieve best results be careful not to place the preamp close to your power amp or underneath your turntable motor. The power supplies should be placed at least three feet away from both your preamp and turntable. Some experimentation may be necessary.

INTERCONNECTS

To achieve optimum performance, only the finest interconnecting wires should be used. We recommend any of the good **shielded** interconnect wire on the market. The length of your interconnecting wires is not critical. This is because of the unusual combination of low impedance with high output found in the PAM-1's high level output stage. It also ensures that the PAM-1 can successfully drive any amplifier with any type of cable.

Momentarily lay your interconnecting wires to the side. **BEFORE** attempting to connect anything further double check to make sure your amplifier is **OFF** and that both of the PAM-1's volume controls are turned to their fully counter-clockwise **ZERO** position. Only then should you plug in the interconnect

wires between your amplifier and the PAM-1's rear panel inputs. The same precautions should be observed before connecting your turntable, tuner, tape deck, or any auxiliary devices to the PAM-1. For more details, read on.

CONTROL FUNCTIONS

Provision is made for front-panel switching of two phono inputs, a tuner, tape deck, and other high-level accessories. Because of the PAM-1's dual mono construction, each channel has its own switching and gain controls. Therefore, please make sure both channels are switched to the same function before attempting to operate your preamplifier.

TUNER - Simply connect your tuner via high-quality interconnect wires to the left and right channel inputs on the PAM-1's back panel marked **"Tuner"**. To listen, turn the front panel selector switch to the tuner position and adjust the level controls to the desired volume.

TAPE DECK - Simply connect your tape deck output to the PAM-1's back panel inputs marked **"Tape In"**. Then connect your tape deck inputs to the PAM-1's back panel outputs marked **"Tape Out"**. To listen to your tape deck, move the PAM-1's front panel Tape Monitor toggle switch to the position marked **"Tape"**. This same switch can be used to monitor during taping if your tape deck is equipped with a tape monitor head.

PHONO - The following section will enable you to maximize your cartridges for the best possible sound. The necessary adjustments are achieved through the rear panel capacitance switches and through the two tiny dip switches (each with two rockers) housed on each board.

PAM-1 contains two phono stages. Phono 1 is for moving coil cartridges, Phono 2 for moving magnet cartridges.

Moving Coil Cartridges - To select the impedance range for your moving coil cartridge, check the manufacturer's recommendation and refer to Figures 1 & 2.

When Switch T1 is in the HI position (Fig. 1), a load of 100 ohms is in force. This impedance cannot be altered.

However, in the MEDIUM position, a variety of adjustments can be made (see Fig. 2). There are four possibilities. With both medium dip switches in their OFF positions, an impedance of 33 ohms is obtained. With rocker 1 in its ON position and 2 OFF, the impedance is 25 ohms. Move dip switch 2 to ON and 1 to OFF and an impedance of 18 ohms results. Switching both 1 and 2 to ON reduces the impedance to 16 ohms.

The LOW position also permits a variety of impedance settings (Fig. 2.) With both low rockers in their OFF position the impedance is 25 ohms. Moving switch 1 to ON while leaving 2 at OFF produces an impedance of 12 ohms. Moving switch 1 to ON and 2 to OFF gives an impedance of 7 ohms, while moving both 1 and 2 to their ON positions gives an impedance of 5 ohms. Thus the PAM-1 can be adapted for the lowest output moving coil cartridges on the market today.

Moving Magnet Cartridges - Consult your cartridge manufacturer for recommended loading and proceed. The capacitance loading for moving magnet cartridges can be adjusted by changing the position of switch T2 (see Figure 1.) The middle position (HI 50) is set for 50 picofarads. The top position (MED 100) yields 100 picofarads, and the bottom setting (LO 320) is loaded for 320 picofarads.

KRELL'S DESIGN PHILOSOPHY

A cursory glance at the control panel of the PAM-1 might disappoint the casual audiophile. Unlike the front panels of many popular preamps, it does not resemble the inside of an airplane cockpit. There are no flashing lights and a minimum of knobs and dials. There are no tone controls, no balance control, no stereo/mono switch, no subsonic filter, etc. Why? For one simple reason: KRELL equipment is designed to be listened through, not fiddled with. The goal is a sonic purity approaching the proverbial straight wire with gain. **Any** extraneous controls add distortion and deleteriously affect phase relationships. They cannot improve sound that is already good to begin with. Thus we do not recommend equalizers, ambiance systems, or any other sound "enhancers" except as correctives to faults in the program material or room acoustics.

This brings up an important point. The PAM-1 represents the ultimate in present-day preamplifier technology. But it is only as good as its associated components and program material. Play a badly recorded album through the PAM-1 and it will sound badly recorded, perhaps worse than it has ever sounded to you before. All its shortcomings will be mercilessly revealed. But play an outstanding record through the PAM-1 and it will sound better than it ever has, with an uncanny you-are-there realism that undoubtedly convinced you to purchase a PAM-1 in the first place.

SPECIFICATIONS

Frequency Response	1 Hz - 500kHz \pm 0.1 dB
Maximum Output	15 Volts into 10 ohms
THD	.005%
IM Distortion	.005%
Phono-Overload	250MV at 1 kHz
SN Phono Stage	90 dB
High Level Stage	60 MV Sensitivity
Phono Input Impedance,MM	47 k ohms
Phono Input Impedance,MC	Adjustable
Noninverting Input to Output	
Weight	22 lbs.

WARRANTY

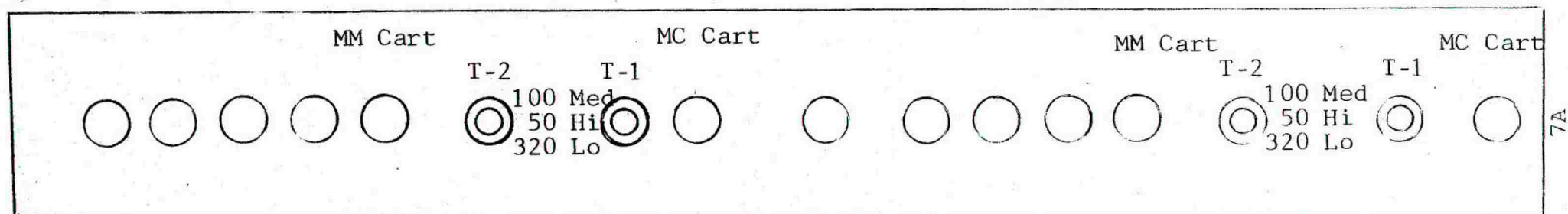
The KRELL PAM-1 preamplifier and its power supplies are warranted for a full five years from date of purchase. In the unlikely event that something goes wrong, the necessary replacement parts and labor will be supplied free of charge through your local dealer or distributor. KRELL reserves the right to modify their products. Of course KRELL assumes no responsibility for abuse or damage beyond our control. Likewise any modification or tampering by unauthorized personnel will invalidate the warranty.

MAINTENANCE

The KRELL PAM-1 requires minimal maintenance. With any reasonable care your preamplifier should last a lifetime. We recommend an occasional wiping with a clean soft cloth.

HAPPY LISTENING!

KRELL PAM 1



KRELL HEAD AMP HA-520

INPUT LOADING SWITCH DIAGRAM

Rear Panel Switch	DIP Switch Setting			
	off	1 on	2 on	1 & 2 on
High	100 ohms			
Med	33 ohms	25 ohms	18 ohms	16 ohms
Low	25 ohms	12 ohms	7 ohms	5 ohms

