

# Owner's Manual

Model

**LP1**

Phono Preamplifier

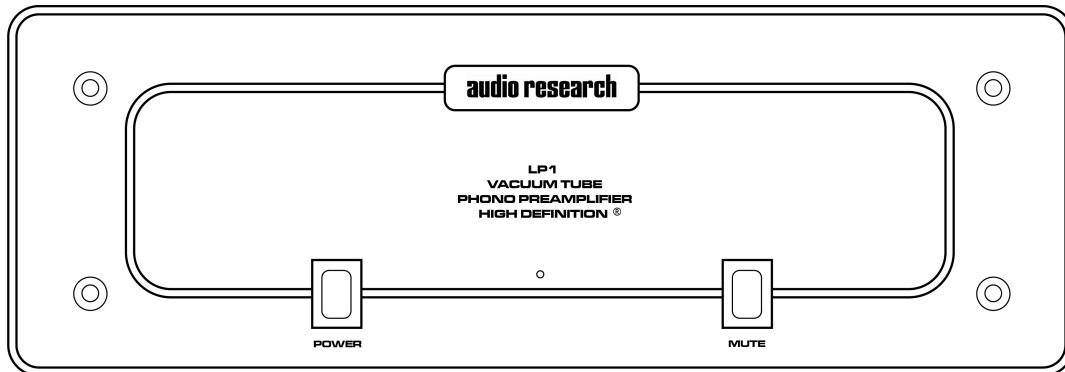
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**LP1**  
PHONO PREAMPLIFIER  
**audio research**  
PLYMOUTH, MINNESOTA  
MADE IN U.S.A.

**GROUND**

RIGHT LEFT  
**INPUTS**

RIGHT LEFT  
**OUTPUTS**

**CAUTION**  
FOR CONTINUED PROTECTION AGAINST  
FIRE HAZARD REPLACE INTERNAL FUSE ONLY  
WITH SAME TYPE AND RATING

**WARNING**  
TO PREVENT FIRE AND SHOCK HAZARD, DO NOT  
EXPOSE THIS DEVICE TO RAIN OR MOISTURE.  
UNIT MUST BE OPERATED IN A HORIZONTAL POSITION.  
-DO NOT OPERATE WITH COVERS REMOVED-  
UNIT CONTAINS VOLTAGES WHICH MAY BE HAZARDOUS.

**35W MAX 50/60 HZ ~**

**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN

**VOLTS**

**SERIAL**

**CE**

## Preface

Please take the time to carefully read this instruction manual prior to installation or use of your LP1 phono preamplifier. Because it is a highly advanced electronic instrument, there are several facts and procedures you should know before you place it in operation.

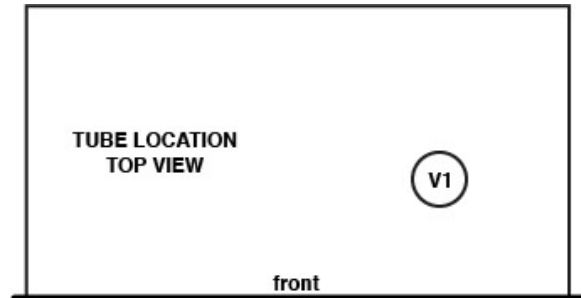
Just as you would not purchase and attempt to operate an expensive camera, computer system or high-performance automobile without first learning something about performance parameters and correct operating procedures, so too your phono preamplifier requires some familiarization before you make it part of your music reproduction system. Your reward, in terms of maximum performance and a long service life, will be well worth the effort.

## Warnings

1. To prevent fire, or shock hazard, do not expose your LP1 to rain or moisture.
2. This unit contains voltages which can cause serious injury or death. Do not operate with cover removed. Refer servicing to your authorized Audio Research dealer or other qualified personnel.
3. The power cord on your LP1 is equipped with a standard three-prong grounding plug. For absolute protection, **do not defeat the ground power plug**. This provides power line grounding of the PH8 chassis to provide absolute protection from electrical shock.
4. For continued protection against fire hazard, replace the fuse only with the same type and rating as specified at the fuse holder.



**DO NOT ATTEMPT TO OPERATE THIS EQUIPMENT BEFORE INSTALLING THE VACUUM TUBE IN ITS PROPER SOCKET.**



## Packaging

Save all packaging in a dry place away from fire hazard. Your LP1 phono preamplifier is a precision electronic instrument and should be properly cartoned any time shipment is made. You may not have occasion to return your unit to the factory for service, but if that should prove necessary, or other occasion requiring shipment occurs, the original packaging will protect your LP1 from unnecessary damage or delay.

Note that your LP1 has been shipped with the vacuum tubes installed in a protective foam block under the top cover. With the LP1 unplugged, use a phillips-head screwdriver to loosen the fastening screws, remove the top cover and set aside. Install the numbered tubes in their respective sockets, refasten the top cover and store the foam block with your carton.

## Front Panel Controls

**POWER ON/OFF:** The unit is off when the front panel LED is not lit; to power on the LP1, press the Power switch to the upward position.

**MUTE:** After unit is on and goes through a 30 second auto-mute warm up cycle, the LP1 may be unmuted by pressing the Mute switch to the upward position. The dimly lit Mute LED indicates the LP1 is muted; when brightly lit, the LP1 is unmuted.

## Connections

**INPUT CONNECTORS:** There is one set of RCA input connectors, which should be connected to your turntable/toner arm cable.

**OUTPUT CONNECTORS:** There is one set of RCA output connectors which should be connected to line inputs (Direct, Aux, Spare, Tuner, etc.) of your line stage/preamplifier. Single ended RCA-to balanced adapters are available from Audio Research allowing the LP1 to be connected directly to a balanced input preamplifier using single ended RCA interconnects.

All input/output connectors are gold plated and connect 'ground' before 'hot'. On disconnect, 'hot' is disconnected first.

**Note:** A 'passive' line stage is not recommended for use with the LP1 as it will not provide the gain necessary to amplify the output of the LP1 to adequate levels to the power amplifier.

## Installation Instructions

While the LP1 does not dissipate an unusual amount of heat, it is important that it have a reasonable airflow to assure long, trouble-free operation.

In addition, the following installation guidelines will help insure maximum sonic performance as well as reliable service.

1. Upright and horizontal mounting is required if extended operation (longer than one hour) is contemplated.
2. Do not 'stack' the LP1 on top of other equipment: not only could this cause overheating, but 'hum' may be introduced into the phono circuits from the proximity of the power transformer of the other equipment.
3. Do not operate unit without the top and bottom covers installed. These are required both for safety as well as shielding from interference (except in service operations).
4. If side-by-side mounting with other equipment is employed, place the LP1 to the left of the other chassis, so as to provide maximum spacing between

the transformer of the LP1 and the other component.

5. In a cabinet which has an enclosed back, an exhaust fan is desirable so as not to operate the LP1 in overheated ambient air. Operation of vacuum tube equipment for long periods of time in hot ambient air will shorten tube life and increase chance of failure of other component parts.

## Operating/Start-up Procedure

1. Secure connections between turntable, LP1, and line stage preamplifier. Note: Given the advanced performance capabilities of the LP1, it is extremely important that high-quality interconnects be used for connection to ancillary electronics.
2. Plug 3-prong power cord into a grounded AC wall receptacle.
3. Turn Power switch 'on'. The green Power LED will light and the Mute LED will remain dim for approximately 30 seconds while the power supply stabilizes, indicating the operation of the automatic muting circuit.
4. After 30 seconds the Mute switch may be pressed into the upward position, and the LED will go from bright to dim, indicating the LP1 is ready for operation.

**Note:** For superior sonic performance, a warm-up period of at least one hour is recommended.

## Servicing

Because of its careful design and exacting standards of manufacture, your LP1 should normally require only minimal routine service to maintain its high level of performance.



**CAUTION:** Your LP1 contains sufficient levels of voltage and current to be lethal. Do not tamper with a component or part inside the unit. Refer any needed service to your authorized Audio Research dealer or other qualified technician.

The vacuum tube inside your LP1 is a 6H30 dual triode. With normal use it should last approximately 2,000 to 4,000 hours.

## Cleaning

To maintain the visual appearance of your LP1 phono preamplifier, occasionally wipe the front panel and top cover surfaces with a soft, damp (not wet) cloth to remove dust. A mild, non-alkaline soap solution may be used to remove fingerprints or similar smudges. Cleaners containing abrasives should not be used as they will damage the 'brushed' grain of the front panel finish. A dry 2-inch pure bristle paintbrush works well to remove dust from bevels, reliefs and switches.



## Disposal and Recycling Guidelines

To dispose of this electronic product, do not place in landfill. In accordance with the European Union Waste Electrical and Electronic Equipment (WEEE) directive effective August 2005, this product may contain regulated materials which upon disposal require special reuse and recycling processing.

Please contact your dealer or importing distributor for instructions on proper disposal of this product in your country. Or, contact Audio Research Corporation (763.577.9700) for the name of your importing distributor and how to contact them. Packing and shipping materials may be disposed of in a normal manner.

## Limited Warranty

Audio Research Corporation products are covered by a 3-Year Limited Warranty, or a 90-Day Limited Warranty (vacuum tubes). This Limited Warranty initiates from the date of purchase, and is limited to the original purchaser, or in the case of demonstration equipment, limited to the balance of warranty remaining after original shipment to the retailer or importer. In the United States, the specific terms, conditions and remedies for fulfillment of this Limited Warranty are listed on the warranty card accompanying the product in its shipping carton, or may be obtained from the authorized retailer or from the Audio Research Customer Service Department. Outside the United States, the authorized importing retailer or distributor has accepted the responsibility for warranty of Audio Research products sold by them. The specific terms and remedies for fulfillment of the Limited Warranty may vary from country to country. Warranty service should normally be obtained from the importing retailer or distributor from whom the product was purchased. In the unlikely event that technical service beyond the ability of the importer is required, Audio Research will fulfill the terms and conditions of the Limited Warranty. Such product must be returned at the purchaser's expense to the Audio Research factory, along with a photocopy of the dated purchase receipt for the product, a written description of the problem(s) encountered, and any information necessary for return shipment. The cost of return shipment is the responsibility of the purchaser.

## Specifications

**FREQUENCY RESPONSE:**  $\pm 0.3\text{dB}$  of RIAA, 10Hz to 20kHz.

**DISTORTION:** Less than .019% at .5V RMS SE output.

**GAIN:** 47dB at 1kHz.

**SWITCHES:** Power, Mute.

**INPUT IMPEDANCE:** 47k ohms (0.7 to 7mV high output cartridge recommended).

**OUTPUT IMPEDANCE:** 5.5k ohms Single Ended (Single Ended RCA connectors). 60k ohms minimum load and 100pf maximum capacitance.

**OUTPUT POLARITY:** Non-Inverting.

**MAXIMUM INPUTS:** 40mV RMS 1kHz, 100mV RMS 10kHz.

**RATED OUTPUTS:** .0.5V RMS Single ended into 100k load (maximum output 15V RMS at 1% THD at 1kHz).

**POWER SUPPLIES:** Electronically-regulated low and high voltage supplies. Automatic 40 sec. warm-up/brown-out mute. Line regulation better than .01%.

**NOISE:** 0.4 $\mu\text{V}$  RMS IHF weighted equivalent input noise, shorted input 74dB below 2mV RMS 1kHz input).

**TUBE COMPLEMENT:** (1) 6H30 dual triode.

**POWER REQUIREMENTS:** 100-135 VAC 60Hz (200 - 270VAC 50/60Hz) 35 watts maximum.

**DIMENSIONS:** 11.3" (33 cm) W x 4.5" (11.4 cm) H x 8.6" (21.8 cm) D. Rear chassis fittings extend 0.6" (1.5 cm).

**WEIGHT:** 9 lbs

Specifications subject to change without notice.

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