

**ALLNIC AUDIO
L-4000 LINE STAGE PREAMPLIFIER**



OWNER'S MANUAL

ALLNIC AUDIO L-4000 LINE STAGE PREAMPLIFIER

Thank you for purchasing this Allnic Audio L-4000 Line Stage Preamplifier. We are certain your trust in Allnic Audio and Hammertone Audio, as well as your appreciation for the sound of this high-quality device, will be rewarded by its excellent operation for years to come.

Please read this entire manual before you connect the L-4000 Preamplifier to the other components of your system and the wall outlet.



MUSICAL
TRUTH



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** Information and specifications for the Allnic Audio product described in this manual are subject to change without notice.

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Please read about **SAFETY** before you attempt to use the L-4000 Preamplifier - we care about our customers and the equipment, and we want you to enjoy this product for a long time!

INTRODUCING THE L-4000 PREAMPLIFIER

The L-4000 is Allnic Audio's best line stage preamplifier. Like all Allnic Audio products, it uses Permalloy (Iron and nickel alloy) for its transformer cores. Allnic is grateful to Mr. G.W. Elmen of Western Electric for inventing Permalloy for transformer core use, and in so doing, providing an enormous service to recorded music listeners everywhere.

The L-4000 has the following features:

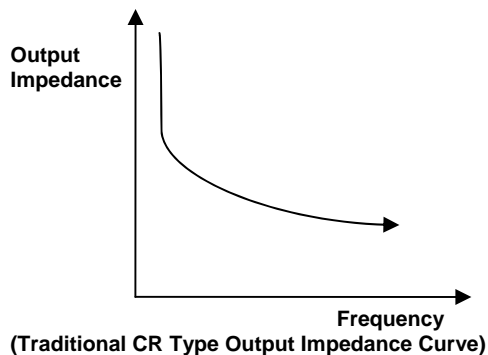
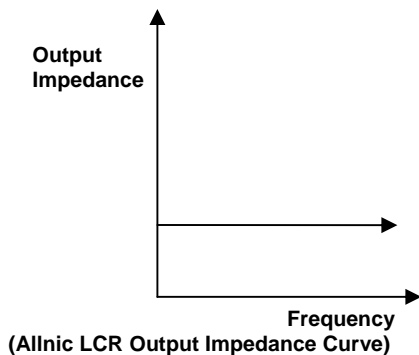
- Single gain stage – A single gain stage circuit uses only one tube for amplification ("gain"). This reproduces a purer, more detailed, more spacious and more dynamic sound than multi gain stages.
- Line output transformer coupling – The L-4000 is "transformer coupled". In tube amp circuitry, there are two coupling methods; one is capacitor coupling and the other is transformer coupling. Capacitor coupling is the traditional, low cost method. It is somewhat stable but transfers only voltage, not wattage (i.e., not real energy). With transformer coupling, about 90% of real wattage is transferred (there is still a transformer loss of about 10% of wattage – voltage is not affected).

Transformer coupling is superior to capacitor coupling. However, all the advantages of transformer coupling depend on the quality of the transformer and on the choice of tubes. Allnic Audio manufactures its own transformers and uses what it views to be the best core material, Permalloy. Allnic Audio's unprecedented, wide (16Hz ~ 75kHz, -3db), low distortional, and ultra-flexible (up to 50kHz square wave response) output transformer helps Allnic Audio to realize the ideal transformer coupled preamplifier. Of course, gain tubes are also carefully selected for three critical factors for function with the Permalloy output transformers: high gm, low internal resistance and high mu.

- Constant and low output impedance – One of the benefits of transformer coupling is that it facilitates constant low output impedance. Low output impedance is critical to the design of a good preamplifier. The L-4000 has a 150 ohm (150Ω)

constant output impedance at all frequencies. In capacitor coupling (C-R coupling), a "cathode follower circuit" is usually used to lower output impedance. Unfortunately, this method of lowering output impedance is accompanied by high distortion and has an "L" shaped output impedance curve. Please compare the two graphs below, especially for low frequency response.

- No negative feedback design
- Advanced tube technology voltage regulation - For quieter and more dynamic operation, the L-4000 has an ultra high speed automatic voltage regulation circuit, utilizing vacuum tubes. This also protects the amplifying tubes from change in the AC line supply and copes with any abrupt, internal current demand.
- New vacuum tube damping technology – Allnic Audio's patented "Absorb GEL tube damper" technology prevents harmful vibrations from reaching the signal / gain tubes and, therefore, prevents microphonic noise propagation in the tubes. The Allnic Audio Absorb Gel damper technology effectively solves a problem that plagues most tube amplification systems. Provided other tube components do not introduce microphonic noise into your system, with the Absorb Gel damping system, you will enjoy a degree of transparent sound that will surprise and please you.
- Precision attenuator volume control – The L-4000 does not employ a digital IC volume control or a low-cost carbon film volume control with a motor. Allnic Audio has developed a precision oil clutched motorized attenuator; the L-4000 has no (\pm 0db) channel unbalance at any volume level.
- Pure Class A operation
- Pure balanced operation
- As are all Allnic Audio products, the L-4000 is fully RoHS (EU Reduction of Hazardous Substances regulation) compliant in construction and materials



WHAT'S IN THE BOX?

Please check that the shipping box contains the following:

- One (1) Allnic L-4000 preamplifier – in natural aluminum or black, depending on your order specification
- One (1) power cord
- One (1) Owner's Manual

Note:

- 1) The L-4000 ships with the tubes installed.
- 2) The L-4000 will work with most IEC type aftermarket power cords. Of course, only you can determine the power cord that works most synergistically with the L-4000 in your system.

We advise that you keep the box and other packing materials that your L-4000 came in. It will be useful if you sell your L-4000 or in the unlikely event you need to ship it for service.

SAFETY

- Remove ALL cushioning materials between the tubes and the protective parts of the chassis before operation.
- Disconnect the power cord by pulling the plug, not the cable.
- Keep the power cord away from any heat source.
- Keep the unit away from liquids – do not allow any liquid to enter the interior of the unit.
- When the unit is moved from a cold to a warm environment, allow sufficient time for any

condensation to evaporate before plugging the unit into an AC connection.

- Do not attempt any repairs.
- Do not remove the chassis cover without specific authorization from Hammertone Audio.
- See the notes on "Location, Location, Location".

CLEANING

A. Chassis and glass

Use only a soft, lint-free cloth dampened slightly with water only (NO cleaning fluids!) to clean the faceplate, meter glass and chassis.

B. Connectors

You may use any good quality contact cleaner recommended for such applications to clean the contacts from time to time as you deem appropriate.

INITIAL SET-UP

A. LOCATION, LOCATION, LOCATION

Like all audio products using tubes, the Allnic Audio L-4000 needs to be placed on a solid stand in a location that provides for good air circulation around the preamplifier.

- DO NOT cover the top of the H-4000 preamplifier.
- DO NOT place the unit on carpet or foam.
- DO NOT subject the unit to knocks and shocks as you move it around. This advice is meant

particularly for those who may want to place the L-4000 on some kind of after-market isolation feet or similar devices. Dropping one side of the L-4000, or the whole unit, is not a good thing to do.

- DO NOT place the unit near a strong light or heat source.
- DO NOT place anything heavy on the unit.
- DO NOT allow rubber or vinyl materials to rest on the unit's chassis for long periods of time. This could discolour the metal.

- DO place the unit on a shelf or stand that is stable and not subject to vibration or sudden shock.
- DO consider using a high quality power cord and inter-connects, both inputs and outputs. The L-4000 is a highly sensitive piece of electronic equipment designed for neutrality and will output what you put into it.
- DO try to place the L-4000 away from major sources of RFI and EMI; though well shielded, the L-4000 will function best away from large power transformers and other sources of such interference.

B. POWER CONNECTION

The L-4000 uses a standard three prong male IEC connection for AC input. You need to use a power cord with a female three prong IEC connector at one end.

To the left of the IEC connector (facing the left side of the unit as in Figure 1), there is a power on-off switch. Leave this switch in the OFF position – that means the switch is pressed “down” at the bottom - while you make all initial connections.

The L-4000 you have purchased is set internally for AC 110/120 volt – 60 HZ operation. There is no way to change this to another AC setting without return of the unit to the factory for re-wiring, at the owner's cost, including transport both directions.

C. INPUTS

There are five (5) inputs. Line 1 and Line 2 are balanced connections (XLR type connectors). The remaining 3 line inputs are RCA type single-ended connections. None of the

inputs is intended especially for connection to any particular device.

NO PHONO STAGE - The L-4000 is a line stage preamplifier and does NOT have a built in phono preamplifier section. You will need a phono preamplifier if you want to use a turntable with the L-4000. You can connect your phono preamplifier to any of the five inputs, provided you have the appropriate types of connections or adaptors.

The L-4000 has been designed and manufactured to work most synergistically with Allnic Audio phono preamplifiers, pre-preamplifiers and equalization products.

D. OUTPUTS

The L-4000 is equipped with three pairs of outputs. Two (2) of the outputs require balanced connectors (XLR type); one (1) pair is unbalanced, using RCA type connectors.

One of the pairs of balanced outputs is a “Record Out”. It is a straight pass-through, is not affected by the L-4000's circuitry, and provides no gain.

The other two pairs of outputs are intended for connection to a power amplifier. On the back of the L-4000 there is a switch to select either balanced or single-ended RCA connection to your amplifier. The output selection switch is just below the Phase switch (see Figure 2). Please set the output selection switch to the type of output connection you are using. If you set the switch to “balanced” and then connect your cables to the RCA connections, audible hum will be introduced.

You may use both the balanced and single-ended RCA outputs at the same time, for example, if you run one pair to your stereo amplifier and the other to a (or a pair of) powered subwoofer(s). In such a case, set the output selection switch to unbalanced (RCA). This will avoid the introduction of hum.

E. PHASE SWITCH

On the right hand side of the top deck of the chassis, there is a phase switch. This switch is a 180 degree phase

switch; phase is either normal or inverted one hundred percent, depending on the switch position. On initial connection, set the switch to normal. Depending on the phase your sources output and their facilities with regard to phase, you may want to switch to inverted phase sometimes. Phase issues generally will result in lack of bass and/or focus of the stereo image (Please see Figure 3).

F. REMOTE CONTROL

The remote control provides the ability to remotely:

- Power the L-4000 on and off (it is a “toggle” type switch) using the button labeled “POWER”.
- Select the line source input using either the numbered buttons or the up and down arrow buttons above and below the CHANNEL label (Please see Figure 5).
- Control the volume level using the up (louder) and down (quieter) arrow buttons above and below the VOLUME label.
- Mute the volume using the button labeled MUTE, located between the CHANNEL and VOLUME arrow buttons. Depressing this MUTE button will run the volume control down to zero. To raise the volume again after muting, press the MUTE button to take the volume level to where it was prior to muting.

INITIAL POWER-ON

Once you have your L-4000 in place and all connections have been made to your sources and amplifier(s) and the power cord is installed and plugged into an AC receptacle, you are ready to turn on the power for your L-4000. Before you power up the L-4000, though, be sure you have:

- removed all the cushion materials between the tubes and the protective parts of the chassis
- selected the output connections that you want to use, single ended (RCA) or balanced (XLR), on the two switches on the back of the phono stage
- turned the volume down on or muted the L-4000
- checked that all your connections are snug

PLEASE NOTE – CAUTION!

- 1) You may need to depress the power switch on the left side panel of the chassis several times (wait 30 seconds or so between each try), for the L-4000 to power up internally (before you turn on the unit from the front panel or the remote control). The boot system inside the unit needs to recognize the remote control and synchronize with it; this is what accounts for the possible necessity of several tries with the rear switch. When that operation is successful, the events described just above will occur. Unsuccessful boot-ups may result in some of the front LED’s glowing faintly if the power switch on the front panel of the chassis is in the “on” position, but this may be ignored.
- 2) Be sure you have manually turned the volume control on the front panel to the extreme counter-clockwise position (minimum volume).

OPERATION

When the Allnic L-4000 has powered up internally and you have either depressed the far left hand button marked “power” on the front panel, or pressed the power button on the remote control, the following will happen on the front panel (Please see Figure 5):

- The light above the “power” button will illuminate.
- The meters on the front panel will illuminate.
- Any of the five numbered line source lights that are depressed will illuminate.
- After about forty (40) seconds, the light above the “operate”/”mute” button will illuminate. The L-4000 has a “soft start” delay for the tubes in order to extend tube life.

The Allnic Audio L-4000 is now ready for operation. At this point, you can power on your stereo power amplifier or mono-blocks.

To avoid surges to the speakers, it is best to change from input to input only with the “operate” button set to mute (the light above the button will not be illuminated when the button is in the “mute” position).

From this point on, operation is straight-forward. All functions are controlled from the front panel or the remote control. Of course, BE CAREFUL about differences in gain between your sources. Generally, disc players and tuners will have greater gain than phono stages. That means the volume setting for listening to your turntable might be too high for listening to CD's.

When you are finished listening, turn off your stereo power amplifier or mono-block amplifiers. Then turn off the L-4000, using the remote control or depressing the power switch on the front panel. The power switch on the rear panel should stay in the "on" position – this will keep key circuitry warm, and your L-4000 will be ready to play when the soft-start turns on the L-4000 next time you want to listen. Turn off your sources last.

THE CURRENT METER

These illuminated meters indicate the current supply to the gain tubes in the L-4000. They are indicators of failure or damage to the function of the unit. There is one meter for each channel. The needle should be between the two parallel lines just left of centre on the meter face. Any failure of the tubes or circuits in one or the other of the L-4000's channels is indicated by the needle on the meter for the respective channel moving out from between these two parallel lines.

- If the needle has moved to the left of the parallel lines on a meter, it means that one or both the E810F tubes for that channel is failing.
- If the needle on either meter moves to the right of the parallel lines, it means that one or the other of the voltage regulator tubes (7233 or 6485) for that channel is failing.

In the case of any failure indicated by the meter, please contact Hammertone Audio for assistance.

TUBES

The L-4000 uses the following tubes (see Figure 6):

- Two (2) x E810F
- Two (2) x 7233
- Two (2) x 6485

All consequences of changing or attempting to change tubes are borne by the user unless by express agreement between the owner and Hammertone Audio. Allnic Audio and Hammertone Audio are not liable in any way whatsoever for any injury or loss incurred by the user or for damage to the L-4000, any of its parts, or tubes or replacement tubes resulting from the user changing or attempting to change tubes.

SPECIFICATIONS

FOR THE ALLNIC AUDIO L-4000 LINE STAGE
PREAMPLIFIER

- Inputs: Line level × 5 pairs
(Balanced × 2, Unbalanced (RCA) × 3)
- Outputs: Balanced × 1 pair
Unbalanced × 1 pair
- Input Impedance: Unbalanced 10kΩ
Balanced 20kΩ
- Frequency Range: 20Hz ~ 20kHz (FLAT)
16Hz ~ 75kHz (-3dB)
- Voltage Gain: +20dB
- THD (1kHz): Output 0.3V, 0.06%
Output 1.0V, 0.15%
- S/N Ratio: -90dB (CCIR, 1kHz)
- Maximum Output: 15V RMS (Non-clipping)
- Output Impedance: 150Ω Constant
- Power Consumption: 30W at 110/120V / 60 Hz

- Tubes: E810F (or D3a) × 2 (gain stage, left and right channels – there are no equivalents to these tubes)
7233 (no equivalent) × 2 (Voltage Regulator)
6485 (similar to 6AH6, 6AH6WA, 6AH6S, CV2521) × 2 (Voltage Regulator)
- Fuse: 2A 250V
- Dimensions: 430mm (16.9291 inches) (W)
350mm (11.811 inches) (D)
173mm (4.72441 inches) (H)
- Weight: 16 kg (35.3 lbs) unpacked.
Packed shipping weight in original shipping material is 20 kg. (44.1 lbs)

WARRANTY

All Allnic Audio amplifier products are warranted against materials and manufacturing defects for parts, excluding tubes, and labour for two (2) years from date of purchase. Tubes are warranted against materials and manufacturing defects for one (1) year from date of purchase. The warranty is transferable for the balance of the original purchaser's warranty period, provided, as stated below, no unauthorized repairs or modifications have been performed on the product. Date of purchase is the date indicated on the invoice for the product issued by Hammertone Audio.

For the warranty to be valid, a defective product must be returned to Hammertone Audio for service prior to any unauthorized attempt to repair. Any repair work on an Allnic Audio product not specifically authorized by Hammertone Audio will void the warranty on the product.

FIGURES

Figure 1 – L-4000 Left Side Panel View

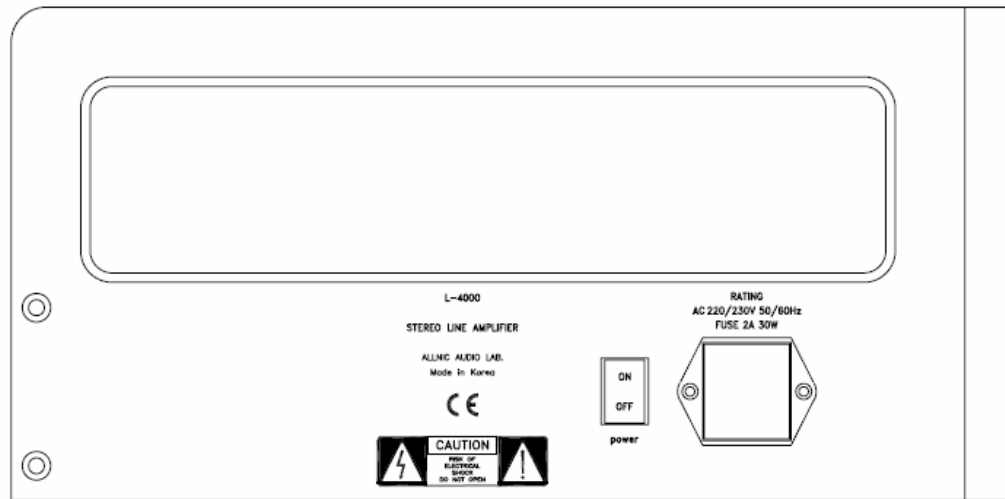


Figure 2 – L-4000 Rear Panel View

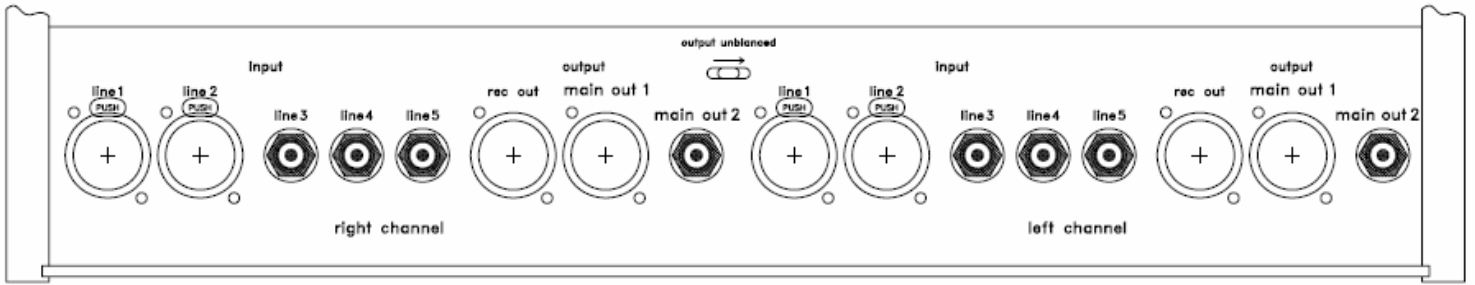


Figure 3 – L-4000 Phase Switch

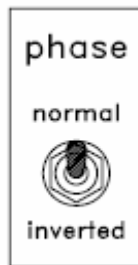


Figure 4 – L-4000 Remote Control

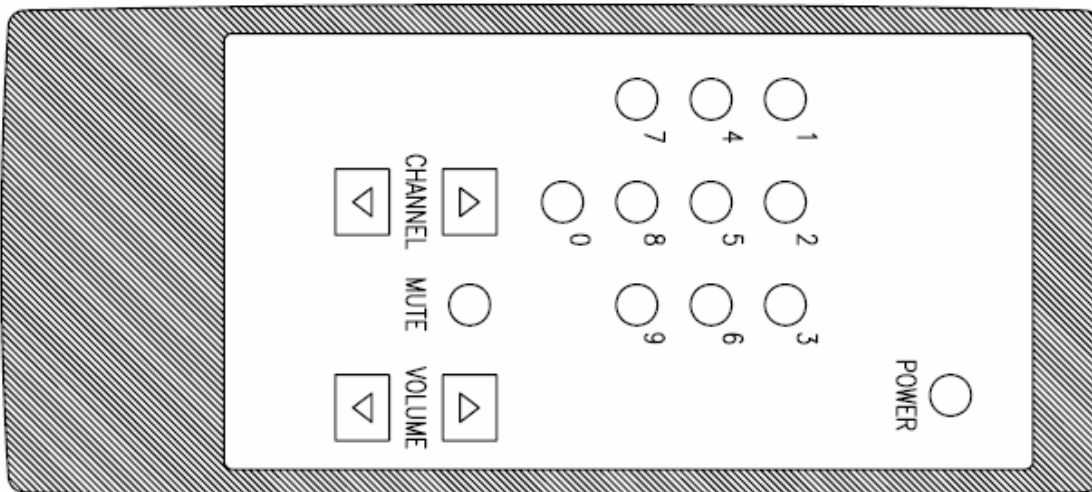


Figure 5 – L-4000 Front Panel View

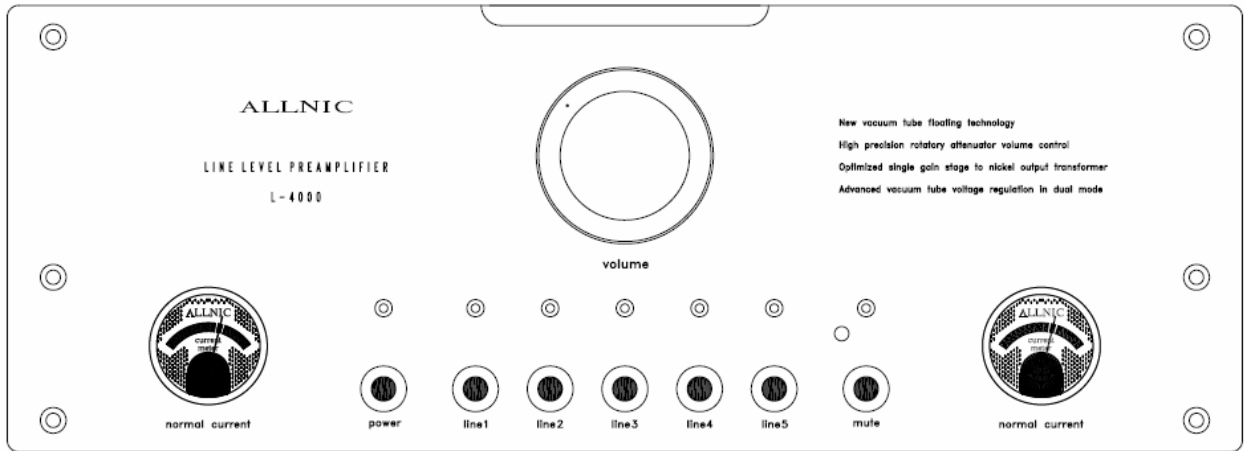


Figure 6 – L-4000 Internal View

