ALLNIC AUDIO

H-6500 PHONO-STAGE PREAMPLIFIER

OWNER'S MANUAL

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Thank you for purchasing the Allnic Audio H-6500 Phono-stage Preamplifier. We are certain your trust in Allnic Audio and its dealers worldwide, 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 H-6500 Phono-stage Preamplifier to the other components of your system and the wall outlet. Failure to follow the guidance in this manual may result in voiding the warranty.

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

TABLE OF CONTENTS:

Please read about **SAFETY** before you attempt to use the H-6500 Phono-stage Preamplifier - we care about our customers and the equipment, and we want you to enjoy this product for a long time!

INTRODUCING THE H-6500 PHONO-STAGE

The H-6500 is Allnic Audio's mid-line phono-stage model, above the H-5500 and below the H-7000 and the top-of-the-line H-10000 OTL/OCL and H-8000 DHT. 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 H-6500 has the following features:

- LCR TYPE RIAA EQUALIZATION:

RIAA equalization is a specification for the correct playback of vinyl records, established by the Recording Industry Association of America. The purpose of the equalization is to permit longer playback times and improve sound quality.

RIAA equalization is a form of establishing a flat frequency response for the playback of recorded music. The necessity for this equalization process arises from mechanical difficulties inherent in record production. To prevent the cutting needle from over-cutting into the next record groove in the bass, as a record is cut, some bass frequencies are attenuated. In the treble region, for high frequency sounds not to be masked by the noise inherent in moving a stylus over and through a modulated vinyl surface, some treble frequencies are boosted. With the application of the correct filtering techniques on playback, the result is a flat frequency response with better signal to noise ratios. There are four de-emphasis methods that can be applied at playback:

A. Active filters (Negative feedback types):

Different quantities of negative feedback are applied, with deeper feedback to the high frequencies and shallower to the low frequencies. The benefits of this method are improved signal to noise ratios, low-cost and consistent operation. Some of the shortfalls are looser bass reproduction and possibly a pinched and compressed high frequency playback due to
excess feedback ratios.

A. Passive filters (CR type):

- The frequencies are filtered to fit the RIAA specification by varying the amount of attenuation at different frequencies through a complex capacitor-resistor network. This technique results in no voltage overload, purer reproduction (because there is no feedback), and more accurate RIAA compensation. However, there are problems because the system provides no gain, and insertion loss and impedance matching issues arise.

B. Hybrid filters (use of both CR and negative feedback types):

In this method, both types of filters applied separately; an active filter is applied to the low frequencies and a passive filter to the high frequencies. Unfortunately, both the advantages and disadvantages of each of these two types of filters, already discussed, affect the playback system at the same time.

C. LCR filters, which are used in the H-6500:

Two pieces of a linear reactor (a kind of choke coil) comprise the main part of these filters, assisted by precise CR filters, to lower impedances and insertion loss. In vacuum tube circuits, active and passive filters usually are operated on one hundred plus kilo ohms of impedance. An LCR RIAA filter's impedance is a constant 600 ohms.

Furthermore, an LCR RIAA filter's series resistance is less than 13 ohms (as a comparative, some famous ones are 31 ohms). The lower the impedance, the more dynamic is the sound reproduction, with better bass response and speed.

But LCR RIAA units have drawbacks as well. These drawbacks are high cost and the difficulty of impedance matching; the latter has been the primary hindrance to the commercialization of this superb method in the construction of phono-stage amplifiers. However, Allnic Audio manufactures a high quality LCR RIAA unit and has developed a 600 ohms impedance matching method.

- For superior signal to noise ratios, the H-6500 is equipped with pure vacuum tube, high voltage regulation for each channel

- power supply unit separate from the phono-stage itself

- High quality MC Step-up Transformers with Permalloy cores are used for the H-6500's dual MC inputs

- Pure Class A operation

- As are all Allnic Audio products, the H-6500 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 H-6500 phono-stage – in natural aluminum or black, depending on your order specification
- One (1) Power Supply for the H-6500 in natural aluminum or black, depending on your order specification
- One (1) 5AR4 or equivalent rectifier tube
- One (1) power umbilical cord
- One (1) IEC type power cord
- One (1) Owner's Manual
- One (1) Hex/Allen key

Note:

1. Except for the 5AR4 or equivalent rectifier tube, the H-6500 and its power supply ship with the tubes installed. **BEFORE!!! connecting the power supply to the wall outlet, using the supplied Hex/Allen key remove the power supply cover and install the 5AR4 or supplied equivalent in its tube socket. Then replace the power supply cover BEFORE!!! connecting the power supply to the AC.**
2. The H-6500 power supply will work with most IEC type aftermarket power cords. **Allnic's ZL Technology cables will function synergistically with the H-6500.** Of course, only you can determine the power cord that works best with the H-6500 in your system.

1) **Be sure the H-6500 power supply unit is labeled for the AC voltage of your location. If it is not, DO NOT connect it to your AC outlet. Please contact your Allnic dealer.**

We advise that you keep the boxes and other packing materials that your H-6500 came in. It will be useful if you sell your H-6500 or in the unlikely event you need to ship it or the power supply for service.

SAFETY

- **Remove ALL protective cushioning material (e.g., cardboard, styrofoam around/padding the tubes) inside the tube chimneys and power supply, if any, before operation.**
- **DO NOT leave the H-6500 turned on for extended periods of time – NEVER 24/7, even for (an unnecessary) "break-in" period. This will greatly increase the likelihood of premature tube and/or internal failures. Power on the unit and let it warm up for some minutes; then, when finished a listening session, do a complete power off.**
- Disconnect the power cord by pulling the plug, not the cable.
- Do not attempt any repairs. Do not remove the units' chassis covers without specific authorization from Allnic Audio.

- Keep the power cords away from heat sources**.**
- Keep the units away from liquids – do not allow any liquid to enter the interior of the units.
- When the units are moved from a cold to a warm environment, allow sufficient time for any condensation to evaporate in both units before plugging the power supply unit into an AC connection.
- Do not attempt any repairs.
- Do not remove the units' chassis covers without specific authorization from Allnic Audio.
- See the notes on "Location, Location, Location".

CLEANING

A. Chassis

Use only a soft, lint-free cloth dampened slightly with water only (NO cleaning fluids!) to clean the faceplate and chassis of the H-6500 and its power supply.

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 H-6500 and its power supply need to be placed on a solid stand in a location that provides good air circulation around both the phono-stage and the power supply.

- DO NOT cover the top of the H-6500 phono-stage or the ventilation slots in the top of the power supply chassis.
- DO NOT place the units on carpet or foam.
- DO NOT subject the units to knocks and shocks as you move them around. This advice is meant particularly for those who may want to place the H-6500 or its power supply on after-market isolation feet or similar devices. Dropping one side of either of the H-6500 units, or the whole of either unit, may cause damage and void the warranty.
- DO NOT place the units near a strong light or heat.
- DO NOT place anything heavy on the units.
- DO NOT allow rubber or vinyl materials to rest on either units' chassis for long periods
  of time. This could discolour the metal.

- DO place the units on a well-ventilated 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, for both inputs and outputs. The H-6500 is a highly sensitive piece of electronic designed for neutrality and will output what you put into it. Allnic's ZL Technology cables will function synergistically with the H-6500.
- DO try to place the H-6500 and its power supply away from major sources of RFI and EMI; though well shielded, the H-6500 units will function best away from large power transformers and other sources of such interference.

B. POWER CONNECTIONS

The H-6500 power supply uses a standard 15 Amp three prong male IEC connection for AC input (See Figure 1), located on the right-hand side of the rear of the power supply (facing the rear). You need to use a power cord with a 15 Amp female three prong IEC connector at one end. **Please note that use of a three phase AC power source or an AC regenerating power conditioner may cause hum.**

The H-6500 power supply connects to the phono-stage itself using the supplied umbilical cable. Connect the units to each other using the provided umbilical cable, with the appropriate screw-on connections to the receptacle labeled "DC Source Input" on the rear of the phono-stage and the connection terminal labeled "DC Source Output" on the left side of the rear of the power supply (See Figure 1).

The H-6500 power supply you have purchased is set internally for your region, either AC 230/240 volt – 60 HZ OR AC 110/120 volt – 60Hz. There is no way to change this to another AC setting. **Be sure the H-6500 is labeled for the AC voltage of your location. If it is not, DO NOT connect it to your AC outlet. Please contact your Allnic dealer.**

C. INPUTS

There are two (2) sets of two (2) pairs of single-ended (RCA) inputs (See Figure 2). These two pairs are located on the left-hand side of the rear of the phono-stage (facing the rear - See Figure 1). Each channel pair of inputs is aligned vertically, with the left channel input at the top and the right channel input on the bottom. The two left hand pair of inputs (facing the back of the phono-stage) have an "MC" label above the two upper, i.e. the left, channel connectors; these are the two input pairs for moving coil cartridges. The two right-hand pairs of inputs have an "MM" label above the left channel connectors; these are the two input pairs for moving magnet cartridges.

In each case, for both MC and MM connections the left hand vertically aligned pair of connections (again, facing the back of the unit) corresponds to input 1 for the button

switch on the front panel of the phono-stage, while the right hand vertically aligned pair is input 2.

To the left of the four MC RCA input connections is a screw type connector. This connector is the ground connection for a ground wire from a cartridge and/or turntable if you are using a moving coil cartridge. To the right of the four MM RCA input connections is another screw type connector. This connector is the ground connection for a ground wire from a cartridge and/or turntable if you are using a moving magnet cartridge (See Figure 2).

When you are facing the front of the H-6500, the two pairs of MC connections are on the far right of the unit, with the two MM connections immediately to their left.

The H-6500 has been designed and manufactured to work most synergistically with Allnic Audio active phono preamplifiers, line stages, amplifiers and ZL Technology cables.

D. OUTPUTS

The H-6500 is equipped with one pair of single-ended (RCA) outputs (See Figure 2). The right and left channel output connections are also aligned vertically under the label "Output" just to the left of the DC Source Input (See Figure 2), with the left channel output at the top and the right channel output connection at the bottom. Facing the front of the phono-stage, the output connections are to the immediate right of the power umbilical cord connection.

E. MOVING COIL (MC) TRANSFORMER CONTROLS

On the top of the chassis, on the right if you are looking down facing the front of the phono-stage, there are two pillars with rotary controls on the top. These are the MC step-up transformer controls. There is a control for each channel (See Figure 5).

The "X#" scale corresponds to the factor that you will select closest to the millivolt output of your selected MC cartridge. Each position on the X# scale corresponds to an increase in gain, indicated on the +#dB scale. You should use identical settings for both transformers to avoid channel imbalance.

F. A NOTE ON PHASE

Phase issues generally will result in lack of bass and/or focus of the stereo image. You may need to reverse connections on your cartridge if you are having phase issues. As is usual in these circumstances, some trial-and-error experimentation may be required to find the correct position. Of course, the entire process is simplified if your preamplifier has a phase control, as do many of the Allnic Audio preamplifiers.

G. IMPEDANCE

In the Specifications section near the end of this manual, you will read that the moving coil (MC) input impedance for the H-6500 is up to 117 ohms. This value represents the internal impedance of the cartridge itself and is at the extreme upper end of what would be expected for the internal impedance of an MC cartridge. It would be exceptionally unusual to find a cartridge with internal impedance greater than that value. In fact, however, the MC step-up transformers in the H-6500 can accept cartridges with up to 470 ohms internal impedance. MM input impedance is set at 47kΩ.

INITIAL POWER-ON

Once you have your H-6500 in place, installed the 5AR4 tube or supplied equivalent in the power supply, replaced the power supply cover, connected the DC power umbilical cable between the power supply and the preamplifier, and properly mapped and secured all connections to your turntable and preamplifier or integrated amplifier, you are ready to turn on the power for your H-6500. Before you power up the H-6500, though, be sure you have:

- turned the volume down or otherwise muted your preamplifier
- pressed the “muting” button switch on the left-hand side of the front panel of the phono-stage labeled with “mute” and “operate” icons so the button is “down” (operate) (see Figure 4)
- pressed the input selector button switches on the right-hand side of the front panel of the phono-stage to the appropriate positions for the cartridge type: the right-hand button selects either MC (button out) or MM (button in), and left-hand button selects the input, “1” (button out) or “2” (button in) that you will use initially (See Figure 4)
- if you are using a moving coil cartridge, set the MC transformer controls on the top of the chassis to the factor that you will try initially
- checked that all your system’s connections are properly mapped and secured

To turn on the H-6500, press in the button switch on the front of the power supply marked with on and off icons (see Figure 3). Of course, the off position is the reverse, pressing the button again so it is returns to the maximum raised position.

OPERATION

When the power supply is on, the light on its front panel will illuminate, and the light below the words “ALLNIC H-6500” and the current meters on the front panel of the Allnic Audio H-6500 phono-stage will illuminate (See Figure 4).

After a brief automatic protective “mute” period, the Allnic Audio H-6500 will be ready for operation.

To avoid surges to the speakers, it is best to switch between MM or MC input, or between inputs 1 and 2 of either, only with the H-6500 in “mute” mode and with your preamplifier volume down or otherwise muted.

From this point on, operation is straight-forward. All functions except for MC transformers’ gain selection are controlled from the front panel (See Figure 4). Of course, BE CAREFUL about differences in gain between your sources. Generally, DACs, digital media 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 CDs, for e.g.

When you are finished listening, turn off your power amplifier(s); then turn off your preamplifier and then turn off the H-6500 last by pressing the on-off switch on the front panel of the power supply so it returns to the out position.

In the case of any failure, please contact your Allnic Audio dealer for assistance.

CURRENT METERS

These illuminated meters indicate the current supply to the gain tubes in the H-6500. They are indicators of the state of the unit’s tubes. There is one meter for each channel. The needle should be between the two parallel lines just right of centre on the meter face. Any failure of the tubes in one or the other of the H-6500’s channels is indicated by the needle on the meter for the respective channel moving out from between those two parallel lines.

- If the needle has moved to the left of the parallel lines on a meter, it means one or more of the gain tubes for that channel (5842 tubes) or the series voltage regulator tube (7233 tube) for that channel has failed.

- If the needle has moved to the right of the parallel lines, it means one or more gain tubes for that channel (5842 tubes) has experienced a short or the automatic voltage regulator/error detector tube (5654 tube) for that channel has failed.

- If the H-6500 loses power completely, you may need to replace the 5AR4 rectifier in the power supply and, possibly, the fuse at the power supply's IEC inlet.

For assistance, please contact your Allnic Audio dealer.

In the case of any tube failure indicated by a meter or loss of output, after first checking all your cables and other components, you can try to identify the failed tube(s). If you have access to a properly functioning tube tester that can test the H-6500's tubes, you can use it to determine which tube(s) failed. If you do not have access to an appropriate tube tester, you can identify the failed tube(s) for replacement by following the procedures below.

SAFETY!! In all cases:

- **POWER OFF and disconnect the H-6500 power supply from the AC source and disconnect the DC umbilical cord from the preamplifier unit BEFORE!!! swapping and replacing tubes and checking/replacing the fuse.**

- **After checking/changing the rectifier in the power supply, REPLACE THE COVER of the power supply BEFORE!!! re-connecting it to the AC source and the preamplifier unit.**

- If the meter needle has dropped to the left, first swap the 7233 tubes between the two channels (See Figure 6). If the failure follows the tube, replace the failed tube with a good one. If that does not correct the issue, swap the pairs of the 5842 tubes from channel to channel one pair at a time (See Figure 6). If the failure follows the tube, replace the failed tube with a good one.

- If that does not fix the issue, or if the meter needle has dropped to the right, first swap the 5654 tubes between the two channels (See Figure 6). If the failure follows the tube, replace the failed tube with a good one. If that does not correct the issue, swap the pairs of the 5842 tubes from channel to channel one pair at a time (See Figure 6). Again, if the failure follows a tube, replace the failed 5842(s) with a good one.

- If the H-6500 will not power up, check the fuse. If the fuse is good but the H-6500 still will not power up, the 5AR4 rectifier tube in the power supply will need to be replaced. If the fuse has blown, replace it with the spare in the IEC mount or a good, inexpensive one of the same rating if you are using a more costly aftermarket fuse. If that restores the H-6500's normal function, you have resolved the issue.

The H-6500 has been designed so that if a tube (or tubes) fails it is not necessary to replace all the tubes of that type with a matched set of the same type. It is necessary to replace only each failed tube with a good tube of the same type.

TUBES

The H-6500 uses the following tubes (See Figure 6):

- Eight (8) x 5842 (4 per channel)
- Two (2) x 7233 (1 per channel) (2025 forward production will replace the 7233 tubes with 6C19P) **NOT equivalent to 7233; 7233 and 6C19P ARE NOT INTERCHANGEABLE.**
- Two (2) x 5654 (1 per channel)
- One (1) x 5AR4 (in, and the only tube in, the power supply)

As experienced users of vacuum tube equipment know, any tube can be carefully machine tested and selected and re-tested under real use conditions at the factory but still fail early. Because of their age, vintage tubes can be especially fragile and more prone to fail prematurely in use despite intensive testing. Included tubes are guaranteed for the time and per the conditions in the Warranty section below. It may take shipping time, however, to transport replacements to you. As many experienced users do, you may want to acquire at your own cost and risk a set of back-up replacement tubes to have on hand for immediate use "just in case".

Allnic Audio and its authorized representatives make no representations nor any warranty regarding the quality of tubes obtained from third parties and are not responsible for any issues or losses relating thereto. All consequences of changing or attempting to change tubes are borne by the user unless by express agreement between the owner and the owner's Allnic dealer. Allnic Audio and its authorized representatives are not liable in any way whatsoever for any damage to the H-6500 or any injury or loss incurred by the user resulting from the user changing or attempting to change tubes.

SPECIFICATIONS FOR THE ALLNIC AUDIO H-6500 PHONO-STAGE

- Inputs: Moving Coil (MC) × two (2) pairs unbalanced (RCA)
  Moving Magnet (MM) x two (2) pairs unbalanced (RCA)
- Ground: Two (2) x screw type terminals
- Outputs: One (1) pair x unbalanced (RCA)
- Input Impedance: MC up to 117Ω (see "Impedance" in "Initial Set-Up")
  MM 47kΩ
- Frequency (RIAA): 20Hz ~ 20KHz (±0.3db)
- Voltage Gain: +40db (1KHz) MM
  +66db (1Khz) MC
- Maximum Input Voltage (MM, non-clipping): 20Hz / 30mV
  100Hz / 100mV
  1KHz / 240mV
  10KHz / 280mV
- THD (Total Harmonic Distortion): Less than 0.17% (1KHz, Output 1V)
- Output Impedance: 430Ω (On - off method)
- S/N Ratio: -86db (CCIR, 1KHz)
- Tubes: 5842 x 8, signal gain (similar to WE 417A).
  7233 x 2, series voltage regulator. (2025 forward production will replace the 7233 tubes with 6C19P) **NOT equivalent to 7233; 7233 and 6C19P ARE NOT INTERCHANGEABLE.**
  5654 x 2, automatic voltage regulator (equivalent 5654W, 6AK5W, CV4010, M8100, 6096, E95F, E905F, 6096).
  5AR4 x 1, rectifier - in the power supply (equivalents possible – consult your Allnic dealer).
- Power Consumption: 70W – 110/220 / 60Hz
- Fuse: AC 3A, 250V, 5x20mm slow-blow for 110/120V regions
  AC 2A, 250V, 5x20mm slow-blow for 230/240V regions

- Dimensions (W x D x H):
  - Phono-stage: 430mm (16.9 inches) x 335mm (13.2 inches) x 170mm (6.7 inches)
  - Power supply: 170mm (6.7 inches) x 275mm (10.8 inches) x 118mm (4.65 inches)

- Weight: Phono-stage: 8 Kg unpacked
  Power supply: 8.1 Kg unpacked

WARRANTY

FOR WARRANTY SERVICE, PLEASE CONTACT YOUR AUTHORIZED ALLNIC DEALER.

Except for the tubes, this Allnic Audio product is warranted against materials and manufacturing defects only for two (2) years from date of purchase. The tubes in this product are warranted against materials and manufacturing defects only for six (6) months from date of purchase. Date of purchase is the date indicated on the invoice issued by Allnic Audio or its authorized representative for original purchase of the new product. The warranty does not cover any damage occurring during product shipment at any time, nor any damage occurring as a result of any of this product's owner's or owners' negligence or willful mistreatment. Failure to operate or care for this product in accordance with instructions in this manual will be deemed negligent. For the warranty to be valid, this product must be returned first to Allnic Audio's authorized representative for warranty service prior to any unauthorized attempt to repair or modify it. Any repair done to or modification of this Allnic Audio product at any time performed without specific authorization from Allnic Audio or its authorized representative will void the warranty. Allnic Audio and its authorized representatives shall be the sole determiners of whether the warranty has been voided. Provided that the warranty has not been voided, the warranty is transferable for the balance of the original purchaser's warranty period.

The warranty covers parts and labour only. If required for warranty service, shipping of this product to and return to product owner from an authorized Allnic representative will be at product owner's sole cost. In the case of required factory warranty service, shipping to Korea shall be at product owner's sole cost. Provided that Allnic has determined that the warranty is not void, Allnic will pay the cost of return shipping to product owner. If Allnic determines that the warranty is void, return shipping to product owner will be at product owner's sole cost.

After expiry of the applicable warranty period or if the warranty is void, Allnic Audio and its authorized representatives are not responsible for nor obligated in any manner whatsoever to undertake, or to cover or reimburse the costs of any repairs or modifications to this product.

The warranty does not cover and Allnic Audio and its authorized representatives are not responsible for any incidental costs or damages to the person or property of original purchaser, any subsequent owner of this product, or any third party occurring as a result of any malfunction or misuse of this product however and whenever caused.

FIGURES

Figure 1 – H-6500 Power Supply Rear Panel View

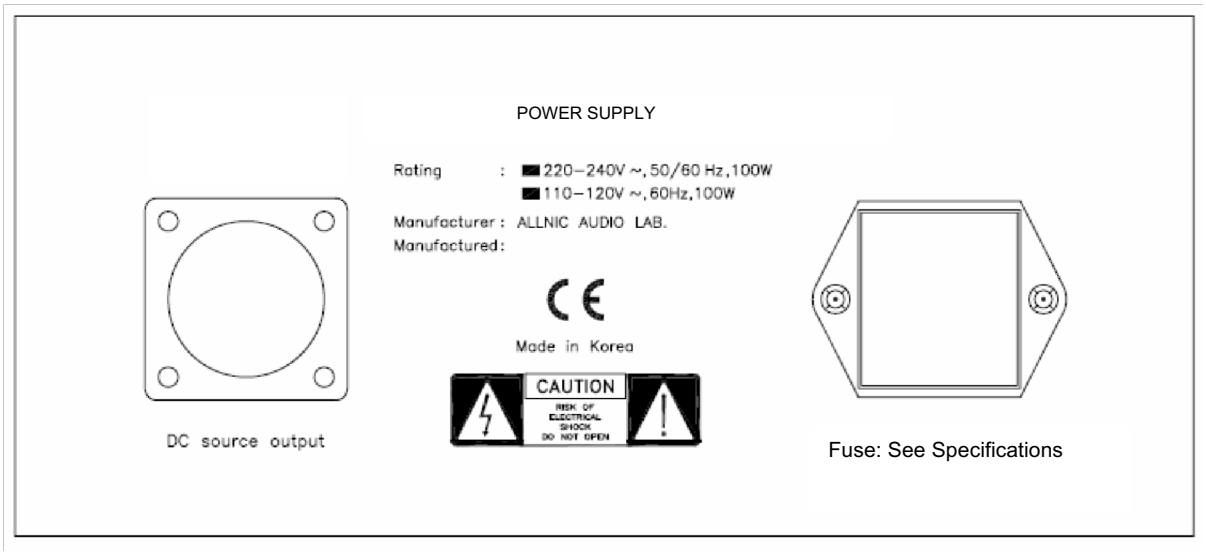

Figure 2 - H-6500 Phono-stage Rear Panel View

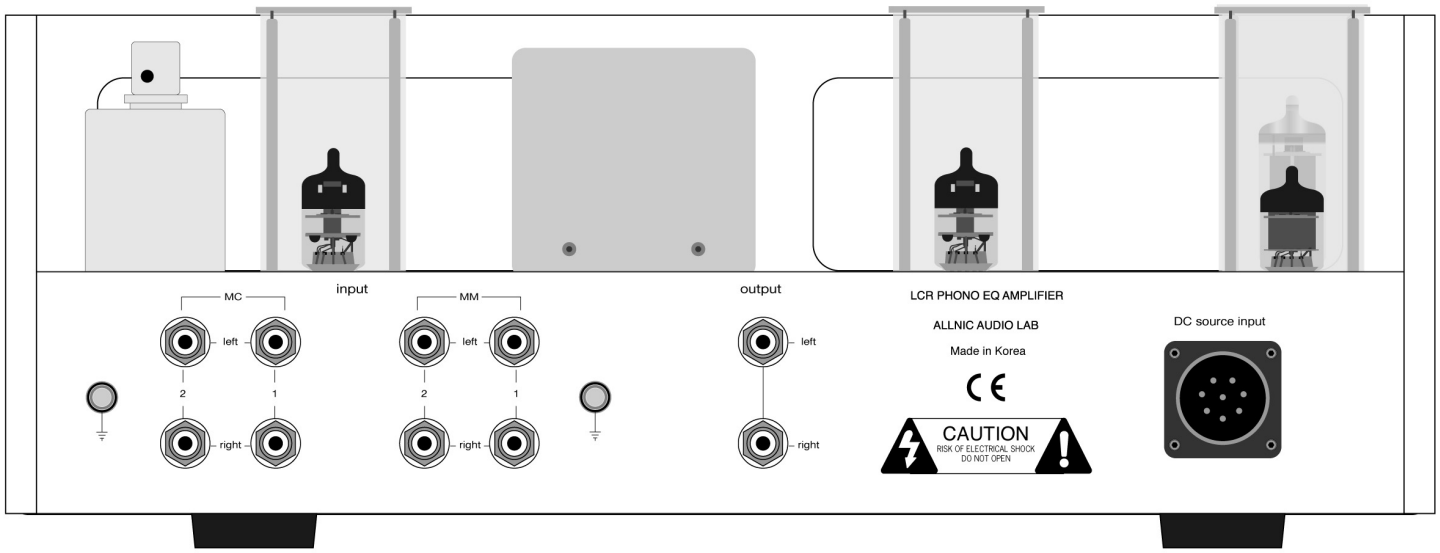

Figure 3 - H-6500 Power Supply Front Panel View

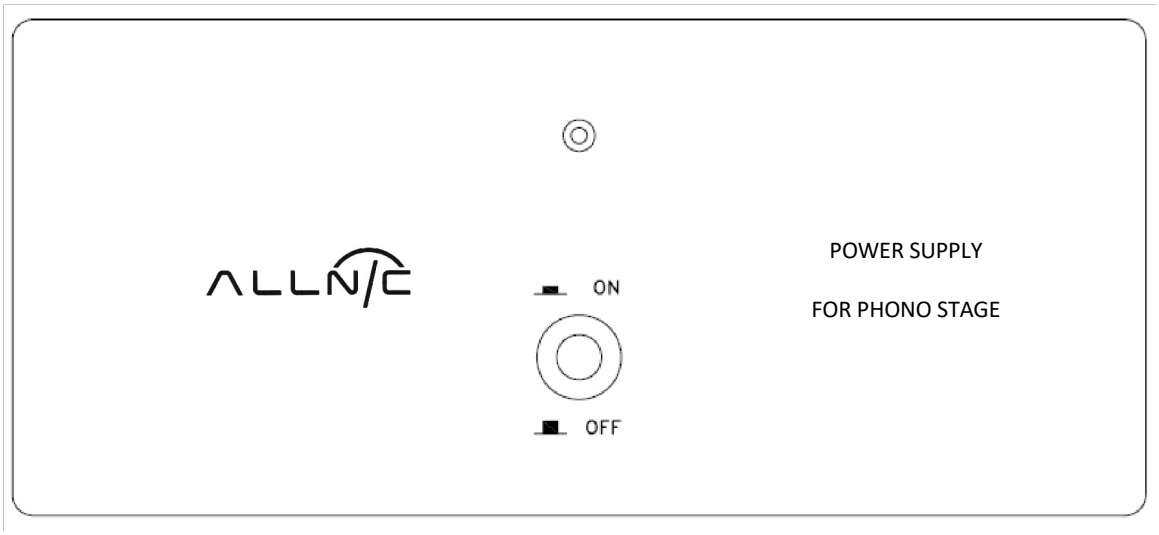

Figure 4 – H-6500 Phono-stage Front Panel View

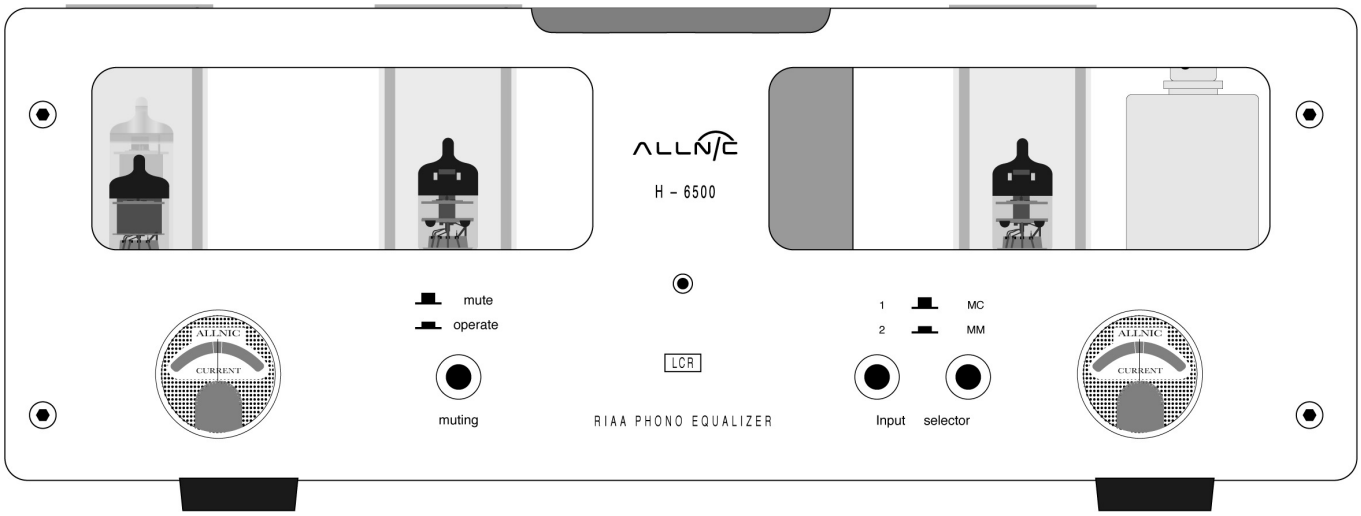

Figure 5 – H-6500 Chassis Top View - MC Transformer Control

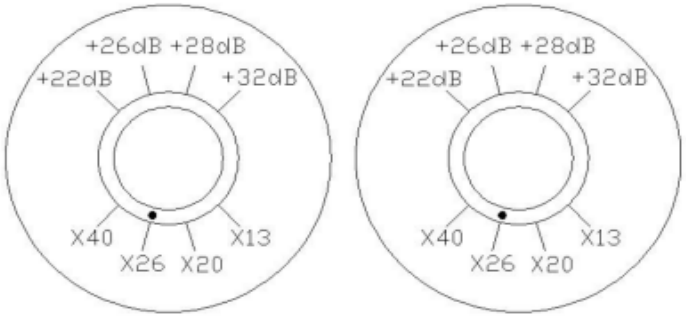

Figure 6 – H-6500 Chassis Top View