ALLNIC AUDIO
H-3000 PHONO STAGE

OWNER'S MANUAL

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Thank you for purchasing this Allnic Audio H-3000 Phono Stage. 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 H-3000 to the other components of your system and the wall outlet.

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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 H-3000 - we care about our customers and the equipment, and we want you to enjoy this product for a long time!

INTRODUCING THE H-3000 PHONO STAGE

The H-3000 is Allnic Audio's top of the line phono stage model. 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-3000 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. In order 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, in order 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.

B. 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.

C. 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.

D. LCR filters, which are used in the H-3000:

Two pieces of a linear reactor (a kind of choke coil) comprise the main part of these filters, assisted by precise CR filters, in order 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.

- The H-3000 Phono Stage is all transformer coupled.
- No negative feedback design with only two gain stages
- For superior signal to noise ratios, the H-3000 is equipped with pure vacuum tube, high speed, automatic voltage regulation for each channel and a power supply unit separate from the phono stage itself.
- High quality MC Step-up Transformers with Permalloy cores are used for the H-3000's dual MC inputs.
- 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 micro-phonic 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 micro-phonic noise into your system, with the Absorb Gel damping system, you will enjoy a degree of transparent sound that will surprise and please you.
- Pure Class A operation
- Pure balanced operation
- As are all Allnic Audio products, the H-3000 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-3000 phono stage – in natural aluminum or black, depending on your order specification
- One (1) Power Supply for H-1500 II/H-3000– in natural aluminum or black, depending on your order specification
- One (1) power umbilical cord
- One (1) IEC type power cord
- One (1) Owner's Manual

Note:

1) The H-3000 and its power supply ship with the tubes installed.
2) The H-3000 power supply will work with most IEC type aftermarket power cords. Of course, only you can determine the power cord that works most synergistically with the H-3000 in your system.
3) Be sure the H-3000 power supply unit is labeled for the AC voltage of your location. If it is not, please contact Hammertone Audio.

We advise that you keep the boxes and other packing materials that your H-3000 came in. It will be useful if you sell your H-3000 or in the unlikely event you need to ship it or the power supply for service.

SAFETY

- **Remove ALL protective cushioning material inside the tube chimneys before operation. The tube chimneys should contain NOTHING except the tubes.**
- 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 Hammertone 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 Hammertone 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-3000 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-3000 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-3000 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-3000 or its power supply on some kind of after-market isolation feet or similar devices. Dropping one side of either of the H-3000 units, or the whole of either unit, is not a good thing to do.
- 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 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-3000 is a highly sensitive piece of electronic designed for neutrality and will output what you put into it.
- DO try to place the H-3000 and its power supply away from major sources of RFI and EMI; though well shielded, the H-3000 units will function best away from large power transformers and other sources of such interference.

B. POWER CONNECTIONS

The H-3000 power supply 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.

The H-3000 power supply connects to the phono stage itself using the supplied umbilical cable. Connect the units to each other using the 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 (Please refer to Figures 1 and 2).

The H-3000 power supply 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 two (2) sets of two (2) pairs of single-ended (RCA) inputs. These two pairs are located in the middle of the rear of the phono stage (See Figure 1) and labeled "input" in the middle above them. 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 pairs of inputs (facing the back of the phono stage) have an "MC" label above the two left channel connectors; these are the two input pairs for a moving coil cartridge. The right hand pair of inputs has an "MM" label above the left channel connectors; these are the two input pairs for a moving magnet cartridge. Each pair of moving coil and moving magnet connections has a number label between the left and right channel input connections.

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.

Between the two sets of MC and MM input connections is a

screw type connector. This connector is the ground connection for a ground wire from a cartridge and/or turntable.

When you are facing the front of the H-3000, the two pairs of MC connections are on the right/centre of the unit, with the two MM connections immediately to their left on the other side of the ground connection.

The H-3000 has been designed and manufactured to work most synergistically with Allnic Audio preamplifiers, pre-phono stages and equalization products.

D. OUTPUTS

The H-3000 is equipped with one pair of unbalanced or "single-ended" (RCA) outputs and one pair of true balanced (XLR) output connections. The left channel output connections are labeled "left output" and are just to the left of the DC Source Input. The right channel output connections are labeled "right output" and are on the far left hand side of the rear of the phono stage unit (See Figure 1). In each pair, the balanced (XLR) connection is labeled "1", and the unbalanced (RCA) connection is labeled "2".

Above each pair of outputs, comprised of one single--ended (RCA) connection and one balanced (XLR) connection, is a switch for selecting either the balanced or the single-ended connector. The switches are labeled "unbalanced output". Moving the unbalanced output switches to the right (facing the rear of the unity) sets the outputs to their respective unbalanced (RCA) connector. Of course, the opposite position in each case sets the switches for the balanced connectors. Be sure to have both switches set for the connection you are using. You may have both balanced and unbalanced outputs connected at the same time without introducing hum PROVIDED you have the output switches set to unbalanced output.

E. Moving Coil (MC) Transformer Controls

On the top of each channel's MC transformer on the centre rear of the chassis deck of the phono stage unit, there is a rotating control. Turn the control knobs to select from four (+22, +26, +28, +32dB) gain factors. The four control positions are labeled as both gain and the turn ratio of the MC transformer; for example, the lowest gain position of +22dB automatically corresponds to a turn ratio of x13 (see Figure 3). You should use identical settings for both transformers to avoid channel imbalance.

NOTE:
Please mute your H-3000, and/or reduce your preamplifier's volume control, during transformer gain adjustments. Be aware if you are increasing gain, that you may hit an uncomfortably loud volume level.

F. IMPEDANCE CONTROL

The Impedance control is located at the rear of the top plate of the H-3000 chassis (see Figure 6). It has four positions, 10, 20, 30 and 47 KΩ (thousand ohms). Use the impedance control to match the H-3000 to the impedance of your cartridges. For MM cartridges always set the control at 47 KΩ. Vary the impedance settings to match your MC cartridges. By experimenting with the impedance settings and the transformer controls together, you can obtain optimum performance from your MC cartridges. You will need to experiment to find the "sweet spot" combination for each MC cartridge because even the cables from your cartridge to the tonearm, your internal tonearm cable, and your phono cable will all affect impedance level. We suggest starting with the specifications from your cartridge and using the impedance level closest to that. Please refer to Table one to see the possible combinations for MC cartridges and the resulting operating impedances and gain.

In the Specifications section, you will read that the MC input impedance for the H-3000 is up to 470 ohms. This value represents the internal impedance of the cartridge itself and is at the very extreme of what would normally be expected for the internal impedance of an MC cartridge.

G. 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. The process is simplified for you with the H-3000, as it has a phase control switch on the front panel of the phono stage unit.

INITIAL POWER-ON

Once you have your H-3000 in place and all connections have been made to your turntable and preamplifier, you are ready to turn on the power for your H-3000. Before you power up the H-3000, though, be sure you have:

- **removed ALL the cushion materials from inside the tube chimneys**
- 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 or muted your preamplifier
- pressed the button switch on the left hand side of the front panel of the phono stage, labeled "muting" below and having button in and out icons for operate and mute, respectively, to the in/down "mute" position (see Figure 3)
- pressed the button switch on the right hand side of the front panel of the phono stage to the appropriate phase position, either "normal" (pressed in) or "inverted" (out position). We suggest starting with "normal".
- rotated the knob labeled "input selector" to the appropriate input, corresponding to the input you will use initially (See Figure 4), either MC1 or MC2, or MM1 or MM2
- 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 connections are snug

To turn on the H-3000, press in the button switch on the front of the power supply marked with on and off icons (see Figure 4). Of course, the off position is the reverse, pressing the button again so it is returned to the maximum raised position.

OPERATION

When the power supply is on, the light on its front panel will illuminate and, if it is in the "operate" position, the light above the muting switch on the front panel of the Allnic Audio H-3000 phono stage will illuminate after a forty (40) second automatic protective "mute" period. The light above the phase switch will illuminate as well, if the switch is in the "normal" position at turn on.

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-3000 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. 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 power amplifier(s); then turn off your preamplifier and then turn off the H-3000 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 Hammertone Audio for assistance.

THE CURRENT METERS

These illuminated meters indicate the current supply to the gain tubes in the H-3000. 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 H-3000'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 a meter, please contact Hammertone Audio for assistance.

TUBES

The H-3000 uses the following tubes (please see Figure 6):

- Four (4) x E810F
- Two (2) x 7233
- Two (2) x 6485
- One (1) x 5AR4 (in, and the only tube in, the power supply)

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 H-3000, any of its parts, or tubes or replacement tubes resulting from the user changing or attempting to change tubes.

SPECIFICATIONS FOR THE ALLNIC AUDIO H-3000 PHONO STAGE

Inputs:	Moving Coil (MC) × two (2) pairs unbalanced (RCA) Moving Magnet (MM) x two (2) pairs unbalanced (RCA)
Ground:	One (1) x screw type terminal
Outputs:	One (1) pair x unbalanced (RCA) One (1) pair x balanced (XLR)
Frequency (RIAA):	20Hz ~ 20KHz (±0.5db) 30Hz ~ 15kHz (±0.3dB)
Voltage Gains:	MM +40db (1KHz) MC +62, +66, +68, +72db (1Khz)
Input Impedance:	MC up to 470Ω (see "Impedance" in the Initial Set-Up section, above) MM 47kΩ
Maximum Input Voltage (MM, non-clipping):	20Hz / 10mV 100Hz / 50mV 1KHz / 220mV 10KHz / 690mV
THD (Total Harmonic Distortion):	Less than 0.3% (1KHz, Output 1V)
Output Impedance:	200Ω (Constant)
S/N Ratio:	-85db (CCIR, 1KHz)
Power Consumption:	80W – 110/120 / 60Hz
Tubes:	E810F (or D3a - there are no equivalents to these tubes) × 4 (gain stages, left and right channels) 7233 (no equivalent) × 2 (Voltage Regulators) 6485 (similar to 6AH6, 6AH6WA, 6AH6S, CV2521) × 2 (Voltage Regulators)
Fuse:	AC 2A, 250V
Dimensions:	
- Phono Stage:	430mm (16.9 inches) x 350mm (13.8 inches) x 173mm (6.82 inches) (W x D x H)
- Power supply:	170mm (6.7 inches) x 275mm (10.8 inches) x 118mm (4.65 inches) (W x D x H)
Weight:	
Phono Stage:	15.7 Kg (34.62 lbs) unpacked
Power supply:	8.1 Kg (18 lbs) unpacked Both units in original packing: 30 Kg (66 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.

Figure 1 – H-3000 Rear Panel View

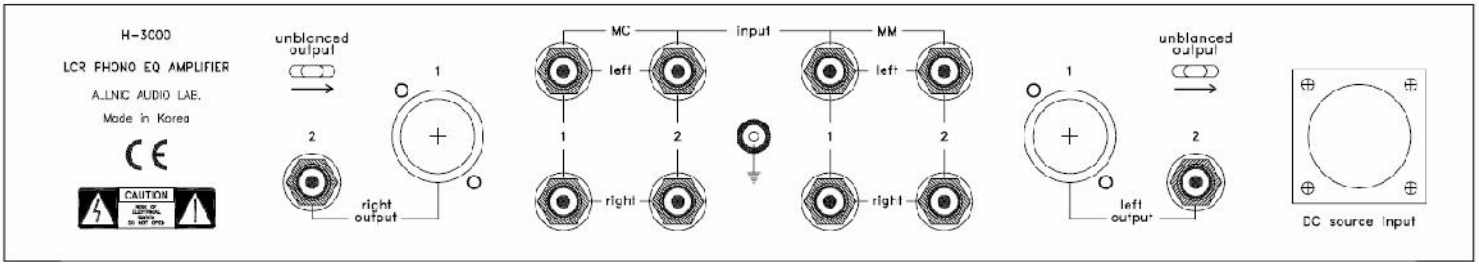

Figure 2 – H-3000 Power Supply Rear Panel View

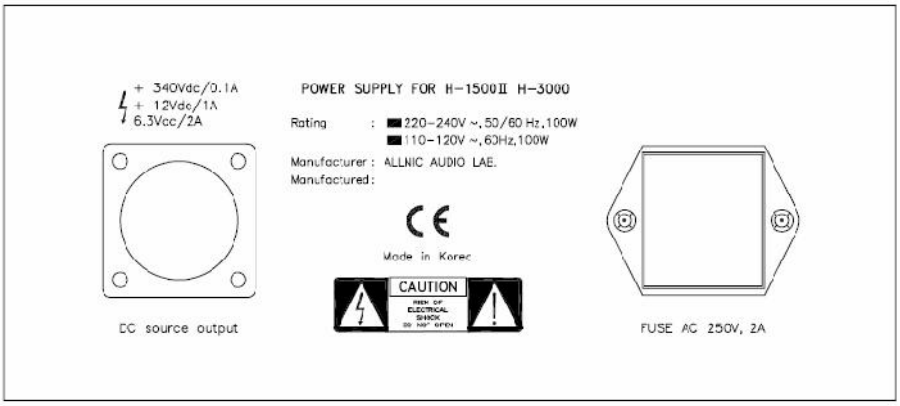

Figure 3 – H-3000 Chassis Top View - MC Transformer Controls

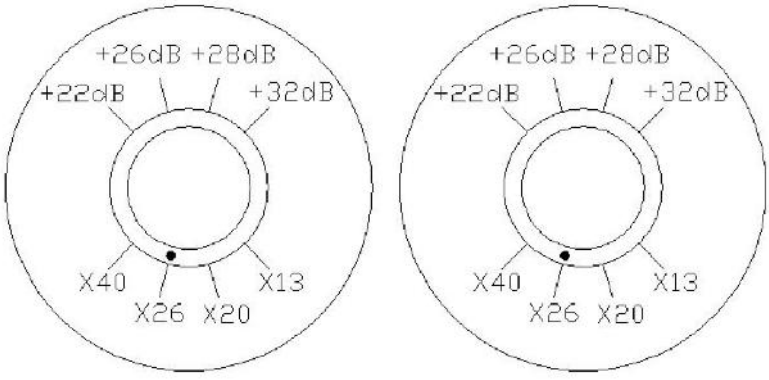

Figure 4 – H-3000 Front Panel View

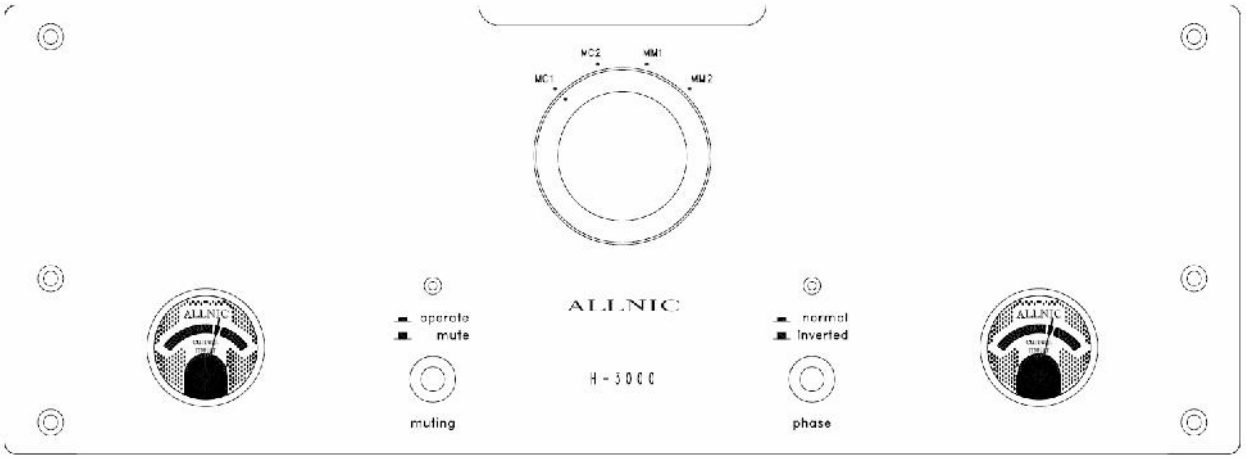

Figure 5 - H-3000 Power Supply Front Panel View

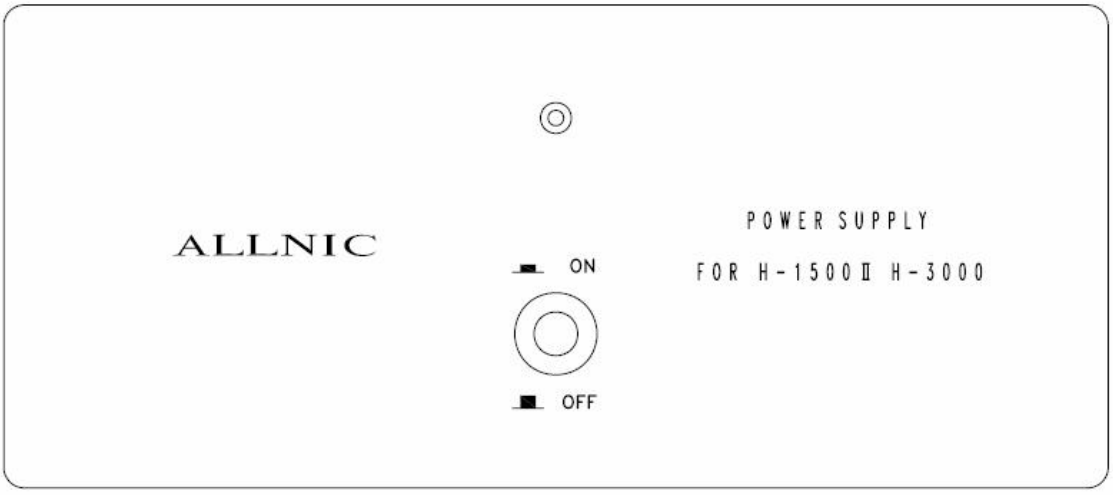

Figure 6 – H-3000 Top View

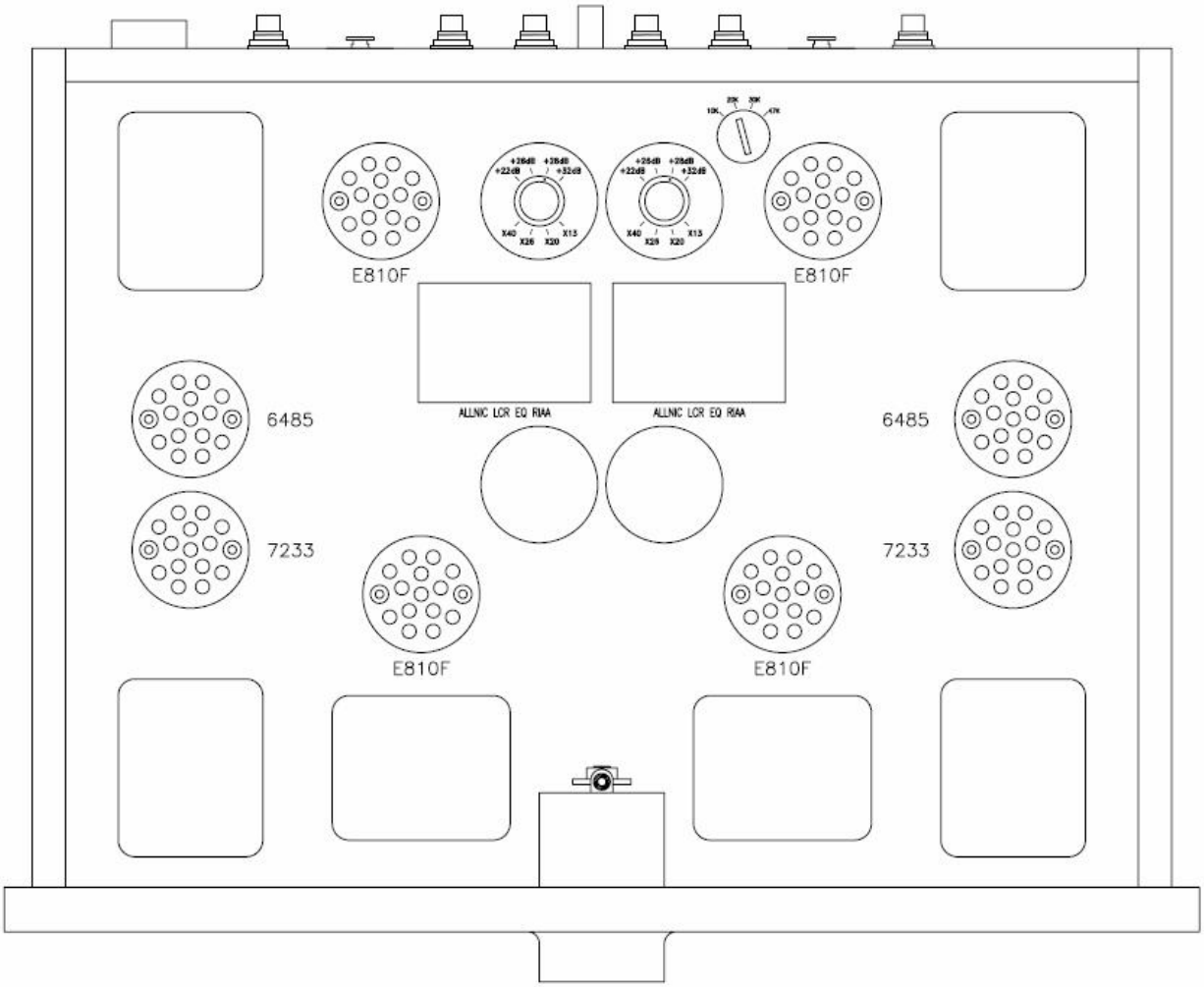

Table 1: Impedance Combination Table

MC Transformer Gain Control Settings

Impedance Control Settings	+22dB/x13	+26dB/x20	+28dB/x26	+32dB/x40
10	59 Ω	25 Ω	15 Ω	6 Ω
20	118 Ω	50 Ω	30 Ω	12 Ω
30	177 Ω	75 Ω	45 Ω	19 Ω
47	278 Ω	117 Ω	70 Ω	29 Ω

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