ALLNIC AUDIO

A-5000 DHT

300B SINGLE-ENDED
PURE DIRECT HEATED TRIODE
MONOBLOCK POWER AMPLIFIER

OWNER'S MANUAL

ALLNIC AUDIO
A-5000 DHT 300B SINGLE-ENDED PURE DIRECT HEATED TRIODE MONOBLOCK POWER AMPLIFIER

Thank you for purchasing the Allnic Audio A-5000 DHT Monoblock Power Amplifiers. 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 A-5000 DHT Monoblock Power Amplifiers 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 A-5000 DHTs - we care about our customers and the equipment, and we want you to enjoy this product for a long time!

INTRODUCING THE A-5000 DHT 300B, SINGLE-ENDED, PURE DIRECT HEATED TRIODE MONOBLOCK POWER AMPLIFIER

Thank you for purchasing the A-5000 DHT 300B Monoblock Amplifier. The A-5000 DHT is a highly sophisticated piece of audio technology. It is intended for experienced vacuum tube audio enthusiasts who understand and have the patience to appreciate the virtues of an innovative but "no bells and whistles" approach to circuit design and the superior sonic and "vintage" characteristics of Single Ended Triodes and New Old Stock (NOS) tubes. The A-5000 DHT is an example of Allnic's "Tube Amp Done Right" guiding principle. Proper care and attention, partnering with other equally high-quality equipment, and following the guidance provided in this manual will facilitate easy use and a listening experience of immensely superior quality for many, many years.

The A-5000 DHT monoblock, like all Allnic Audio products, 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 A-5000 DHT has the following features:

- **All Direct Heated Triodes** – The A-5000 DHT monoblock amplifier is a pure direct heated triode, tube rectified power amplifier. It uses only direct heated tubes in the signal path, from input to output. The first stage is an HL2; the second is an RS242; the third is the famous 300B. The rectifier tube is also direct heated, a 5U4G (or direct heated equivalent). This is an ideal combination of pure direct heated triodes, resulting in unparalleled faithfulness to the incoming signal, incredible musicality and detail, and quick, articulate bass.

- **Real power drive** - The driver tube is the RS242. Allnic uses this direct heated triode RS242 tube to drive the 300B to its correct specifications via a choke plate inductor. The choke inductor (with a 100% permalloy core) has very low power loss and an infinitely high load impedance. This configuration is an ideal drive stage for the single ended 300B and produces 10 watts of pure class A, extremely low distortion, high power output.

- **Nickel alloy output transformer** - Allnic uses sophisticated ratio mixed nickel permalloy PB cored output transformers. Because of their extremely high initial permeability, it is possible to use lower turns on the primary winding while retaining very high 'open circuit inductance". That means a resulting very wide frequency range and low distortion bass response. The A-5000 DHT uses the very latest version of Allnic's transformers. This is another reason why the A-5000 DHT excels over other 300B power amplifiers. Allnic also uses a very big nickel core, so as not to be magnetically saturated at a high current of level of 200mA.

- **Fixed bias control grid** - Allnic prefers to use low distortion and high output “fixed-bias” rather than the relatively higher distortion and lower output “self-bias” method. That way, it is possible to eliminate the use of cathode resistors and their associated heat production.

- **Natural negative feedback** - The A-5000 DHT applies about -6dB of negative feedback. This is a very complimentary amount of negative feedback that differentiates the Allnic 300B single ended amplifiers from the standard, which have a very coloured and weak speaker driving force. With this natural feedback, the A-5000 DHT has a relatively high “damping factor', very low distortion, and a higher S/N ratio, without losing the signature, single ended natural sound quality.

- **Hard wiring** - The A-5000 DHT is all hard wired; circuit boards are not used.

- **Beautiful 20KHz square wave response**. See Figures 1-3.

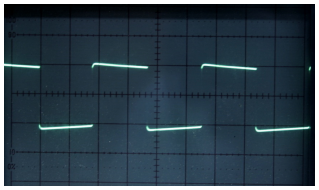

Fig.1 Square Wave 50Hz*

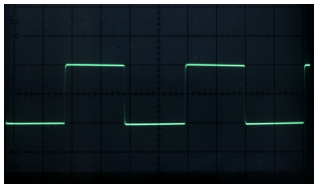

Fig.2 Square Wave 1KHz*

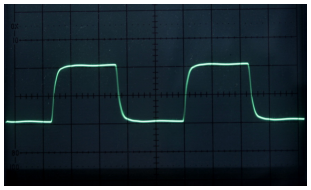

Fig.3 Square Wave 20KHz*

*Measured by LEADER LAG-126 Audio Signal Generator and KENWOOD CS-4125 Oscilloscope.

- As are all Allnic Audio products, the A-5000 DHT is fully RoHS (EU Reduction of Hazardous Substances regulation) compliant in construction and materials.

WHAT’S IN THE BOX?

Please check that each shipping box contains the following:

- One (1) Allnic A-5000 DHT monoblock power amplifier.
- One (1) 15 amp IEC type power cord
- One (1) Hex/Allen key

One (1) Owner’s Manual is also provided.

Note:

1) The A-5000 DHT ships with the tubes installed.
2) The A-5000 DHT will work with most 15 amp, IEC type aftermarket power cords. The Allnic ZL-3000, ZL-5000 and ZL-8000 power cables will make an excellent match. Of course, only you can determine the power cord that works most synergistically with the A-5000 DHTs in your system.
3) **Be sure the A-5000 DHTs are labeled for the AC voltage of your location. If they are not, DO NOT connect them to your AC outlet. Please contact your Allnic dealer.**

We advise that you keep the boxes and other packing materials that your A-5000 DHTs came in. It will be useful if you sell your A-5000 DHTs or in the unlikely event you need to ship for service.

SAFETY

- **Remove ALL protective cushioning material (e.g., cardboard, Styrofoam around/padding the tubes) inside the tube chimneys before operation. The tube chimneys should contain NOTHING except the tubes. HOWEVER, any silicone rings or other damping material (not cardboard or Styrofoam packing materials) on the HL2 and RS242 should be left ON the tube.**
- **DO NOT leave the A-5000 DHT 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 unit's chassis cover without specific authorization from your Allnic dealer.
- Keep the power cord away from heat sources
- Keep the unit away from liquids – do not allow any liquid to enter the interior of the unit.

CLEANING

A. Chassis and glass

Use only a soft, lint-free cloth, dampened slightly with water only (NO cleaning fluids!), to clean the faceplate, chassis and tube chimneys of the A-5000 DHT.

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 A-5000 DHTs need to be placed on a solid stand in a location that provides good air circulation around, above and below the monoblocks.

- DO NOT cover the tops of the A-5000 DHTs' tube chimneys.
- DO NOT place the A-5000 DHTs on carpet or foam.
- DO NOT subject the A-5000 DHTs to knocks and shocks as you move them around. This advice is meant particularly for those who may want to place the A-5000 DHTs on some kind of after-market isolation feet or similar devices. Dropping one side of the A-5000 DHT, or the whole of a unit, may cause damage to the unit and void the warranty.
- 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 chassis for long periods of time. This could discolour the metal.

- DO place the A-5000 DHTs 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, inter-connects and speaker cables. The A-5000 DHTs are highly sensitive electronic devices designed for neutrality and will output what you put into them. **Allnic's ZL (Zero Loss) Technology power and interconnect cables will work synergistically with the A-5000 DHTs.**
- DO try to place the A-5000 DHTs away from major sources and potential receivers of RFI and EMI. Though well shielded, the A-5000 DHTs will function best away from large power transformers and other sources of such interference and from other equipment that could be susceptible to such forms/sources of interference.
- When the A-5000 DHTs are moved from a cold to a warm environment, allow sufficient time for any condensation to evaporate before plugging the A-5000 DHTs into an AC connection.
- Do not attempt any repairs.

B. INPUTS

There are two (2) female inputs (See Figure 4). One accepts a balanced cable with a male XLR connector; the other accepts a cable with a single-ended, RCA type male connector. These input connections are located on the right (facing the back) rear of the chassis, with the balanced input closest to the side edge. Between the inputs, there is a switch to select one of two pin configurations for a balanced cable (i.e., it changes the phase). The top position is for pin 2 "hot" and pin 3 "cold/neutral"; the bottom position is for the reverse (in both cases, pin 1 is ground).

C. SPEAKER TERMINALS

Each A-5000 DHT is equipped with one pair of high-quality speaker terminals (See Figure 4). These terminals are located in the middle of the rear panel of the A-5000 DHT chassis, with the red marked terminal for the live connection labelled positive "+" on the right, and with the return connection labeled negative "-", to the left (facing the chassis rear). Between the plus and minus terminals is a switch that provides for either 8 or 4 ohm impedance, as your speakers may require. The upper position of the switch is for 8 ohm operation; the lower for 4 ohm operation. 8 and 16 ohm terminals are available by special order. The terminals accept bare wire (not recommended), spade and banana type connectors.

D. POWER CONNECTION

Connect the input interconnect and speaker cables before you insert the power cable into the receptacle at the left (facing the back) rear of the chassis (See Figure 4). The A-5000 DHT uses a standard North American 15 amp three prong male IEC connection for AC input. You need to use power cords with a female 15 amp, North American three prong IEC connector at one end. The Allnic ZL-3000,

ZL-5000, and ZL-8000 power cables will make an excellent match. **Please note that use of a three phase AC power source or an AC regenerating power conditioner may cause hum.**

The A-5000 DHT will be set internally for your location's electrical system characteristics. Please check the setting for electrical input on the label on the rear of the unit to confirm that your A-5000 DHT matches your location's electrical system. For North American customers, the A-5000 DHT is set internally for AC 110/120 volt – 50/60 Hz. For customers in other regions, the unit is set for 230/240V – 50/60 Hz operation. There is no way to change to another AC setting. **Be sure the A-5000 DHTs are labeled for the AC voltage of your location. If they are not, DO NOT connect them to your AC outlet. Please contact your Allnic dealer.**

INITIAL POWER-ON

Before you power up the A-5000 DHTs, though, be sure you have:

- **removed ALL the cushion materials (e.g., cardboard) from inside the tube chimneys. Any silicone rings or other damping material (not cardboard or Styrofoam packing materials) on the HL2 and RS242 should be left ON the tube.**
- selected the input connection you want to use, single ended (RCA) or balanced (XLR) and, for XLR selected the correct phase position of the switch on the back of the chassis, and have the interconnect firmly attached.
- turned on your source(s) and your preamplifier, and turned the preamplifier's volume control down to zero or otherwise muted its output
- securely and correctly fastened the speaker cables and ensured that they are also connected properly to the speakers
- checked that all tubes are snug in their sockets
- if your A-5000 DHTs have a small switch on the left-hand side toward the front of the chassis, check that it is in the "up" position (it is an on/off switch for the current meter)

Once you have your A-5000s in place, connected the power cables, and ensured all connections to your sources and preamplifier are correctly mapped and secure, you are ready to turn on the power for your A-5000 DHT amplifiers.

Turn on the A-5000 DHT by depressing the power switch button located (facing the front of the unit) on the right side-panel to the "on" position. The "on" position is with the top of the button switch depressed. Of course, the off position is the reverse. After a brief delay (the soft start), the A-5000 DHT will be powered on. After warm-up and application of full plate voltage, not all tubes may bias at the same rate. Allow several minutes for all the tubes to reach full operating specification, with the needle of the current meter between the two parallel lines on the meter face.

OPERATION

When the power is on, the current meter on the front of the chassis will illuminate (See Figure 5). If the current meters do not illuminate, check that the on/off switch for the current meter on the left-hand side toward the front of the chassis is in the "up" position. From this point on, operation is

straight-forward. When you are finished listening, turn off your A-5000 DHT monoblocks first; then, turn off your preamplifier and sources.

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

THE CURRENT METERS

The single, illuminated meter indicates the current supply to the 300B power tube in the A-5000 DHT (See Figure 5). There is also a screw type potentiometer on the chassis top directly in front of the 300B (Refer to Figure 6 for its location).

When you turn on the A-5000 DHT and after a brief period of stabilization, the needle of the current meter should be between the two parallel lines on the meter face. Any error of current supply to or failure of a 300B tube is indicated by the needle moving out far out from between these two parallel lines.

The potentiometers have a limited range of turning, and when they reach their limit, they will resist. **DO NOT in any circumstances** try to turn a potentiometer past its point of resistance in either direction; doing so will damage the potentiometer and void the warranty. If a meter will not balance, please contact your Allnic dealer for assistance.

TUBES AND TUBE BIAS

Each A-5000 DHT monoblock uses the following tubes (See Figure 6):

- One (1) x 300B – may use 300B XLS
- One (1) x RS242
- One (1) x HL2
- One (1) x 5U4G (Substitute with equivalent direct-heated rectifiers only)

Because of the user adjustable bias for the 300B, it is not necessary to use a matched pair of these power tubes in the A-5000 DHTs.

The illuminated meter on the front of the chassis (see Figure 5) indicates the current supply to the 300B tube in the A-5000 DHT. There is a potentiometer that is used to bias the 300B (Refer to Figure 6 for its location). When you turn on the A-5000 DHT and after a brief period of stabilization, the needle of the current meter should be in about the middle between the two parallel lines on the meter face.

Any error of current supply to or failure of the 300B tube is indicated by the needle on the meter moving out from between these two parallel lines. If the current meter has moved to the left-hand most of the parallel lines on the meter face, or somewhat beyond it, using an appropriately bladed screwdriver, adjust the potentiometer directly in front of the tube's location by turning it clockwise until the needle has returned to between the meter's parallel lines. If the meter needle has moved close to the right-hand most parallel line on the meter face, or somewhat to the right of it, turn the potentiometer control counterclockwise to correct.

SAFETY! You must power off and disconnect the amplifier from the electrical source to remove and replace tubes and fuses.

If the meter's needle drops to the left limit of the meter's face during operation and audio output stops, or if the meter needle drops to the right, this indicates a failure of the 300B tube. The fuse may have "blown" as well. You will need to replace the 300B tube or both the 300B tube and its protection fuse (0.5A 250V, 5x20mm Fast-Blow type) for the 300B. To replace a fuse, using a screwdriver, simply turn the top of the fuse cap counterclockwise. It will spring out holding the fuse. Replace the fuse first with a good, inexpensive one of the same rating to avoid risk if you are using a more costly aftermarket fuse. Push the fuse cap down and turn it clockwise; it will lock itself. If you have any questions about doing this, please contact your Allnic dealer for assistance. It is also possible that the mains fuse could have blown, so if after doing the above, there is still no output, check the mains fuse and replace it if necessary, using the spare fuse in the IEC tray holder or first with a good, inexpensive one of the same rating to avoid risk if you are using a more costly aftermarket fuse.

You may use any 300B type tube in the A-5000 DHT, including the newer higher voltage varieties **(300BXLS)**, which will operate at their optimal specification if the needle of the illuminated meter is set to just inside the right-hand most of the meter's two parallel lines.

Of course, before changing a 300B, you should turn the bias potentiometer down. Then when you have inserted the new tube (and fuse or fuses, if required, you will have to adjust the bias back into the area between the two parallel lines of the meter, as described above. Please refer to Figure 6 for tube locations.

If either an RS242 or HL2 tube fails, sound output for the affected amplifier will either be diminished or stop but the 300B current meters will be unaffected. To determine which tube has failed, swap the RS242 tubes of the two chassis. If that does not change the result, then swap the HL2 tubes. Carefully replace the failed tube.

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 A-5000 DHT or any injury or loss incurred by the user resulting from the user changing or attempting to change tubes.

SPECIFICATIONS FOR THE ALLNIC AUDIO A-5000 DHT 300B SINGLE-ENDED, DIRECT HEATED TRIODE MONOBLOCK POWER AMPLIFIER

- Output Power: 10w (8Ω load, at 1KHz)
- Total Harmonic Distortion: Less than 0.5% at 1KHz, 2.83V
- Frequency Response: 20Hz - 50KHz Flat
- S/N Ratio: -76dB (CCIR, 1KHz)
- Damping Factor: 4.7 at 8Ω load at 1KHz
- Voltage gain: +24dB
- Input Impedance: 100KΩ (single-ended, unbalanced)
- Input Sensitivity: 0.6V for rated power
- Fuses:
  - Mains:
    AC 3A 250V, 5x20mm Slow-Blow for 110/120V regions
    AC 2A 250V 5x20mm Slow-Blow for 230/240V regions
  - 300B:
    0.5A 250V, 5x20mm Slow-Blow
- Tubes (per chassis):
  - 300B X 1 (power tube) - May use 300B XLS
  - HL-2 X 1 (first stage driver – equivalent to HL-2K)
  - RS242 X 1 (second stage driver)
  - 5U4G X 1 (rectifier - substitute with equivalent direct-heated rectifier only)
- Dimensions:
  - (W x D x H) 430mm (16.93 inches) x 330mm (13 inches) x 240mm (9.45 inches)
- Weight:
  - 20Kg (44 lbs) net per monoblock.
  - 21.8 Kg (48 lbs) shipping weight per monoblock.

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 4: A-5000 DHT – Rear View

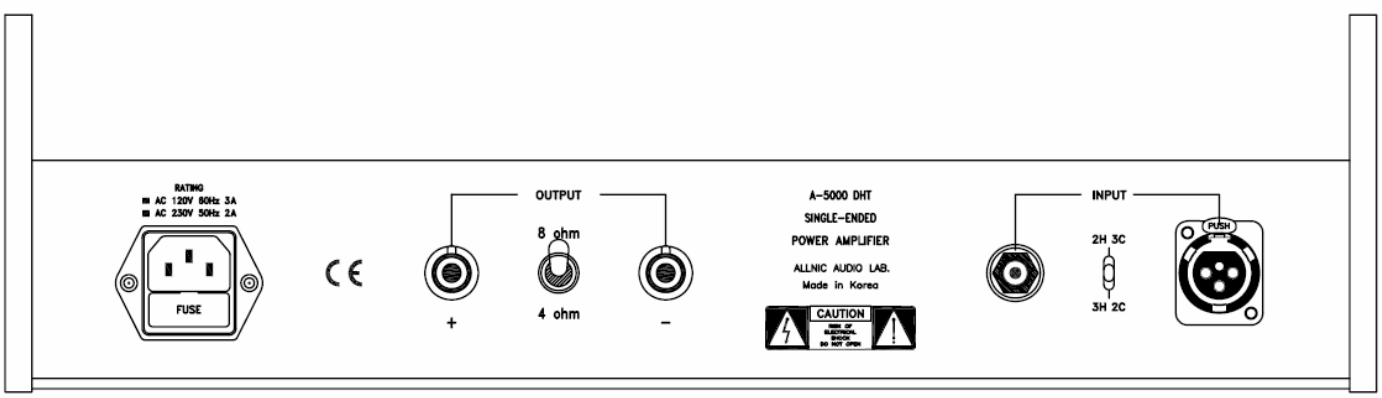

Figure 5: A-5000 DHT – Front View

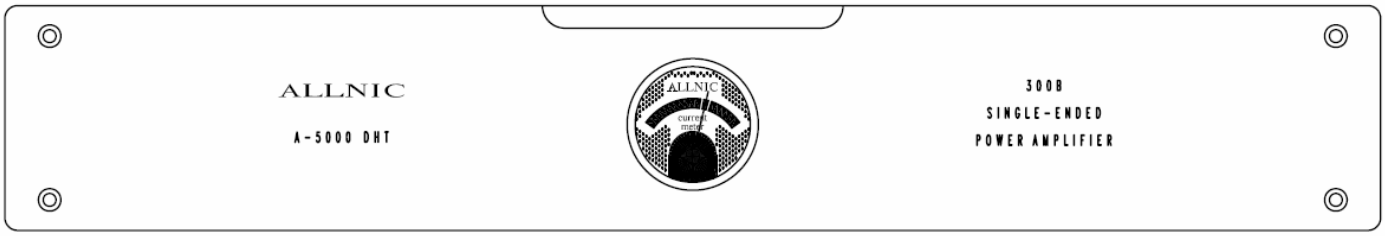

Figure 6: A-5000 DHT – Top View