

**ALLNIC AUDIO**  
**T-2000**  
**KT120 STEREO INTEGRATED AMPLIFIER**



**OWNER'S MANUAL**

# ALLNIC AUDIO

## T-2000 KT120 STEREO INTEGRATED AMPLIFIER

Thank you for purchasing the Allnic Audio T-2000 KT120 Stereo Integrated Amplifier. 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 T-2000 KT120 Stereo Integrated Amplifier 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.**

## TABLE OF CONTENTS:

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INTRODUCING THE T-2000 KT120 STEREO INTEGRATED AMPLIFIER	4
WHAT'S IN THE BOX?	5
SAFETY	5
CLEANING Chassis Connectors	5
INITIAL SET-UP Location, Location, Location Inputs Speaker Terminals Power Connection	5
INITIAL POWER ON	6
OPERATION – CHASSIS AND REMOTE CONTROLS The Current Meters	7
TUBES AND TUBE BIAS	7
SPECIFICATIONS	8
WARRANTY	9
FIGURES	9

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Please read about **SAFETY** before you attempt to use the T-2000 - we care about our customers and the equipment, and we want you to enjoy this product for a long time!

## INTRODUCING THE T-2000 KT120 STEREO INTEGRATED AMPLIFIER

The T-2000 stereo integrated amplifier is one of Allnic Audio's two KT120 stereo integrated amplifier models. Like all Allnic Audio products, the T-2000 has 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 T-2000 has the following features:

- 70 watts of high power output. The T-2000 is a push-pull, triode/pentode switchable integrated amplifier.
- Remote controlled 41 steps silver contact attenuator. The T-2000 employs this house made quality attenuator, instead of standard, outsourced carbon film potentiometers. The Allnic attenuator provides complete channel balance and less distortion.
- Powerful Driving Circuitry. Allnic believes in the importance of using high-quality, low noise and powerful driving circuitry in all its amplifying devices. The T-2000 uses only two stages of driving circuit to achieve +35dB of voltage gain, instead of three or four stages as one finds in many conventional integrated amplifiers. This results in less coloration and more speed in signal/sound reproduction. In the T-2000, we employ the D3a tube in triode mode as the second stage driver tube, with a load of about 5K ohms, and using 20mA of current. The listener can easily hear and even "feel" the differences between this design and other, more conventional, ones. Please imagine, as you listen to the T-2000, its sound compared to the sound of an integrated amplifier with conventional 12AU7 or 12BH7's used as drivers, with a load of about 47K ohm, and using 2 to 3mA of current.
- "Full Engagement" Output Transformers. Conventional output transformers use pre-set secondary windings to accommodate 4, 8 and 16 ohm loudspeaker loads. However, these conventional transformers utilize only one secondary winding at a time, while the other secondary windings remain "idle". This approach has two adverse effects. First, the output transformers are not working at their maximum efficiency, reducing their output relative to their potential. Second, the "idle" windings are not actually "idle"; they are subject to parasitic oscillations, producing their own "signal". This undesirable electrical information is additive to the transformer's output, distorting the amplified signal going to the loudspeaker. Allnic's "Full Engagement" transformers address these issues by having 4 independent, secondary windings which are always fully connected, never "idled". This means that all secondary windings are always connected to your loudspeakers, regardless of which output switch position you use (4 ohms or 8 ohms or 8 ohms or 16 ohms, depending on the factory configuration you have selected). The result is that there is neither a loss of transformer output efficiency, nor the introduction into the output signal of distortion from parasitic oscillations of the secondary windings.
- Large Nickel/FeSi Core Output Transformers. As with our other models, Allnic uses very large output transformers (96 mm) with nickel, mixed with FeSi, cores. This provides for higher inductance with fewer windings than other designs can provide and results in the great benefit of an extremely wide range of output frequencies.
- "Soft-start" Circuitry. Allnic uses soft start circuitry that, after sufficient warm-up only, provides the high voltage supply to the plate of each tube. This protective design results in prolonged tube life and fewer and less frequent issues with tube performance.
- Analogue Power Tube Current Monitors. In order to provide constant current (bias) monitoring for the power tubes, Allnic uses a separate analogue current meter for each tube. The meters make it exceptionally easy to see the status of each tube at any time and to respond immediately to any variation in bias by use of the bias control knob for the relevant tube. The meters offer a simple, unambiguous indication of each tube's status compared to conventional LED bias monitors.
- "On-the-Fly" Triode/Pentode Switching. Switching between triode and pentode operation can be done "on-the-fly" at any time while the amplifier is in use.
- Beautiful 10KHz square wave response. See Figures 1-3.
- As are all Allnic Audio products, the T-2000 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 T-2000 KT120 stereo integrated amplifier
- One (1) Allnic remote control
- One (1) Allen wrench for screws on top of the tube chimneys
- One (1) IEC type power cord
- One (1) Owner's Manual

Note:

- 1) The T-2000 ships with the tubes installed.
- 2) The T-2000 will work with most IEC type aftermarket power cords. Of course, only you can determine the power cord that works most synergistically with the T-2000 in your system.
- 3) Be sure the T-2000 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 T-2000 came in. It will be useful if you sell your T-2000 or in the unlikely event you need to ship it for service.

## SAFETY

- **Remove ALL protective cushioning material (cardboard around and "O" rings on tubes) 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 unit's chassis cover without specific authorization from Hammertone Audio.
- 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.
- When the unit is moved from a cold to a warm environment, allow sufficient time for any condensation to evaporate before plugging the T-2000 into an AC connection.
- Do not attempt any repairs.
- See the notes on "Location, Location, Location".

## CLEANING

### A. Chassis and glass/plastic

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 T-2000.

### 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 T-2000 needs to be placed on a solid stand in a location that provides good air circulation around, above and below the stereo amplifier.

- DO NOT cover the top of the T-2000.
- 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 T-2000 on some kind of after-market isolation feet or similar devices. Dropping one side of the T-2000, or the whole of the 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 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, interconnects and speaker cables. The T-2000 is a highly sensitive piece of electronic designed for neutrality and will output what you put into it.
- DO try to place T-2000 away from major sources and potential receivers of RFI and EMI. Though well shielded, the T-2000 will function best away from large power transformers and other sources of such interference and from other equipment that

could be susceptible to/sources of such forms of interference.

## B. INPUTS

There are four (4) RCA type female input pairs and one balanced (XLR) input pair. Facing the rear of the chassis, the input connections are to the right of the IEC power input and the Pre Out terminal pair. The left channel connector is the top one in each line input pair. Please refer to Figure 5.

You can use the T-2000 with a separate preamplifier by connecting the outputs of the preamplifier to one pair of the T-2000's inputs. **HOWEVER, please use caution when you do this. If you have both volume controls above zero on turn on, especially with signal, you could damage your speakers because of the extreme volume level from the combined gain of both the preamplifier and the T-2000.** On initial turn on with a separate pre-amp, you should have the volume on BOTH units set to zero. Then use the volume control on both the pre-amp and the T-2000 to set the volume control on the T-2000 so that you can use preamplifier volume control as the main volume control – OR vice versa, as you prefer.

## C. PRE OUT CONNECTIONS

The T-2000 has a pair of RCA type female Pre Out (Preamplifier outputs – refer to Figure 5) connections on the rear of the chassis, between the IEC connection and the Line Inputs. The Pre Outs are connected passively; therefore, when they are in use, the PCL86 and KT120's continue to draw power and operate. These connections are for use to connect to one or a pair of powered subwoofers or, for bi-amping, to an external stereo power amplifier or pair of monoblock amplifiers (preferably with the same gain as the T-2000).

## C. SPEAKER TERMINALS

The T-2000 is equipped with two pairs of high-quality speaker terminals. These terminals are located at the left of the back of the chassis (the right, facing the front of the chassis). Facing the front of the chassis, the right channel pair is on the outside right and the left channel pair is to their left, on the other side of the impedance toggle. The terminals accept bare wire (not recommended) and spade and banana type connectors. Please refer to Figure 5.

## D. POWER CONNECTION

Connect the input interconnects and/or the speaker cables or the Pre Out connections before you insert the power cable into the receptacle at the centre of the chassis rear. The T-2000 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. Please refer to Figure 5.

The T-2000 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.

## INITIAL POWER-ON

Once you have your T-2000 in place and all connections have been made to your turntable and preamplifier, you are ready to turn on the power for your T-2000; before you power it up, though, be sure you have:

- **removed ALL the cushion materials (cardboard around and "O" rings on tubes) from inside the tube chimneys**
- **checked that power tubes are snug in their sockets** and that the pin alignments for the KT120's are correct (wide diameter pins and narrow diameter pins in the correct holes of the sockets. **This is essential.** The KT120 tubes are fused, as is the mains for the unit, and they should preserve both the tubes and the amplifier, in case you have removed and replaced the KT120's incorrectly. However, you will have to replace fuses, and the damage to your self-esteem for getting it wrong may haunt you forever. Hammertone Audio and Allnic Audio Labs are not responsible for such an outcome.
- ensured the interconnects are firmly attached
- **turned the preamplifier's and T-2000's volume controls down to zero (if you use that combination)** and otherwise zeroed or muted the volume on your source(s).
- securely and correctly fastened the speaker cables and ensured that they are also connected properly to the speakers.

Turn on the T-2000 by pushing in the power switch button located at the right of the front panel (facing the front of the unit) to the "on" position (See Figure 5). The "on" position is with the button switch depressed. Of course, the off position is the reverse. After about a thirty to forty (30 - 40) second

delay (the soft start), the A-2000 will be powered on.

## OPERATION - CHASSIS AND REMOTE CONTROLS

When the power is on, the current meters on the face of the chassis will illuminate. From this point on, the T-2000's operation is straight-forward. The face of the chassis has an input selector control knob and a volume control knob (see Figure 4). The remote control (Figure 6) will also control the input selections and the volume. It will not control the power to the T-2000, which must be switched on and off manually, as described above. Remove screws on the bottom of the remote control to replace batteries.

When you are finished listening, turn off your T-2000 stereo amplifier(s) first; then, turn off your preamplifier and sources. **If the T-2000 is in triode mode at turn-off, it will produce a sound through the speakers as the amplifier's relays turn off. Though this sound is harmless to speakers, some users may prefer not to hear it. To avoid the sound, simply switch the T-2000 to pentode mode prior to turning it off (see the "On-the-Fly Triode/Pentode Switching section below).**

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

## THE CURRENT METERS

The two illuminated meters indicate the current supplies to the four KT120 power tubes in the T-2000. Between and to the outside of each channel pair of KT-120's is a small toggle switch. Pushing the toggle toward the rear of the chassis allows you to read and use the meter to bias the rear KT120; pushing the toggle toward the front switches the meter to the front KT-120. You can use the toggle during operation.

There is a potentiometer for each KT120 (Refer to Figure 7). When you turn on the T-2000, the needle of the current meter for each KT120 should be between the two parallel lines on the meter face. Any error of current supply to or failure of a KT120 tube is indicated by the needle on the meter moving out from between these two parallel lines.

If a meter's needle drops to the left limit of the meter's face during operation, this indicates a failure of the related KT120 tube. You must turn off the T-2000 and replace both the fuse (0.5A, 250V, 20mm glass type) for that tube and the KT120.

To replace a fuse, unplug the T-2000; then, using a screwdriver, simply turn the top of the fuse cap counter

clockwise. It will spring out holding the fuse. Replace the fuse in the fuse cap, push the fuse cap down and turn it so it locks. If you have any questions about doing this, please contact Hammertone Audio for assistance.

## TUBES AND TUBE BIAS

The T-2000 uses the following tubes:

- Two (2) x KT120
- Two (2) x D3a
- Two (2) x 6485

Because of the individual bias for each KT120, it is not necessary to use matched KT120 tubes in the T-2000.

You may use any KT120 type tube in the T-2000. Of course, you will have to adjust the bias back into the area between the two parallel lines of the meter for a tube when it is replaced. Please refer to Figure 7 for tube locations.

**CAUTION: If you intend to change KT120's, ensure that you use the potentiometers to trim back the bias below (to the left of) the parallel lines on the meters first.** This will prevent the new pair of KT120's from drawing too much current at first turn-on (not an uncommon characteristic) and tripping the power fuse at the IEC connection. No harm is done to the original tubes by turning the bias down, nor is any harm done to the new tubes by having them biased low to start. Once the new tubes are installed and the T-2000 is on, use the potentiometers to adjust the bias so the needles for each meter are again between the two parallel lines on the meter.

If the current meter for one of the unit's KT120's has moved to the left of the parallel lines on the meter face, using an appropriately bladed screwdriver, adjust the potentiometer directly in front of that 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 to the right of the parallel lines on the meter face, turn the potentiometer control counter-clockwise to correct.

As with all tube equipment, changing tubes from one manufacturer's to another's may alter the sonic characteristics of the equipment.

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 T-2000, any of its parts, or tubes or replacement tubes resulting from the user changing or attempting to change tubes.

## SPECIFICATIONS FOR THE ALLNIC AUDIO T-2000 KT120 STEREO INTEGRATED AMPLIFIER

- Output Power: 70w + 70w (8  $\Omega$  load, at 1KHz)
- Distortion: 0.2% at 1KHz, 2.83V
- Frequency Response: 20Hz - 20KHz Flat
- S/N Ratio: -80dB (CCIR, 1KHz)
- Damping Factor: 7 at 8 $\Omega$  load at 1KHz
- Voltage gain: +35dB
- Input Impedance: 10K $\Omega$  (single-ended, unbalanced)
- Input Sensitivity: 400mV for rated power
- Tubes: KT120 X 4 (power triode)  
D3a X 4 (2<sup>nd</sup> stage driver tube – no equivalent)  
6485 X 4 (1<sup>st</sup> stage driver: similar to 6AH6, 6AH6WA, 6AH6S, CV2521)
- Fuses: AC Mains - 3A / 250V (110W) (two supplied – one is a spare). Tubes - 0.5A, 250V, 20mm glass type
- Dimensions: (W x D x H) 430mm (16.93 inches) x 430mm (16.93 inches) X 240mm (9.45 inches)
- Weight: 40Kg (88 lbs) net.  
45.5 Kg (~ 100 lbs) shipping

## 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.



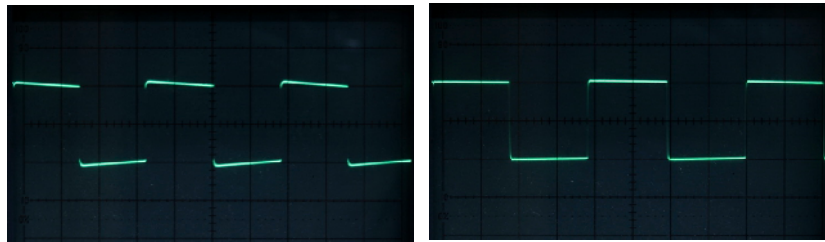


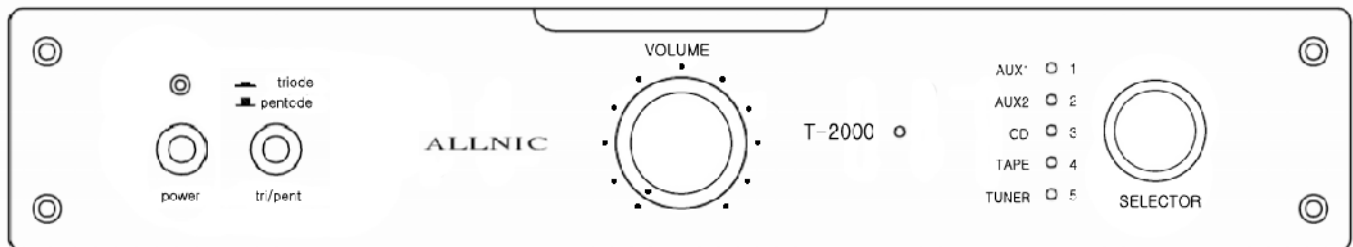
Fig.1 Square Wave 50Hz    Fig.2 Square Wave 1KHz



Fig.3 Square Wave 10KHz

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

**Figure 4 – T-2000 KT120 Stereo Integrated Amplifier Front Panel View**



**Figure 5 – T-2000 KT120 Stereo Integrated Amplifier Rear Panel View**

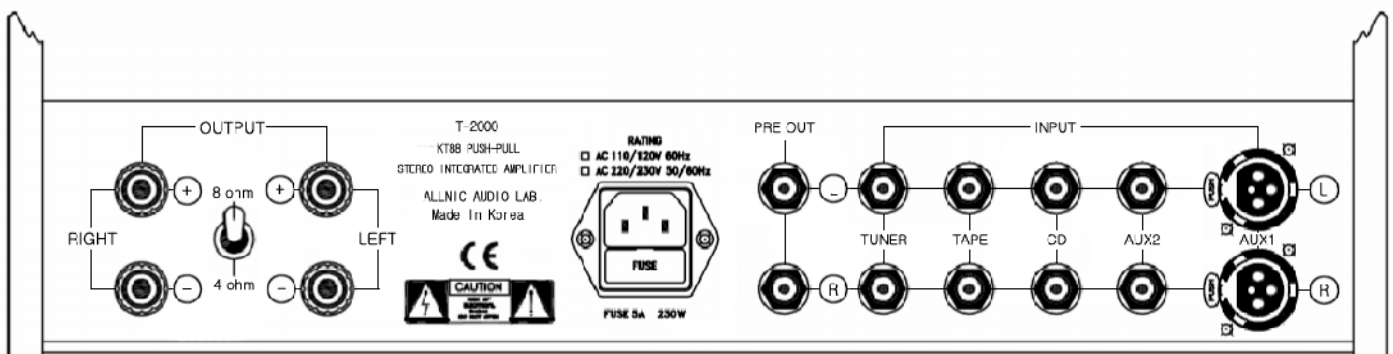


Figure 6 – T-2000 KT120 Stereo Integrated Amplifier Remote Control

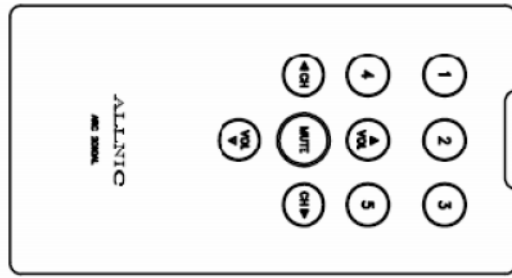
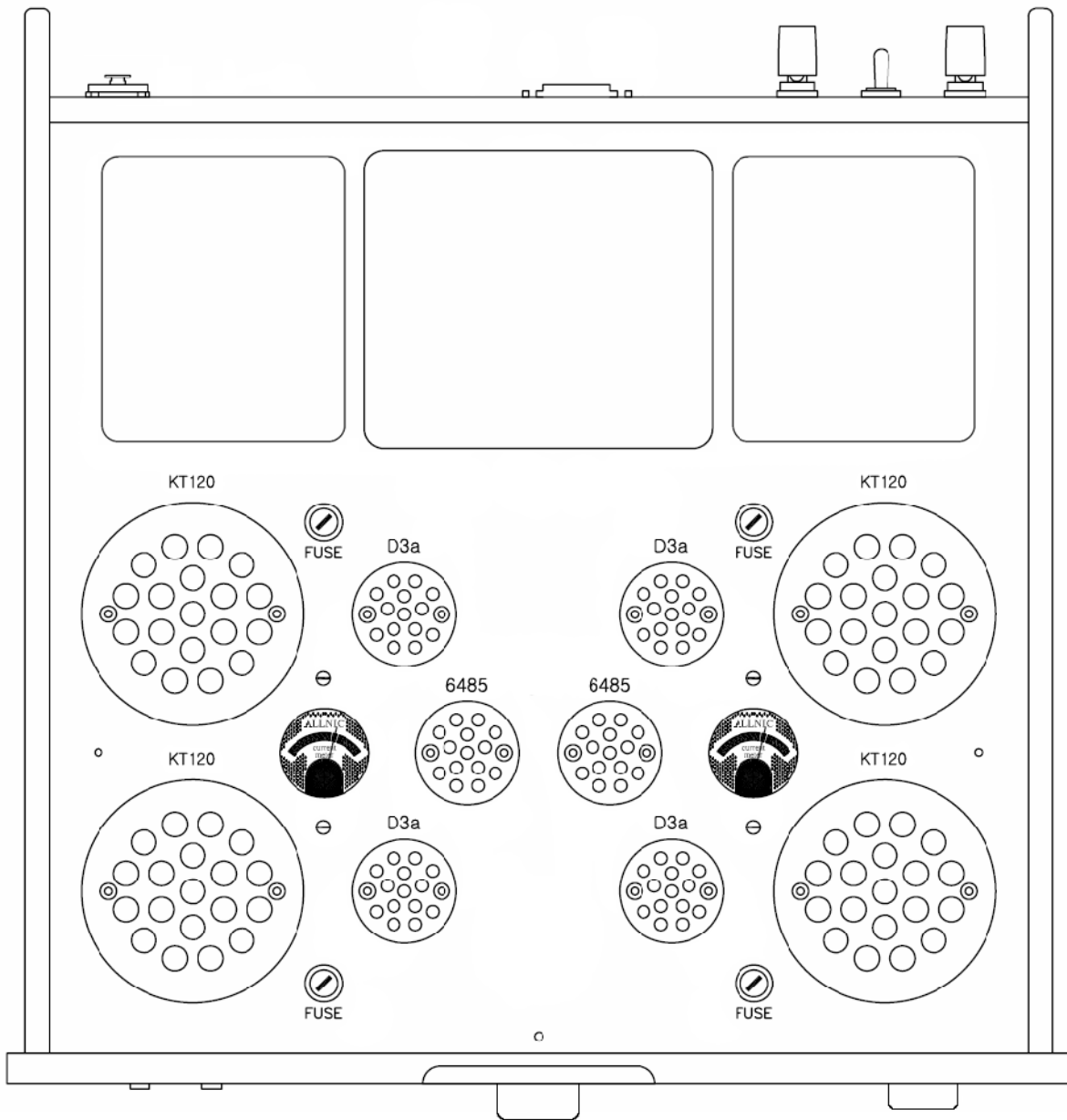


Figure 7 – T-2000 KT120 Stereo Integrated Amplifier Chassis Top View





MUSICAL  
TRUTH

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