



ALLNIC AUDIO

M-2500

**PX25/300B/KT150 PUSH-PULL
MONOBLOCK POWER AMPLIFIERS**



OWNER'S MANUAL

ALLNIC AUDIO

M-2500

PX25/300B/KT150 PUSH-PULL

MONOBLOCK POWER AMPLIFIERS

Thank you for purchasing the Allnic Audio M-2500 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 M-2500 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.**

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Please read about **SAFETY** before you attempt to use the M-2500s - we care about our customers and the equipment, and we want you to enjoy this product for a long time!

INTRODUCING THE M-2500 PX25/300B/KT150 PUSH-PULL MONOBLOCK POWER AMPLIFIERS

The M-2500 monoblock power amplifiers are Allnic Audio's top of the line, power tube flexible, push-pull monoblock power amplifier model. Like all Allnic Audio products, the M-2500s have Permalloy (iron and nickel alloy) for their 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 M-2500s use the superbly musical PX25, 300B or KT150 (customer's choice on ordering) power tubes in push-pull configuration to provide the power that push-pull application facilitates but retaining the special musicality of the PX25/300B/KT150 tubes. The M-2500s have the following features:

- The M-2500s are push-pull monoblock power amplifiers. They provide continuous power as follows:
 - **PX25:** 20W Triode
 - **300B:** 30W Triode
 - **KT150:** 100W Beam Tetrode
- **Powerful Driving Circuitry.** Allnic believes in the importance of using high-quality, low noise and powerful driving circuitry in all its amplifying devices. Off-the-shelf design is not a part of the magic of these amplifiers. Tubes and transformer characteristics are closely matched to complement each other to achieve the most accurate and satisfying sound. In the M-2500s using the 300B and KT150 power tubes, we employ the 6485 (6AH6) pentode in triode mode as the input tube. Using the 6485 in triode is extremely beneficial as it improves the high frequencies and especially helps maintain the characteristic sound of the 300B power triode. The PX25 version uses a 5654 for the input tube as it is a better match for gain and other factors for that power tube. The 300B and PX25 versions use a pair of 12A4 tubes as second stage driver tubes. In the KT150 version, a pair of 6S4 tubes is used for the second stage drivers. The listener can easily hear and even "feel" the differences between these designs and other, more conventional ones. Please imagine, as you listen to the M-2500s, its sound compared to the sound of an amplifier using conventional, for example, 6SN7, 6922, 12AU7 or 12BH7s.
- **Direct-heated Vacuum Tube Rectification.** The M-2500s use a direct-heated 5U4G full-wave rectifier tube rather than a semiconductor diode in the rectification circuit. This provides both sonic benefits and improved protection for the PX25/300B/KT150 power triode tubes.
- **"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 that 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 (114 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 an analogue current meter that is switchable to provide extremely accurate monitoring of each PX25/300B/KT150 tubes. 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.
- Beautiful 20KHz square wave response. See Figures 1-3.

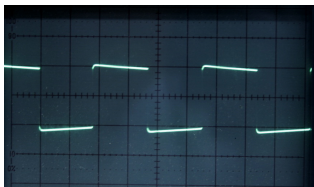


Fig.1 Square Wave 50Hz*

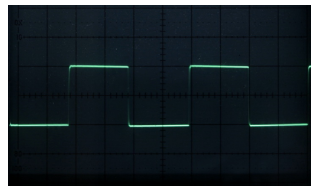


Fig.2 Square Wave 1KHz*

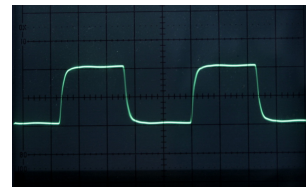


Fig.3 Square Wave 20KHz*

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

- As are all Allnic Audio products, the M-2500s are 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 M-2500 monoblock power amplifier. **NOTE: the M-2500s are mirror imaged.** Each amp should be the mirror image of the other, with the rectifier tubes on the right side on one and on the left side on the other.
- One (1) 15 amp IEC type power cord
- One (1) Hex/Allen key

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

Note:

- 1) The M-2500s ship with the tubes installed.
- 2) The M-2500s will work with most 15 amp, IEC type aftermarket power cords. Any model of Allnic's ZL Technology power cables will make an excellent match. Of course, only you can determine the power cord that works most synergistically with the M-2500s in your system.
- 3) **Be sure the M-2500s 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 M-2500s came in. It will be useful if you sell your M-2500s or in the unlikely event you need to ship it for service.

SAFETY

- **Remove ALL protective cushioning material (cardboard around the tubes) inside the tube chimneys before operation. The tube chimneys should contain NOTHING except the tubes (It is optional to leave the "O" rings on the small tubes, if any; some prefer the sound with the O rings on).**
- 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 M-2500s.

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 M-2500s 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 M-2500s.
- DO NOT place the M-2500s on carpet or foam.

- DO NOT subject the M-2500s to knocks and shocks as you move them around. This advice is meant particularly for those who may want to place the M-2500s on some kind of after-market isolation feet or similar devices. Dropping one side of the M-2500s, or the whole of a unit may cause damage and may 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 M-2500s 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 M-2500s 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 M-2500s.
- DO try to place M-2500s away from major sources and potential receivers of RFI and EMI. Though well shielded, the M-2500s 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 M-2500s are moved from a cold to a warm environment, allow sufficient time for any condensation to evaporate before plugging the M-2500s into an AC connection.
- Do not attempt any repairs.

B. INPUTS

There are two (2) female inputs (See Figure 6). One accepts a balanced cable with a male XLR connector; the other accepts a cable with a single-ended, RCA type male connector. On one chassis, these input connections are located on the right (facing the back) rear of the chassis, with the balanced input closest to the side edge. The inputs are on the left rear of the chassis on the other M-2500. 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"; the bottom position is for the reverse (in both cases, pin 1 is ground).

C. SPEAKER TERMINALS

Each of the M-2500s is equipped with one pair of high-quality speaker terminals (See Figure 6). These terminals are located in the middle of the rear panel of each M-2500 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 on one M-2500, and on the right on the other (See Figure 6). The M-2500s use a standard 15 amp three prong male IEC connection for AC input. You need to use power cords with a female 15 amp, 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 M-2500 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 M-2500 matches your location's electrical system. The M-2500 is set internally for AC 110/120 volt – 50/60 Hz or 230/240V – 50/60 Hz operation. There is no way to change to another AC setting.

INITIAL POWER-ON

Once you have your M-2500s in place and all connections have been made to your source(s) and preamplifier, you are ready to turn on the power for your M-2500s. Before you power up the M-2500s, though, be sure you have:

- **removed ALL the cushion materials (cardboard) from inside the tube chimneys. (It is optional to leave the "O" rings on the small tubes; some prefer the sound with the O rings on.)**
- checked that all tubes are snug in their sockets
- properly mapped all your connections, ensuring the input connectors that you are using, single ended (RCA) or balanced (XLR), are firm and secure and if using XLR, that the switch on the back of each chassis is set to the appropriate pin configuration
- securely and correctly fastened the speaker cables, ensured that they are also connected properly to the speakers, and set the speaker impedance switch to match your speakers' impedance
- turned on your source(s) and your preamplifier, and turned the preamplifier's volume control down to zero or otherwise muted its output

Turn on the M-2500s by pressing the power switch button located (facing the front of the unit) on the right side-panel (on one chassis and on the left side on the other) to the "on" position (See Figures 4 and 5). The "on" position is with the top of the button switch pressed down. Of course, the off position is the reverse. After a brief delay (the soft start), the M-2500s 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.

OPERATION

When the power is on, the current meter on the front of the chassis will illuminate (See Figure 7). From this point on, operation is straight-forward. When you are finished listening, turn off your M-2500 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 illuminated meters indicate the current supply to each of the PX25/300B/KT150 power tubes in the M-2500s. There is one current meter (See Figure 7). Flip the toggle switch, located in the middle of the front of the chassis top (See Figures 7 and 8), to switch the meter to read either the left or right PX25/300B/KT150 power tube. There is also a screw type potentiometer on the chassis top in front of each PX25/300B/KT150 (See Figure 8).

When you turn on the M-2500s, 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 PX25/300B/KT150 tube is indicated by the needle moving out from between these two parallel lines.

TUBES AND TUBE BIAS

Each M-2500 monoblock uses the following tubes (See Figure 8):

- Two (2) x PX25/300B/KT150
- One (1) x 6485 (6AH6) (300B and KT150 versions)
- One (1) x 5654 (PX25 version)
- Two (2) x 12A4 (PX25 and 300B versions)
- Two (2) x 6S4/6S4A (KT150 version)
- One (1) x 5U4G (Substitute with equivalent direct-heated rectifiers only)

Because of the individual, user adjustable bias for each PX25/300B/KT150, it is not necessary to use a matched pair of these power tubes in the M-2500s.

If the needle of a current meter for a PX25/300B/KT150 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 counterclockwise to correct. 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.

If a meter's needle drops to the left limit of the meter's face during operation (this will be accompanied by loss of output), it indicates a failure of the related PX25/300B/KT150 tube. You must turn off the M-2500s and replace the PX25/300B/KT150. If you have any questions about doing this, please contact your Allnic dealer for assistance.

SAFETY! ALWAYS POWER OFF and disconnect the M-2500s from the AC source before replacing tubes.

If a meter's needle drops close to the right limit of the meter's face during operation (this also will likely be accompanied by loss of output), it indicates a failure of the input or a driver tube. If you do not have access to an appropriate tube tester, you should be able to identify the failed tube first by exchanging the input tubes of the two monoblocks. If the failure "follows the tube", replace the failed tube. If swapping the input tubes does not reveal the failed tube, then follow the same process of exchange with, first, one of the pair of driver tubes in each monoblock and then, if necessary, the other. Once again, when the failure "follow the tube" replace the failed tube. If you have any questions about doing this, please contact your Allnic dealer for assistance.

If the 5.0 Amp AC mains fuse, located at the IEC input, has failed, it can be replaced with the spare fuse provided in the tray in the IEC mount or try a good, inexpensive one of the same rating if you are using a more costly aftermarket fuse. **POWER OFF and disconnect the M-2500 from the AC source to change the mains fuse.** Again, if you have any questions about doing this, please contact your Allnic dealer for assistance.

If after following these instructions the amplifier powers up but still has no sound output, the protection fuse for the failed tube has failed. The 0.5 Amp power tube protection fuses are located internally and require a qualified technician to replace – **DO NOT attempt to open the chassis. Doing so will void the warranty.** Contact your Allnic dealer for advice.

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. When replacing a PX25/300B/KT150, first turn the bias screw counterclockwise slightly to reduce current, in case the bias is set too high for the new tube (since the old tube may have required additional bias). Bring the bias up gradually to the middle between the two lines on the meter.

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 M-2500 or any injury or loss incurred by the user resulting from the user changing or attempting to change tubes.

SPECIFICATIONS FOR THE ALLNIC AUDIO M-2500s 300B PUSH-PULL MONOBLOCK POWER AMPLIFIER

- Output Power:
 - **PX25:** 20w (8Ω load, at 1KHz)
 - **300B:** 30w (8Ω load, at 1KHz)
 - **KT150:** 100w (8Ω load, at 1KHz)
- Total Harmonic Distortion: • Less than 0.01% at 1KHz, 1V RMS
- Frequency Response: • 20Hz - 50KHz Flat
- S/N Ratio: • -100dB (CCIR, 1KHz)
- Damping Factor: • 20 at 8Ω load at 1KHz
- Voltage gain: • +26dB
- Input Impedance: • 100KΩ (single-ended, unbalanced)
- Input Sensitivity: • 0.7V for maximum rated power
- Fuses:
 - Mains:
 - AC 5A, 250V 5x20mm slow-blow for 110/120V regions
 - AC 3A, 250V 5x20mm slow-blow for 230/240V regions
 - Power Tubes:
 - 0.5A, 250V 5x20mm slow-blow
- Tubes (per chassis):
 - PX25/300B/KT150 X 2 (power tube)
 - 6485 (6AH6) X 1 for 300B/KT150 versions; 5654 (6AK5) X 1 for PX25 version (input stage)
 - 12A4 X 2 for PX25/300B versions; 6S4 X 2 for KT150 version (second stage drivers)
 - 5U4G X 1 (rectifier - substitute with equivalent direct-heated rectifier only)
- Dimensions: • (W x D x H) 440mm (17.3 inches) x 370mm (14.6 inches) X 260mm (10.3 inches)
- Weight:
 - 20Kg (44.1 lbs) net per monoblock.
 - 25Kg (55 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

NB. *The monoblocks are mirror images of each other.*

Figure 4: M-2500 Side View - Switch

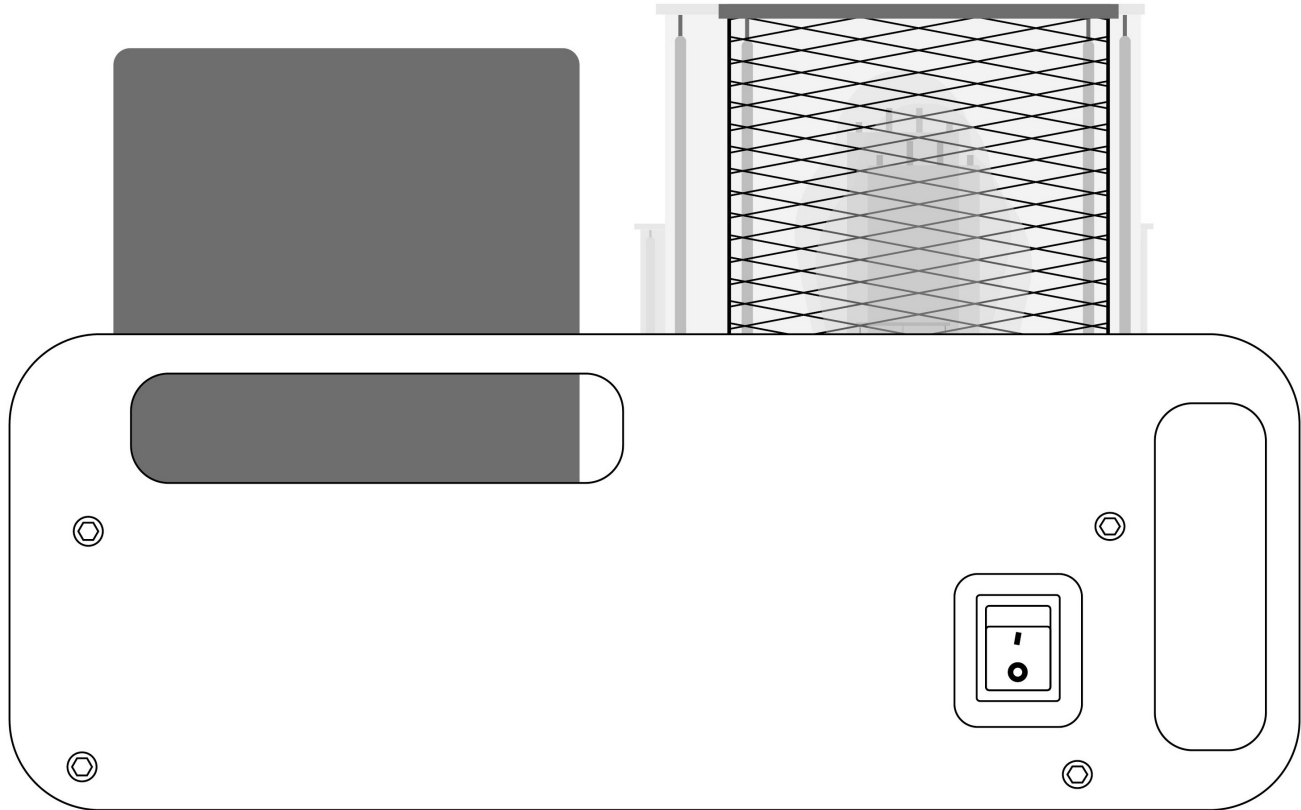


Figure 5: M-2500 Opposite Side View

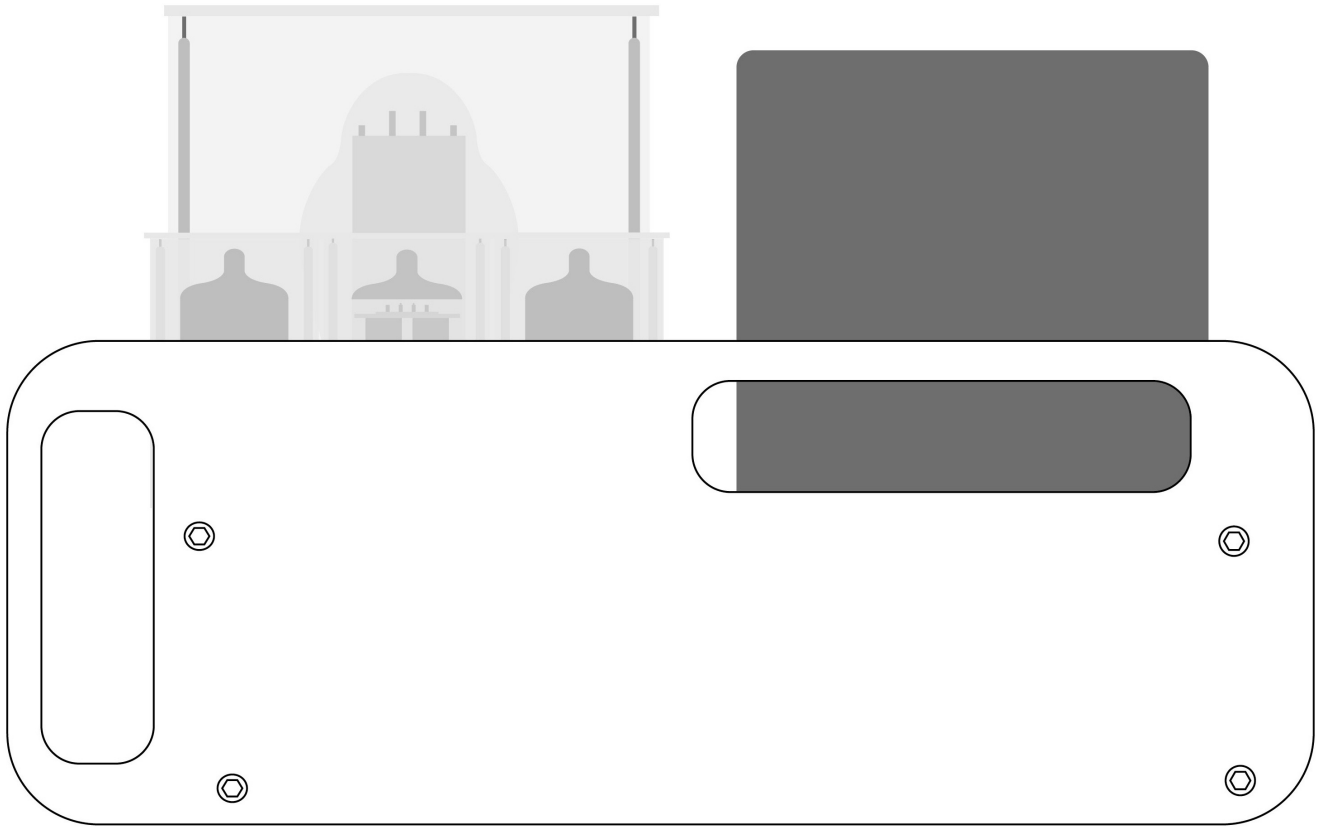


Figure 6: M-2500 – Rear View

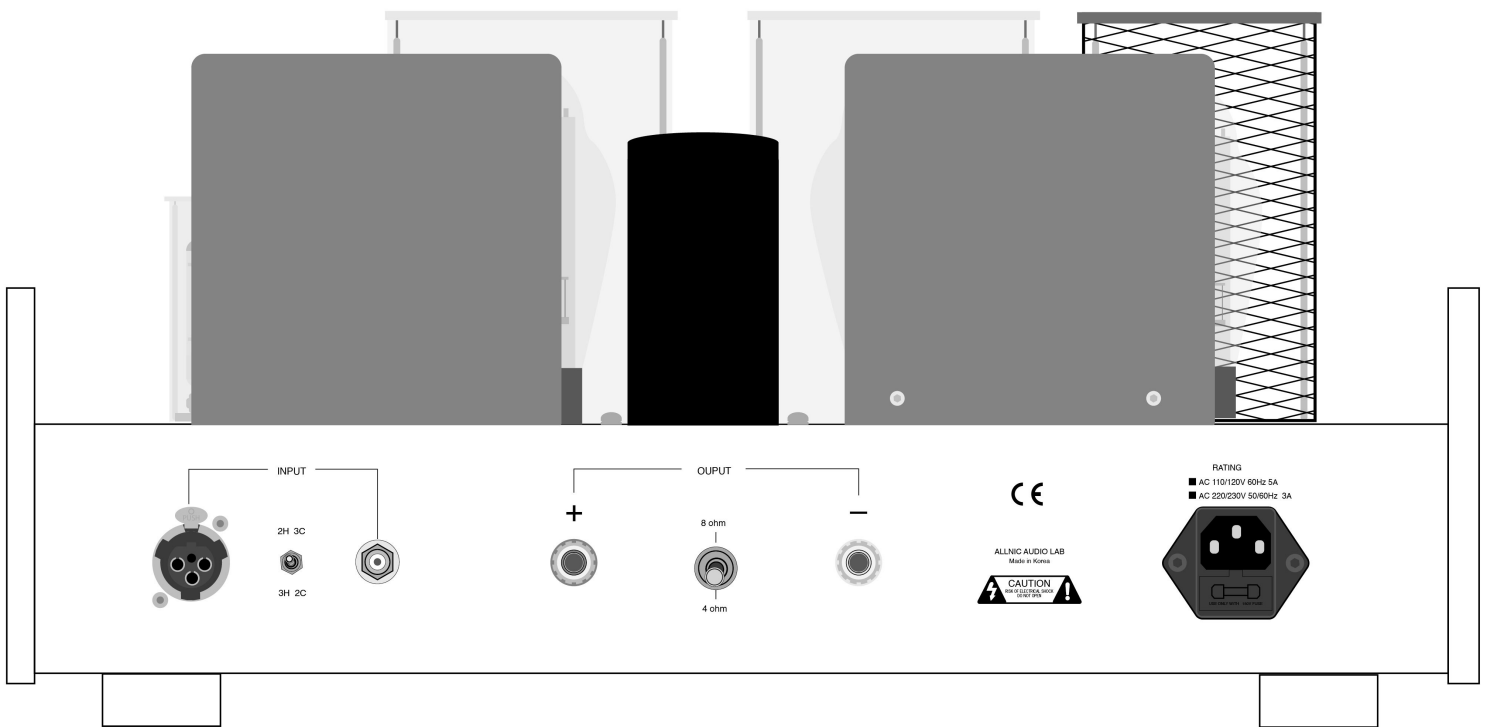


Figure 7: M-2500 – Front View

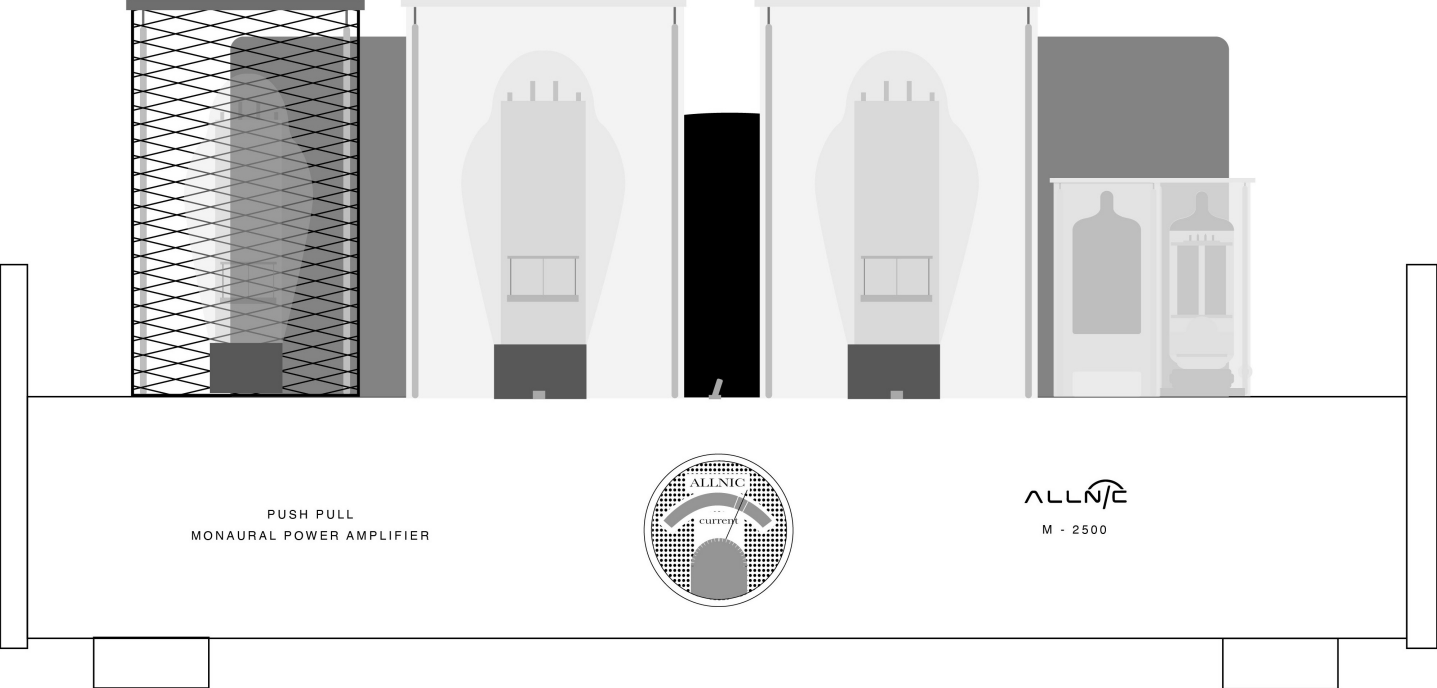


Figure 8: M-2500 – Top View

