



# ALLNIC AUDIO

## A-2000 MK3

KT170 PUSH-PULL STEREO POWER AMPLIFIER



# OWNER'S MANUAL

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### STEREO POWER AMPLIFIER

Thank you for purchasing the Allnic Audio A-2000 MK3 Stereo Power Amplifier. 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-2000 MK3 Stereo Power 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:

INTRODUCING THE A-2000 MK3 KT170 PUSH-PULL STEREO POWER AMPLIFIER	4
WHAT'S IN THE BOX?	5
SAFETY	5
CLEANING Chassis Connectors	6
INITIAL SET-UP Location, Location, Location Inputs Speaker Terminals Power Connection	6 6 7 7
INITIAL POWER ON	7
OPERATION	8
TUBES AND TUBE BIAS	8
SPECIFICATIONS	10
WARRANTY	11
FIGURES	12

Please read about **SAFETY** before you attempt to use the A-2000 MK3 - we care about our customers and the equipment, and we want you to enjoy this product for a long time!

## INTRODUCING THE A-2000 MK3 KT170 PUSH-PULL STEREO POWER AMPLIFIER

The A-2000 MK3 KT170 Power amplifier is Allnic Audio's top of the line, push-pull, solid-state rectified stereo power amplifier model. Like all Allnic Audio products, the A-2000 MK3 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 A-2000 MK3 is an upgraded version of the original A-2000. It uses the new, powerful and musical KT170 power tube, a beam tetrode, with requisite changes to transformers and several minor circuit elements. The A-2000 MK3 has the following features:

- 120 watts of high-power output in pentode mode, 60 watts in triode. The A-2000 MK3 is a push-pull, pentode/triode switchable stereo power amplifier.
- Powerful Driving Circuitry. Allnic believes in the importance of using high-quality, low noise and powerful driving circuitry in all its amplifying devices. Therefore, we employ the 6S4 pure triode tube in the MK3 version as the second stage driver tube. The listener can easily hear and even "feel" the differences between this design using higher loading and more current than other, more conventional, ones. Please imagine, as you listen to the A-2000 MK3, its sound compared to the sound of an amplifier using conventional 12AU7 or 12BH7 tubes as drivers.
- "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 for the A-2000 MK3). 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. To provide constant current (bias) monitoring for the power tubes, the A-2000 MK3 has a separate analogue current meter for each pair of power tubes. The meters offer a simple, unambiguous indication of each KT170's status compared to conventional LED bias monitors. 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 switchable bias control meter for each pair of KT170 tubes and the individual bias points for each KT170.

- "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 20KHz square wave response. See Figures 1-3.

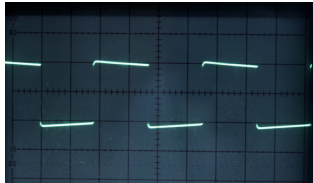


Fig.1 Square Wave 50Hz\*

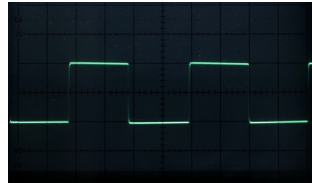


Fig.2 Square Wave 1KHz\*

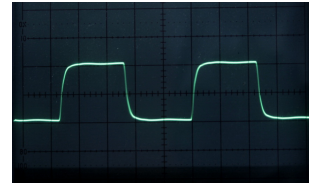


Fig.3 Square Wave 20KHz\*

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

- As are all Allnic Audio products, the A-2000 MK3 is fully RoHS (EU Reduction of Hazardous Substances regulation) compliant in construction and materials.

## WHAT'S IN THE BOX?

Please check that the pair (assuming you purchased a pair) of shipping boxes contains the following:

- One (1) each Allnic A-2000 MK3 Stereo Power Amplifier
- One (1) each 15 amp IEC type power cord
- One (1) Owner's Manual

Note:

- 1) The A-2000 MK3 ships with the tubes installed.
- 2) The A-2000 MK3 will work with most 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-2000 MK3 in your system.
- 3) **Be sure the A-2000 MK3 is labeled for the AC voltage of your location. If it is not, DO NOT connect it to your AC outlet. Please contact your Allnic dealer.**

We advise that you keep the boxes and other packing materials that your A-2000 MK3 came in. It will be useful if you sell your A-2000 MK3 or in the unlikely event you need to ship it for service.

## SAFETY

- **Remove ALL protective cushioning material (cardboard/styrofoam 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, if any, on the small tubes; 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 A-2000 MK3.

### 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-2000 MK3 is very heavy and needs to be placed on a solid stand in a location that provides good air circulation around, above and below the A-2000 MK3 stereo power amplifier.

- DO NOT cover the top of the A-2000 MK3 or its tube chimneys.
- 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 A-2000 MK3 on some kind of after-market isolation feet or similar devices. Dropping one side of the A-2000 MK3, or the whole of the unit may damage 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 unit on a shelf or stand that is strong and stable and not subject to vibration or sudden shock.
- DO consider using a high-quality power cord, inter-connects and speaker cables. The A-2000 MK3 is a highly sensitive piece of electronic designed for neutrality and will output what you put into it. Allnic's Zero Loss Technology cables will work synergistically with the A-2000 MK3.
- DO try to place A-2000 MK3 away from major sources and potential receivers of RFI and EMI. Though well shielded, the A-2000 MK3 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 unit is moved from a cold to a warm environment, allow sufficient time for any condensation to evaporate before plugging the A-2000 MK3 into an AC connection.
- Do not attempt any repairs.

### B. INPUTS

There are two (2) pairs of female inputs for each channel. One pair accepts balanced cables with a male XLR connector; the other pair accepts cables 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 inputs closest to the side edge. Between the inputs, there are two (2) switches to select one of two pin configurations for each of the balanced cable pairs (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). The top connection for each pair of inputs is for the left channel. (See Figure 4)

### C. SPEAKER TERMINALS

The A-2000 MK3 is equipped with two pairs of high-quality speaker terminals, one for each channel. These terminals are located to the left of the IEC input (facing the rear of the amplifier) on the rear panel of the A-2000 MK3 chassis (See Figure 4). The right channel terminals are closest to the chassis' outside edge. For each pair, the terminal for the live connection is marked positive (+) and is the top terminal; the lower terminal is the return connection and is labeled negative (-). Between the two pairs of channel 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 interconnects and speaker cables before you insert the power cable into the receptacle in the center of the rear of the chassis (See Figure 4). The A-2000 MK3 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 A-2000 MK3 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-2000 MK3 matches your location's electrical system. For North American customers, the A-2000 MK3 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.

### INITIAL POWER-ON

Once you have your A-2000 MK3 in place and all connections have been made to your source(s) and preamplifier, you are ready to turn on the power for your A-2000 MK3. Before you power up the A-2000 MK3, though, be sure you have:

- **removed ALL the cushion materials (cardboard/styrofoam) from inside the tube chimneys. (It is optional to leave the "O" rings, if any, on the small tubes; some prefer the sound with the O rings on.)**
- selected the input connection that you want to use, single ended (RCA) or balanced (XLR), on 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

Turn on the A-2000 MK3 by pushing in the power switch button located on the right of the front panel of the A-2000 MK3's chassis to the "on" position (See Figure 5). After a brief delay (the initial soft start), the A-2000 MK3 will approach the operation bias setting for the KT170s. After application of full plate voltage, not all tubes may bias at the same rate. Allow some minutes for all the tubes' bias readings to settle. This can vary from about five to ten minutes. Please be patient. See the "Current Meters" and "Tubes and Tube Bias" sections below for bias setting details.

## OPERATION

When the power is on, the current meters on the top plate of the chassis will illuminate. From this point on, operation is straight-forward. When you are finished listening, turn off your A-2000 MK3's power first; then, turn off your preamplifier and sources. **If the A-2000 MK3 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 A-2000 MK3 to pentode (beam tetrode) mode prior to turning it off (see the "On-the-Fly Triode/Pentode Switching section below).**

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

### "ON-THE-FLY" PENTODE/TRIODE SWITCHING

You can use the Pentode/Triode "Mode Selector" button at any time during operation to switch back and forth from Pentode to Triode operation. Press the mode selector button on the left side of the front panel down to have the A-2000 MK3 operate in Triode mode; press the button again so it is in the raised position to have the A-2000 MK3 operate in Pentode mode (See Figure 5).

### THE CURRENT METERS

The illuminated meters on the chassis' top plate indicate the current supply to each of the four KT170 gain tubes in the A-2000 MK3 (See Figure 6). There is one current meter for each channel's pair of KT170 power tubes. These are switched between tubes in each pair by using the small switch between and to the outside of each KT170 pair. There are also a potentiometer (yellow bias control screw) and a fuse for each KT170.

After soft-start and sufficient warm up of the A-2000 MK3, the needle of each current meter should be centered between the two parallel lines on the meter face. Any error of current supply to or failure of a KT170 tube is indicated by the needle on the KT170 tube's respective meter moving out this position and even a small distance out from between these two parallel lines. Re-centering the needle between the lines on the meter face to achieve proper bias may be required from time to time. See below.

### TUBES AND TUBE BIAS

The A-2000 MK3 Stereo Power amplifier uses the following tubes:

- Four (4) x KT170
- Four (4) x 6S4
- Two (2) x 5654

Because of the individual bias for each KT170, it is not necessary to use a matched quad of these power tubes in the A-2000 MK3.

As mentioned above, there is a switch on the top plate of the chassis between and to the outside of each of the left and right channel pairs of KT170s (See Figure 6). Flipping the switch toward the rear of the chassis sets the meter to read the rear KT170 for that channel. Flipping the switch toward the front of the chassis sets the meter for the front KT170 for that channel. As noted above, the needle of the meter should always be centered between the two parallel lines in the center of the meter. The position of the needle should be the same for all four KT170s. You may adjust the needle's position by turning the relevant yellow potentiometer screw clockwise or counter-clockwise using an appropriately bladed screwdriver. The position of the needle between the lines will alter the sound.



If a meter's needle drops to the very left limit of the meter's face during operation, this indicates a failure of the related KT170 tube. You must turn off the A-2000 MK3 and replace both the fuse (0.5A, 250V, 20mm slow-blow) for that tube and the KT170 itself. To replace a fuse, using a screwdriver, simply turn the top of the fuse cap counter-clockwise. It will spring out holding the fuse. Replace the 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.

If the AC mains fuse, located at the IEC input (See Figure 4), has failed, it can be replaced with the spare fuse provided in the tray in the IEC mount (See the Specifications section of this manual for the appropriate fuse). Again, if you have any questions about doing this, please contact Your Allnic dealer for assistance.

Of course, you will have to adjust the bias back to center between the two parallel lines of the meter for a tube when it is replaced. When replacing a KT170, first turn the bias screw counter-clockwise 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 center between the two lines on the meter.

All consequences of changing or attempting to change tubes are borne by the user unless by express agreement between the owner and an authorized Allnic representative. Allnic Audio and its authorized representatives are not liable in any way whatsoever for any injury or loss incurred by the user or for damage to the A-2000 MK3, any of its parts, or tubes or replacement tubes resulting from the user changing or attempting to change tubes.

## SPECIFICATIONS FOR THE ALLNIC AUDIO A-2000 MK3 KT170 STEREO POWER AMPLIFIER

- Output Power:
  - 120w (8 $\Omega$  load, at 1KHz) Pentode
  - 60w (8 $\Omega$  load, at 1KHz) Triode
- Distortion:
  - 0.17% at 1KHz at 10w
- Frequency Response:
  - 20Hz - 20KHz Flat
- S/N Ratio:
  - -80dB (CCIR, 1KHz)
- Damping Factor:
  - 8 at 8 $\Omega$  load at 1KHz
- Voltage gain:
  - +26dB
- Input Impedance:
  - 100K $\Omega$  (single-ended, unbalanced)
- Input Sensitivity:
  - 1.3V for maximum rated power
- Fuses:

Mains:  
AC 5A, 250V slow-blow for 110/120V regions  
AC 3A, 250V slow-blow for 230/240V regions  
KT170:  
0.5A, 250V, 20mm slow-blow
- Tubes (per chassis):
  - KT170 x 4 (power tube)
  - 6S4 x 4 (or 6S4A - second stage drivers)
  - 5654 x 2 (first stage, equivalent to EF905 and CV4010)
- Dimensions:
  - (W x D x H) 440mm (17 inches) x 480mm (19 inches) X 300mm (12 inches)
- Weight:
  - 36Kg (80 lbs) net
  - 41Kg (90lbs) shipping weight

## **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-2000 MK3 Rear View

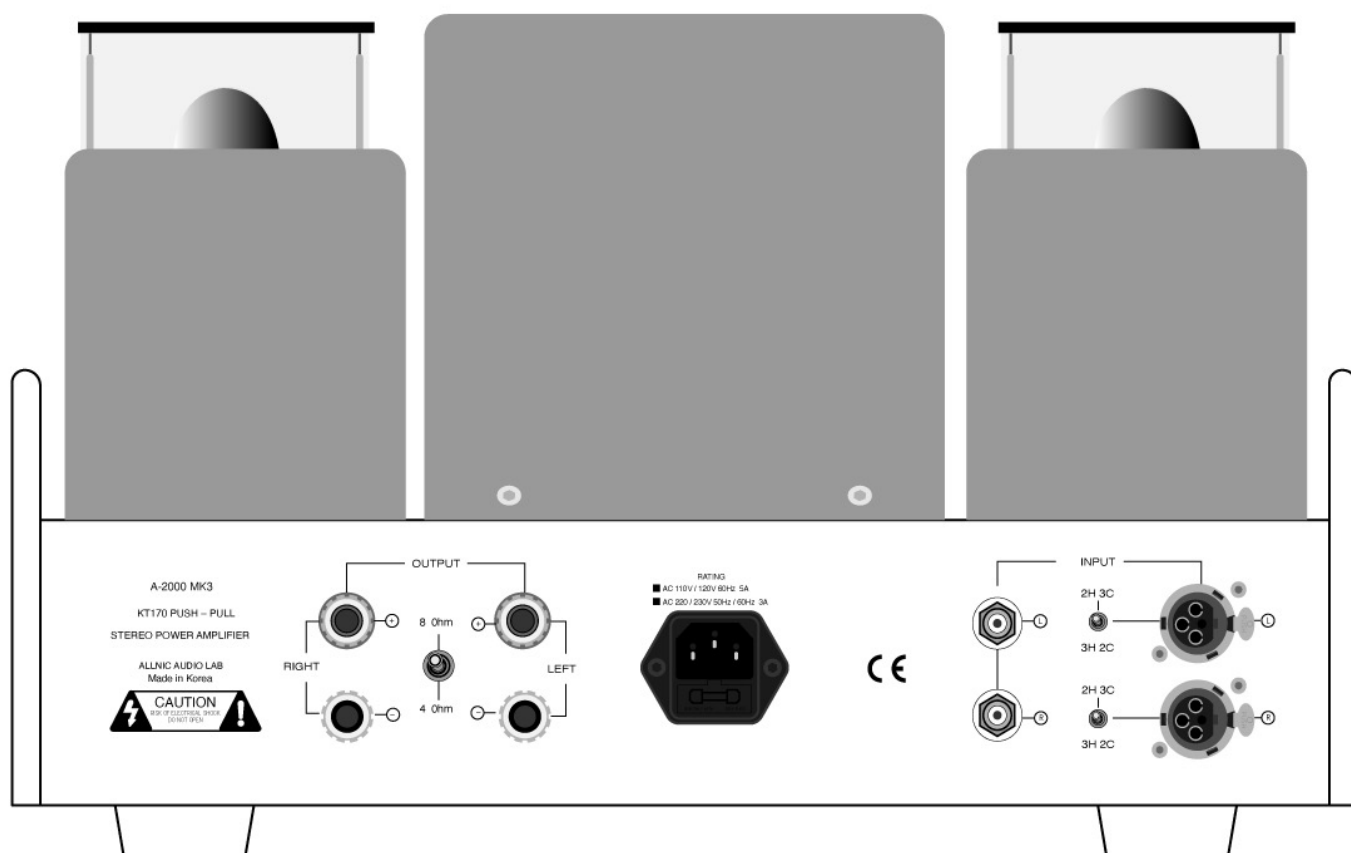


Figure 5: A-2000 MK3 Front View



Figure 6: A-2000 MK3 Top View

