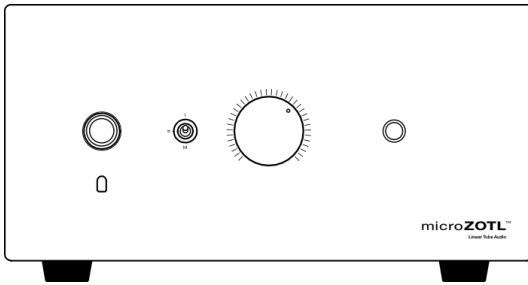


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L I N E A R T U B E A U D I O



MZ2

USER GUIDE: MZ2

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Regarding older models: While this user guide should cover the basics for any MicroZOTL2.0, MicroZOTL2.0 Deluxe, or MZ2-S, please contact us if your unit is different from the one described here and we can give you more specific information.

WARNING: For safety, the cover of this amplifier should be secured at all times.

This amplifier contains extremely high voltages and the user should not attempt to service the amplifier. Furthermore, this amplifier generates radio-frequency energy that can interfere with communications equipment.

Introduction

The MZ2 is a Class A tube amplifier utilizing ZOTL (Zero-hysteresis Output Transformer-Less) technology. The MZ2 is an evolution of the original microZOTL designed by David Berning in 1999. It is equally exceptional as a headphone amplifier, preamplifier, and low-wattage integrated amplifier.

Limited Two-Year Warranty

1. Your new product is covered by a limited two-year warranty against defects in material and workmanship. Any repairs required will be made at no charge within the first two years after purchase as a new unit. This warranty is transferable to new owners within the original warranty period.

2. Any units returned for warranty repair must be shipped prepaid after receiving return authorization*. If possible, the unit should be shipped in its original packaging. If such is not possible, the unit should be well packed with particular attention paid to protection of all corners and avoidance of any looseness in the carton.

**Handling and shipping costs are the responsibility of customers outside the United States.*

3. This warranty does not apply to damage resulting from physical abuse or unauthorized alterations or repairs, or from tube rolling or adapter use, or from the use of third-party components, or damage to exterior finish after delivery.

4. The warranty is void if the serial number has been removed, altered, or defaced.

5. This warranty is void if improper voltage is applied to any input or output.

6. If Linear Tube Audio determines after receiving the unit that damage was misrepresented and has been caused by something not covered by the warranty, the customer must pay for any necessary repairs before the unit is returned to the customer.

7. Linear Tube Audio reserves the right to improve or change its products without obligation to modify previously manufactured units.

Service Note

ZOTL amplifiers use a unique circuit and technicians familiar with other tube amplifiers may not know how to correctly work on LTA products. Please contact us before attempting any alteration or repair, whether you are concerned about the warranty or not.

Specifications

| | |
|--------------------------|---|
| Circuit Type: | Push-Pull Class A |
| Power Output: | 1W (4 Ohm), 0.5W (8 Ohm) |
| Input Sensitivity: | 0.6V RMS for full output |
| Input Impedance: | 50K |
| Output impedance: | 2 Ohms (measured at 0.5A, 60 Hz) |
| Preamp Output Impedance: | 50 Ohms |
| Gain: | 10.3dB (4 Ohm load) 12.4dB (8 Ohm load) |
| Noise: | -90dB |
| Frequency Response: | +/- 1dB, 10Hz-20kHz (4 Ohm Load) +/- 1dB, 5Hz-50kHz (8 Ohm Load) |
| THD: | 1% |
| Power consumption: | 33W |
| Input Voltage with SMPS: | Universal |
| Input Voltage with LPS+: | 110/220 Selectable; 100V available |
| Tube Complement: | (2x) 12AT7, (2x) 6SN7/12SN7 |
| Size: | Amplifier: W: 9.5" (24.1cm), H: 4.75" (12cm), D: 7.8" (19.7cm) LPS+: L: 12" (30.5cm) W: 3.25" (8.26cm) H: 4.25" (10.8cm) |
| Weight: | With SMPS: 5.35 lbs (2.5kg), with LPS+: 8.94 lbs (4.1kg) |
| Shipping Weight: | With SMPS: 11 lbs with LPS+: 14 lbs |

Quick Start

Remove amplifier, power supply, and included cables from the box.

Attach the DC umbilical to the power supply and amplifier. This has a locking 2.5mm x 2.5mm barrel connector on both sides. Plug in completely and tighten the locking nut.

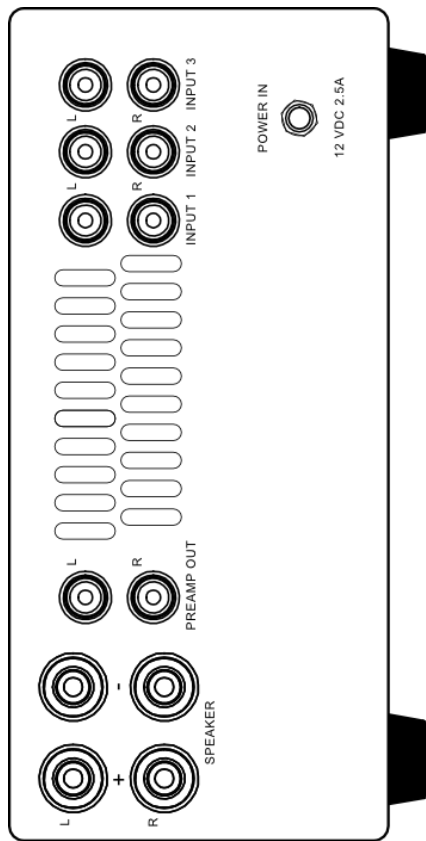
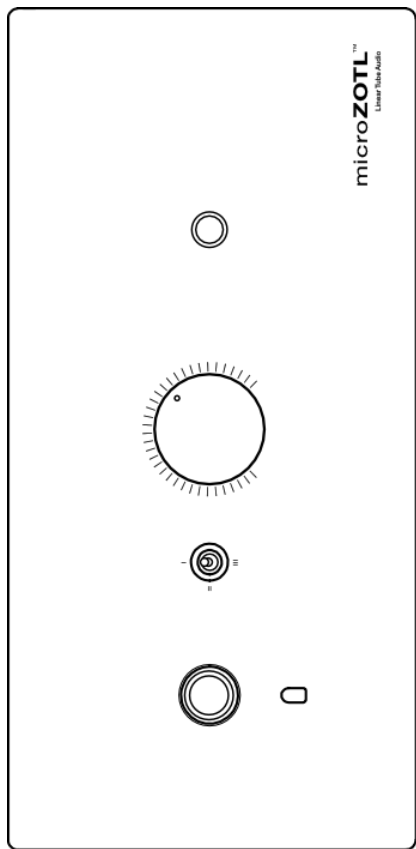
If you have an LPS+, check that the red voltage label reflects approximately your area's voltage (115/220). If it does not, contact us and we will direct you in the simple matter of adjusting it. The stock SMPS is universal and will work with any input voltage.

Attach the power cable to the IEC connector on the power supply, and plug into an outlet.

Hook up your sources as well as your power amp, if using the MZ2 as a preamp. Do not turn on your power amp yet.

Once your system is set up and everything that needs to be plugged into the MZ2 is plugged in, turn on your system starting at the source and going down the line, making sure to turn on the MZ2 before the power amp. This is to avoid any pops when turning the preamp on.

Enjoy your music. When turning your system off, turn the power amp off before the MZ2.



Operation

If you prefer, you can leave the power supply on indefinitely and only use the power button on the front panel.

The front panel features a power button, input switch, volume knob, and headphone jack.

There are 3 RCA pairs on the back for 3 inputs, selectable via toggle switch on the front panel.

The RCA pair next to the speaker binding posts are for the preamp output. While the headphone and speaker outputs are identical, the preamp output is optimized for preamp use and has a higher output impedance.

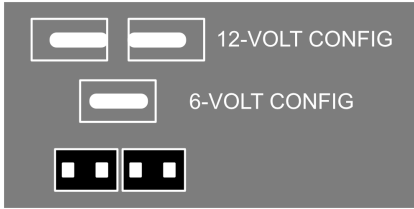
When headphones are plugged in, the speaker and preamp outputs are muted.

The binding posts for the speakers can be used with banana plugs, spades, and bare wire. We recommend using very sensitive speakers (at least 98dB) if you want to utilize the MZ2 as a speaker amplifier.

Remote Control

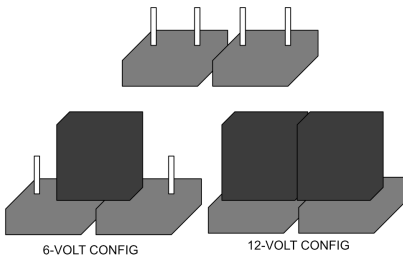
The optional remote control is able to adjust the volume. The MZ2 uses a motorized Alps potentiometer, so the knob will move and reflect the volume level when you use the remote. We provide an Apple remote.

Tube Heater Voltage Jumper Settings



The MZ2 can use 6SN7 or 12SN7 tubes as its output tube. When switching from one to the other, be sure to set the jumpers on the boards to the correct position. A 6-volt tube like the 6SN7 will burn out quickly if being given 12 volts.

On the circuit board, there is a small diagram showing the correct way to orient the jumpers. When using only a single jumper in 6V operation, there is also a header labeled "park" where you can store the extra jumper. To use 6SN7s, set the jumpers to 6V by placing a single header across the center two pins. To use 12SN7s, set the jumpers to 12V by placing two headers across all 4 pins.



Tube Replacement/Rolling: The amplifier operates the tubes in a manner that maximize tube life and the tubes are expected to last over 10 years of regular use. The sockets are tight, so gently rock the tube pins until you are able to remove the tubes. We have heard of no problems using any 6SN7 or 12AT7 equivalent in the amplifier. Instead of the 12AT7, you can use a 12AU7 if you are looking for lower gain or a more laid-back sound, but you should not use a 12AX7. Each set of tubes (2x 6SN7, 2x 12AT7) should be matched pairs.

Fuses: The MZ2 has a fuse on the audio board and two fuses in the LPS+. All are 5x20mm. There is a 2.5A Fast Blow fuse on the audio board there are two 1.25A Slow Blow fuses in the IEC inlet of the LPS+.

Remote Control: If you've purchased an MZ2 with a remote control, your unit will come paired with a standard Apple remote. You can adjust the volume with the up and down buttons.



**For more information and FAQs
please visit www.lineartubeaudio.com
or contact us at hifi@lineartubeaudio.com**

