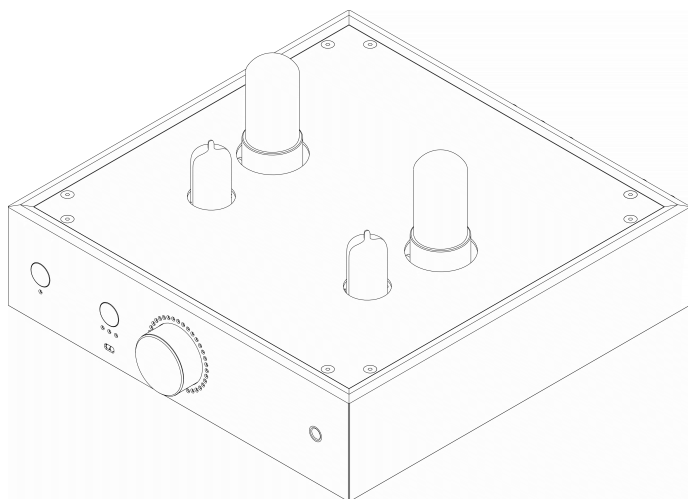


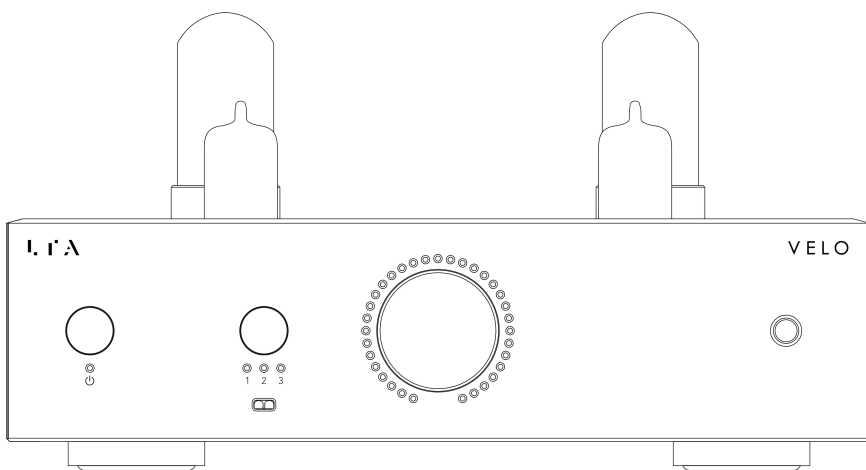
L I N E A

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



VELO

ZOTL PREAMPLIFIER / HEADPHONE AMPLIFIER



# USER GUIDE: Velo

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## **Introduction**

The Linear Tube Audio Velo is a Class A tube preamplifier and headphone amplifier utilizing ZOTL (Zero-hysteresis Output Transformer-Less) technology along with cutting-edge features to deliver a premium audio experience for headphone users and music enthusiasts. Its sleek design and high-quality components make it an ideal choice for audiophiles seeking superior sound reproduction. It's "Really good."

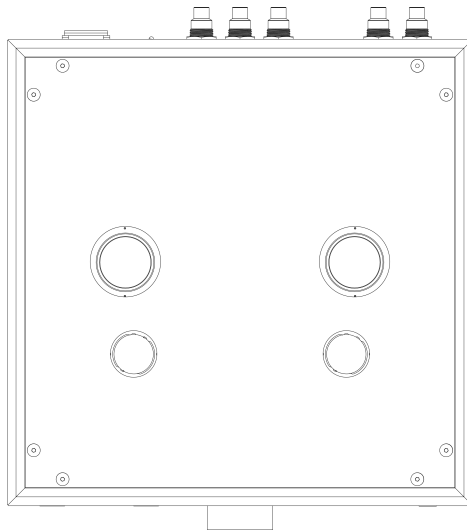


Please review this guide before operating your LTA product.

**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. Failure to follow these instructions could result in fire, electric shock, or other injury or damage. Furthermore, this amplifier generates radio-frequency energy that can interfere with communications equipment. Place your Velo away from any wireless or frequency-emitting devices such as mobile phones, Wi-Fi routers, and radios to avoid interference.



**CAUTION:** Use your Velo responsibly.

Avoid moisture and excessively humid environments when the amplifier is in use.

Extended listening at high decibel levels can potentially damage your hearing. Please practice caution and if your ears are fatigued, take a break or turn down the volume.

## **Limited Three-Year Warranty**

1. Linear Tube Audio (LTA) products are covered by a limited three-year warranty against defects in material and workmanship. Any repairs required will be made at no charge within the first three years after purchase as a new unit. Vacuum tubes provided with new LTA products have a 1-year guarantee.
2. This warranty is transferable to new owners within the original warranty period.
3. To obtain warranty repair service, authorization must be obtained prior to shipping the product to LTA. Contact [hifi@lineartubeaudio.com](mailto:hifi@lineartubeaudio.com) to obtain authorization.
4. LTA will cover shipping costs for warranty repairs for original owners, based in the US, within 60 days of receipt of the product. After 60 days from receipt, shipping costs are the responsibility of the LTA product owner. All shipping costs are the responsibility of subsequent non-original owners and customers outside the United States.
5. This warranty does not apply to damage resulting from: physical abuse, accident or neglect; transport once in possession of purchaser; unauthorized alterations or repairs; tube rolling or adapter use; the use of third-party components.
6. The warranty is void if the serial number has been removed, altered, or defaced.
7. This warranty is void if improper voltage is applied to any input or output.
8. 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.
9. Linear Tube Audio reserves the right to improve or change its products without obligation to modify previously manufactured units.

## **Service Note**

ZOTL devices use a unique circuit and technicians familiar with other electronics may not know how to properly service 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
Input Sensitivity:	0.6V RMS for full output
Input Impedance:	50K
Headphone Output impedance:	1.1 Ohms
Preamp Output Impedance:	50 Ohms
Gain:	13.5dB into 100ohm 12.4dB into 8ohm
Noise:	-90dB
Frequency Response:	-3dB: 2Hz - 100kHz 0dB: 20Hz - 20kHz
THD:	0.19% at 1kHz, 1Vrms
Power consumption:	24W
Input Voltage with SMPS:	Universal
Input Voltage with LPS+:	110/220 Selectable; 100V available
Tube Complement:	(2x) 12AT7/ECC81, (2x) 6SN7/12SN7
Size:	W: 10" (25.4cm), H: 2.875" (7.3cm), D: 10" (25.4cm)
Weight:	6.5lbs (2.95 kg)
Shipping Weight:	11lbs (4.99kg)

## Getting Started

Carefully unpack your Velo and ensure all components are present and undamaged. If you find any issues, contact LTA directly.

- ▶ Place the amplifier on a stable surface and install the tubes. Please refer to the provided Quick Start guide for proper tube installation.
- ▶ Connect the mains power cable to the included power supply.
- ▶ Connect the power supply XLR connector to the rear panel and a power outlet.
- ▶ Connect your audio source to the desired input.

Once your system is set up and everything is hooked up, turn on your Velo via the power button on the front panel.

There is a turn-on delay of several seconds to allow the unit to warm up.

## Operation

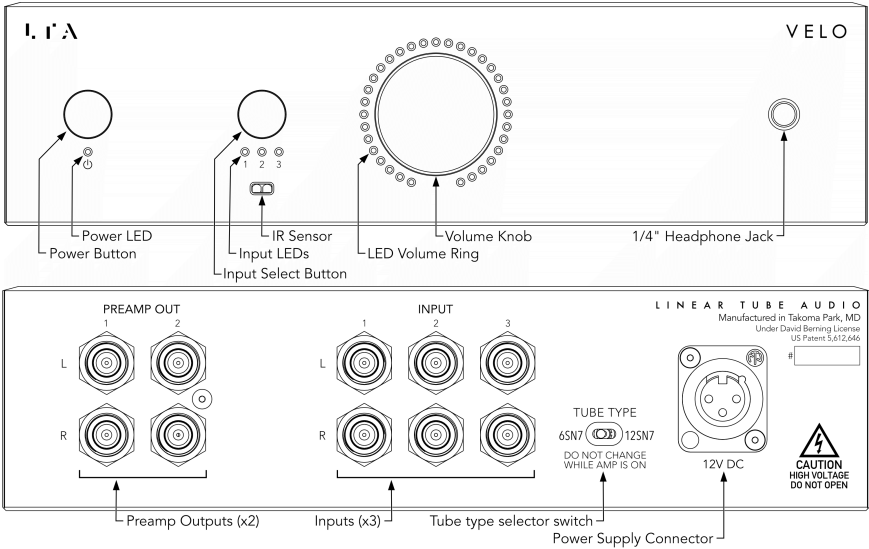
Your Velo is designed to be powered on indefinitely without harm. The front panel power button powers down the amplifier but the power supply remains on in a nearly idle state. To turn your Velo completely off, unplug it from the AC power outlet.

While it does not generate much heat, the unit is air cooled and should be placed somewhere with adequate ventilation. Do not touch the tubes after the amplifier has completed warm-up.

Rotate the volume knob to adjust the sound level. Start at a low volume and gradually increase to your desired level. Lower the preamp volume before inserting headphones. Lower the headphone volume before removing headphones.

Use the input selector to choose between different audio sources.

The included remote control is able to adjust volume, change inputs, and mute the input.



## Inputs

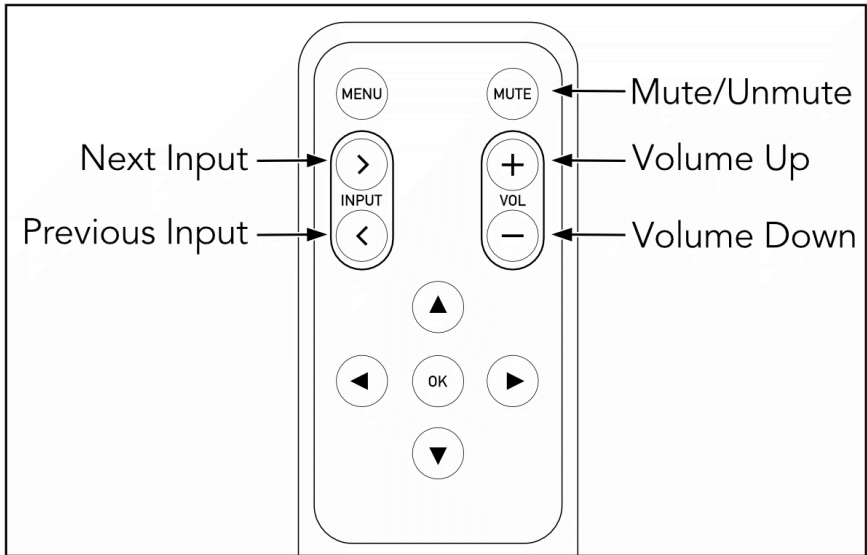
There are 3 RCA pairs on the back for 3 inputs, selectable via the Input button on the front panel and the Input buttons on the included remote.

## Outputs

The two preamplifier outputs are paralleled and will put out the same amount of power. If you are using both outputs at the same time, the output voltage of the preamplifier will be shared. The headphone output is accessible via the TRS (1/4" or 6.35mm) jack. When a headphone plug is inserted, the preamplifier outputs are muted.



## Remote Control



**Menu Button:** Velo is designed to be intuitive and easy to use. There is no menu system.

**Mute:** Mutes the current input. Press again to unmute.

**Input Buttons:** Cycles through available inputs. Next Input (>) button will ascend in numerical value. Previous Input (<) will descend through available inputs. Hold the Next Input button to pair the remote to your Velo.

**VOL Buttons:** Adjusts the volume. The Plus (+) button will increase the volume. Press the Minus (-) button to decrease the volume of the selected input. Preamp and headphone output volumes are independent.

**Up and Down Buttons:** Unused for Velo operation.

**Left and Right Buttons:** Unused for Velo operation.

## **Tube Heater Voltage Switch Settings**

Your Velo comes with selected old-stock 6SN7 tubes as its standard output tubes. By changing the switch on the back panel, your amplifier can also use 12SN7 tubes. These have identical electrical characteristics, they simply use different voltages for the heater. When switching from one to the other, be sure to set the switch to the correct position. This operation should only be performed while the Velo is turned off. Failure to select the proper heater voltage will cause your Velo to enter over-current protection mode or present other undesired behavior.

## **Maintenance**

**Cleaning:** Clean the amplifier with a soft, dry cloth. Avoid using abrasive cleaners.

**Tube Replacement/Rolling:** The amplifier operates the tubes in a manner that maximizes tube life and the tubes are expected to last over 10 years of regular use. Allow the tubes to cool down before replacing them. The sockets are tight, so gently rock the tube pins until you are able to remove the tubes.

We have heard no reports of any trouble using equivalents of 6SN7, 12SN7, or 12AT7 tubes. For lower gain and a more laid-back sound, you can substitute 12AU7 tubes for the 12AT7s.

When replacing the tubes, matched and balanced pairs are recommended. If you are unsure if your desired replacement tubes are compatible, contact technical support.

**Troubleshooting:** Refer to the FAQ on our website or contact technical support.

For more information and FAQs, please visit  
[www.lineartubeaudio.com](http://www.lineartubeaudio.com) or contact us at  
[hifi@lineartubeaudio.com](mailto:hifi@lineartubeaudio.com).



