



# HEAD 2

## Tube Headphone Amplifier

### User's Manual



A close-up photograph of a vacuum tube amplifier's control panel. On the left, a silver volume knob is visible with a scale from 25 to 600 and the text 'ATTEN' and 'LINE OUT'. To the right is a circular silver plate labeled 'HEADPHONE OUTS' and 'TUBE HEADPHONE AMPLIFIER HEAD 2', featuring a 'PUSH' button and a small circular port. The background is a blurred view of the amplifier's internal components, including a vacuum tube and various metal parts.

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# SAFETY PRECAUTIONS

## IMPORTANT SAFEGUARDS PLEASE READ CAREFULLY ALL THE FOLLOWING IMPORTANT SAFE- GUARDS THAT ARE APPLICABLE TO YOUR EQUIPMENT

### CAUTION!

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

### SAFETY

- 1) Read the User's Manual and refer to it frequently during use of this product - All the safety and operating instructions should be read before the product is operated.
- 2) Retain the User's Manual - The safety and operating instructions should be retained for future reference.
- 3) Follow Instructions - All operating and instructions for use should be closely followed.
- 4) Power Sources - This product should be operated using only the type of power source indicated on the marking label. If you are not sure of the type of power supply in your home, consult your product dealer or local power company.
- 5) Grounding - This product is equipped with a three prong IEC connector. Always use power cord with adequate wire cross section and an electrical outlet that is grounded. If you do not know whether the outlet is grounded, consult your electrician or local power company.
- 6) Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched. Pay particular attention to cords at plugs, convenience receptacles and where they exit from the product. Always use power cords with adequate current ratings and safety certifications (UL, CE, TÜV, CSA, etc.)
- 7) Fuses - For continued protection against fire hazard, replace fuses with the same type and rating of the fuses specified. When changing fuses, completely unplug the AC cord from the wall outlet.
- 8) Turn-off when not using - Turn off the unit as soon as you stop actively using it. Unplug the power supply from the wall during a lightning storm or when the product is to be left unattended and unused for longer periods of time.



## ENVIRONMENT

- 1) Water and Moisture - Do not use this product near water - i.e. near a bathtub, ash bowl, kitchen sink or laundry tub; in a wet basement; or near a swimming pool or the like. Damp basements should be avoided.
- 2) Heat - The product should be situated away from heat sources such as radiators, heat registers, stoves or other appliances that produce heat. Also avoid putting the unit in the direct rays of the sun.
- 3) For indoor use only.

## PLACEMENT

- 1) Accessibility - It is normal for a vacuum tube amplifier to run warm if used for prolonged periods. Always place your amplifier away from children and pets to prevent burns.
- 2) Ventilation - This product should not be placed in a built-in installation or rack unless proper ventilation is provided or the manufacturer's instructions have been followed. Never place anything on top your amplifier that could obstruct the airflow. Do not place your amplifier in a closed bookcase; overheating could occur. Ensure that there is at least 8" (200mm) of open space above the amplifier.
- 2) Surface - Place the unit on a flat level surface. Care should be taken to prevent objects from falling and liquids from spilling into the unit. Do not subject the unit to excessive smoke, dust, vibration or shock.

## MAINTENANCE

- 1) Cleaning - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a dry cloth for cleaning. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene.
- 2) Tube replacement – Electron tubes have their life in the 5000-6000 hrs range. We strongly recommend replacing the output tubes at 20-30 months interval (depending on your listening habits) .This will ensure that the amplifier always performs at its best and tube failure will not overstress other parts.
- 3) Biasing the amplifier - The HEAD 2 amplifier uses tubes in self-biasing configuration and does not require any adjustments. The only requirement is to ensure that matched tubes are used in both channels. Matched tubes are available from multiple vendors as well as directly from Trafomatic Audio.

## SERVICE

- 1) Replacement Parts - When replacement parts are required, be sure that the service technician uses replacement parts specified by the manufacturer or parts with the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
- 2) Tube Replacement - Should it become necessary to replace your tubes, remove the AC power plug from the wall and allow thirty minutes for the high voltage capacitors to discharge. Follow instructions outlined in this manual.
- 3) Modifications – Modifications to the amplifier are strongly discouraged. The unit was designed by experienced engineers and tested for safe and reliable operation. Any modification may pose a safety problem and result in reduced lifetime of the product. Any removal of the cover will void warranty.

# GETTING STARTED - ABOUT YOUR HEADPHONE AMPLIFIER

Your Head 2 headphone amplifier was designed to provide a significant value based on a high performance to price ratio that will exceed the sonic quality of good solid state amplifiers with its musical accuracy.

The Head 2 uses two 6N30P (6H30Π) power output tubes and two ECC88 input tubes. The Head 2 is designed to work in a Push Pull class A. Parts are carefully chosen for the optimum sound quality and the overall circuit layout is maximized for sonic purity.

## HANDLING VACUUM TUBES

Many people have never had experience handling vacuum tubes. Process is very similar to handling incandescent light bulbs. As with light bulbs, you should not touch a vacuum tube when it is operating since you can burn yourself. Similarly, if a tube is dropped on a hard surface it will break. When replacing the tubes allow sufficient time, minimum 30 minutes, for tubes to cool down and internal capacitors to discharge. Before you insert a tube you should make certain the unit is disconnected from the AC outlet and that the tube has cooled down. Inspect the tube for cracks and physical damage. Make sure that the pins are straight. If you need to straighten the pins, be very careful as it may cause the glass envelope to break, causing the tube to lose the vacuum and fail as soon as the amplifier is powered on. Carefully align the pins with the socket and gently insert the tube. Never force a tube into a socket. Should you decide to buy replacement tubes from Trafomatic Audio, rest assured that they were fully tested before the shipment.

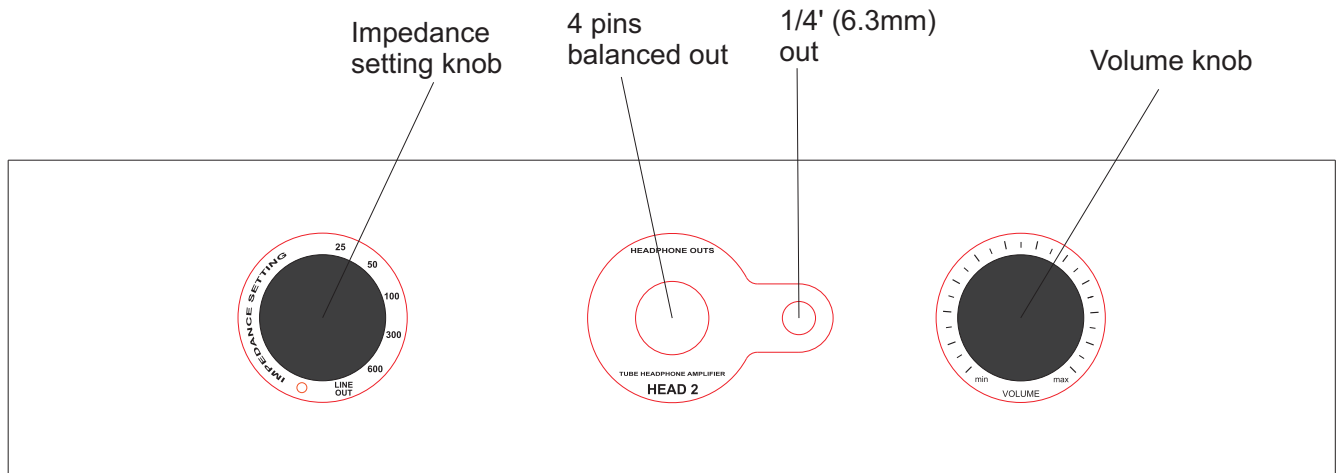
## PACKAGING

Save all the packaging in a dry place. Your amplifier is a precision electronic instrument and should be properly packaged any time shipment is made. Because of its weight it is highly probable that the unit will be damaged during shipment if repackaged in a box and packing other than that designed for the unit.

## PREPARATION FOR USE

Place your amplifier on a flat surface.

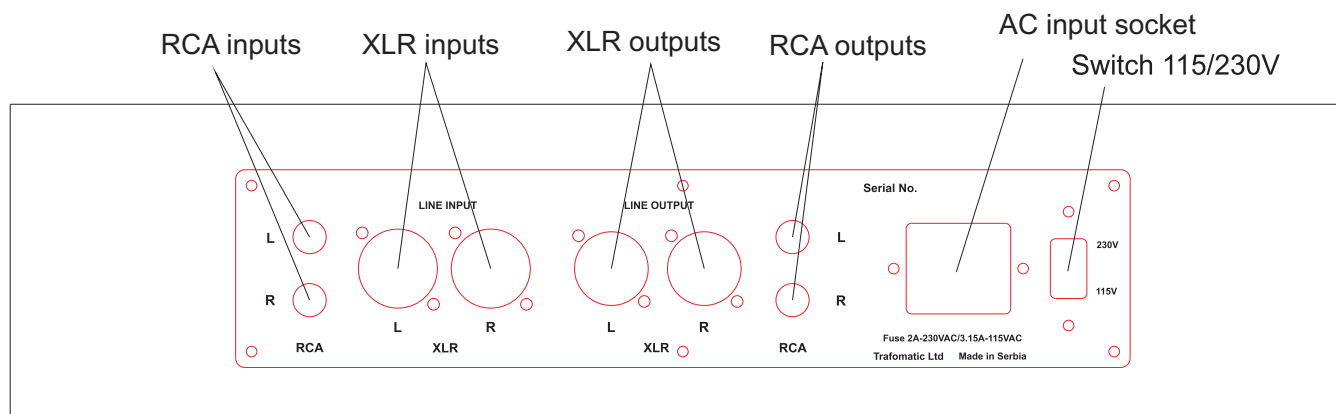
Before inserting the cables, inspect Head 2 for cracks and physical damage. Make sure that the power cable is pushed right into IEC connector on the back side. RCA and XLR interconnect cables cannot be connected to the inputs terminals at the same time. Use only one of them at the same time. Power switch is on the left side of unit. Use only that switch for turning amplifier off/on.



Front view

## OPERATING PROCEDURE

1. Make sure that you read instructions before attempting to operate your unit.



Back View

## FIGURE 2: HEAD 2 BACK VIEW

Make sure your amplifier is properly connected to a high-current power receptacle.

2. When turning the unit on, make sure the volume control is at its lowest point (the volume control is at minimum when turned counterclockwise to the mechanical limit).
  3. The headphone amplifier will be fully functional after only a couple of minutes. However, as it warms up over the first 30 minutes of operation you may notice slight improvement in the sound quality.
  4. At the end of your listening session make sure to turn the amplifier off. Leaving it on does nothing for sound quality and it reduces life of the vacuum tubes.
- The amplifier should always be turned on and off via its own power on-off switch.





# CONTROLS AND THEIR FUNCTIONS

## FRONT PANEL

**Selector Switch** - The six position selector switch can be used to select impedance of headphone (25 ,50, 100 ,300 and 600 ohms) as well as function of the line preamplifier (line outs on the back side , XLR and RCA).

**Volume control** - This control is used to adjust the output volume level. Turning the control knob clockwise increases the sound level and turning it counterclockwise decreases the sound level.

**Headphone terminals** - Your amplifier has normal stereo unbalanced 6,3mm(1/4') jack and 4 pins Neutrik balanced jack(XLR) for headphone . Can be connected only one headphone at the same time .

### Left side of amplifier:

**Power Switch:** Press the power switch to (1) turn the power on. Within 10-20 seconds, as the heaters reach operating temperature the tubes will begin to glow a soft orange light will come under air ventilation cover. The red LE diode on the front will start lighting .Press the power switch to (0) to turn the unit off. As the heaters cool off, the orange glow will slowly disappear and red LE diode on the front will stop lighting



Serial No.

LINE INPUT

LINE OUTPUT

L

R

RCA

L

R

XLR

L

R

XLR

RCA

Fuse 2A-230VAC/3.15A-115VAC  
Trafomatic Ltd Made in Serbia

230V

230

115V

RCA

R

F

XLR

F

R

LINE INPUT

F

R

LINE OUTPUT

RCA

Fuse 2A-230VAC/3.15A-115VAC  
Trafomatic Ltd Made in Serbia

115V

230

230V

# CONTROLS AND THEIR FUNCTIONS

## BACK PANEL

**Audio signal connection jacks** - Use these jacks to connect the audio interconnects from your components to the amplifier. Amplifier has one pairs of RCA connectors and one pair of XLR, 3 pin connectors for one stereo input . Can be connected only one type of interconnect cable at the same time.

In case you use Head 2 as preamplifier on the back side are connectors too for output , one pair of RCA and one pair of XLR . Connect only one type of cables at the same time to your power amplifier . Output impedance when you use Head 2 as preamplifier is 25 ohms so you can drive any tipe of power amplifier , solid state or tubes.

# TUBE REPLACEMENT

Your **Head 2** amplifier's conservative design maximizes life of the tubes. You can expect that your 6N30P tubes will last in excess of 5000, as well as ECC88. Lacking the accurate time measurement, we strongly recommend replacing the output tubes at 20-30 months interval (depending on your listening habits). This will ensure that the amplifier always performs at its best and tube failure will not overstress other parts.

Before you start replacement you should make certain that the unit is turned off and disconnected from the AC outlet and that the tubes have cooled down. Allow sufficient time, minimum 30 minutes, for tubes to cool down and internal capacitors to discharge. Before inserting a new tube, inspect the tube for cracks and physical damage. Make sure that the pins are straight. If you need to straighten the pins, be very careful as it may cause the glass envelope to break, causing the tube to lose the vacuum and fail as soon as the amplifier is powered on, possibly damaging the amplifier as well. Also, make sure to inspect the tube sockets for cracks and pin inserts. Carefully align the pins with the socket and gently insert the new tube. Never force a tube into a socket. Should you decide to buy replacement tubes from Trafomatic Audio, rest assured that they were fully tested before the shipment.

Only 6N30P(6H30П) power tubes can be used. Regarding input tubes, the ECC88 tubes can be replaced with any ECC88 type (6922 , 6DJ8). No other types of tubes can be used as they may cause damage to the amplifier, which is not covered by the warranty.

We do not recommend frequent changes of the tubes, as the sockets are sensitive mechanical parts and are rated for relatively small number of insertions.

## SERVICING

Because of its careful design and high manufacturing standards, your amplifier should normally require only minimal service to maintain its high level of performance.

**CAUTION: Lethal voltages are present inside the amplifier. Do not remove the amplifier's bottom cover and do not tamper with components inside the unit even with the power turned off. Servicing should be left only to authorized and trained personnel.**



# TECHNICAL SPECIFICATIONS:

## TUBE HEADPHONE AMPLIFIER

**Class of operation:** Push Pull class A

**Tubes:** 1x 6N30P and 1x ECC88 per channel

**Input voltage:** 230V/50Hz- 115V/60Hz selectable

**Power consumption:** 60VA

**Headphone Output impedance:** 25 – 50 -100 – 300 and 600ohms

**Output impedance as preamplifier:** RCA outs – 6 ohms, XLR outs– 25 ohms

**Gain:** 26 dB

**Maximum output power on headphone output:** 2W into 50 ohms THD at 0.5W/1kHz: 0.2%

**Outputs as line preamplifier:** XLR + RCA

**Output for headphones:** Neutrik 4 pins balanced connector + 1/4" connector

**Inputs:** XLR + RCA

**Input sensitivity:** 0.5Veff – Input impedance: 47Kohm

**Frequency bandwidth:** headphone and line out 10Hz (-1dB) – 80KHz (-3dB)

**S/N:** 88dB

# HEAD 2

Tube Headphone  
Amplifier



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