TARA 30A

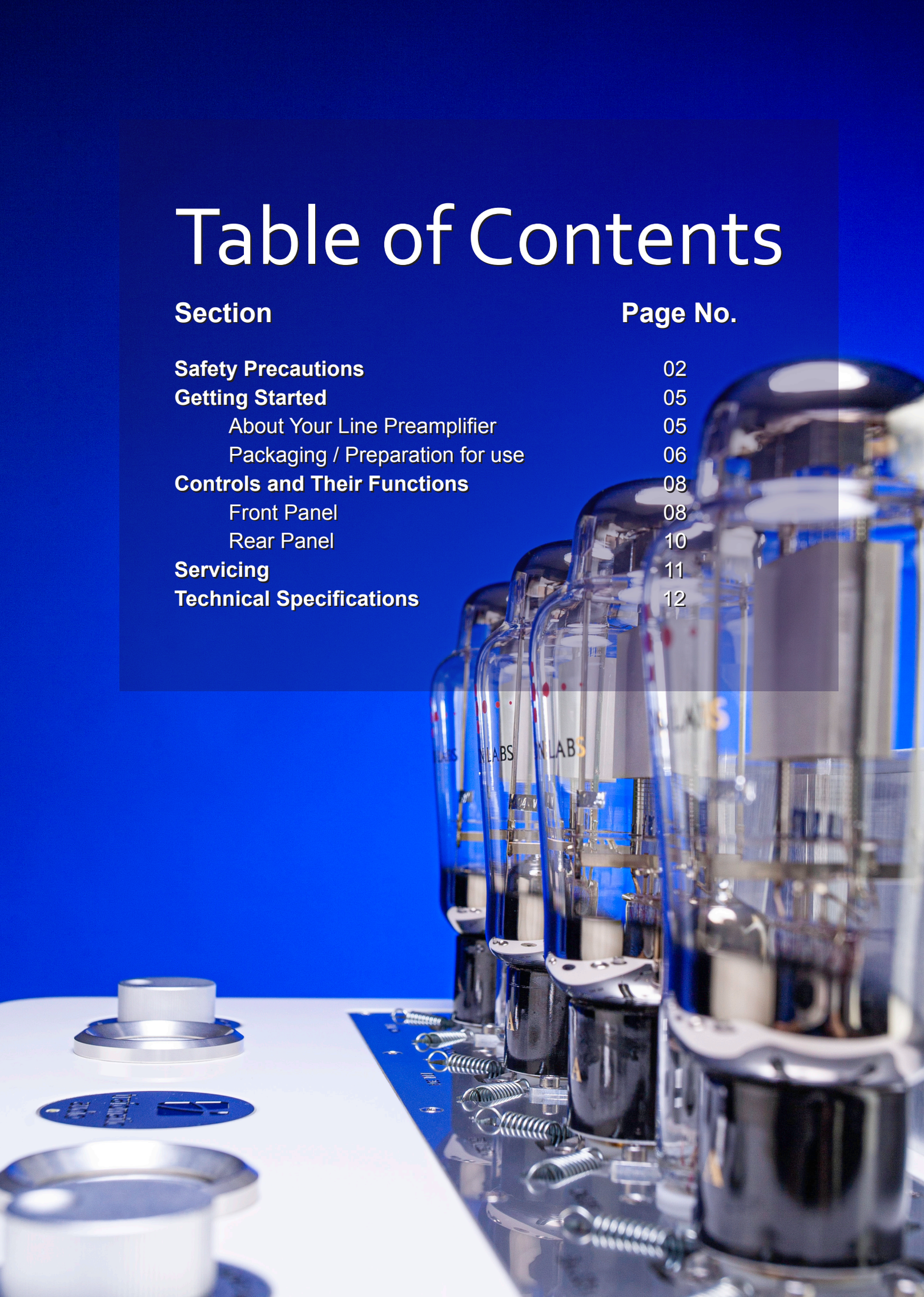
Line Level Preamplifier

User's Manual

www.trafomaticaudio.com

Rev. 1

Table of Contents



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) **Tubes** - During operation, the vacuum tubes get very hot. Even though they are not directly accessible, direct contact with area above the tubes should be avoided. Allow at least 10 minutes after removing power for tubes to cool down.
9) **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.


30 A
30 A
30 A
traformatic audio
inputs
rca
xlr
volume
phase shift
tara 30

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 an audio device to run warm if used for prolonged periods. Always place your device away from children and pets to prevent burns.

2) **Ventilation.** Proper ventilation is critical for safe and reliable operation of all vacuum tube based equipment. 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 any thing on top of your preamplifier that could obstruct airflow and cause vacuum tubes to over heat and damage the unit. Do not place your preamplifier in a closed bookcase; overheating could occur. Ensure that there is at least 6" (150 mm) of open space above the preamplifier.

3) **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.** Vacuum tubes have life in the 10.000 hours range. We recommend replacing the tubes after 36 months, depending on your listening habits. That will ensure that the preamplifier always performs at its best and tube failure will not overstress other parts of the unit.

3) **Biasing the amplifier.** Biasing of the **TARA 30A preamplifier** is not required. However, for best performance it is recommended to adjust dynamic balance, as described in the Controls section further below.

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 the vacuum tubes, remove the AC power plug from the wall and allow thirty minutes (30 min) for the high voltage capacitors to discharge. Follow instructions outlined below in the section "Handling vacuum tubes".

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 poses safety risk and result in reduced lifetime of the product. Any removal of the cover will void warranty.

GETTING STARTED
ABOUT YOUR LINE PREAMPLIFIER

Your **TARA 30A Line Level Preamplifier** was designed to provide high value based on its exceptional performance, which is a result of a carefully designed circuit and optimized component selection. The design utilizes minimum number of active parts and top quality passive elements. The TARA 30 was conceived as a preamplifier with recognized Trafomatic Audio's uncompromised sound quality.

The design is based on an excellent **EML 30A vacuum tube**. The EML30A is driven by the **6N30P tube**, with resulting total gain of 21dB; alternatively, the 6N6P tube can be used and the gain in that case is 25dB. The preamplifier operates in Class A push-pull, with custom designed output transformers. A dedicated dual power supply is housed in a separate chassis, for maximum separation.

The TARA 30A preamplifier comes with a standard, beautifully crafted remote control.

The TARA 30A has three (3) balanced (XLR) inputs and one (1) single-ended (RCA) input. There are two (2) balanced outputs and two (2) single-ended outputs. As valuable additional features, phase reversal and multiple ground lift switches are also available for maximum versatility.

HANDLING AND REPLACING VACUUM TUBES

Many people have never had experience handling vacuum tubes. Process is very similar to handling incandescent light bulbs. As with the 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 may break or change critical operating parameters. 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 that the unit is turned off and disconnected from the AC outlet. 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 preamplifier is powered on. Carefully align the pins with the socket and gently insert the tube.

Never force a tube into a socket.

The **TARA 30A preamplifier** is designed around the **EML 30A and 6N30P vacuum tubes.** When the tubes are due for replacement, please contact Trafomatic Audio or authorized dealer for recommendations about substitutes. The 6N30P tube can be replaced with the 6N6P if more gain is required (25dB vs. 21dB).

Should you decide to buy replacement tubes from Trafomatic Audio, rest assured that they are fully tested before the shipment.

PACKAGING

Save the original packaging in a dry place. The packaging has been designed to protect your device from stresses incurred during shipping. Using packaging different from the original increases risks of shipping damages.

PREPARATION FOR USE

- Place your preamplifier on a flat, stable surface.
- Power switch, located on the left side of the power supply unit should be in the OFF (0) position.
- Make sure that the voltage selector switch (located on the rear panel, above the AC inlet) is properly set: this switch needs to be set so that the number displayed (115 or 230) corresponds with the line voltage in your country.
- Connect the power supply unit with the preamplifier unit by using provided power cables. TARA 30A has dual power supply and both cables must be connected.
- Plug in the power cord.
- Connect LINE OUTPUTS of the TARA 30A to line inputs of your amplifier.
- Connect your audio source(s) to the preamplifier's input(s) (rca1 and xlr1 through xlr3).
- If some of your sources require signal grounding (turntable tonearm, for example), connect the wire to the grounding lug (GND) on the rear panel of the power supply unit.
- By using the front panel input selector switch, select the appropriate audio source.
- Make sure that volume control is set to minimum position.
- Turn on the TARA 30A by using power switch located on the left side of the power supply unit.
- Turn on your power amplifier.
- Slowly increase volume, to make sure there are no unusual noises coming out of the speakers.
- CONGRATULATIONS! You are all set and ready to enjoy high sound quality of the TARA 30 Line Level preamplifier.


phase
shift
volume
inputs
rca1
xlr3
tara
30

CONTROLS AND THEIR FUNCTIONS

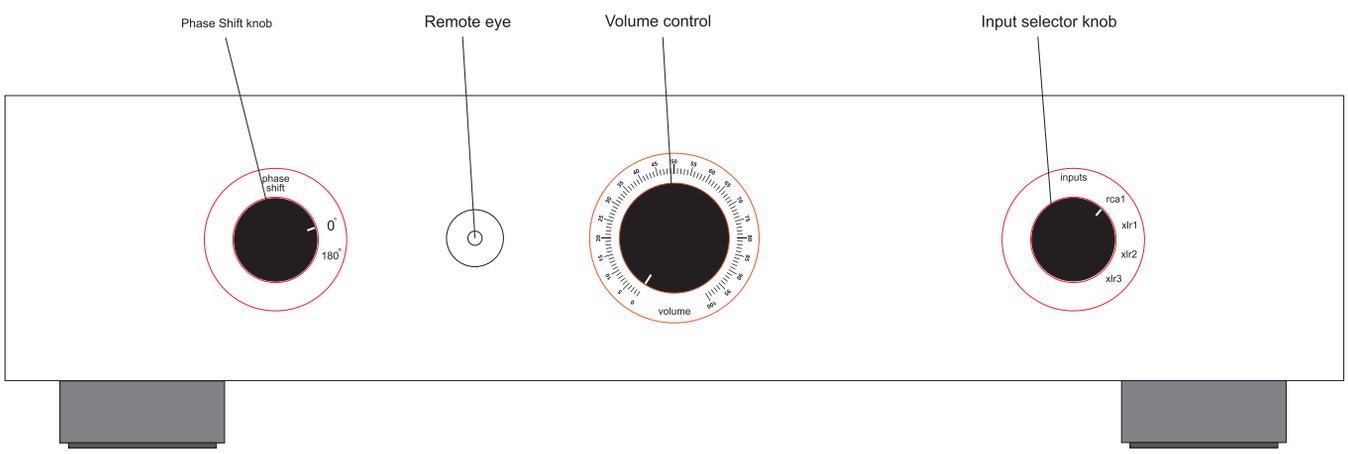
FRONT PANEL

Input Selector: The four positions “Inputs” switch is used to select one of the four available inputs, marked (rca1 and xlr1 through xlr3).

Volume control: regulates maximum outputs on the LINE OUTPUTS.

Phase shift: this knob has two positions: 0° and 180°. In the 0° position, the input signal’s phase is not inverted and this is the most commonly used situation. However, some power amplifiers reverse the phase of the input signal and, if that is the case, placing this switch in the 180° position will correct the phase reversal. Also, the 180° position can be very helpful in setups with challenging room acoustics or during integration with subwoofers.

The front panel also has the power on light and window for the remote control receiver.



TARA 30A - Line Level Preamplifier: Front Panel

LEFT SIDE OF THE UNIT

Power ON/OFF switch: The switch turns the preamplifier ON and OFF

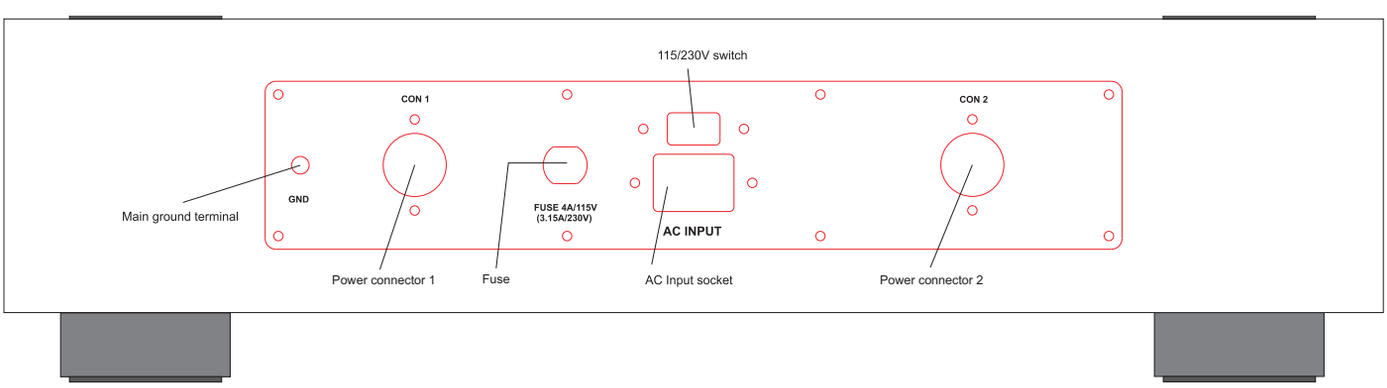
- When turning on the preamplifier, make sure that the volume control is at its minimum. The preamplifier will be fully functional after only 30 seconds. However, as it warms up over the first 15 minutes of operation, you may notice subtle improvements in the sound quality.
- At the end of your listening session, make sure to turn the amplifier off. Leaving it turned on does not improve sound quality and it reduces life of the vacuum tubes while wasting power.
- The preamplifier should always be turned on and off via its own power switch.

CONTROLS AND THEIR FUNCTIONS

REAR PANEL – POWER SUPPLY UNIT

The rear panel of the TARA 30A hosts the following:

- Grounding lug (GND)
- Connectors for powering the preamplifier section, marked CON1 and CON2
- A fuseholder for the main fuse. Slow-blow fuse rated for 4 Amps should be used with the 115V line and 3.15 Amp rated fuse should be used with the 230V line. Fuses are glass cartridge, 5x20mm.
- AC input connector
- AC line voltage selector switch. This switch needs to be set so that the number displayed (115 or 230) corresponds with the line voltage in your country



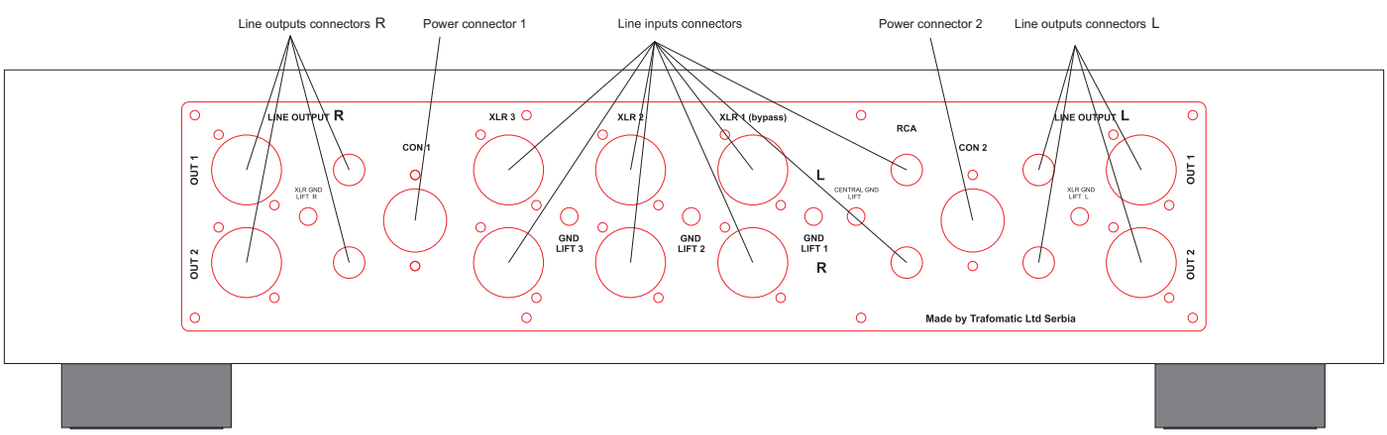
TARA 30A - Line Level Preamplifier: Rear Panel - Power Supply Unit

CONTROLS AND THEIR FUNCTIONS

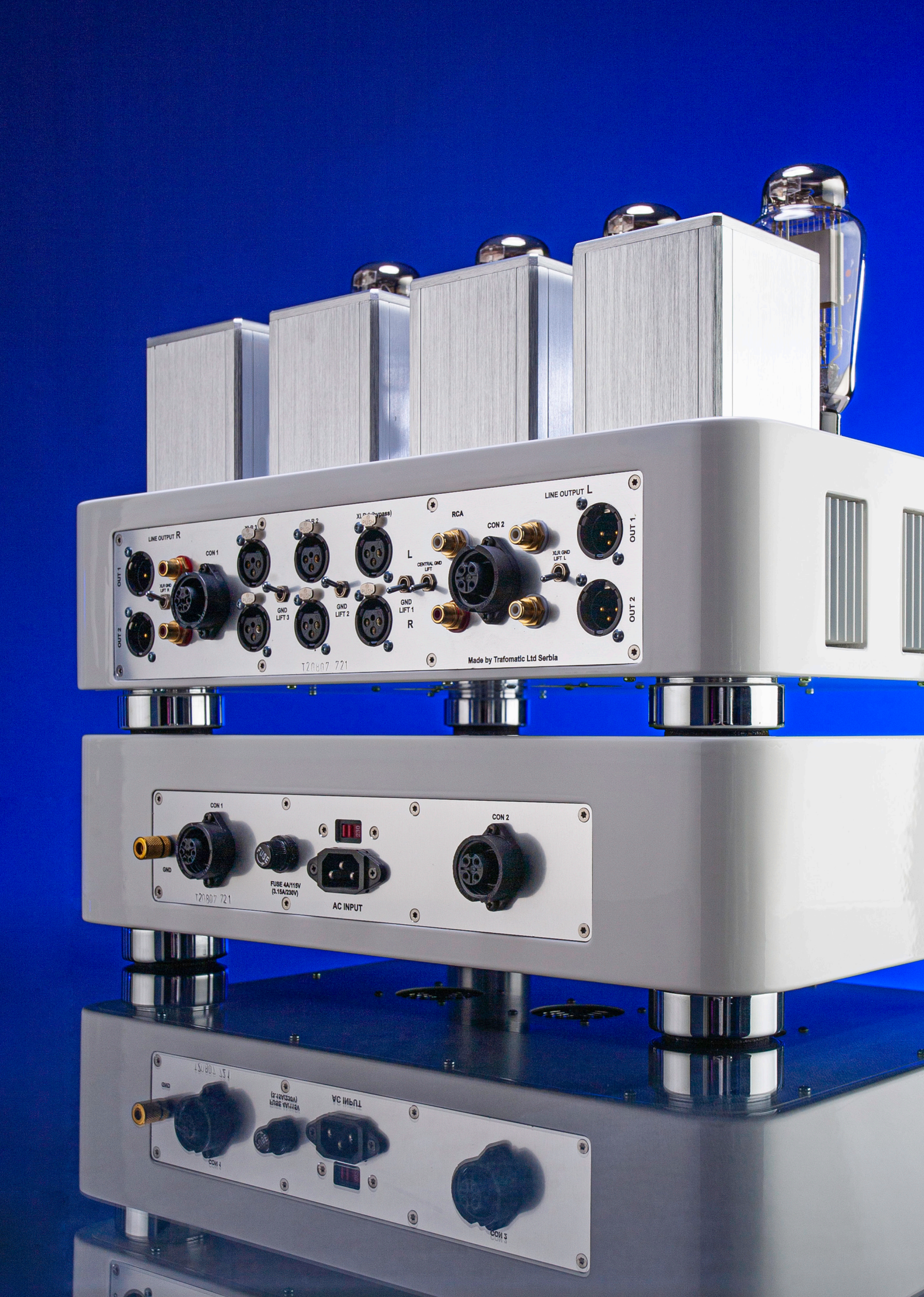
REAR PANEL – PREAMPLIFIER UNIT

The rear panel of the **TARA 30A preamplifier** is home to the following connectors and switches:

- LINE OUTPUT R and LINE OUTPUT L: preamplifier outputs, balanced (XLR) and single-ended (RCA), two of each, per channel.
- Balanced inputs, marked XLR1, XLR2 and XLR3)
- One pair of single-ended inputs, marked RCA
- Power supply connectors CON1 and CON2
- Ground lift switches: In some configurations, grounding of the system can result in so-called “ground loops”. In certain situation, this causes increased hum in the system. A ground lift switch is used to break the ground loop while maintaining safety afforded by proper system grounding. Unique construction of the TARA 30A grounding scheme provides unmatched flexibility when it comes to optimizing performance in complex systems with multiple inputs and outputs. Instead of providing a single point of the ground loop break, the TARA 30A employs multiple “ground lift” switches which can break ground loop(s) in a way that is the most beneficial for your specific system configuration.
  - CENTRAL GND LIFT: removes ground from all inputs and outputs
  - XLR GND LIFT L and XLR GND LIFT R: this switch removes ground from the XLR outputs
  - GND LIFT 1, 2 and 3: removes the ground from the corresponding XLR input
  - NOTE: never use the so called “cheater plugs” to remove ground from the system, as it creates potentially hazardous conditions.



TARA 30A - Line Level Preamplifier: Rear Panel - Preamplifier Unit


LINE OUTPUT R
CON 1
OUT 1
OUT 2
GND LIFT 3
GND LIFT 2
GND LIFT 1
L
R
CENTRAL GND LIFT
RCA
CON 2
XLR GND LIFT L
LINE OUTPUT L
OUT 1
OUT 2
Made by Trafomatic Ltd Serbia
CON 1
GND
FUSE 4A/115V (3.15A/230V)
AC INPUT
CON 2

CONTROLS AND THEIR FUNCTIONS

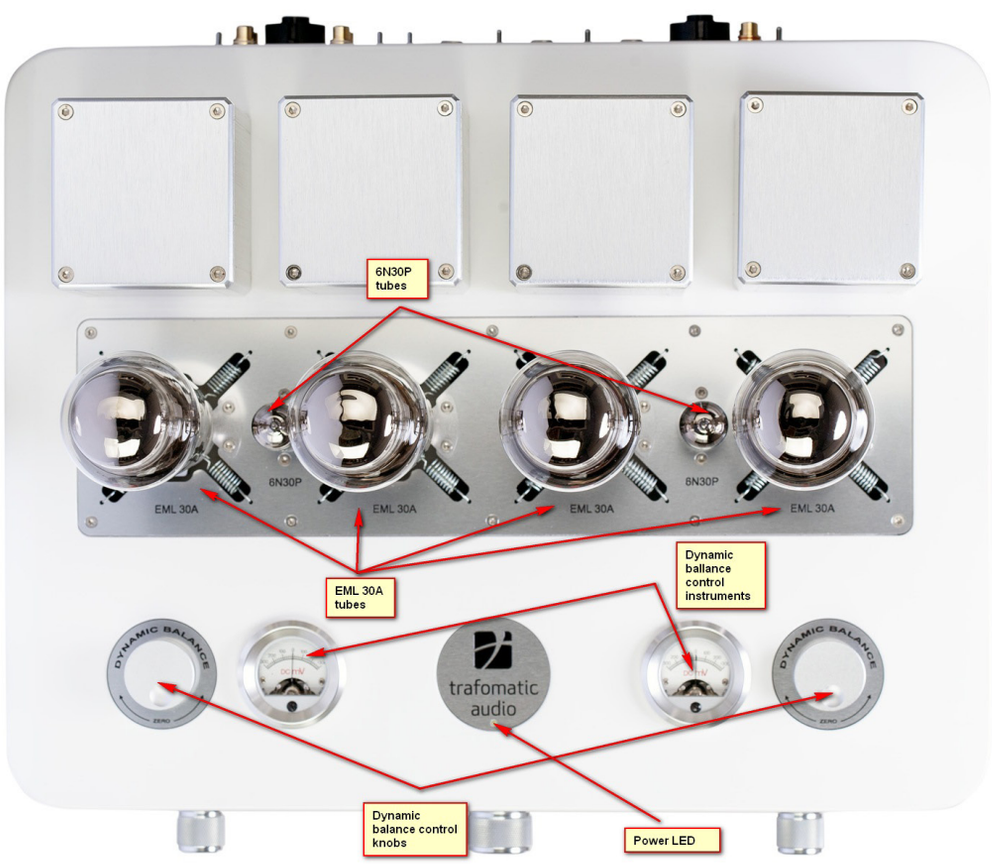
TOP PANEL – PREAMPLIFIER UNIT

Top panel of the **TARA 30A features spring-stabilized EML 30A tubes and 6N30P tubes**, as well as the two panel instruments and **DYNAMIC BALANCE** controls.

The **DYNAMIC BALANCE is a unique feature of the TARA 30A preamplifier** which sets it above the competition: the **EML 30A tubes operate in push-pull configuration and the dynamic balance controls ensures that both tubes operate under identical conditions.** Therefore – even the slightest mismatch between the tubes is corrected and the preamplifier is able to provide optimal performance.

To ensure perfect matching, **the DYNAMIC BALANCE knob is rotated until the instrument is in the central position, reading 0 mV.** It is recommended that the balancing is **done a two minutes after powering the preamplifier on**, when the tubes stabilized their operating conditions.

NOTE: while the Dynamic Balancing is beneficial to the performance of the unit, there is no need to continuously readjust the setting during the listening. A slight drift of a few mV will have a negligible effect to the sound quality.



TARA 30A - Line Level Preamplifier: Rear Panel - Top Panel - Preamplifier Unit

REMOTE CONTROL

TARA 30A comes with its own dedicated remote control circuit. For the sake of simplicity, reliability and long battery life, basic functionality is provided via two buttons: volume up and down.

SERVICING

High quality parts and careful design of the TARA 30A ensure long and reliable operation without need for any maintenance other than that listed in the MAINTENANCE section. In an unlikely case that the unit does not operate as intended, please contact factory or your local distributor for assistance.

CAUTION

Lethal voltages are present inside the amplifier. Do not remove the preamplifier's covers. Servicing of the unit should be performed only by authorized service personnel.

TECHNICAL SPECIFICATIONS:

TARA 30A Line Level Preamplifier

Full balanced Class A preamplifier with line output transformers, Separate power supply
Volume Remote controlled
Gain: 21dB with 6N30P , 25dB with 6N6P
Input transformers: Customized LL1592 high level line input mu metal core based transformers
S/N: – 98dB
Inputs: 3x XLR , 1x RCA
Outputs: 2xRCA, 2xXLR by channel

Output Impedance: 25 Ohms, XLR and RCA
Frequency Response: 5Hz- 200KHz (-1dB)
Vacuum Tube Complement: 2x 6N30P (6N6P) , 4x EML 30A
Power supply: Low Induction toroid transformer by Trafomatic Audio, High Inductivity custom made chokes, Mundorf MLytic HV type
Requirements: 230V/50Hz -115V/60Hz switchable
Power consumption: 200VA
Weight: 22 kg with power supply
Dimensions: 470 x 350 x 120 mm each box

TARA 30A

Line Level Preamplifier

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