

# Libra

## Differential balanced 300B tube preamplifier

by Thrax Audio

### Operating Manual

Manual issued 05/02/2021

#### CAUTION

THE UNIT CONTAINS NO USER SERVICEABLE PARTS. DO NOT REMOVE THE COVERS. LETHAL VOLTAGES ARE PRESENT WITHIN THE CHASSIS.

NEVER OPERATE THE PREAMPLIFIER WITH THE CHASSIS COVERS REMOVED.  
DO NOT OPERATE THE UNIT IF WET OR NEAR WATER.

THE PREAMPLIFIER IS FAIRLY HEAVY. BE SURE TO USE PROPER LIFTING TECHNIQUES TO AVOID BACK STRAIN AND INJURY. BE CERTAIN TO INSTALL IT IN A SECURE LOCATION FROM WHICH IT CAN NOT FALL OR TIP OVER.

TIME SPENT FAMILIARIZING YOURSELF WITH THIS MANUAL WILL BE WELL REWARDED.

## CONTENTS

1. Important Safety Instructions .....	3
2. Introduction .....	4
3. Specifications .....	5
4. Unpacking and Installation	
- Unpacking .....	6
- Installation .....	6
5. Front Panel .....	7
6. Back Panel	
- AC Fuse .....	9
- Inputs .....	9
- Outputs .....	9
- Tape output .....	10
9. Remote Control .....	11
8. Operation .....	12

## IMPORTANT SAFETY INSTRUCTIONS

**READ ALL INSTRUCTIONS:** All the safety and operating instructions of your Thrax Audio equipment should be read before power is applied to the equipment.

**RETAIN OWNER'S MANUAL:** These safety and operating instructions should be retained for future reference.

**HEED WARNING:** All warnings on the unit and in the operating instructions should be adhered to.

**FOLLOW INSTRUCTIONS:** All operating and use instructions should be followed.

**CLEANING:** Unplug the unit from the wall outlet and leave for at least 30 min. - make sure the unit is not hot before you start cleaning. Use dry or damp soft cloth to clean the surfaces. Do not use sprays, abrasive or corrosive cleaning products.

**VENTILATION:** Do not block any ventilation openings. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers). The unit should not be installed in a built-in location such as a bookcase or rack unless proper ventilation is provided.

**GROUNDING:** Do not defeat the safety purpose of the grounding-type plug. A grounding-type plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

**POWER CORD PROTECTION:** Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.

**LIGHTNING:** Unplug this apparatus during lightning storms or when unused for long periods of time.

**SERVICING:** Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as if the power-supply cord or plug is damaged, liquid has been spilled inside the appliance or it has been exposed to moisture, the appliance does not operate normally, or has been dropped.

**DO NOT OPEN THE CABINET:** There are no user serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your warranty.

**WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

## INTRODUCTION

The Libra preamplifier is the world's finest audio preamplifier and an absolutely unique component. It's unusual topology, premium parts, and flexibility make it a pleasure to hear and operate.

Libra allows you to experience and be awed by a full 300B signal amplification path - it uses two 300B tubes per channel in true dual differential mono pure class-A triode operation with two independent outputs.

### Features

6 inputs – 3 XLR standard, 1 XLR Tape Input and 2 RCA inputs

3 XLR Outputs - 2 standard and 1 Tape Output

32-stepped volume control

Tape Loop mode for use with tape recorders

Home Theatre mode for assigning different settings to each output

### Inside you get

Balanced differential topology for noise immunity and subtle dynamics.

Auto bias for compensation of tube ageing and correct operation of any 300B.

Each channel has a constant current fed shunt regulator with extra low noise tube reference. The amplification stage is a single indirectly heated triode with grounded cathode, loaded with a transformer.

Microprocessor controlled relays take care of attenuation, phase and input selection through a multi tap transformer for volume control.

The case is machined from plates of different thickness aircraft grade aluminum.

# SPECIFICATIONS

- Inputs
  - 2 pair unbalanced RCA connectors
  - 4 pair balanced XLR connectors
- Output
  - 3 pair balanced XLR connectors
- Attenuation steps ..... 100
- Volume Control Range
  - Minimum gain ..... -100dB
  - Maximum gain ..... +12dB
- Power supply ..... 115 or 230 V
- Power consumption ..... 45W
- Dimensions..... Main - 420W x 450D x 150H mm  
Power - 420W x 440D x 150H mm
- Weight ..... Main - 26kg / Power - 34kg
- Finish ..... Black or Silver anodized aluminum
- Tube compliment :
  - 4 x 300B amplification

## UNPACKING AND INSTALLATION

This section describes the unpacking and installation procedures for your new component.

### Unpacking

All Thrax Audio shipping boxes have been specially designed to protect their contents and special care has been taken to prevent damage under normal shipping conditions. Mishandling should be evident upon inspection of the shipping container. Carefully remove your new component from its packing and examine it closely for signs of shipping damage. We strongly recommend saving all original packing to protect your component from damage should you wish to store it or ship it at a later date.

### Installation

- BE CERTAIN TO INSTALL THE UNIT IN A SECURE LOCATION FROM WHICH IT CANNOT FALL OR TIP OVER.

- Provide adequate ventilation - the chassis will become warm in normal use. Do not operate on carpet or any other surface that might block air flow.

- Do not allow the chassis to touch any metal parts, such as the frame of an equipment rack. This might create a parallel ground path that could degrade the sound of your system.

- Connect the input and output cables. Input connection is via single ended RCA jacks or XLR jacks (which can be from balanced or unbalanced sources). The outputs are XLR jacks.

**IMPORTANT:** READ THE SECTIONS "INPUTS" & "OUTPUTS".

- The unit should be operated only with the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your unit dealer or local power company.

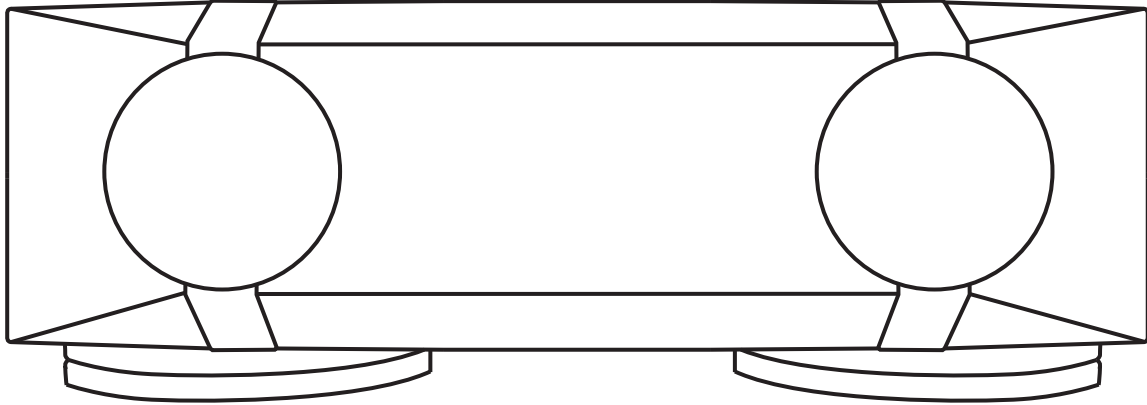
Connect the power supply to the power source indicated on the rear panel. Avoid power conditioners that float the ground pin. ALWAYS connect power cord to component before plugging it into an AC outlet, and make sure that unit's power switch is set to the „off" position before making the final connection. For best performance, try to route the power cord away from signal cables.

Pay close attention to power quality, and be aware that different power cords can alter the sound.

## FRONT PANEL & MENU

Libra is operated using the two control knobs on the front panel which can be turned or pressed, or by using the remote control.

Figure 1



### “ON/OFF”

Press & hold the Left Control Knob for 10 seconds to turn the preamplifier On and Off.

### Input Selection

The selected input is displayed on the main screen - toggle between inputs by turning the Left Control Knob

### Volume Control/Mute

Turn the Right Control Knob to toggle volume level (0-100). Press it to Mute.

### Menu

Press & Hold the Left Control Knob to access the Menu.

### Menu Controls

Left Control Knob

- Turn to navigate through Menu items
- Press to select highlighted Menu item

Right Control Knob

- Turn to toggle a highlighted setting
- Press to return to previous page

### Home Theatre (HT) Mode

Enable HT Mode to set a separate gain setting for a selected input. The HT mode of each input is saved in non volatile memory so even after a power outage this programming is stored inside the preamplifier. Each time that source is selected the level will jump to the programmed level and you use the HT processors level control to set the volume - which also controls the other channels such as rear channels, etc... If your HT processor already had its levels set for the same amplifiers directly connected to the HT Processor then using level 24 (unity gain) on the preamplifier will maintain proper surround channel vs main channel levels. If you are installing a new processor or making other changes in the system then you should set the preamplifier to an HT mode for that processor input BEFORE you set your surround levels. That way the system levels will be correct each time that input is selected. The volume could simply be set manually to the desired level each time you use that input. The HT feature is just a handy way to make the level jump automatically to the same volume each time that input is selected.

NOTE: In some systems switching to an unused input will cause a small amount of hum at the speakers. This is because with no input connected the signal path is 'hanging in the breeze' picking up whatever noise is floating by. For unused inputs HT mode can be engaged and set to volume level 1 or mute. Then when selected the level is so low that there will be no hum.

### Tape Loop

After connecting a tape deck or a digital processor to the Tape inputs and outputs, enable the Tape Loop feature and select the type of device you're using in the settings (TAPE for analog and PROCESSOR for digital).

### Output Settings

Use this function to offset the sensitivity of your outputs - generally used for bi-amping purposes.

### Input Settings

Use this function to offset the sensitivity of your Inputs and maintain an equal gain level from all your sources.

### System Settings

Date & Clock - set the correct time & date

Display - set display brightness and customize the interval the device would be inactive before the display dims (0-60s)



## FRONT PANEL & MENU

•Timer - set a time after which the display turns off completely- Disabled/30m/60m/90m/120m/180m

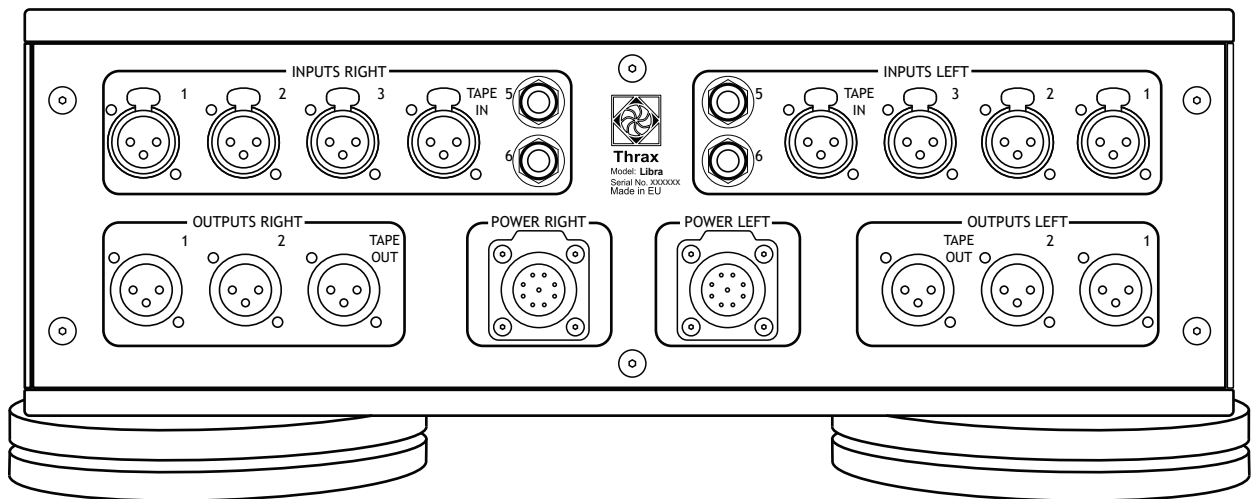
Remote Control - to customize buttons on your remote control, highlight a command from the list and hold the button on the remote you want to assign it to.

Tube timer - displays how long your tubes have been in use.

Serial Number - display the serial number for 15 seconds.

About - display firmware info for 15 seconds.

## BACK PANEL



### Inputs

3x (pair) XLR - for standard balanced connections to sources, indicated 1-3 on the back panel

1x (pair) XLR - for devices making use of the Tape Loop function, indicated as TAPE IN on the back panel

2x (pair) RCA - for standard unbalanced connections to sources

### Outputs

2x (pair) XLR - for standard balanced connection to power amplifiers, indicated 1 and 2 on the back panel

1x (pair) XLR - for devices making use of the Tape Loop function, indicated as TAPE OUT on the back panel

### Power Module

Libra's power module is in a separate box to circumvent interference. Connect the power module to the control module using the "Power Left" and "Power Right" plugs on their back panels.

## REMOTE CONTROL

The remote control allows for wireless adjustment of Source Select, MUTE, PHASE, BALLANCE and VOLUME. The remote wand is powered by two "AAA" batteries. These should be of the alkaline type. You will need to install them in the wand before using the remote. Since batteries can leak, they should be removed from the wand if it is not going to be used for an extended period of time.

### Remote Handset Functions

#### On/off button

This button switches the unit ON / OFF, when in stand-by mode.

#### Menu / Ok

This button pulls up the menu on screen, and selects items from it.

#### Mute (center of volume/balance grid):

This button toggles between mute and normal volume modes.

The mute will be cancelled when the volume is adjusted by the remote handset or by the volume knob on the front of the pre-amp.

#### Volume Up / Down

The volume up and down buttons step the volume up or down 1 step (about 2db) per button press or if held down they continuously adjust volume.

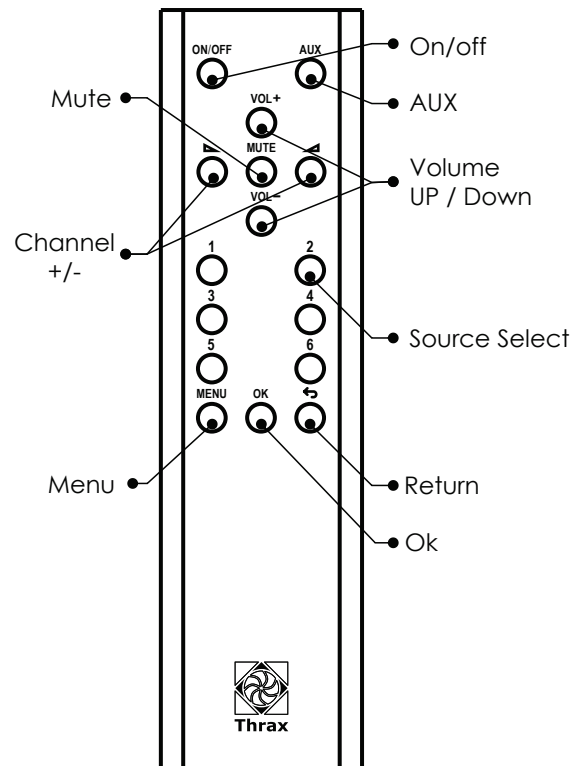
#### Channel +/-

Use these buttons to select an input or to navigate through the menu.

#### Source Select Buttons

The buttons labeled '1' through '6' on the bottom portion of the remote handset directly access each of the 6 source inputs on the preamplifier. These direct buttons (rather than next/prev) are used to make sure that macro functions programmed into a (user supplied) advanced programmable handset function repeatedly.

Figure 3



## OPERATION

For initial power up press the main switch located on the back panel.

To switch the preamplifier on press & hold the Left Knob on the front panel or the ON/OFF button on the remote control - allow the tubes to warm up for approx. 30 seconds.

The front panel display will be on while the unit is executing a command and then turns off after a short timeout period, which can be customized in the System Settings menu.

To turn the preamplifier off press & hold the Left Knob again, or use the remote. All the amplifier circuitry will be turned off for minimum power consumption leaving only a small STANDBY circuit running. However if you are not going to use the amplifier for a long period we recommend turning it off, using the power switch on the back panel, to save power.

Refer to pages 7-9 of this manual for using the Menu.

As with all high fidelity products, the sound characteristic changes somewhat as it warms up. Best sound will be achieved after about 15 minutes of operation.

Any time that the Libra Preamplifier has not been used for a few weeks the sound may be different. This is also normal for high resolution audio equipment. Optimum sound should return after a few hours of operation, preferably with an audio signal.

Note that although your Thrax Audio System has been run for 72 hours at the factory, it will continue to "break in" for approximately 150 hours. Also be aware that many components display the need for a new break in period after being transported in unheated cargo aircraft.

