



**Thrax**

**Orpheus**  
Phono Preamplifier



[www.thraxaudio.com](http://www.thraxaudio.com)

# Orpheus

## Phono Preamplifier

by Thrax Audio

### Operating Manual

Manual issued 05/03/2012

#### **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.

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## 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 corrosive, abrasive or spray for cleaning.

**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.

# SPECIFICATION

- Tube compliment :
  - 2 x D3a amplification
  - 2 x 6C4Π amplification
  - 1 x 6Ц4Π rectifier
- Inputs
  - 2 x RCA or XLR – MM or MC phone cartridges
- Output
  - RCA or XLR
- Power consumption: ..... 50W
- Dimensions: ..... 432W x 400D x 120H mm
- Weight: ..... 15 kg

## INTRODUCTION

The Orpheus phono preamplifier is the world's finest audio preamplifier and an absolutely unique component. Its unusual topology, premium parts, and flexibility make it a pleasure to hear and operate. Two tube gain stages with zero feedback passive LCR phono equalizer. The phono equalizer is designed to amplify the delicate signal of your phono cartridge without losing any of it and to apply the RIAA standard equalization.

### Features

3 inputs – 2 unbalanced on RCA (switching ground) and 1 balanced on XLR

MM and MC phono cartridges

2 outputs – 1 unbalanced and 1 balanced

Phase switch normal/inverted

Low impedance floating outputs (allowing long cables)

### Inside you get

Power supply with a C core gapped transformer with symmetrical field cancelling windings. Tube rectified choke input for the cleanest power, followed by military paper in oil reservoir capacitors. Each channel in the second gain stage has a constant current fed shunt regulator with extra low noise integral circuit reference.

To interface to both MC and MM type cartridges our design uses of a built in Lundahl cobalt amorphous step-up transformer for the MC types. It is switchable for low and high impedance providing for appropriate load and gain to the wide variety of cartridges and is bypassed in MM mode.

Our input gain stage is based on a super low noise D3a German tube used as a triode. It provides the necessary gain and output impedance to feed the custom passive LCR RIAA correction.

The equalization is done with high precision custom made coils wound with special Cardas wire by Sowter in the UK and and Jupiter BeeWax impregnated paper capacitors. The equalization is passive and is followed by another super low noise tube (a Russian triode similar to WE417) loaded by a Hashimoto transformer to bring the signal up to the necessary level and provide complete isolation of this sensitive circuit from the following components in your system.

The main PCB is damped to minimize the micro-phonic noise that might be picked up by the sensitive vacuum tubes.

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

## 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 CAN NOT 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). Output can be on RCA or XLR jacks, and can be set for balanced or unbalanced loads, with or without ground connection at the preamplifier.

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

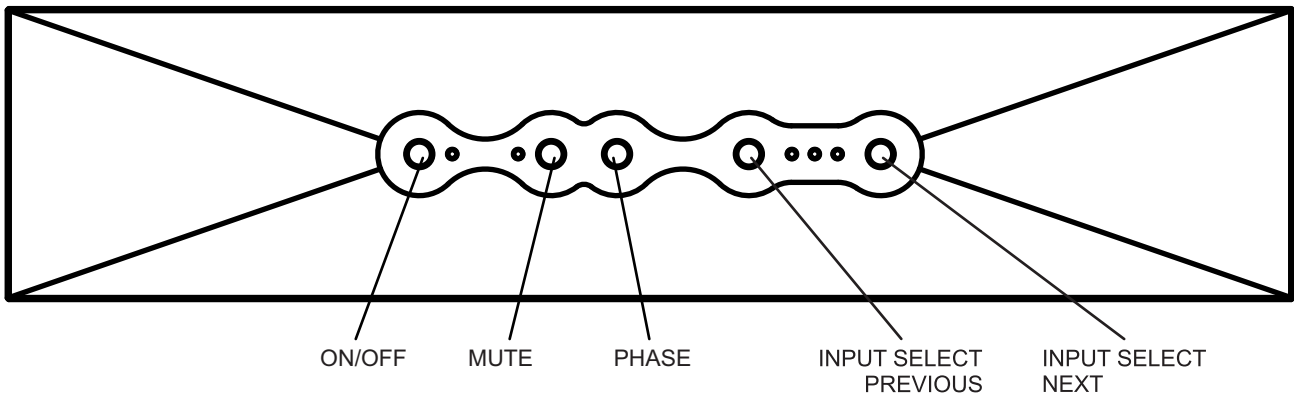
- The unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your unit dealer or local power company.

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

Although most of the front panel controls (Volume, Power, Mute) are self explanatory, Thrax Audio has outfitted this unit with several advanced features which bear further description:



### ON/OFF Button / LED

Switches the unit on and off. See OPERATION SECTION for details.

### Mute Button / LED

This button toggles between mute and normal volume modes. When the mute LED is on the system is muted.

### Phase Button

Each button press inverts the phase. The phase setting remains stored for each source.

### Source Down Button

Each button press changes the selected source to the next lower source. If this button is pressed while source 1 is selected the source wraps around to source 3. The current source is indicated via a row of LED's between the source buttons.

### Source Up Button

Each button press changes the selected source to the next higher source. If this button is pressed while source 3 is selected the source wraps around to source 1.

### Source LED's

A row of 3 LED's between the source buttons. They indicate the selected source number. The left most LED is source 1 and the right most LED is source 3.

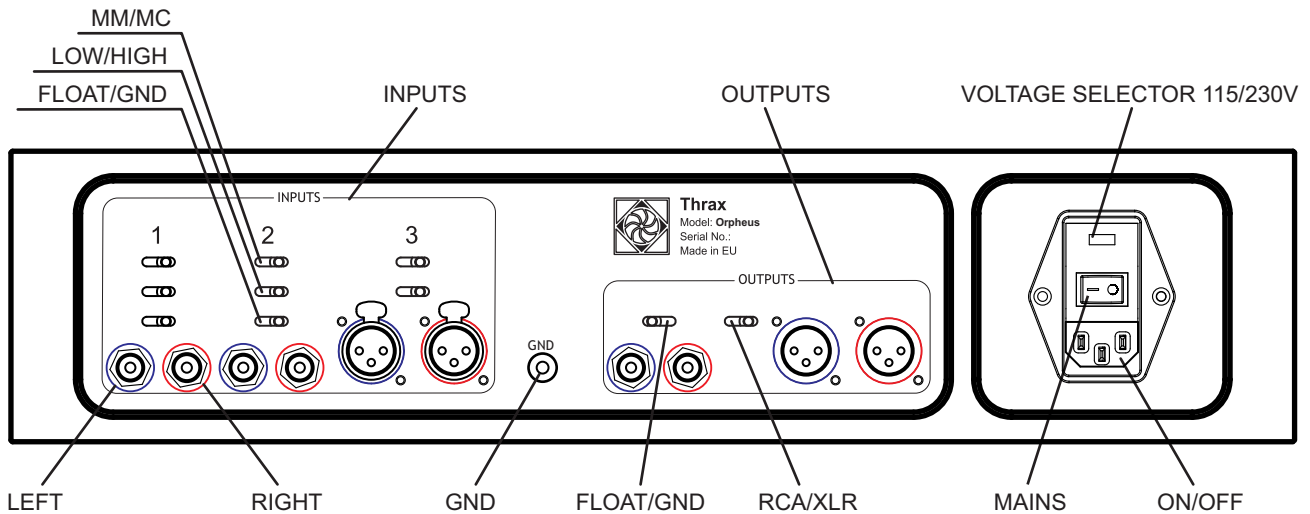
Green = Normal phase

Red = Inverted phase

**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 floating by noise.



## BACK PANEL



### Inputs

Two pairs of RCA jacks accommodate unbalanced sources – these are labeled "1" and "2".

A balanced signal can be accepted on XLR connectors, labeled "3".

Each input can accept MM or MC sources (select the mode by using the top switch above the respective input). If MC source is selected, you can toggle between low or high signal level using the second switch above the respective input. In addition, for the unbalanced inputs only - "1" and "2", you may also choose "RCA UNGND" if it is necessary to break a ground loop by using the third switch above the respective input.

### Outputs

You can connect your Orpheus phono preamplifier to a line preamplifier using the set of RCA output jacks or the pair of XLR output jacks. The "OUTPUT MODE" switch must be set accordingly.

Do not connect an unbalanced load with "pin 3 hot" to the XLR connectors.

You may also choose "RCA UNGND" if it is necessary to break a ground loop.

### AC Fuse

Please note that there is one fuse located in the IEC power connector. For 220 or 240 volt operation, please use a 1.0 ampere fuse. For 100 or 120 volt operation, the fuse should be 2.0 amperes. If the unit is converted for operation at a voltage other than 220 volt, the fuse values must be changed.

Please consult the factory for more information.

## OPERATION

For initial power up press the main switch located on the back panel. Red LED on the front panel indicates the unit is now in stand by mode.

To switch the phono preamplifier on press the on/off button located on the front panel. The red LED indicator blinks for approx 20 sec. whilst the unit warms up. When ready, the red light turns to green.

To turn the preamplifier off - press the „ON/OFF“ button. All the phono preamplifier 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 phono preamplifier for a long period we recommend turning it off, using the power switch on the back panel, to save power.

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 Orpheus phono 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.



