



BY PRO-JECT AUDIO SYSTEMS

INSTRUCTIONS FOR USE Pro-Ject Tube Box DS2

Dear music lover,

Thank you for purchasing this tube phono preamplifier from Pro-Ject Audio Systems.

In order to achieve maximum performance and reliability you should study these instructions for use carefully.



Warning of a hazard for the user, the unit or possible misuse



Important notice

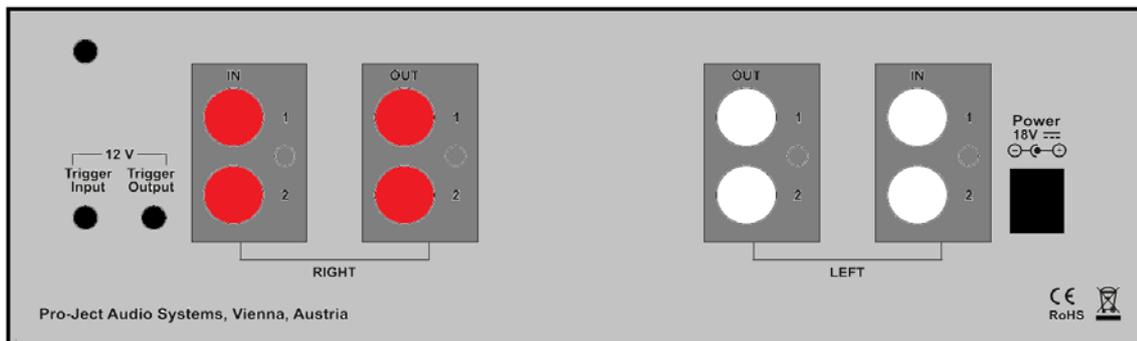
Safety instructions

AC outlet voltages vary from country to country. Before connecting to the mains, make sure that the voltage in your area meets the voltage requirements printed on the power supply.

The power supply is used to connect/disconnect the unit from the mains. Make sure that the power supply is easily accessible at all times. Never handle the device, the power supply while your hands are wet or damp. Avoid letting liquids enter the device or the power supply. Never place any item containing liquid, such as a flower vase on or near the device. Never spill any liquid on the device or the power supply. Never place any naked flame sources, such as lighted candles on or near the device. The product shall not be used in damp or wet locations, next to a bathtub, sink, swimming pool or any other similar conditions.



Connectors



Make all connections whilst the phono amplifier is disconnected from the power supply.



Do not connect the phono amplifiers output to a phono input (sometimes labelled **gram**, **disc** or **RIAA**) on the amplifier.

Never use any other power supply than the one supplied with the unit.

Connecting one or two record players

IN1 and IN2 allow the connection of two turntables or one turntable with 2 tonearms. By switching between IN1 and IN2 the individual settings are retrieved. Connect left and right channels of the tonearm signal lead to the sockets marked IN1 or IN2 of the phono amplifier. The earthing wire may be connected to the screw terminal if you encounter hum problems when using the record player.

Connection to the amplifier

Connect the output sockets marked OUT1 or OUT2 of the phono amplifier to one or two line inputs (such as AUX, CD, Tuner, Tape or Video) on your amplifier.

Mains power connection

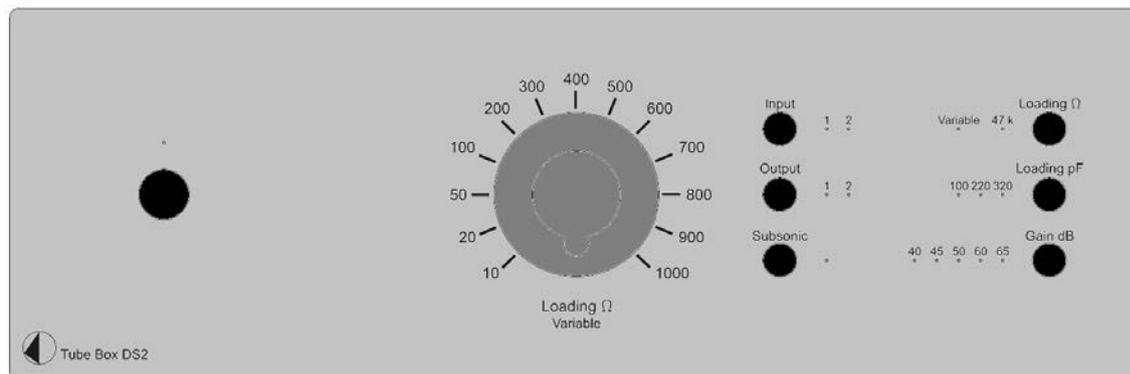
Connect the low voltage plug from the power supply to the **Power 18V DC** socket of the phono amplifier before connecting the power supply to the mains.

Remote power on - triggers

The phono amplifier can be switched on & off via a special connection from other Pro-Ject products equipped with trigger connections via the 2,5mm socket marked **Trigger Input**.

The remote power-on signal can be relayed to further units via the **Trigger Output** socket. Cables are offered as accessory on request (polarity $--\ominus\oplus$).

Controls



To switch on from standby or to standby

The switch on the left hand side of the front panel turns the unit on or back into standby. The blue LED above the stand-by switch shows that the unit is switched on. Tube Box DS2 can be used immediately.

Settings

Use the buttons and the rotary control at the front to control the unit. Any change of settings will be automatically stored for the chosen input, when input is changed or the unit is switched into standby mode.

Input and Output

Tube Box DS2 has two separate inputs **IN1**, **IN2** and outputs **OUT1**, **OUT2**. The button **Input** selects between inputs and the button **Output** switches between outputs.

Subsonic

Turn on and off subsonic filter. Any change will be automatically stored for the chosen input, when input is changed or the unit is switched into standby mode.

Adapt to connected phono cartridge

The rotary control and the 3 control buttons on the right side of the front panel are used to set gain, input impedance, input capacitance. You will find all details about construction principle and technical data in the manual of the phono cartridge. The gain to be selected depends on the output voltage of the pickup and also on the characteristics of downstream devices. If in doubt, consult your dealer for advice.

Gain dB

Gain for the outputs can be set between **40dB**, **45dB**, **50dB**, **60dB** and **65dB** in steps of 5dB or 10dB. Any change will be automatically stored for the chosen input, when input is changed or the unit is switched into standby mode.

Input impedance, variable – low-output MC cartridges

The button **Loading Ω** must be set to **Variable**. Use the rotary controller to set input impedance to desired value (10 Ω -1000 Ω)

* Input capacitance is irrelevant for low-output MC cartridges

Input impedance, 47k - high-output MC and MM cartridges

The button **Loading Ω** must be set to 47k.

Input capacitance, variable – high-output MC and MM cartridges

The rotary control must be set to 10 Ω . Press Loading Ω until the LED marked by 47k lights up. The device has a basic capacity of 47pF, and the Load pF button can be used to increase the terminating capacity by 100pF, 220pF or 320pF depending on the LED display, making the values 47pF, 147pF, 267pF or 367pF available



To find out which type your cartridge is, please consult the literature accompanying your cartridge. The literature for cartridges should also specify the correct input impedance (low-output MC cartridges) and the correct input capacitance (high-output MC and MM cartridges), into which the cartridge is designed to work. If in doubt please consult your dealer.

Examples of typical settings

Ortofon 2M Red (MM)	Rotary control	10Ω
	Loading Ω	47kOhm
	Gain	40dB
	Loading pF	100pF (plus basic capacitance 47pF adds up to total of 147pF)
Ortofon MC3 Turbo (High-Output MC)	Rotary control	10Ω
	Loading Ω	47kOhm
	Gain	45dB
	Loading pF	320pF (plus basic capacitance 47pF adds up to total of 367pF)
Ortofon MC Cadenza Black (Low-Output MC)	Rotary control	20Ω
	Loading Ω	variable
	Gain	60dB
	Loading pF	capacitance for Low-Output MCs is not relevant



The values given by the manufacturer for capacitance settings for MM, MI and high-output MC-pickups are guideline values. Since the right setting is also dependent on the capacitance of the tonearm cable used and the inner wiring of the tonearm, experimentation with settings can be carried out. The recommended terminating resistance for Low-Output MC cartridges is also a guideline. The gain should be set to the highest value, which makes distortion-free playback still possible. You cannot destroy anything when experimenting with the different settings. ***What you like best is right!***

Technical specifications Pro-Ject Tube Box DS2

Tubes:	2 x ECC83 (12AX 7A)
Input impedance :	variable 10-1000 ohms/ 47.000 ohms (47k Ω)
Input capacitance :	47pF, 147pF, 267pF, 367pF
Gain:	40, 45, 50, 60 and 65 dB (switchable)
Output voltage typically:	500 mV/1kHz at 5mV/1kHz (at 40dB)
Noise floor:	88 dB (A weighted, at 40dB gain)
THD:	<0,04 %
RIAA-equalisation curve accuracy:	20 Hz – 20 kHz / +0,2dB / -0,2dB
Input:	2 pairs RCA/phono sockets
Line-level output:	2 pairs RCA/phono sockets
Outboard power supply:	18 V/1000 mA DC
Power consumption:	490mA DC, <0,5W in standby
Dimension W x D x H (D with sockets)	206mm x 227 (239)mm x 91mm aluminium 240mm x 227 (239)mm x 93mm wood
Trigger output/input:	12V (2,5mm jack)
Weight (without power supply):	1500g aluminium 1960g wood

Potential incorrect use and fault conditions

No signal on one or both channels:

No connection between player and phono amplifier or amplifier. This could be due to a faulty plug, broken wire or solder joint or simply loose plug/socket connection.

Strong hum:

No earth connection from cartridge or arm, or arm cable to phono amplifier, or earth loop.

Output too quiet or too loud, or distorted:

Input gain incorrectly set - input overloading or insufficiently amplified.

Service

Should you encounter a problem which you are not able to alleviate or identify, please contact your dealer for further advice. Only if the problem cannot be resolved there, the unit should be sent to the responsible distributor in your country.

Warranty



The manufacturer accepts no responsibility for damage caused by not adhering to these instructions for use. Modification or changes to any part of the product by unauthorized persons release the manufacturer from any liability over and above the lawful rights of the customer.

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