

icon Audio

PS 3 All Valve Phono Pre Amplifier Instructions



**David Shaw
Signature Edition
Jensen Copper Foil
Paper in Oil Capacitors**

About the PS 3

A "High-end" All Valve Phono Pre-Amp

Thank you for purchasing one of our phono stages. A lot of care has gone into the design, component selection and production of this amplifier. We are sure that you will hear the difference.

Our amplifiers have a reputation for excellent performance and reliability endorsed by award winning reviews in the Hi Fi press.

It well know that for many reasons, valves can sound much better than transistors, this is especially so with vinyl reproduction. Chiefly because:

- The massive headroom of valves does not emphasise irritating noise and distortion on highly modulated or scratched & worn LPs therefore minimising noise.
- The 40db RIAA difference between 20hz and 20khz is easier for valves than transistors to cope with in the first stages of amplification.
- The "warm" sound of valves is particularly suited to the reproduction of music from vinyl.
- Our "passive" design uses no "feedback"
- Our simple design uses "audiophile" components.
- We use "hard wired" "point to point" wiring with no printed circuit board.

There are several "valve phono pre-amps" that are only part valve or only use valves as an output stage; these will not have the colour and vibrancy of an "all valve" design.

The simplicity of the design means that we were able to avoid the use of printed circuit boards, which are

not ideal for valve amplifiers despite their common use.

Although good frequency response, low noise and distortion are important in any hi fi unit, there are several other criteria that are often forgotten. Transistors have a poor overload capability, and the resulting distortion is very unpleasant. The PS3 has a massive overload capability and even then would go into 'soft clipping', which is much more benign and easier on the ear.

The simplicity of the circuit means that there are much fewer components for the signal to pass through, fewer connections and switches, again adding to the purity of sound.

This simplicity also means that we can use higher quality oversized components, such as 2w resistors.

The use of popular valves, which are still in production, means that obtaining replacements is easy and inexpensive when necessary. This also means you will be able to change valves yourself and experiment with the different tonal balance of different types.

The final result is an amplifier with excellent characteristics, with an accurate yet smooth and transparent quality.

To get the best out of the PS 3 Please read the enclosed notes. We have tried to give you all the basic information you will need. Should you be uncertain about anything contact your dealer, or ourselves.

Final Inspection

This amplifier has been carefully checked, tested and final adjustments made by Icon Audio in Leicester.

It has passed our rigorous listening test and final inspection to assure you of optimum performance and reliability.

To get the best out of your unit and to save time please read this information & keep it to hand for reference

Date/...../.....
Model
Amp Serial Number
Customer

Check amplifier finish
Run 6 hour test
Check inputs
Moving Coil TXs fitted Y/N
Sound Quality
Channel Balance
Valve Microphony
Valve Seating
Hum level left/right
RF Test
Serial No sticker and recorded

Mains voltage 110 / 240V
IEC Mains FuseA
Sales invoice
Credit card receipt
Customer survey form
Upgrades:
Valves
Capacitors
Mains lead
Interconnects

Signed off by

Notes:

Please note we do not test the standard mains lead.

SET UP GUIDE

1 Unpack unit carefully. Make sure that it is in good condition. It is important that you keep packaging for warranty/service return.

2 Check that the valves are fitted properly. The valves will normally come fitted, so a visual check that they are upright is normally all that is necessary. If not see the section on "changing valves".

3, Connect the power lead between the power supply unit and the pre-amp. **Please note the power lead is permanently connected at the power supply unit. Do not attempt to remove it.**

Please note that the PS 3 must only be used with its own power supply. Neither unit is compatible with any other units.

Ensure that the power supply is not switched on until properly connected.

4, Connect to turntable and amplifier.

Making sure that you connect the "earth" leads from the turntable and/or arm to the earth post on the rear.

5 Connect the power supply unit, And site it away from the preamp. Connect to the mains using the supplied IEC mains lead. If for some reason the welded plug must be removed, please remove fuse and dispose of immediately. (As they can be a dangerous to children). The replacement plug should be wired in the following way Brown to Live terminal, Blue to Neutral terminal and Green/Yellow to Earth terminal.

6 SWITCH ON! The blue mains indicator should light up and unit will start working after about 30 seconds. All valves should have a visible orange glow from the cathode heaters. Full quality will be reached in 5 minutes.

7, Moving Magnet or Moving Coil?

If your PS3 is fitted with the optional x10 step-up transformers (designated by PS3 MC on the rear) you can select between MM and MC by the selector switch on the front. Otherwise the selector should be left in the "MM" position. High output MC pickups may be used without the MC step-up transformers, but you may notice an increase in background noise. Or you may choose to use external step-up transformers. Moving coil pickups generally give superior performance to MM as records are originally cut with MC cutters. Our high quality British made transformers will optimise the performance of your PS3. offer optimum

The PS3 may be returned to us in the future to have this upgrade fitted.

8. Volume

The PS3 has a high output (1.6v for 5mv input) and is capable of driving most power amps directly. However the full output may prove to high for some integrated or pre-amps, therefore "back off" the volume control of the PS3 to get a similar level to CD or radio. This will also help with the noise level. Normal position is about "3 o'clock".

When the volume control is set to "full" it is effectively "out of circuit" as if it were removed.

Getting the best from your PS3

Hum problems

Like any phono stage the PS3 will pick up hum from other hi fi and electrical units. This can be minimised by taking care to site both the pre-amp and power supply away from both each other and other equipment.

On the rear of the PS3 is a "ground Lift" switch.

This will minimise any hum that is due to an "earth loop" (to many earths). If on initial setting up you are aware of loud hum, try this switch first, and leave in the position that gives the minimum hum. If you do not notice any difference, leave in the "Earth position. Bear in mind that subsequent alterations to your system may make it necessary to change this setting.

As a rough guide, when set up correctly the hum level (when checking on full volume of your amplifier) should be at about the same level as the background noise. You dealer or Icon can advise you.

The PS3 is not particularly sensitive to hum in Moving Magnet mode, but this will depend upon the hum field of associated equipment such as amplifiers etc.

Moving Coil requires 10x more gain and therefore is more sensitive to hum and noise from adjacent equipment, so it makes sense to spend a little time experimenting in order to find the best site for your PS3, arranging your turntable and cables for least interference. Keep the turntable signal lead away from power cables and other equipment.

Most problems associated with hi fi equipment involve connecting leads. Always make sure you have good connections and use good quality interconnects. Your dealer will advise you.

General points

- Some mobile phone 'breakthrough' is normal
- Clean with a damp cloth, with power disconnected. Do not use solvents.
- Keep liquids away from the power supply and pre amp.
- Allow about 30 seconds after switching off before switching on again.
- Disconnect power cable and allow about 15 minutes discharge time before removing the cover for changing valves etc.
- Do not operate power supply without connecting to the preamp.

Connecting Leads

Use good quality connecting leads, which are no longer than they need to be.

Do not leave the PS3 switched on continuously.

The sound quality will reach its optimum within 5 to 10 minutes, so there is no advantage in PS3 switched on when it is not in use. Although it is only 30 Watts, valves have a finite life, (averaging about 3000 hours). Do not switch on and off unnecessarily.

Burning in: From new the PS3 will take about 3 months it is fully "burnt in".

Trouble shooting

Excessive Hum

Ensure any turntable "ground lead" is connected to the PS3. The power supply should be positioned away from the turntable and pre-amp. And the preamp should be positioned away from the turntable motor and other units. You can check this by moving the pre-amp around whilst listening to the effect through you speakers. Some experimentation may be required for the best effect.

PS3 Pre-amp Dead

If the LEDs or valves do not light up, check the 1amp mains fuse at the back of the amplifier. To gain access, remove the mains lead. The fuse is in a small plastic drawer, which forms part of the socket assembly. To open insert a flat bade screwdriver or similar and prise open. **The fuse in use is the innermost** the outer is a spare. Should the replacement fuse also blow there is a fault. Replacements should be 1Amp 'anti-surge'. The fuse in the mains plug should be a 3 amp fuse, although unlikely, this should be checked if the amplifier fuse is OK.

No sound

This is likely to be connections. Have you selected the right input? Are the connections OK? Is everything switched on? Are the speakers connected? Is MC selected on the MM only version? Loss of one channel is occasionally due to oxidised switch contacts. Remedy: use switch 30-40 times.

Distortion

Could be either the pick up mis-tracking/dirty stylus, or a fault. Try another turntable or phono pre-amp to prove this. Or check setting and wiring.

Valve Replacement

Assuming average regular use we would suggest that the ECC88/6922s are replaced every 2-3 years, sooner if you suspect a problem, or later if you happy with the sound. Sudden failures, microphonic or noisy valves may be replaced individually if the others are relatively new. The larger 6SN7 pre-amp valve, and the power supply will generally last twice as long apart from sudden failures. Contact us for individual cases.

Before removing either cover the power supply should be disconnected from the mains for at least 10 mins to allow for any remaining high voltage to dissipate. Do NOT USE WITH THE COVERS REMOVED!

You will need a 3mm Allan Key to remove the covers. Valve life will depend upon such things as hours of use and number of on/off cycles.

Note the position of the valves before removal.

As the valves are crucial to maintaining the performance and quality, choose them with care. Valves from Icon Audio will have been selected and age tested in a similar unit for best quality.

Icon Audio are happy to replace valves and check to performance of your pre-amplifier, there are often upgrades available.

It is essential that only the correct valves are used as similar looking valves have a different

pin connection and insertion could result in damage to the amplifier and risk of electric shock. If in any doubt consult your dealer or Icon.

Service: Should you suspect a problem, you should return the unit to your dealer or Icon Audio for a periodic service or return the valves for testing free of charge.

Specifications and Features

Built in volume control

Stereo/mono switch for better S/N and distortion from mono and worn stereo records

- Choke regulated power supply
- Separate Power supply
- All hand wired point to point
- No printed circuit board to 'colour' sound
- Japanese Blue ALPS volume pot.
- All Triode valves
- 4x ECC88 1x 6SN7 (pre-amp)
- 1x EZ80 1x ECC83 1x 5687 (Power Supply Unit)
- Sensitivity: 5mv for 1.6v (0.5mv MC)
- Gain = 320 MM (3200 MC)
- Load: imp: 47k MM, 100 ohms MC
- Custom wound MC transformers (option)
- Signal to noise level -75db (MM unweighted)
- RIAA Freq response 20hz-20khz +0 - 2db
- NO feedback used
- High quality close tolerance resistors
- Blue LED mains indicator
- Polypropylene audio capacitors
- Silver PTFE audio cable
- DC supply for valve heaters
- Stainless steel chassis
- 6mm solid alloy front & rear plates
- Gold plated Input terminals
- 230/240volts 30watts 1.0A anti-surge fuse
- C E certified
- Pre-amp 88mmW, 310mmD, 134mmH , 3.9kg
- PSU 165mmD, 82mmW 80mmH 2.8kg

(Figures in brackets allow for rear connections)
(Specifications subject to change, errors & omissions excepted 17/09/19)

Designed, developed and assembled by David Shaw in Leicester, each pre-amp is carefully checked & tweaked plus any custom modifications added as required before undergoing rigorous tests in all its important static & dynamic parameters. Finally each pre-amp is run to allow the valves to "bed in" for 24hrs to ensure you get the best performance.

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Important

When unpacking and re-packing, please take care not to damage either the stereo/mono switch on the front panel, or the ground switch on the rear.

The switch stems may be broken if undue force is applied while easing the unit out of the foam packaging, or if you push your hand down the packaging adjacent to the front panel.