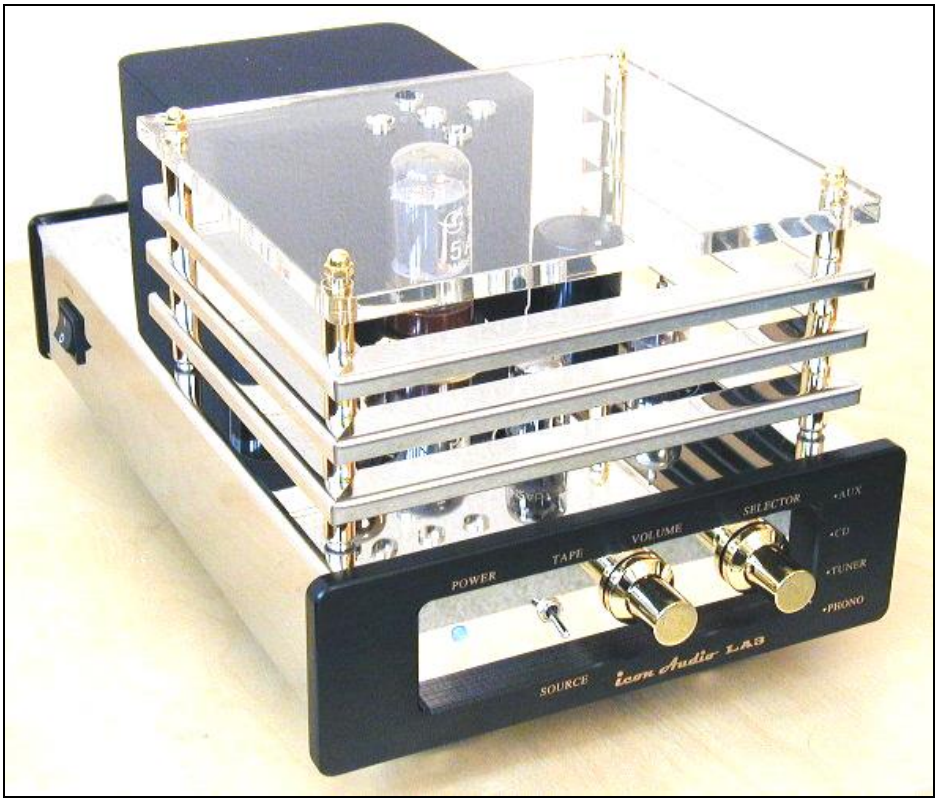
icon Audio

LA 3 Valve Line Amplifier Instructions



About the LA 3

Thank you for purchasing one of our amplifiers, a lot of care has gone into the design, selection of components and production of this amplifier.

We want you to get the best out of the LA 3. Please read the enclosed notes. **We would recommend that everyone follows the 'quick set up guide'.** Should you be uncertain about anything to do with your LA 3 please contact us.

The LA 3 is a line level pre amp offering very wide band width, low noise and capable of driving low input impedance loads. Designed to complement high quality valve or transistor power amplifiers requiring an input voltage of between 200mv and 2v.

Our philosophy is to base our designs upon the traditional time honoured research of Mullard, GEC etc in the 1950's. The beauty of valve amplifiers is that they are usually very simple; therefore with the use of traditional point-to point construction and modern high performance, low tolerance components, it is possible to very high sonic performance.

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 LA 3 has a massive overload capability and even then would go into 'soft clipping', which is 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.

In the process of building the LA 3 to its high standard no corners have been cut and we have also paid close attention to the appearance. Stainless steel has been used for its many properties including: non-magnetic, non-resonant, non corroding and looks. A painted steel sub chassis has been used to mount the valve holders and smaller components on. The steel transformer cover uses crackle finish enamel. The front and back panels are anodised alloy plate for rigidity.

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

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.

Date ….…./….

Model …….

Amp Serial Number …….

Customer ……

Check amplifier finish	…….
Check Triode mode	N/A
Run 6 hour test	…….
Check inputs & tape monitor	…….
HT delay required?	N/A
Output Valve Bias level	N/A
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 Fuse	……A
Soft Start Fitted	…….
Sales invoice	…….
Credit card receipt	…….
Customer survey form	…….
Bias meter	N/A
Transformer Protection	N/A
Upgrades:	
Phono pre-amp	…….
Output valves	…….
Driver valves	…….
Mains lead	…….
Interconnects	…….

Signed off by …….

Notes:

Please note we do not test the standard mains lead.

QUICK SET UP GUIDE

1 Unpack unit carefully. Make sure that it is in good condition. If not report to Icon Audio. It is important that you keep packaging for warranty/service return. Fit the supplied feet, (if necessary) by turning the unit upside down on a soft surface.

2 Check that the valves are fitted properly. Handle the valves with a soft cloth. The small valves may be gently pushed into place. It is normal for them to feel a little loose. **Do not push or pull the 5AR4/5Z3 by the glass envelope**, this could cause the glass envelope to become detached from the base. Causing damage.

3 Connect to source & Output units, e.g. CD, Tuner, Tape, Phono pre amp (if used) and power amp etc via appropriate phono sockets and leads.

4 Connect to mains supply using supplied IEC mains lead to 240v supply. **If for some reason the welded plug must be removed, please remove fuse and dispose of immediately.** (As they can be a danger to children if plugged in). 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 take approximately 40 seconds to start working. All valves should have a visible orange glow from the cathode heaters. With the volume control set to minimum (fully anti-clockwise) there should be no sound coming from the speakers except a barely discernable gentle hum.

7 Your unit should now be functioning. If not check wiring again and/Use selector/tape monitor/volume to choose source program and suitable listening volume. The best sound quality will be when the unit has warmed up for at least 20 mins.

8 Health and Safety. The valves when operating have high surface temperatures. Keep out of reach of children and pets. The use of the supplied guard is recommend in these circumstances. Always unplug when making adjustments. **Like all amplifiers there are potentially lethal high voltages inside (450v DC), which when switched off can take up to 15 mins to discharge!** Do not remove bottom panel unless you are a competent engineer. There are no user serviceable parts inside. **Like other household electrical appliances do not leave unattended whilst switched on.**

Connecting inputs & outputs

Many problems associated with hi fi equipment involves connecting leads, which are usually either **'Bad connection' or a 'Wrong connection'**. So it's worth making sure that you have good connections and that your leads are the right way round.

Inputs

The amplifier will work with any standard piece of hi fi e.g. CD, Tuner, Tape Deck, Mini Disc, TV, Video Recorder, DVD etc having an output of 200mv or more, to get full power. The position of the volume control will vary with the input voltage of different units; this has no effect upon performance.

If you wish to use a turntable you will need a suitable phono pre-amp. Icon Audio can supply you. Contact for more information.

Connecting a tape deck

The LA 3 will work with any tape deck having suitable output, and it is possible to record from any connected source using the terminals marked 'Pre-out'. The LA 3 has a 'Tape Monitor' facility, which enables you to use a 'three head deck' or an equalizer.

Some tape decks 'Present a load' to the amplifier terminals, even when not in use, which can affect sound quality. (You can do an audible check for this by removing the input and listening for a change in sound quality).

General points

- Mobile phone 'breakthrough' is normal
- A switch-off 'click' through the speakers is normal.
- Storage in damp conditions could damage transformers.

Connecting Leads

Use good quality connecting leads, which are no longer than they need to be. However good quality leads are not expensive, and once that level is reached further expense will not result in improvement.

Like other units of hi fi hum may picked up from the transformers of other units. This may require careful siting to minimise this. See also 'hum problems'.

Leaving the amp switched on

People sometimes ask if the amp should be left running 24/7 without switching off. Whilst the amplifier will sound at its best when it is properly warmed up, there is no advantage leaving it switched on when it is not in use. It is using electricity and valves have a finite life. Conversely the valves and other components are stressed more at switch on; therefore do not switch on and off unnecessarily. **Although the amplifier should sound good within about 20 mins, like most hi fi units it can take up to an hour to sound at its best and will take a couple of months of regular use before it is 'run in'.**

Cabinet Care

To remove dust from the cabinet and valves we suggest gentle brushing with a soft paintbrush and a duster. Finger marks can usually be removed with a damp cloth. The Perspex valve cover may need a gentle wipe with soapy water and drying with a duster. On no account use anything wet on the amplifier, and always clean with the power disconnected.

Trouble Shooting

When problem solving make sure that the power amp(s) are switched on and connected both to speakers and pre-amp.

Amplifier Dead

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 or 5 amp fuse, although unlikely, this should be checked if the amplifier fuse is OK.

No sound

Have you selected the right input? Are the connections OK? Is everything switched on? Are the speakers connected?

Distorted sound.

Try another source; if sound improves then it's probably something wrong with the first source. If no improvement try different speakers, if no improvement could be an amplifier problem.

Hum Problems

If you experience hum, try disconnecting all inputs, if hum persists this is probably an amplifier fault.

If not, Identify which input is causing hum. Connect one input at a time. A common cause is a 'hum loop' caused by having to many earths, and may be identified by unplugging each input source from the mains. One remedy for this is to use an interconnect which only has the screen connected at one end. Other causes of low-level hum can be from adjacent equipment, so experiment with moving equipment around to see if this makes the hum better or worse.

One channel missing.

Usually 'bad' connection on either the input or the speakers. Try swapping the connection over to establish if the cause is:

(a) Input to the amp. Sound will move to the other channel.

(b) Amplifier or speakers. Sound will not move.

Strange noises coming from speakers

Turn volume to minimum on unused input, if problem corrected either fault with source unit or with connection. If noise persists, problem with amplifier.

A valve that is lit up is not a guarantee that it is working properly; conversely a valve that is not lit up will not be working.

Valve Replacement (see also section 7)

Valve life will depend upon such things as hours of use and number of on/off cycles. As the GZ34 and 5Z3 are lightly loaded we would expect a long life. It is probably replacing the 12AU7/12AX7s after 3-5 years. Icon Audio can test these free of charge. **It is essential that only the correct valves are used as some similar looking valves have a different pin connection and insertion could result in damage to the amplifier and risk of electric shock.** It is not good practice to remove the valves unnecessarily as this can strain the pins and cause tiny air leaks.

Service: Should you suspect a problem, you could return the unit to Icon Audio for a periodic service or return the valves for testing free of charge. You should carefully remove the valves they should be well packed in cardboard & foam or similar, and returned to Icon Audio for testing. (Valves are very rugged if packed properly).

Specification & Features

- No printed circuit board or tag board
- Japanese Blue ALPS volume pot.
- All Triode design
- Valve rectifier, 5AR4 (GZ34/32) 5Z3 274 (max 2a 5v)
- Choke regulated power supply
- 2x 12AX7 (ECC83) Double triode
- 1x 12AU7 (ECC82) Double triode
- Signal to noise level -90db
- Freq response 10hz-30khz +0 - 0.1db
- Total harmonic distortion 0.001%
- Japanese EI transformers with low oxygen copper
- Hand wired point to point components
- High quality 2w metal film, & wire-wound resistors
- Blue LED mains indicator
- Audio grade Polypropylene audio capacitors
- Internal audio wiring using audiophile grade silver cable
- Black Diamond/Rubicon power capacitors
- Inputs, CD, Tape, Tuner, Aux, Phono (pre amp)
- Ceramic valve holders for minimum leakage
- Centre tapped heater circuit for minimum hum
- Pre-amp 6.3v heater circuit floated at 60v to minimise heater-cathode leakage
- Polished stainless steel chassis
- 10mm solid aluminium front plate
- Crackle finish enamel painted transformer cover
- Gold plated Input & output terminals
- Tape monitor circuit
- Gain = 8x or 18db
- Maximum output 20 volts for 2.5v input
- Output Impedance 250 ohms
- Supplied with attractive safety guard
- Transformers & choke resin sealed to minimise mechanical noise & hum.
- 230/240volts, 35watts 1A anti-surge fuse
- IEC mains lead, (5amp fused)
- C E certified
- 220W(280), 180H(210) 360D(430) 8.5kg with 5Z3 180H(210) (figures in brackets allow for rear connections & ventilation)

(Specifications subject to change, errors & omissions excepted 11/02/20)

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