# icon Audio

# LA 5TX

## Pure Valve Line Pre-amplifier User Manual

**IMPORTANT!**
**THIS MANUAL CONTAINS ESSENTIAL HEALTH & SAFETY INFORMATION FOR YOU AND YOUR AMPLIFIER. PLEASE READ & KEEP SAFE AND REFER TO IF NECESSARY**


*Low Distortion Tertiary wound transformers*

*designed by David Shaw*

## About the LA 5TX

The LA5TX is a very special pre-amplifier. Despite looking like a valve pre-amplifier, it is in fact designed around two very high quality transformers which have a simple low gain valve stage to act as a “buffer”. This way the impedance of the source unit and the input of the power amplifier are completely separated. The Transformers incorporate our uniquely wound **Low Distortion Tertiary** winding, complex and time consuming to get right, but preserving the smallest musical detail and dynamics without the problems associated with capacitor coupling.

To get the best out of the LA5TX. Please read the enclosed notes. We have tried to give you all the information you need. **We would recommend that everyone follows the ‘quick set up guide’.** Should you be uncertain about anything to do with your LA5TX please contact your dealer.

The LA5TX is a line amplifier designed to complement high quality valve or transistor power amplifiers requiring an input voltage of 1volt or greater. It will also work well with most integrated amplifiers.

Our philosophy is to use traditional valve minimalist, circuitry. The beauty of valve amplifiers is that they are usually very simple; therefore with the use of traditional point-to point construction, modern high performance low tolerance components, it is possible to achieve very high sonic performance. This simplicity enables us to avoid the use of printed circuit boards, which are not ideal for valve amplifiers despite their common use.

Although technical performance is important, we never forget that sound quality takes overriding priority in our design and production. The LA5TX has a massive overload capability and even then would go into ‘soft clipping’, which is much more benign and easier on the ear than overloaded transistors.

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 LA5TX to its high standard no corners have been cut and we have also paid close attention to the appearance.

The remote control has its own separate power supply so the operation will not influence sonic qualities.

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

Various upgrades are available at the time of ordering or may be retro fitted. These include “Mundorf” capacitors and various valves including “Full Music” which will enhance the performance of the LA5TX.

# 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 ……

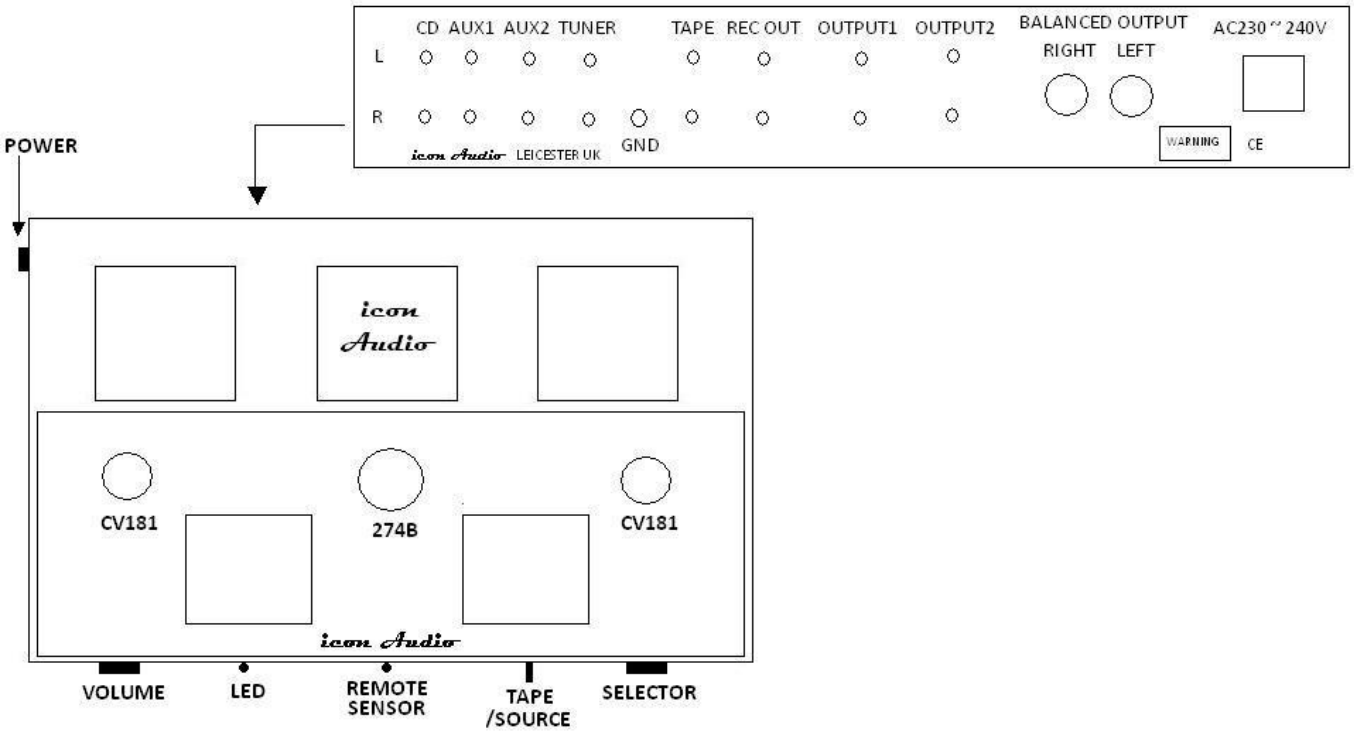
| | | | |
|---|---|---|---|
| Check amplifier finish | ……. | Mains voltage | 110 / 230-240V |
| Run 24 hour test | ……. | IEC Mains Fuse | ……A |
| Check all inputs & tape monitor | ……. | Sales invoice | ……. |
| Sound Quality | ……. | Credit card receipt | ……. |
| Channel Balance | ……. | Bias meter | N/A |
| Valve Microphony | ……. | Transformer Protection | N/A |
| Valve Seating | ……. | **Upgrades:** | |
| Hum & noise level | ……. | Input valves | ……. |
| RF Test | ……. | Output valve | ……. |
| Remote Control Function | ……. | Rectifier valve | ……. |
| Remote control in box | ……. | Capacitors | ……. |
| Serial No sticker and recorded | ……. | Interconnects | ……. |

Signed off by …….

Notes:

Please note we do not test the standard mains lead.

# LA5TX layout




Care should be taken to site the pre-amplifier away from sources of hum e.g. from the power transformers of other units, particularly power amplifiers.

All inputs and including the tape loop are at the same level.

Outputs 1 and 2 are at the same level.

CV181 is identical to the 6SN7

# QUICK 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 Fit the rectifier valve 274B (or GZ34/5AR4)**
**BEWARE ONLY FIT IN REAR CENTRE (see pic P1)**
Otherwise the unit will not function, and damage to both valves and unit will result. The valves are normally numbered in order that they will be in the same position when tested and aged. The 6SN7s (or equivalents) should be fitted to the left and right as marked. Be careful to align to "spigot" of the valve with the socket before pushing in to place.

**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. Rear outputs OUT 1 and OUT 2 are both at the same level.

**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 mains LED 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. During switch on you may hear a buzz from one channel, this is normal.

**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 optional guard is recommend in these circumstances. Always unplug when making adjustments. **Like all amplifiers there are potentially lethal high voltages inside (400v 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.**

## Remote Control

When new remove the plastic tab which preserves the batteries during storage. The 2x AAA batteries will last up to 2 years with normal use. Replace with "Alkaline" types when the indicator LED loses brightness. The maximum range is approximately five meters. Aim the handset directly at the LA5TX, at longer distances multiple short clicks usually work better than long presses. After each switch on the volume control will re-set to approximately "9 o'clock". Remove batteries during storage to prevent leakage damage. Spares and repairs are available from Icon Audio (at time of writing 12/2012)

## Connecting inputs & outputs

Many problems with hi fi equipment involve connecting leads which are usually either **'Bad, or 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. Your dealer or Icon can assist you.

**Connecting a tape deck**
The LA5TX 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 LA5TX 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). If so remove when not required.

## General points

- Switching the pre-amp on before the power amp will reduce "switch on thump, of the speakers"
- 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.

**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 will require several months of regular use before it is fully '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. On no account use anything wet on the amplifier, and always clean with the power disconnected.

# Trouble Shooting

**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 too 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.

As the LA5TX is transformer based it will be sensitive to positioning rather like MC phono transformers. So care should be taken to site it away from power transformers (as in power amplifiers) to minimise noise. Although some small transformers found in CD players for example can have surprisingly large hum fields. These exist both above and below, as well as side to side.

**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 2)

Valve life will depend upon such things as hours of use and number of on/off cycles. As all the valves are lightly loaded we would estimate life of approx 4 to 10 years. **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. Icon Audio are happy to replace valves and check to performance of your amplifier, and advise on the latest upgrades available.

Although the two original 6SN7 valves are normally identical it is important that if they are removed, that they are replaced in the same position. We normally number them.

**Equivalent Valves**

Designed for 274B (8 pin octal version). The GZ34, 5AR4 will also work well.

Designed for 6SN7. CV181 is identical, as is Russian or Chinese 6H8c (6N8p).

**Service:** Should you suspect a problem, you could return the unit to your dealer or 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, 274B (or GZ34) with
- Twin choke power supply
- 2x 6SN7 Double triode
- Signal to noise level -80db
- Infra red remote control, volume up/down, mute
- Freq response 20hz-15kHz +0 - 0.5db
- Freq response 13Hz-20kHz +0 -1db
- Freq response 7Hz-28kHz +0 -3db
- THD typically less than 0.18%, @ 1khz, 2v rms
- Hand wired point to point components
- High quality 2w metal film resistors, for audio
- LED mains indicator
- Audio grade Polypropylene audio capacitors
- Mundorf silver/gold oil caps (signature version)
- Wired with silver PTFE audiophile cable
- Rubicon/Nichichron power capacitors
- Inputs, CD, Tape, Tuner, Aux, Phono (line level)
- Audiophile PTFE valve holders
- DC heater power supply for minimum noise.
- Gold plated Input & output terminals
- Tape monitor circuit
- Max Gain= 8db or x2.5
- Output impedance 250 ohms
- Maximum output 20 volts
- Transformers & choke resin sealed to minimise noise & hum.
- 220/240volts, 75watts 1A anti-surge fuse
- IEC mains lead, (5amp fused)
- C E certified
- 345W, 310D, 195H with 274B (or 170 with GZ34) 18kg packed. Allow for rear connections & ventilation)

(Specifications subject to change, errors & omissions excepted 19/02/20)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