

icon Audio

Instruction Manual Covering:

XL Compact Disc Player

**Fitted With
Jensen Copper Foil
Paper in Oil Capacitors**



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1 Introduction

Thank you for purchasing the **CDX1**. This is an advanced CD player using the latest digital technology to decode the optical digital signal coming from the Laser pickup using 192 kHz upsampling and 24 bit resolution. That is where any similarity to other CD players ends. In order to get the best results from digital sound David Shaw and the Icon team believe that the pure valve analogue part of the sound needs the same careful treatment as our famous PS1 and PS3 phono pre-amps. The CDX1 is the result of years of design in order to offer the same relaxed, warm sound that we offer from vinyl and our amplifiers. This required some radical thinking.

Apart from some of the better known benefits of valves in audio, we have paid great attention to eliminating Radio Frequency interference from the audio output, something ever present in the high speed digital processing.

To do this we have no less than six unique features:-

1. A large dedicated valve power supply completely isolated from the two digital power supplies.

2. A large high value choke (smoothing transformer) is employed, this allows the rectifier to operate without drawing sharp spikes of current.
3. Valve Rectifier. Valve amplifiers always sound better if a valve rectifier can be employed. The slow start during warm up also avoids "cathode stripping" of the 6SN7s.
4. The 0D3 valve regulator ensures a constant HT voltage to the output stage, and is also excellent at absorbing RF noise.
5. The venerable 6SN7 output valve is probably the best sounding hi fi valve ever. Its warm tonal balance is an excellent counter to some of the less desirable characteristics that digital systems present. Also very reliable and long lasting to maintain performance.
6. Like our other amplifiers the pure valve analogue section is completely hard wired. This allows the use of full sized components and future upgrading with the large Jensen capacitors act.

You will notice that the build quality and weight is much higher than many other players. The heavy gauge steel chassis help to dampen unwanted resonances.

The CDX1 is hand built using carefully selected audiophile components. The transformers are hand wound using low oxygen copper and special Japanese long grain iron. Finally each player is valve, carefully commissioned and tweaked for best performance in Leicester UK.

In order to get the best out of your amplifier, please read the enclosed notes. Even if you are experienced with hi fi **please read the 'quick set up**

guide'. Should you be uncertain about anything please contact your dealer or us for advice.

Valve equipment does need a little more attention than their solid-state counterparts, but the sonic results are more than worth it. In this manual we have tried to include everything that you need to know. Please let us know if you find any errors or feel that we have missed anything out.

Hi Fi reproduction is a long chain of events that includes the recording, editing, mixing etc, before being transferred to a medium such as LP, Digital, etc, before being played through your own source unit, the amplifier and finally loudspeakers.



Please note V2 is 0D3 not 0A3 as shown (early photograph)

Final Inspection - Your Guarantee of Quality

To assure you of optimum performance and reliability, this amplifier has passed our rigorous final inspection and listening test by the Icon Audio team in Leicester . During which the final set up and adjustments were made.

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

Date
 Model CDX1.....
 Serial Number
 Customer

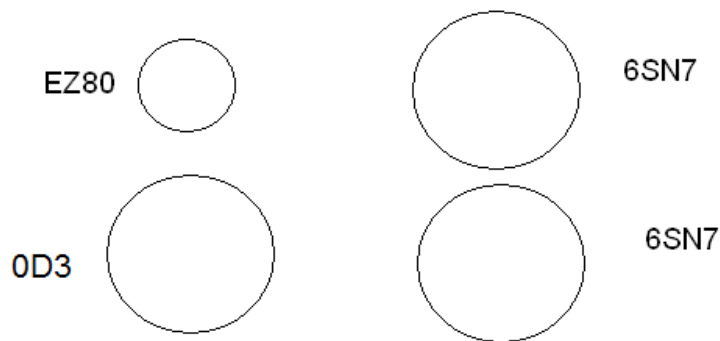
Check finish	.....	Soft Start Fitted	N/A
Internal wiring check	.....	Sales invoice	.....
Check Triode mode	N/A	Bottom label	.....
Run min 6 hour test	.....	Credit card receipt	.....
Check input	N/A	Customer survey form	.....
Output Valve Bias level	N/A	Bias meter	N/A
Sound Quality	.....	Transformer Protection	N/A
Channel Balance	.....	Upgrades:	
Valve Microphony	.....	HT delay fitted?	N/A
Valve Seating	.....	Output Valves	.....
Noise level	.....	Rectifier Valve	.....
RF Test	.....	Regulator Valve	.....
Display brightness	.....	Capacitor upgrade (Audio)	.....
Serial No sticker and recorded	.....	Capacitor upgrade (Power)	.....
Mains voltage	110-120 / 230-240V	Mains lead	.....
IEC Mains Fuse	.....1 A	Interconnects	.....

Signed off by

Notes:

Please note the standard mains lead has not been tested.

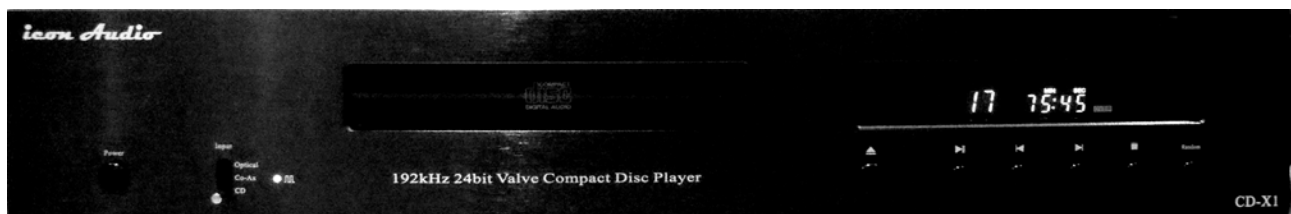
INSERTION OF VALVES IN CDX1



CDX1 Valve Insertion

Viewed from the front

DO NOT REPLACE OR CHANGE AROUND 0D3 WITH 6SN7s
THIS IS DANGEROUS AND WILL DAMAGE THE CD PLAYER.
USE ONLY THE VALVES INDICATED OR DIRECT EQUIVALENT



On/Off Input Select CD Drawer Open Play Back Fwd Stop Random
CD/Co-Ax/Optical (insert label up) /Close /Pause (Track) Play



Digital In/Out Transistor Outputs Valve Output Mains Input
Top: Optical Out Middle: RCA Right & Left Right and Left with 1A Fuse
Middle: Co-Ax In Outer: Bal Right & Left
Bottom: Optical in

IMPORTANT READ THESE NOTES BEFORE CONNECTING TO AC MAINS!

2 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 the packaging for warranty/service return. The contents of the box are:- 1x CDX1, 2x 6SN7, 1x EZ80, 1x 0D3, 1x mains cable, 1x remote control. 1x instruction manual

2. If Necessary fit the valves or check that they are firmly in place as shown on **PREVIOUS PAGE INSERTION DIAGRAM.**

Fit the valves according to the type printed on the chassis. The 2 6SN7s should be on the right hand side when viewed from the front. With the 0D3 to the left. The EZ80 has a unique small 9 pin socket.

Be careful to align the central "spigot" of the 6SN7 and 0D3 valves before insertion. They can be easily broken and is not covered by the warranty!

NOTE: The 0D3 and 6SN7s are NOT interchangeable! This will result in damage and could be dangerous!

3. Connect to amplifier, or pre amplifier. USE THE "VALVE OUTPUT" RCA SOCKETS. If you are intending to connect directly to a power amplifier, you will need some form of volume control such as our "Passive" pre-amp. The connections marked "AUDIO OUTPUT" are transistor output only.

4. Before connecting to AC power, Check that the power switch on the front is "off". For normal CD playing the front selector switch should be in the "CD" position (otherwise there will be no sound). Then connect the supplied IEC mains lead to a 220-240v supply. **If for some reason the UK welded plug must be removed, please remove plug 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.

5. Connect to your amplifier using the "valve output" RCA output sockets. The other outputs are not valve output. The 3 pin Cannon sockets offer "balanced" output which is also not using the valve stage.

6. Using the CD Player as a "DAC".
Connect a CD Transport to either the OPTICAL or CO AX socket on the rear. Select the appropriate input on the front panel. Your signal will be now be decoded through the CDX1 DAC and valve analogue circuits.

SWITCH ON! The green fluorescent display should light up. After about 30 seconds the valve regulator will start. After this time the player is ready for use in the normal way. The EZ80 rectifier and the two 6SN7s will have a visible heater glow (when viewed from a certain angle).

7 All these things are normal for the CDX1

A, Valves can get very hot, BEWARE!

B, The left transformer cover will get quite warm

C, Audio valves may be a little microphonic.

D, Mobile phone 'breakthrough' is normal.

E, Some CDR CDs may not play

F, Some CDRW CDs may not play.

8 Health and Safety. The valves when operating have hot to the touch surface temperatures. Keep out of reach of children and pets. Always unplug from power when making adjustments. **Like all electronic devices there are potentially lethal high voltages inside, which when switched off can take twenty minutes to discharge!** Do not remove the cover 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.** Do not use valves other than specified.

3 Connecting inputs & outputs

Many problems associated with electronic 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.

Outputs

For normal use you should connect suitable interconnects to the "VALVE OUTPUT" Left and Right sockets on the rear, this will give the best sound quality as this uses our specially designed valve circuit.

The four sockets marked "OUTPUT" in the white line box, are both transistor RCA and transistor "balanced" output.

Interconnect and mains Cables

In our experience Icon valve equipment is very tolerant of cables; therefore the benefits of some very 'exotic' cables may be less apparent. But this is also personal taste.

As all interconnect cables have losses, therefore keeping the cables under 2-3 meters will be advantageous. However the CDX1 is designed to work with cables up to 10m with minimal loss.

4 Getting the best performance from your CD Player

- Do not leave the CDX1 switched on all the time. This is not necessary
- Do not use valves other than listed as there could be danger of shock or damage

DO NOT LEAVE PERMANENTLY SWITCHED ON!

Whilst it is common for solid state equipment to left on 24/7 without switching off, there is no advantage in doing this with the CDX1. It only takes a few minutes for the CDX1 to fully warm up. Long periods on "idle" will consume valve life.

We would always advise that any item of home electronics is switched off when unattended.

'Burning in'

Although the CD Player should sound good within about 5 mins it can take up to an 30 mins to sound at its best and will take several months of regular use before it is fully 'run in'.

Upgrading and Changing Valves!

6SN7 Valves are very rugged and sound better than the more modern miniature types, and have a reputation for a very long life. The valves supplied with selected models are the result of careful comparison with other makes. But beware of paying a premium for "New Old Stock" valves where you may be paying for rarity value and not performance. Icon Audio keeps a range of standard and various upgrade valves in stock.

Cabinet Care

To remove dust, brush with a soft paintbrush. Other marks can usually be removed with a damp cloth. Never use anything wet on the amplifier, and always clean with the power disconnected.

5 Trouble Shooting

CD Player Dead

Check the fuse in the UK supplied IEC plug. You could also try another IEC cable. Also check the 1A fuse in the small drawer under the IEC socket (see P 4). Spares are available free of charge from Icon Audio.

The fuse in the wall plug should be a 3 or 5 amp fuse.

If either there is no sound or the CDX1 is dead you should refer to your dealer or Icon audio for assistance.

If the TRANSISTOR (AUDIO OUT) output is working then there is a fault with the valve analogue section.

No sound

Have you selected the right input on your amplifier?

Is the display indicating disc playing?

Distorted sound.

Could be you're amplifier, try another music source to your amplifier to prove this. Check all wiring, and try swapping things around to eliminate or prove which component is causing the problem the 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.

Strange noises coming from speakers

Turn volume to minimum on unused input, if the noise disappears, the fault is with the source or the connection. If noise persists, the problem is with amplifier.

If a whole output valve glows red (other than the heater), often accompanied by a hum through the speakers, switch off immediately, and refer to Icon Audio or a service engineer, as this could be valve failure.

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 numbering them with a marker from left to right as you do so in order that that may be replaced in the same position. They should be well packed in cardboard & foam or similar, and returned to Icon Audio for testing. (Valves are very rugged if packed properly).

Mains Supply

This amplifier is hard wired to work on 230/240v ac. Some models may be re-configured for 110/120v ac by a qualified engineer. Contact for more information.

6 Valve Replacement

Health & safety: High voltages are present inside the unit and on exposed valve sockets when valves are removed, so take suitable care. Beware valves get hot in operation!

How do I know when to replace valves?

Generally speaking the 6SN7 is a very strong reliable valve. We estimate that in normal use the all the valves should give at least 5 years light domestic use.

Symptoms could be: Loss of volume, loss of clarity, poor channel balance, distorted sound, excessively "Microphonic", intermittent sound. One way to check is to try the AUDIO OUTPUT RCA sockets, this should not sound as good.

Catastrophic Failure:

This could be due to heater failure, air in the valve, or a short. Although unlikely this could happen at any time.

If the CDX1 sounds OK the valves are probably fine.

Valve life will depend upon such things as hours of use and number of on/off cycles. It is not good practice to remove the valves unnecessarily as this can strain the pins and cause tiny air leaks.

If the CDX1 is working correctly and the 0D3 regulator valve is lit, the power supply is working normally.

7, To avoid damage to the CDX1 and electric shock hazard you must use only the correct valves marked 6SN7 (6N8/CV181) 0D3 and EZ80. Use only valves which you know to be new or good condition.

Take care that you orient the valve correctly before inserting and removing. Line up the centre "Spigot" first. They are easy to break, do not bend excessively to the side.

Icon Audio offer a free valve testing service. (See "service" P6)

7 Specification & Features

(Typical conditions @ 230v 50Hz)

- 192 kHz 24 bit DAC
 - 2x 6SN7 double triodes Analogue output
 - Burr Brown chipset
 - 2 separate power supplies for digital circuit
 - Hand wired point to point components
 - No printed circuit board for Valve section
 - Ceramic valve bases for low noise/leakage
 - Automatic HT delay circuit to protect cathodes
 - Signal to noise level -95db
 - Freq response 20Hz-20kHz +or- 0.5db
 - THD 0.05% THD typical 1khz 0db
 - Custom hand wound transformers using Japanese long grain steel
 - Choke regulated valve power supply
 - 0D3 valve regulator
 - High quality oversized metal film resistors
 - Audiophile High quality polypropylene audio caps
 - Optional upgrade to Jensen Copper foil capacitors
 - Internal wiring using silver gilt cable
 - Valves carefully matched for best performance
 - Gold plated output terminals
 - 2.45v output at Valve Output sockets (ref 0 DB)
 - 220/240volts, 40watts
 - CDX1 W:44cm. D:40cm. H:18cm
 - Shipping Info W:59cm D:53cm H:29cm W:22kg
 - IEC mains lead, (5amp fused)
 - CE certified. ROHS & WEEE compliant
- Specification subject to change without notice.

8 Guarantee

Thank you for purchasing one of our products. We hope you will be pleased with it.

This CD Player is guaranteed by the company you purchased from for 12 months from the date of purchase for parts and labour, excluding shipping. Valves are consumables and therefore on a 12 months pro-rata basis. Please keep your receipt as proof of purchase, this will be needed.

All units are individually tested for performance for at least six hours before despatch to you. In the unlikely event that you believe the unit is not functioning correctly, it may be helpful to contact us first as we may be able to assist you. Then we would request that you return the item to us for further action.

You are advised to inform us of any change of address or change of ownership in order that we may keep you up to date of any upgrades or improvements. Check our website.

Exclusions

Claims for any damage to either amplifiers or valves must be reported within three days of receipt.

The CDX1 is designed for normal domestic hi fi use. It is not guaranteed for commercial, Public Address

use, or use in other situations. The guarantee becomes void if the unit has been modified in any way not approved by Icon Audio.

9 Packing Instructions

It is essential that the original box and packing be kept in good condition, as this provides vital protection during transit. Please do not write on box, but use removable labels.

- Re-use the supplied plastic bag to keep the unit clean and free from damp.
- The mains lead fits in a foam cut-out underneath the amplifier.
- Valves should be removed, and packed in the space in box provided, along with the remote control.
- Remove the batteries in the remote control during shipping and storage.
- If the amplifier is stored in the box, keep upright.
- Do not store in damp conditions as this could cause damage and corrosion.
- If the amplifiers are shipped insurance is desirable due to the high unit value.

***icon Audio* UK LTD**

351 Aylestone Road Leicester LE2 8TA

www.iconaudio.com

Phone +44 (0) 116 244 0593 Cell +44 (0) 778 715 8791

Fax 0116 244 0593

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