icon Audio

Instruction Manual Covering:

Stereo 60 MK IV Integrated Amplifier

Stereo 60 MkIV Integrated Amplifier shown with upgraded driver valves

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

Contents

1 Introduction

Thank you for purchasing the Stereo 60 MK IV. A great deal of care has been taken by our team in the development, production and testing of this amplifier. We are sure that you will hear the difference!

WHAT IS THE STEREO 60 MK IV?

Our biggest push-pull integrated amplifier. We wanted create an valve amplifier technically as near perfect as possible using modern design techniques.

To do this we have a generous power supply, low distortion drive circuity designed around the new KT150/120 valves and our high own high definition low distortion LDT output transformers. Now in its fourth incarnation the ST60 has been upgraded each time to make it one of the finest high power integrated amplifier available. In addition, we have incorporated features like switchable TRIODE mode and adjustable sensitivity well as 4 Ohm outputs to match a wide range of operating conditions.

In “Ultralinear” mode the power is 85W x2 In the vintage TRIODE mode which many prefer the output is still a very usable 50W x2 with a slightly more “mellow” presentation.

The pre-amp is a high quality ‘Passive’ circuit using silver plated copper PTFE audio cable and an ALPS volume control. It is sensitive enough to be used with all modern source equipment. Its simplicity coupled with point to point hand wiring without the use of printed circuit board’s results in an open euphoric sound that is wonderfully detailed and warm sounding.

The ST60 MK IV was specifically designed to get the best out of the excellent KT150 valves.

A built in meter simplifies bias and valve condition.

Compatibility with the older KT88/6550 is retained and the amplifier may be de-rated in order to use these.

In order to get the best out of your amplifier, **please read the SET UP GUIDE first.** Even if you are experienced with valve amplifiers. Should you be uncertain about anything to do with your amplifier please contact either your dealer or Icon Audio for advice.

2 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.

Date ….…./….

Model ST60 MK IV

Amp Serial Number ……

Customer ……

Check amplifier finish	…….	Serial No sticker and recorded	…….
Internal wiring check	…….	Mains voltage	117 / 230-240V
Check Triode mode	…….	IEC Mains Fuse	3.0 A……
Run min 8 hour test	…….	Mains plug fuse (UK only)	5A……
Check inputs & tape monitor	…….	HT (int) Spare 2 x 500ma T Fuses	……..
Output Valve Bias level	…….	Remote Control Function	…….
Sound Quality	…….	Sales invoice	…….
Valve Microphony	…….	Bottom label	…….
Valve Seating	…….	Remote (in box)	…….
Hum level left/right	.....mv…....mv	Capacitor Type	…….
RF Test	…….	Output valves	……...…….
Power UL 1 kHz 8Ω	...……L……R	1st Stage driver	…….
Power Triode UL 1 kHz 8Ω	...……L……R	2nd Stage driver	…….
Channel Balance=	…….	Internal Fuses	…….
LED brightness	…….	Screwdriver	…….

Signed off by …….

Notes:

IMPORTANT READ THIS FIRST

3 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.

Contents

ST60 MK IV amplifier
Valve cover
Remote control
IEC power cable
Manual
4x KT150
4x 6SN7/CV181
Screwdriver for bias adjusting
1x spare mains fuse (in IEC socket drawer)
2x spare HT fuse (inside amplifier)

2 If necessary fit the valves, or check that they are firmly in place. The KT120/KT150s should be fitted first observing the numbers v1,v2,v3,v4 written on the rear of the valve; this corresponds with the four sockets (nearest the transformers) from left to right viewed from the front of the amp. This is important as the performance of the amplifier was optimised this way. The smaller 6SN7 Nos 5,6,7,8 may be gently pushed into place.

CAUTION:

Align each valve carefully before inserting with the "ridge" on the valve spigot to match the "indent" in the middle of the socket.

The central locating spigot is easily broken so do not use excessive force.

Do not push or pull the valves excessively by the glass envelope, this could cause the glass envelope to become detached from the base, damaging the valve.

3 Connect to source units, e.g. CD, Tuner, Tape, Phono pre amp (if used) etc via rear RCA sockets. All inputs are at the same level. The names are only for reference.

4 Connect to speakers (4 to 16 ohms). The correct polarity is vital for correct operation. Cable colours may vary. Check that the red output terminal of the ST60 is connect to the red terminal of the loudspeaker on both channels.
If 'bi-wiring' both 'common' should go to the black terminal and both 'positive' (or red) should go to 8 ohm terminals.

5 Connect to mains supply using supplied IEC mains lead to 230-240v (117v USA/Canada). **If for some reason the welded plug must be removed, please remove fuse and dispose of safely.** (As they are dangerous 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 The purpose of the "Standby" switch is to allow for live switching between "Triode" and "Ultralinear" and Power saving It is not necessary to use this for normal "switch on".

SWITCH ON! The meter should light up. Leave for at least 60 seconds to for the valves to warm up, the "standby" switch should be in the "down" position. The amplifier should now be 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 discernible hum. If there are any unpleasant sounds coming from the speakers, switch off and refer to the 'Trouble Shooting' section or contact your reseller.
With the correct input selected the amplifier should now be working.

7 Check the KT150 bias.
Rotate the bias knob through 1-4, each position should show the pointer in or near the black section of the scale. This has been pre-set in the factory so no initial adjustment is normally necessary unless one valve is seriously out of line. Refer to section 8.

8 Power amplifier use of the integrated amp
Located on the rear, this switch is normally "UP" for integrated operation (high sensitivity). If use with a pre-amplifier is required, the switch should be "DOWN" in the low sensitivity position. The "Tape" input is the most direct. Set with the volume on "FULL" or as required.
See section 5.

9 Your amplifier should now be functioning. If not check wiring again and/Use selector/tape monitor/volume to choose source program and suitable listening volume. Do not operate at a high volume for the first five minutes to allow the valves to warm up properly.

Please note all these things are normal for valve amplifiers:

A, Valves can get very hot, BEWARE!
B. Your may hear a switch on "Thump" from "Standby"
C, The mains transformer will get quite warm
D, The amplifier may smell slightly at first.
E, Mobile phone 'breakthrough' is normal.
F, Valves may make a 'tinkling' sound when warming up and cooling down.

10 Do not switch between "Ultralinear" and "Triode" without first switching into "Standby". This could cause damage to the transformers which would not be covered under warranty.

11 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 recommended in these circumstances. Always unplug when making adjustments. **Like all amplifiers there are potentially lethal high voltages inside, which when switched off can take several minutes 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.** Do not adjust the KT150/120 grid bias pre sets without reference to the manual. Incorrect adjustment could cause the valves to overheat, with resulting in damage to valves and amplifier.

12. Important that you check the check the bias reading once or twice a year. This will ensure peak performance and maintain valve life. See section 8.

Remote Control

The remote control can be found in the bottom of the box. You may need to pull the plastic tag out to connect the batteries and tighten the screws. It controls the volume by means of an ALPS motorised volume pot. Pressing "mute" will reduce the volume to zero. Make sure that you point the control directly at the sensor on the amplifier front panel. If you are having difficulty operating the handset from an oblique angle, try pointing at something reflective, e.g. the opposite wall, or place a small reflective item at a suitable angle in front of the amplifier. A small dot of white paint or "Tippex" will enable the little "dimple" on the volume control to be more visible if required.
Please note that upon "switch-on" the remote control unit automatically re-sets to a low volume. When the LED gets dim you should replace the batteries with 2 x "alkaline" AAA cells.
When not in use or in storage remove the batteries to prevent leakage and corrosion.

4 Connecting inputs & outputs

Many problems associated with audio involve bad contacts with connecting cables and plugs. 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 300mv or more, to get full power.
If you wish to use a turntable you will need a suitable phono pre-amp. Icon Audio or your dealer can advise you. Our PS1, PS2 or PS3 pure valve phono stages make ideal partners.

To use the integrated version as a power amplifier. See section 5.

Connecting a tape deck
The STEREO 60 MK IV will work with any tape deck having suitable output and it is possible to record from any connected source using the terminals marked 'REC OUT'. The STEREO 60 MK IV 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 plugs and listening for a change). Therefore for best results do not leave anything connected to these terminals unnecessarily.

Connecting loudspeakers 4or 8 Ohms?
The output impedance of the Stereo 60 MK IV has been optimised to work with 3-12 ohm speakers.
Many modern speakers use a 4 ohm bass unit and an 8 ohm tweeter, as this then falls between the two impedances either 4 or 8 Ohms will be suitable with the 4 ohm having a slightly heavier sound. Bear in mind that there is quite a lot of "spread" with the 4 and 8 Ohm taps, so they overlap some. If Bi Wiring it is permissible to connect the tweeter cable to 8 ohms and the bass unit to 4 ohms, or vice versa
Use good quality loudspeaker cable. This should be relatively thick and multi-stranded. i.e. QED '79 strand' or better. Take care to connect the correct polarity. The use of 'Banana plugs' or 'spade' connections will ensure a good connection whilst minimising the risk of 'shorts'.

Speaker cables
In our experience valve amplifiers are more tolerant of cables; therefore some of the benefits of very 'exotic' cables may be lost! But this is personal taste. Icon or your dealer will advise you.
As all cables have losses, keep the speaker cables short, although anything under 5m will have little effect.
You can either 'hard wire' your cable to the amplifier by baring enough cable to fit in the connector and twist together to avoid any spare strands touching anywhere else (soldering the stands together helps). **Be warned this amplifier does not have an output protection device, which would degrade the sound. So a prolonged short due to strands of wire touching could cause damage!** Alternatively use good quality 'banana' plugs, once fitted they are trouble free.

Speaker polarity.
It is essential that you observe the polarity of the terminals; they must be the same for the left/right connections at the amplifier end and at the loudspeaker end. Otherwise the sound will be 'out of phase' with the sound stage 'inside out' with reduced bass. **If you are unable to check this or confirm the polarity** (e.g. if you have 'built in' wiring), try the following; Connect the system up and play some music with plenty of bass (e.g. dance music), preferably in mono (FM tuners are usually switchable to mono) and stand the speakers close together. If correct you should hear plenty of bass, if not **reverse the terminals for one channel only, either at the amp or speaker.** You will now hear more, or less bass. The higher bass output is the correct setting to use. An easy alternative is to use a test disc.

The STEREO 60 MK IV is designed to work with wide range, low to medium efficiency having impedance of 4 ohms to 8 ohms. Speakers having efficiency of lower than 80db may have greater

difficulty in providing a high sound level. But this will also depend upon individual speakers, room size, type of music and positioning etc.

Do not connect to more than one pair of terminals for each channel. If two pairs of speakers are required to be connected, they must both be 8-ohm and connected 4 ohm terminals. Contact Icon Audio for more information. Sound quality may be impaired if the amplifier is not correctly loaded.

5 Use as a power amplifier

The ST60 MK IV is essentially a power amplifier with a "Passive" pre-amp on the front which consists of an input selector and a volume control. When the volume control is turned to "maximum" it is effectively out of circuit. The unit is then a "power amplifier"

On the rear it is already fitted with a 3 position sensitivity switch.

the same as the integrated version without the passive preamplifier section, source switching and volume control.

Topics such as speaker connection, standby, triode/Ultralinear, bias adjustment, valve replacement are covered in other parts of this manual. (See relevant section).

The ST60 MK IV will require some kind of preamplifier which should have a low output impedance and an output voltage at least high enough to drive it to full power without distortion (950mv or 0.95v). The preamplifier may be valve, transistor, passive or passive transformer.

As the preamplifier plays an important role in instructing the power amplifier what to do, the best results will not be obtained unless correctly matched. Attention should also be paid to the RCA to RCA interconnect cable in particular. This cable should be of good quality but most importantly fully screened to shield hum. Some cables designed to work with low impedance transistor amplifiers may pick up noise or hum if the are not fully screened.

Earth Loops

Occasionally having too many "earths" in a system can cause a low level hum which ceases when the preamplifier is disconnected from the power amplifier (standby may be used as a "mute" when making adjustments). A solution may be found to this problem by using an interconnect where the shielding is CONNECTED TO ONE END ONLY.

Switch on Thump

Some transistor preamplifiers cause a "thump" to be amplified through the speakers, with the possibility of damage in some cases. The solution is to switch on the preamplifier first, with the ST60 MK IV in "standby" until the preamplifier is working normally.

Optimum results will be achieved with medium to low efficiency speakers by having the sensitivity switch (on the rear) in the LOW (L) position. This will give the lowest distortion, lowest noise and highest damping factor (important for modern low efficiency speakers).

However the ST60 MK IV retains the ability to be driven by a lower voltage (300mv or 0.3v). This may be useful when the amplifier is driven passively or even directly from a low output source device. In which case move the switch on the rear to HIGH (H).

6 Getting the best out of your ST60 MK IV

- Do check the "Bias" with built in meter regularly
- Do not switch between Ultralinear and Triode without first putting in to "standby"
- Do not switch off and on without a short rest of 60 seconds
- Do not leave the amplifier switched on all the time. This wastes valve life
- Do not adjust the output valve grid bias without reference to the instructions
- Do not swop the output valves round as they are set up individually
- Do not operate the amplifier without loudspeakers connected
- Do not use valves other than listed as there could be danger of shock or overheating
- Do not operate the amplifier without the valves
- Do check that the speakers are in phase.

What is safe maximum volume?

The Stereo 60 MK IV will run happily all day long at undistorted volumes. The valves are hardly stressed any more at full power than at zero volume. Running into distortion will however stress the valves and the rest of the amplifier.

The meter on the front indicates the percentage of VOLTAGE (not power). When not in use the meter on the front is measuring the output voltage. For the ST60 MK IV this is 25v so a reading of 50% may be calculated:

25x50%=12.5v $12.5^2/8$=19.5 Watts

In the case of 4 ohm speakers divide by 4 instead of 8. This figure is approximate as the impedance of any speaker will vary.

Triode Switch. This switch causes the KT88s/KT120/KT150s to operate as "triode" (e.g. 300B) valves. Generally triodes have a more linear power curve, and will tolerate more difficult speaker loads. The power is reduced by approximately half. Many people prefer this sound, but depending upon your set up, you may hear no difference. The gain on the volume

control remains the same, so no difference will be noticed in volume. But the maximum will be half. **As switching will stress the output transformers it is important that triode/Ultralinear switching be done when the amplifier is switched into standby mode.**

DO NOT LEAVE SWITCHED ON 24/7
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 of very roughly 5000 hrs **WHICH IS ONLY SEVEN MONTHS CONTINUOUS USE!** (Or 4½yrs at 3 hrs a day). Conversely the valves and other components are stressed more at switch on; therefore do not switch on and off unnecessarily.

We would always advise that any item of home electronics is switched off when not in use
'Burning in'
Although the amp should sound good within about 10 mins it can take up to an hour to sound at its best and will take several months of regular use before it is fully 'run in'.

Upgrading Valves!
Good quality valves should sound better, and have a good service life, maintain their performance and be reliable; the last three items will make a valve sound better longer. The upgraded valves supplied with selected models are the result of careful comparison with other makes.

Cabinet Care
To remove dust we suggest gentle brushing of the paintwork etc, with a soft paintbrush. Other 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.

7 Trouble Shooting

Amplifier Dead
Check the 3 amp 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 3 Amp 'anti-surge'.
The fuse in the mains plug should be a 5 amp, although unlikely to have failed, 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?

Valve Fuses/Distorted sound.
Each pair of KT88/KT120/KT150s are protected by a 500ma "T" (anti surge) fuse. If the left or right fuse has blown there will be no sound on that channel. You can test for this by checking the bias; a zero reading would normally mean a blown fuse. Also the valve(s) in question will be much cooler (to the touch, be careful!). Replacement will require the amp inverting on a soft cloth and the bottom removed. Ensure that power is removed at least 10 mins beforehand. Only replace with correct type, (available from Icon free). **Only attempt if you feel confident, or contact your dealer or Icon for assistance.** Should the replacement subsequently blow, this usually means the valve is faulty, or possibly a fault elsewhere.
2 spare fuses are normally "taped" to the inside bottom plate).

Hum Problems (through speakers)
If you experience hum, try disconnecting all inputs, if hum persists this is probably an amplifier fault. Check bias or refer to Icon Audio.
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.
Some premium interconnects are NOT screened, and will therefore hum. These are not suitable for use with the ST60 MK IV as they may pickup noise.

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.
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, which if neglected may cause other damage.
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 9)
Valve life will depend upon such things as hours of use and number of on/off cycles, the HT Delay Circuit if fitted will extend the life of valves by not stressing them when cold. 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 should return the unit to your agent/dealer or Icon Audio for a periodic service. In case of difficulty you could email or phone us. You could also

return the valves to Icon UK for testing free of charge. Carefully remove the valves (the KT120/KT150s should be held by the base when removing, to prevent damage) numbering them with a marker or sticker from left to right from the front, in order that that may be replaced in the same position. They should be well packed in cardboard & foam or similar, (Valves are very rugged if packed properly).

8 Bias Adjustment

This amplifier uses the technically superior "Fixed Bias" method of setting the output valve idle current. For optimum performance and to avoid damage to the amplifier please check this important function at least once a month with the built in meter.

Most of the time no action will be necessary, but this will give you the reassurance than the valves are in good condition and working correctly.

When first using the amplifier
Check that pointer is approximately in the black section. Small variations have no effect. But any valve reading "high" should be reduced. It will take a few weeks for the valves to "burn in" and settle down after which little adjustment will be needed.

For occasional checking:
The triode switch should be set to UL, unless in constant triode use.
With the amplifier warmed up (15 mins) and with the volume at zero, Rotate the bias knob to check V1,2,3,4. This will measure the bias current and give a visual read out. The optimum reading is when the pointer is in or close to the black section of the dial (= approx. 47ma).
It is important to note that if all four valves read slightly high or slightly low this is normal and may be your local mains power variation. If this happens regularly the bias should be adjusted.
If one or more valves give unstable readings the valve is probably faulty. This may be proved by swapping the valves around, or trying replacement valves. In UK Icon Audio will test your valves free of charge.
As the valves age the reading of each valve will vary. This may be adjusted by slowly rotating the bias screw for each valve until the reading is in the black mark.
A small flat blade screwdriver is all you need.

If you are unsure about any aspect contact your retailer, Icon Audio or a competent service engineer. You are welcome to speak to one of our engineers by phone or email.
Most dealers and Icon Audio are happy to re-bias and check you amplifier free of charge.

No reading at all (or 0) may mean a faulty valve or a blown fuse see "Valve fuses" under section 7.

9 Replacing the Valves

Icon Audio are happy to replace valves and check to performance of your amplifier, and advise on the latest upgrades available. If you decide to do this yourself please read the following notes first.
Important: Do not attempt to change the KT120/KT150s without reading these notes. Failure to do so could be both dangerous and damaging to the amplifier.

Health & safety; High voltages are present inside the amplifier and on exposed valve sockets when valves are removed, so take suitable care. It is not necessary to remove the bottom cover. Beware valves get hot in operation! Remove power cable when changing valves.

Changing valves:
As new valves will have a different reading it is recommended that you change one, or one pair at a time. Remove the first old valve and fit the replacement. Switch on and measure and adjust bias. Do not allow the reading to go above 100% as this could blow the fuse. Don't worry how low the reading goes this will not cause damage. Continue in the same way and fit all four valves. Do final adjustment when the amplifier is fully warmed up.
If all is well there should be no more than a barely detectable hum from the speakers, and the amplifier should sound OK When tested.

If you cannot set the pointer to the black mark, the valve is probably faulty/worn or is unsuitable.
If the valves are brand new, you will need to check again after approximately 10 & 100 hours. Regular checking will ensure the amplifier gives the best performance.

To avoid damage to the amplifier and electric shock hazard you must use only valves marked KT120/KT150 (or direct equivalent e.g. 6550). KT66s and EL34s are not suitable and will be overloaded. 6SN7/CV181 or that you know to be direct equivalents. Use only valves which you know to be new or good condition and test the amplifier thoroughly before resuming normal use.

Replacing the small 6SN7 valves:
All four front sockets are 6SN7, different types may be used but preferably in pairs, the inner pair are the first stage, with the outer pair being 2nd stage and phase splitter. No set up is required. Care should be taken when removing and inserting not to bend the pins. If this happens gently bend the pins back into shape.

10 Specification & Features

- KT120/KT150/KT170 output valves
- 6SN7/CV181 (6N8) 1st and 2nd stage
- Hand wired point to point components
- Ceramic valve bases for minimum leakage
- 90w RMS* UL maximum one channel driven 8Ω
- 85w RMS* UL both channels 8Ω
- 50w RMS* Triode both channels 8Ω
- 65w RMS* per ch Ultralinear 8Ω KT88
- 36w RMS* per channel Triode mode 8Ω KT88
- Feedback: 6db High sensitivity, 18db Low sens
- Signal to noise level -90db
- Damping Factor low gain: 20.5 8Ω Triode/UL
- Damping Factor high gain: 5.5 8Ω Triode/UL
- Freq response 20Hz (-0db)-20khz (0db) any power
- Full power bandwidth 20Hz (-0 db)-35khz -3db
- Total Harmonic Distortion UL 8 ohms:
- 1 Watt 0.06%
- 8 Watts 0.2%
- 72 Watts 0.5%
- 4 and 8 ohms output taps
- Japanese grain oriented transformer iron
- Icon Audio Low Distortion output transformers
- Choke regulated power supply
- Supplied with attractive valve cover
- 3 potted transformers to reduce transformer noise
- High quality metal film & wire wound resistors
- High quality polypropylene audio caps
- Optional Mundorf Silver/Gold audio caps
- Japanese 'Blue' ALPS volume pot.
- Silver plated copper PTFE audio wire
- Valves carefully matched for best performance
- Gold plated Input & speaker terminals
- Inputs for CD, Tape, Tuner, Aux
- Tape monitor output
- 295mv sensitivity for full output (High sensitivity)
- 1030mv sensitivity for full output (Low sensitivity)
- 117/240 Volts, 200 Watts (400W max full power)
- Standby 80 Watts
- 3.15 amp (5A 115/120v) rear fuse (with spare)
- 500ma Internal HT fuses (spares inside)
- Overall size:440W, 400D, 230H, 35kg (Allow space for connections and ventilation)
- IEC mains lead, (plug 5amp fused UK)
- CE, ROHS, WEEE compliant

Typical valves and conditions 240V 50 Hz

* Refers to measured RMS voltage across 8 Ohms. 240v/117v at clipping point, KT88 use requires a lower HT tap.

(Specifications subject to change, errors & omissions excepted 26/10/23)

Every effort is made for the accuracy of this information. But inevitably errors can happen. Please let us know if you spot an error.

11 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. Should the original box and packaging be lost or become unusable a repacking charge of £100 will be made. If you have any doubts about this please contact us.

- Re-use the supplied plastic bag to keep the amp clean and free from damp.
- The mains lead fits in the foam cut-out underneath the amplifier.
- **The valve cover is not required for service. Do not ship the amplifier with this in place. It may come loose and cause damage. Pack separately.**
- **Ship the valve cover separately to prevent damage by rough handling.**
- Remove the valves and pack in original boxes and packing.
- If stored in the box, keep upright.

icon Audio UK Ltd

351 Aylestone Road Leicester LE2 8TA

www.iconaudio.com

email: sales@iconaudio.com

Phone +44 (0) 116 2440593 mobile +44 (0) 7787 158791

26/10/2023 General version

Caution: This amplifier is very heavy!

Lift the amplifier out of its packing by using the two “hand cut-outs” in the bottom packing near the transformers.

Or you may find it easier to remove the unit using the following procedure:

1. With the top packing in place, turn the box “upside down” with the “flaps” open.
2. Lift the cardboard box off.
3. Remove the bottom packing first.
4. Turn the unit the right way up and remove the top packing.

Please be careful not to damage the small “tape monitor” and “triode” switches on the front panel

When re-packing ensure the two hand cut-outs are towards the rear of the amplifier.
Do not ship with the valve cover as damage is likely to occur, but send separately. Do not return valve cover for service.
(Please keep this information for future use).