

icon Audio

BA2 Musical Box Instructions **All Valve Line Amplifier**



No Compromise High End Pure Valve Buffer Amplifier

About the BA 2

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 are sure that you will hear the difference.

Designed in Leicester by David Shaw,
MD and founder of Icon Audio.

We created the BA 2 in order to solve several problems in Hi Fi:

1, A common complaint from customers is the lack of warmth from their (often) "hi end/high spec" transistor equipment often accompanied by excessive "harshness". This is often prevalent in CD/Digital Radio/MP3 sources etc.

2, When driving long and often expensive interconnects it is inevitable that there will be some loss of detail and high frequency, as the output impedance of some pre-amplifiers and other units is either too high, or lacking "muscle" to drive. Conversely the input impedance of some units can be too low, causing the same problem.

3, Sometimes, for various reasons two units of Hi Fi just do not seem to work well together. This could be due to poor impedance matching, poor loading or some other unidentified reason.

Our BA 2 "buffer amplifier" is designed to overcome all these problems and give a warmer more musical "valve sound". It is an excellent cure for "listening fatigue" (the "sounds great but I can't bear to listen for more than 30 minutes" syndrome).

The Musical Box is a small all valve pre-amplifier with zero gain. It is based around the superb 6SN7 probably the greatest Hi Fi valve ever made. Using one 6SN7 per channel the "Musical Box" has a wonderfully detailed smooth fluid quality. It will add "texture" and make your system more "listenable".

6SN7s have a reputation for a very long life, they are inexpensive and easily replaceable. There is "new production" and lots of "old stock" to experiment with. The power supply is integrated in the BA 2 so its "footprint" is very small. We use a substantial mains transformer which forms part of a generous power supply.

As with all Icon products we strive for the best sonic performance, this demands hard wiring "point to point". The audio cable is Silver Teflon. Using only top quality audio grade full size components.

The chassis using a combination of Anodised alloy plate and polished stainless steel. This gives a

beautiful finish and very solid feel, which also has sonic non-magnetic and dampening qualities. Despite its small size it weighs in at 3.00kg.

Connecting:

The BA 2 would normally be connected between the output of your source unit (e.g. CD player), or between the output of a pre-amplifier and a power-amp. Alternatively the "record loop" of an integrated amplifier may be used.

But there are many other situations where the BA 2 could be used, in studios, AV equipment etc.

What will it do for your sound?

The simple triode design coupled with the superb characteristics of the 6SN7 valve will enrich the harmonic detail of your system adding a new dimension to the sound of any musical instrument. Your system will immediately have a richer warmer, more textured sound. But the BA 2's wide bandwidth and low distortion ensure that nothing is detracted from the purity of your system. There will be no loss of information, a glance at the frequency response and distortion will confirm the excellence of the performance.

To get the best out of the BA2 Please read the enclosed notes. We have tried to give you all the basic information you will need. **We would recommend that everyone follows the 'quick set up guide'**. Should you be uncertain about anything to do with your BA 2 please contact your dealer or us.

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 have 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 BA 2 has a massive overload capability and even then would go into 'soft clipping', which is much more benign and easier on the ear than overload with 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 the fabulous 6SN7 valves, which are still in production, means that obtaining replacements is easy and inexpensive when necessary.

In the process of building the BA 2 to its high standard no corners have been cut and we have also paid close attention to the appearance.

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

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

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 valves if necessary.

This should be easy as there are only one type of valve. **Do not push or pull the 6SN7s glass envelope**, this could cause the glass envelope to become detached from the base causing irreparable damage.

3 Connect between either your source unit or between your pre and power amplifier. 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 the attached mains lead to 240v supply. **If it is necessary to change to a different type of mains plug, the welded plug must be removed and replaced with a suitable type. Please then remove fuse and dispose of carefully.** (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 moderately high surface temperatures. Keep out of reach of children and pets.

Under no circumstances operate with valves removed!

Like all amplifiers there are potentially lethal voltages inside (300v 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 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.

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.

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. Always clean with the power disconnected.

CAUTION – HEALTH & SAFETY!

When making any adjustments remember to isolate from power supply, and remember that high voltages can remain present inside for some time after switch off.

Trouble Shooting

Amplifier Dead

Check the 1amp mains fuse which is in a "in line" fuse holder adjacent to the front mains switch. Replacements should be 20mm 1Amp 'anti-surge' or "T" type. These are available from Icon Audio should you have any difficulty.

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

These are generally caused by "bad" earths or 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

Valve life will depend upon such things as hours of use and number of on/off cycles. As all the valves are lightly loaded. As a rough guide we would estimate life of approx 4 to 10 years. But this can vary.

What can happen?

A valves is at the end of it life if one of the following happens:

- 6SN7s are twin triode valves. One of the two heaters may fail.
- A valve could get "noisy" or "microphonic"
- The emission (and therefore output and sound quality) may fall.
- The valve works intermittently.
- An air leak causes the silver "getter" material to turn white.

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 three original 6SN7 valves are normally identical it is important that if they are removed, that they are replaced in the same position. We suggest you mark them, e.g. with a felt tipped pen.

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
- All Triode design
- 2x 6SN7 Double triode
- Signal to noise level -90db
- Freq response 10hz-30khz +0 - 0.1db
- THD 0.01%, @ 1khz, 2v rms
- Hand wired point to point components
- High quality 2w metal film resistors, for audio
- Blue LED mains indicator
- Audio grade Polypropylene audio capacitors
- Wired with silver Teflon audiophile cable
- Rubicon/Nichichron power capacitors
- Ceramic valve holders for minimum leakage
- DC heater power supply for minimum noise.
- Gold plated Input & output terminals
- Gain= 0.94 or -0.6db
- Output impedance 38 ohms
- Maximum output 30 volts
- 230/240volts, 15watts 1A anti-surge fuse
- mains lead, (UK plug 5amp fused)
- C E certified
- SIZE and weight (figures in brackets allow for rear connections & ventilation)

(Specifications subject to change, errors & omissions excepted 21/03/08)

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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

Run 6 hour test

Check inputs/ouputs

Sound Quality

Channel Balance

Valve Microphony

Valve Seating

Hum & noise level

RF Test

Serial No sticker and recorded

Mains voltage 110 / 240V

IEC Mains FuseA

Sales invoice

Credit card receipt

Chassis linearity

Bias meter N/A

Transformer Protection N/A

Upgrades:

Output valve

Capacitors

Interconnects

Signed off by

Notes:

Please note we do not test the standard mains lead.