



Music and lights

In the great scheme of thermionic things,
life doesn't get much better than Icon Audio's new
MB 845 MKIIm DS Signature power amps, says **Tim Jarman...**

The problem with many valve amplifiers is that, although they can sound quite sweet at moderate listening levels, they lack the range and extension to put on a really large scale performance. Three-figure wattages are the exception rather than the rule, and if you want triodes – inefficient but loved by their supporters for their speed and resolution – the number of practical choices gets very small indeed. There are, however, some monster valves lurking in dusty old data books. Icon Audio, purveyor of affordable, realistically priced tube amplifiers, knows this all too well. Its original MB845 showed just what a success plucking obscure valves out could be, and the new 110 watt MB 845 MkIIIm builds on it...

The key to its power is, of course, the jumbo-sized 845 tubes that are used in the output stages. These are amongst the largest valves to be found in domestic audio products and were originally designed by RCA in the early nineteen thirties for use in cinema amplifiers and AM transmitter modulators. They are directly heated triodes with a thoriated tungsten filament and a carbon anode, these things being necessary to handle the high power levels at which the valves operate – each filament alone dissipates over 30 watts and the anodes need a whopping 1,250 volts to achieve the maximum rated output of 115 watts, that's around four times as much as one finds in amplifiers that use smaller valves such as the EL34!

845s are also not particularly sensitive and so need a substantial driver stage – in the MB 845 MkIIIm each one gets its own 6SN7 double triode and these, combined with an unusual choke-based loading circuit, provide the mighty signal that is needed to make the 845s sing.

The amplifier is a push-pull design, and so needs a phase-splitting stage too; this function is performed by a 6SL7 double triode which also acts as the input buffer. It is triodes all the way then, promising low noise and good linearity from a design which has no other active devices in the signal path.

One of the reasons that 845-based amplifiers are unusual is that as well as the very high voltages, the valves also operate at an extremely high bulb temperature, making them quite a hazard if they are not treated with respect. Icon Audio sensibly supply a Plexiglas cover which fits over the area of the chassis where the valves

are located and it is essential that it used for the safety of all concerned. This is a serious piece of equipment, not a toy.

The original MB 845 was a well-known amplifier in audio circles and in creating the MkII version changes were made primarily to the power supply and output transformer, although some tweaks have been made in the input stage too. The latest 'm' model includes a meter as well, which can show both output power (not that useful) and the bias point for each of the 845s (very useful indeed). PTFE valve holders are now also used for the three smaller valves at the front and a revised mains switching arrangement keeps hum out of the input stage. Confused? There's more.

The MB 845 MkIIIm is available in two versions, the standard model which cost around £6,000 per pair, and the special David Shaw Signature edition which comes with different 6SL7/6SN7 valves and Jensen paper-in-oil coupling capacitors in the signal path. At around £7,150 it is quite a bit more expensive for six valves and eight capacitors, so my advice would be to try and audition both and see which you prefer. It is the Signature version which is being tested here.

Build and finish of these amplifiers is neat and tidy without being pretentious. The gloss paint may at first seem a bit industrial in appearance, but the anodised aluminium front panels with their nicely styled meters are first rate and there are no gauche blue LEDs to distract you as you listen.

The valves come packed separately, but slide beautifully into the high quality and well labelled holders. With the valves fitted and my

Monitor Audio PL100 loudspeakers plugged in via Chord company Odyssey 2 cables, I was able to apply the power and set up the bias – one must never switch on any valve amplifier without a load connected. The clearly marked meters and smooth acting controls made this very easy, in a few minutes all four valves were at their optimum working points. There is also a control to minimise the hum from the AC-fed 845 filaments which you tune for the lowest background noise from the loudspeakers, this is trickier to set up as it is located right between the searingly hot valves.

As with many valve amplifiers there is choice of two loudspeaker outputs, one for four ohm and one for eight. The negative feedback sensing point

Huge, heavy and (power) hungry, they offer the joys of tubes without the pitfalls...

in this design comes from the eight ohm output, so all things being equal this is where the output should be at its most accurate. On the subject of negative feedback, it is interesting that the high/low input level switch is not simply an attenuator; instead it alters the amount of feedback that is applied and, therefore, directly changes the amplifier's gain, which is quite unusual. Sensitivities of 470mV and 1V (for full output) are offered which should cover most needs; in my reference system I used a Cyrus preamplifier and the matching – and very fine – Cyrus CD8 SE2 CD player, but a passive preamp could have also been used with sources that produce plenty of level.

► DETAILS

PRODUCT:
Icon Audio MB 845
MkIIIm DS Signature

TYPE: monoblock
power amplifier

ORIGIN: UK/China

WEIGHT: 37kg each

DIMENSIONS:
(HxWxD)
455x70x350mm

FEATURES:
• 2x 845 power
tubes

• 2x 6SN7 driver
tubes

• 6SL7 phase
splitter tube

• zero overall
feedback (claimed)

• power and bias
meter

• output: 110W
RMS into 8 Ohms
(claimed)

• push-pull circuit
• 4 and 8 ohm taps

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Q&A

David Shaw

Designer, Icon Audio



JK: Why did you choose to design an amp around the 845? What special properties do you think this valve has?

DS: I love working with vintage triodes. They're a joy to listen to and bring out the best in recordings, but their low-ish power can be a problem. The 845, however, isn't the transmitter valve that many people think, but a true audio valve with very similar characteristics to the 2A3 and 300B. It can deliver over 100 watts (push-pull) – plenty of power to drive modern low efficiency loudspeakers and deliver all that triode magic. You can sit for hours rediscovering your music collection without any listening fatigue. Seamless and fluid, intoxicated by every note, every track sounding better than you remembered!

Were there any special considerations, in electronic design terms, that needed to be made to accommodate the 845?

Yes, the 845s are very demanding! My design goals for the MB845 were to deliver high power, good bandwidth especially at low frequencies, and to make it a three-stage amplifier, as four-stage amplifiers tend to sound 'flabby'. The first two were relatively easy using our own in-house transformers, but the third point proved more difficult. To provide the required driving voltage, most designs use three drive stages including two 300B power valves. But I think the sound is inferior and three drive stages also make the amplifier bigger, complex and expensive. My solution, oddly enough, was inspired by the Quad II amplifier, which enabled me to keep my design simple while achieving the sound quality and specifications I wanted.

What improvements have you made to the latest MkII version, and why?

We've included meters for easy bias checking, changed the circuit and wiring to improve the noise floor, enhanced the output transformer, and included new, excellent solid PTFE valve bases with gold plated contacts.

IN SIGHT



- 1 mains power transformer
- 2 smoothing choke
- 3 845 triode output valves
- 4 6SN7 dual triode driver valves
- 5 6SL7 dual triode phase splitter valve
- 6 audio output transformer

CONNECTIONS

- 1 RCA phono input
- 2 Sensitivity switch (470mV / ±V)
- 3 8 ohm speaker output tap
- 4 common speaker terminal
- 5 IEC mains socket



HOW IT COMPARES

ONE OF THE CLOSEST PRICE COMPETITORS OF THE MB 845 is Musical Fidelity's AMS50 full Class A stereo power amplifier. This is an excellent solid-state design offering a solid 50W per channel from a massive metal chassis. Sonically, it's a fascinating contrast – whereas the Icon Audio has a little looseness in the bass, but is very fluid, the MF is tauter and a little less musical. Its midband is more searching than the Icon, but less mellifluous. Try to audition their respective abilities.

Sound Quality

It is unusual to hear any noises when powering up a valve amplifier, but because the MB 845 MkIIIM's directly heated triodes and silicon rectifiers come to life almost instantly you are greeted with a heavy, decaying thrum through each loudspeaker as the little chrome switches are flicked to 'on'.

I started my listening session with The Beatles' *Yellow Submarine* album, which contains orchestral pieces from the film, composed and arranged by George Martin. I was struck by the silken tonality and immense sound stage that these amplifiers serve up. Everything came together in wonderfully holistic way to give a truly compelling musical experience. The swirling string section, rich woodwind and delicate percussion were so solid, believable and right as the music flowed through. Most tube amps seem to fall apart as the volume is extended, but these just go louder and louder.

I experimented with both output taps, and in my case found the eight ohm one to be more satisfactory, the sound from the four ohm one being noticeably softer and less well focused with my speakers. Tori Amos' *Under The Pink* showed these units are capable of portraying great scale, effortlessly ascending from near silence to the thundering instrumental and piano crescendos. I was enamoured by the lightning speed, incision and grip of these monoblock amplifiers. Of course, they can't match a top solid-stater such as Musical Fidelity's AMS50 in terms of bass control, but in every other aspect they charm like almost no other amplifier I've ever heard.

Some bass overhang was evident, with the lowest registers becoming ponderous at certain tonal points. This is a common trait of valve amplifiers, and to be fair the Icons are better controlled in this area than most. Less typical was a very subtle hardening of cymbals if the amplifier was being worked hard. Despite this, vocal intelligibility proved excellent, a good example of what can be achieved with triodes done properly.

Conclusion

Huge, heavy and hungry for mains power, if your listening room and pocket book can accommodate the new Icon Audio MB 845 MkIIIM, then a treat awaits! They offer all the joys of valves without the pitfalls. You'll still need reasonably efficient loudspeakers and a top-notch source, but this done the sound is vast, profound, lyrical and beguiling.

Both versions are way outside the normal Icon Audio price band, but it's still hard to argue that they don't offer an awful lot for the money. For anyone wanting an 'ultimate' valve amplifier, this is one of the very best, yet one of the least expensive. ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



VALUE FOR MONEY



BUILD QUALITY



FEATURES



LIKE: Gorgeous, liquid valve sound; oodles of power decent build; frontal bias/power meter

DISLIKE: You need your own power station to feed it; renewables won't do!

WE SAY: One of the finest tube amplifiers on sale, a bargain at its price

OVERALL

