



**Icon Audio's MB81 power amplifiers lit up our listening room – and that's the point. Here are amplifiers no one can miss, Noel Keywood finds.**

# Light Power

**A**s we gingerly pushed an MB81 amplifier down the business centre corridors, people gawped in surprise. Everyone was awestruck, even if they didn't fully know why. Women stared quizzically whilst men stopped and were eager to ask about it.

And that's why you may want to own an Icon Audio MB81 200Watt valve amplifier. It stands out, catching everyone's attention. Although not 'styled' as such, its appearance powerfully speaks to people – and you can't say that about much hi-fi these days.

Functionality? Yes, every part of this extraordinary beast has a job to do, some parts explaining why most hi-fi companies shy away from building an amplifier based on Russian industrial transmitter valves. The spectacular glow from their heaters is achieved at a price: they need a large, dedicated filament transformer that adds significantly to weight (55kgs) – and cost.

And then there's the price: £10,000 a pair. OK it isn't so big by hi-fi standards and it's less than many modern hi-fi items. – but it isn't cheap.

And finally, Icon Audio's new

babies are not really intended for general use. Designer and founder David Shaw wanted to build this amplifier for his own use, but he felt others may be interested too. Trouble is, those white top caps on the GR81 valves have lots of volts on them and are potentially dangerous. To avoid a fry up, David says he will only sell this amplifier to buyers he has met and vetted first. An amplifier like this must be easily serviceable to keep it safe, so the owner has to be in contact with the factory, in the way that any transmitter would be serviced by trained engineers, not those using it.

It may all seem extreme, but in

the world of valve amplifiers there is a trend toward such 'boutique' products. Audio Research of the USA started the trend back in 1975 with the D-150 tube power amplifier that weighed 60kgs, no less. Tim De Paravicini kicked off EAR in the UK in 1976 with the 100 Watt EAR509, while Japan can perhaps claim to be first into the tube fashion contest with disco amplifiers that use the rare Western Electric 212E. Icon Audio took to the big 845 valve some years ago within their MB845 monoblock amplifiers. The new MB81 continues this trend but uses the Russian GU-81 ruggedised military transmitting pentode that is still available and not too expensive at around £60.

There's a stonking great 12V heater in the GU81 that draws 10A, meaning it's equivalent to a 120W light bulb – and that's why it glows so bright. With two GU-81s working in push-pull this means 20A for the filaments so the MB81 has an independent heater transformer inside one of those big, black screening cans at the rear of the chassis. The other cans house mains transformer, output transformer and chokes.

David Shaw told me he does not run the GU-81s at anything like the 1500 Volts they'd see normally, but at around half this. So they're not sizzling monsters waiting to zap the nearest living organism. Switch on wasn't accompanied by a thrum from the transformers, but there was – as expected – a thrum from the loudspeakers until the circuits had settled, within seconds.

The GU-81s emitted a sudden and intense glow when I switched on; they light up like a lighthouse. The mains switch is at the front of the chassis, so there's no need to get within striking distance of the top caps either!

For maximum power output fixed bias is used, meaning occasional bias adjustment is necessary – hence the front panel meters. They monitor current, in conjunction with another front panel switch that selects between them, or in its Off position shows power output.

There are also 'hum buckers', small potentiometers that adjust for minimum hum from each amplifier. A user must occasionally adjust for minimum hum from the loudspeaker, but it is at a very low level and only audible when close to the speaker.

Life can get a little technical

when trying to explain the Sensitivity switch on this amplifier, but I'll keep it simple. It's a three-position toggle switch, selecting H, O or L - meaning High / Off / Low sensitivity. Icon suggest L (i.e. low sensitivity) is used. This gives best measured performance and tightest bass by applying maximum feedback, so lowering output impedance and increasing damping factor. It makes the MB81 insensitive, needing 2.7V from a preamplifier for full power output. Most can manage this easily, but if they have a gain of x3, or perhaps no gain, then only silver disc players will drive these power amps to full volume. The argument is a tad academic because full volume is 220 Watts and most users won't get near to needing all that power. All Icon Audio preamplifiers can drive the MB81s easily and I used an Oppo BDP-105D Blu-ray player and Icon Audio PS3 phono stage without difficulty.

Switching sensitivity to High gives the MB81 a normal input sensitivity and better matches low output external sources, such as low gain phono stages. Then there's



**The rear panel carries 8 Ohm and 4 Ohm loudspeaker terminals, a Sensitivity switch that alters feedback levels and an IEC mains input socket.**

loudspeakers with lean bass suddenly sound better balanced I find from my own World Audio Design 300B amplifier, with feedback switched off. So what you hear in use depends upon your loudspeaker, to some extent your room – and what setting you choose will rest upon your personal preferences. For the most



**Another five transformers/chokes lurk underneath, plus hard wired audiophile components.**

the O, or Off position. It doesn't mean sensitivity off, so much as feedback off. Switching feedback off further increases gain and therefore sensitivity. However, distortion goes up too and bandwidth decreases, although the amplifier remains flat to 10kHz before a slow treble roll off.

As usual, with no feedback output overload becomes much more progressive, but as we are talking about 3% distortion caused by soft clipping at 250 Watts I don't think this is going to affect many users. Without feedback under-damped loudspeakers will start to sound loose in their bass, as well as boxy, but conversely well damped

part I used Lo when listening to the MB81s, since this gives just 0.1% distortion, best damping and is what David Shaw recommends.

## SOUND QUALITY

Valve amplifiers need a good 30 minutes before they give their sonic best so I was careful to give the MB81s one hour warm up.

I ran the amplifiers with Tannoy Kensington Gold Reference loudspeakers. Sources were high-resolution digital from an Astell&Kern AK120 player, connected via optical digital link to an Oppo BDP-105D Blu-ray player, with its ESS Sabre32 DAC. This player also allowed me to

play CD via the Sabre32, and since it has remote control of volume through the Sabre32's 32bit internal digital volume control I was able to drive the MB81s direct.

Even with the amps set to Lo sensitivity there was no trouble generating enormous volume from a setting of 70 on the Oppo's control. Playing taxing material like Angelique Kidjo's 'Aye' album (CD) with its powerful bass lines at very high volume the MB81s sounded relaxed and in control. They have strong bass, and plenty of clean low-end power. I was aware of the enormous bass push of these amplifiers and the laconic ease with which they deliver lows. I did start to realise I was playing everything super-loud, where I don't normally do this – Willy DeVille is singing 'Spanish Harlem' (24/96) at full nightclub level as I write this, his guttural voice having a big, solid forceful presence.

A little earlier I span Lady GaGa's 'Monster' (CD) at a ridiculous level to see how the MB81s would deliver the track's huge subsonics and it just shrugged the whole thing off; vast power is a non-issue. The huge dynamic contrasts of this amplifier were made very obvious with Safri Duo's 'Samb-Adagio' (CD) where the

explosive electronic percussion work was unrestrained in power.

Overall, the MB81s are well balanced and not especially characterful. They sound vastly powerful because of their unrestrained dynamics, yet at the same time they are easy-going and gentle up top. I set the Kensingtons to have a little treble lift yet even with this I noticed no treble character. Bass has a big, gently muscular quality. There's simply no hardness nor strain. It is like an encounter with a whale: not intrinsically threatening, yet at the same time there's a lot of heft there!

The MB81s have a lovely deep soundstage, roughly on-par with big 845s. I was aware of this with pieces like 'Marasa Elu', sung by The Creole Choir of Cuba (24/48) where the space in which the performance took place permeated our large listening room, seemingly turning it into a small church. The mournful lead vocal hovered in front of me, surrounded by the small choir – a lovely performance, made large by this amplifier's generous sound staging and lush delivery.

The Beatles sounded equally large and lifelike on 'This Boy' from the LP Mono Masters. There was a sense of John Lennon at the



microphone in front of me, sounding forceful and fluent in his delivery.

## CONCLUSION

Not many people dream of running an amplifier like this. I know from a vast 211 amplifier we once built for a Hong Kong customer in 1994 that such amplifiers are a rich man's sport – one most appreciated in the Far East. And although the MB81 was designed in the UK, it is built in Icon Audio's Chinese factory. I say this to get the MB81 into context. It is a breathtaking sight to behold and equally impressive to hear. High Fidelity doesn't get more impressive than this.

## MEASURED PERFORMANCE

With LO sensitivity switched in, meaning maximum feedback and flattest response, the MB81 measured flat across the audio band from its 8 Ohm winding, output rolling down to -1dB at a respectable 28kHz. With no feedback (0) response narrowed a little, the -1dB frequency reducing to 20kHz.

The 4 Ohm tap measured -1dB down at 3.4kHz and -3dB at 10kHz with max feedback, meaning the 4 Ohm tap will give a warm sound, as this degree of treble roll off is high. Reducing feedback to zero had little effect.

The easiest solution to this difficulty is to use a single 6 Ohm winding that feeds equal power to 4 and 8 Ohm loads, if less power than matched windings, or to use a feedback summing point; I suspect Icon will choose one or other in final samples to eliminate this problem.

As it stands the MB81 suits 8 Ohm loads, into which it delivered 220 Watts for just-visible distortion on an oscilloscope (2%). In practice overload is progressive even with maximum feedback (i.e. LO), distortion measuring 1% at 120 Watts, and 3% at 253 Watts - this is effectively the maximum usable

power. The 4 Ohm tap gave similar power figures.

With LO sensitivity selected, input sensitivity was very low, 2.7V being needed for full output. However, with the voltage gain available sensitivity won't seem low; the MB81 will go very loud from 1V in. Noise was low too and hum around 3mV, enough for hum to be just audible at the loudspeaker, if not at a distance, as with all directly heated triodes.

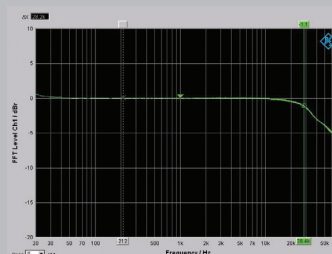
The highest damping factor measured 3 (maximum feedback) and the lowest was 0.4 with no feedback (8 ohm output).

The MB81 works well as an 8 Ohm amplifier but the 4 Ohm tap will give a warm sound as things stand. Icon Audio may well be able to cure this by altering the feedback arrangement in the final design. Massive power is available - 250 Watts no less - so its huge MB81 transmitting tubes do a good job and this is one impressive device, its one current but eradicable flaw notwithstanding. **NK**

**Power** 220 Watts  
**Frequency response** 12Hz-28kHz

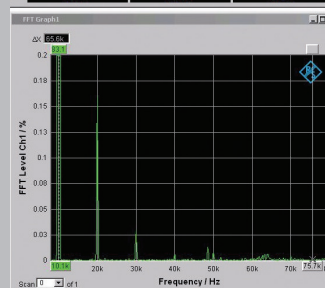
**Noise** -100dB  
**Distortion** 0.16%  
**Sensitivity** 2.7V  
**Damping factor** 3

## FREQUENCY RESPONSE



## DISTORTION, 10kHz, 1W

THD Ref: 0.1658 %    Level RMS: 2.8228 V    Frequency: 10.000 kHz  
IN: OFF    OUT: OFF



**ICON AUDIO MB81  
POWER AMPLIFIER  
£10,000 (PAIR)**



**OUTSTANDING - amongst  
the best.**

## VERDICT

A powerful and eye-catching amplifier that packs massive punch.

## FOR

- smooth, easy sound
- big dynamics
- appearance

## AGAINST

- heat
- weight
- 4 Ohm limitation

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