

Flexing those Quads

QUAD II-EIGHTY (£5000 per pair)

What happened when legendary designer Tim de Paravicini was tasked with revamping a Quad amp circuit created by the company's founder? A quad-II on steroids was born...

hi-finews
EDITOR'S
CHOICE



While Peter Walker is up there sparring with Alastair Robertson-Aikman, arguing about how ARA modified all of the various ESLs, there's another battle going on that might have PJW shaking his head. As far as my knowledge of Quad's founder goes, he treated power as did Rolls-Royce: adequate is always enough.

But that hasn't stopped audio's equivalent of the arms race, and many of us savour high power as much as we show contempt for the 3W-from-a-300B single-ended triode brigade. Clearly, the original Quad II's 15W or so limits its usefulness in a modern climate, mainly to users of early Quad ESLs, or – for those with no hearing above 2kHz – most horn-loaded speakers.

Equally, the slightly beefier Quad II Classic and the first of its modern children, the II-forty with more than double the power, only just about master the current Quad ESLs. My own experience with them has to be tempered by the fact that 1) my room is only 12 x 18ft and 2) I am not a chronic headbanger. But, bullied, cajoled and downright harassed as I have been by power-brokers like Dan D'Agostino of Krell and Antony Michaelson of Musical Fidelity, well, let's just say that I'd want 75W/ch even with the most sensitive of horns.

TWICE THE II-FORTY

Not that the brand-new Quad II-eighty, with a quartet of KT88s per monoblock, is going to cause Messrs D'Agostino or Michaelson to lose any sleep. As its name tells you, the rated output is 80W, the '88s running, according to designer Tim de Paravicini (see p111), 'as two pairs in push-pull with the hallmark tradition of partial cathode loading in the output transformer linearising the output stage permitting lower distortion than the usual Ultra Linear or triode methods.'

Suffice it to say, I am not unfamiliar with amplifiers carrying four KT88s per channel, having lived since its inception with McIntosh's sublime MC2102, which is



WHY QUAD-YOSHINO?

EAR-Yoshino's Tim de Paravicini, who played a major role in the 'valve revival', was an automatic choice for updating Peter Walker's classic for the 21st Century. He provided an eloquent appreciation of Quad electronics for the book, *Quad – The Closest Approach*, including this rather apt observation: 'To look at virtually all of his competitors of this post-war period, up to the 1960s, we see an *ad nauseum* reiteration of the same sets of circuits with minor variations. Nobody, it appears, ever bothered to copy Peter Walker's designs because they could not understand them well enough. As with his electrostatic loudspeakers, Peter was the master in Britain, whose designs stand the test of time so well.'



rated at 100W/ch. And I can tell you that the Quads hold their own even alongside this modern classic. Politely British? Yeah, if 'politely British' to you means Aston-Martin V8s and Vincent Black Shadows.

You can see by the valve complement that you're getting 'twice' the II-forty: the aforementioned quartet of KT88s, driven by two 6SL7GTs and a single 6SN7, in a substantial 177 x 230 x 422mm (whd) case. It even looks like a II-forty on hormones, and I'd hazard a guess that each unit weighs twice as much, too. An IEC mains socket accepts the AC, input is single-ended-only via RCA (balanced would have been nice...) and taps are

ABOVE: No bi-wiring here but separate 8ohm and 4ohm transformer taps for optimum speaker matching. The furthest 'red' 4mm terminal is the 8ohm tap

'Politely British? Yeah, if "politely British" to you means Aston-Martin V8s and Vincent Black Shadows'

provided for 4 or 8ohm speakers. Minimalism continues as per its predecessors from the 1950s.

Also likely, though, to set the heaven-bound PJW's teeth on edge, is the thoroughly modern, un-Quad-like price of £5000 per pair. This immediately places Quad in a market sector where it has only ever competed with speakers: the high-end. Instead of fellow Brits, its rivals now include all of the world's major valve amp manufacturers, brands such as Jadis, Conrad-Johnson, Air Tight, Unison Research, Lamm, Audio Research, VTL, Manley, AudioValve and, yes, even EAR-Yoshino. (See 'Why Quad-Yoshino?' panel, left.)

MANFULLY MODERNISED

Quad sent us Tim DeParavicini's design notes, which show just how much he adhered to Walker's original concept, while manfully modernising the design. A main difference, according to Tim, 'is that instead of two pentodes, two twin triode valves are used in "cascode" providing slightly more gain with lower distortion and accurate balance. DC feedback controls the "up" pair of the cascode to ensure accurate matching of the anode voltage. A tapped sample of the anode voltage going to the grid of that valve ensures that the cathode provides the correct voltage for the prime lower tubes, ⌚

AUDIO FILE

All-valve monoblock amplifier, rated at 80W/8ohm

Price: £5000/pair

Made by: Quad Electroacoustics Ltd

Telephone: 0845 4580011

Web: www.quad-hifi.co.uk



ABOVE: Two pairs of KT88 'beam power tetrodes' are employed in a dual push-pull output configuration

so that they run in a constant voltage mode.' Other detail changes conceived by Tim include a more robust and modern output transformer, 'designed to improve high-frequency performance and accurate balance of the two push-pull halves. Also the transformer has been designed to make sure that full output is realised at bass frequencies down to 20Hz.'

Tim also stated that each output valve has its own cathode resistors to provide reliability and self-matching, while the screen grids of the KT88 valves are run from a lower voltage again for good reliability.

He restricted feedback for the whole amplifier to only 16dB, expressly to provide 'good stability into virtually any known loudspeaker and especially the famed Quad electrostatic loudspeakers – known to be difficult for many other valve and transistor amplifiers.'

REFERENCE QUALITY

It was only natural that I fed them straight off the Quad CDP99 II CD player in variable output mode. Wires were Yter from CD-to-amp-to-speaker, the latter including Sonus faber Guarneris, which are peculiarly hungry, Quad ESL-63s and B&W Signature Diamonds. Nothing rattled this amplifier; equally, I suspect that they are 'overkill' as far as LS3/5As are concerned.

Released when the Quad II was current, the Four Seasons' earliest hits were possessed of bass as voluminous and rich as is needed to satisfy modern tastes. With the *Jersey Boys* musical having rendered these recordings topical, I was delighted to find them also of 'reference' quality for the blending of those inimitable voices, for hot, fast transients, astounding percussion as regards both mass and attack, and for cinematic stereo width. Turning up the wick ever higher, the II-eighty simply rose to each occasion, excelling with every instrument.

Thunderous though the bass is on 'Walk Like A Man' and 'Big Girls Don't Cry', the Quads never lost control. Those of you familiar with the 'difficult' yet full

and satisfying bass of the original Guarneri – ported enclosure, hungry crossover – can appreciate that this is quite an achievement for an amp that many would still consider to be only medium-powered. But they continued to work the lower octaves with authority and authenticity, through the Four Seasons' canon and on to the less bombastic yet equally impressive lower registers of Keb' Mo's version of 'For What It's Worth'.

Here the performance needed to be not just 'massive' and controlled; it also had to exhibit a trait not often demanded of bass: a way with detail.

Each note stayed its course, with convincing decay, plenty of body, and proper scale. When you also consider that both the Four Seasons' and the Keb' Mo' recordings are about as disparate as it gets – pure AM radio fodder, however majestic, versus blues-based rock recorded to 'unplugged' standards – the two are showcases of equal merit for vocals, however dissimilar: the Four Seasons based just about everything around Frankie Valli's falsetto, while Keb' Mo's voice operates a couple of octaves to the south.

Neither presented any challenges to the Quads, with vocal textures correct and present. What was truly 'special', though, involved the backing singers. A handful of tracks on Keb' Mo's *Peace, Back By Popular Demand*, feature vocal blends as impressive as the Four Seasons' trademark harmonies. Time and again, the Quads provided a shade more space around each vocalist, or good ol' separation, so that one could focus on an individual singer.

Of course, ripping recordings into their myriad parts is the antithesis of what a sublime system should do: the final result must always be a coherent whole. With the Quads, the effect was to produce something more involving by virtue of the sense of looking into the performance; at the same time the portrayal was more realistic because of the seamlessness of the sound.

MY PRECIOUS

It only truly hit home when two days later, I sat a mere six feet from Malcolm Bilson on fortepiano, and was able to decipher the exact positioning of the notes across that instrument's frame. I realised that the Quad does this with precious and small details, adding more down-the-neck tingles than it has any right to, while never veering toward the artifice of super-hygienic systems that are all detail and spatial effect and little else.

In contrast to modern era soundstaging and detail, tonally it's about as valve-y and lush as traditionalists would want. Which creates a divisive duality: the Quads, thanks to Tim's ability not to voice them like EAR-Yoshinos, err on the side of romance. His own amps always opt for professional authority. As Quad's

BELOW: Behind the safety cage, two 6SL7GTs and a single 6SN7 drive the quartet of KT88s





ABOVE: The principal valves, currently sourced from Russia, are embossed with Quad's distinctive logo

hired gun, Tim never lost sight of the need to create an amplifier with operational capabilities suitable for the modern era but with the appeal of its predecessors.

That's what's so wonderful about this 'Quad II on steroids'. Running the II-eighty alongside original Quad II, II Classic and II-forty into the Tannoy Mini, with levels matched, you could easily identify each amplifier.

Yet there was an ineluctable feeling that the DNA was shared. It struck me most with vocals and bottleneck guitar, especially evident with Keb' Mo's *Peace* album. The overtones and the twang of bottleneck maintained their character from amp to amp, a display that will amuse audiophiles fascinated by the notion of a manufacturer's amps having a 'family sound'.

PEDIGREE POKE

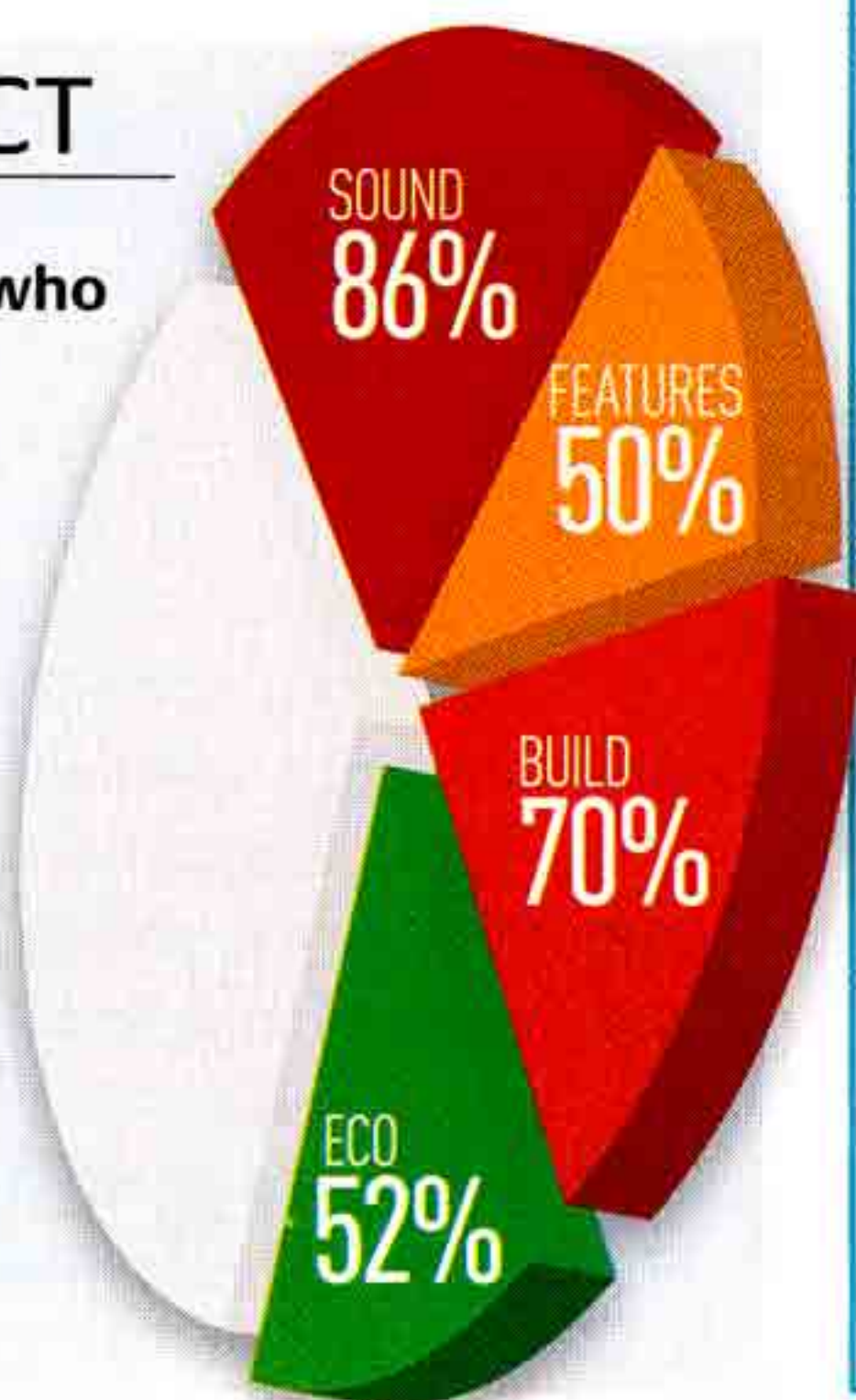
Yet equally ineluctable was the experience imparted by an amplifier barely tapping its power reserves, supporting the idea that there's no such thing as too much wattage. Both the II-forty and the II-eighty showed their hands with music possessing realistic yet powerful lower registers, such as the percussion opening 'Natural Thing' on John Fogerty's latest masterpiece, *Revival*.

It's not that the smaller amps sounded winded, but any sense of mild compression vanished by degrees when progressing to the II-eighty. For anyone who ever loved the Quad II, here, at last, is an amplifier with that pedigree, which can drive anything needing circa 100 real watts.

I suspect that PJW, perhaps grudgingly and with a hint of an harrumph, would grant these his highest accolade: 'Not bad. Not bad at all.' ☺

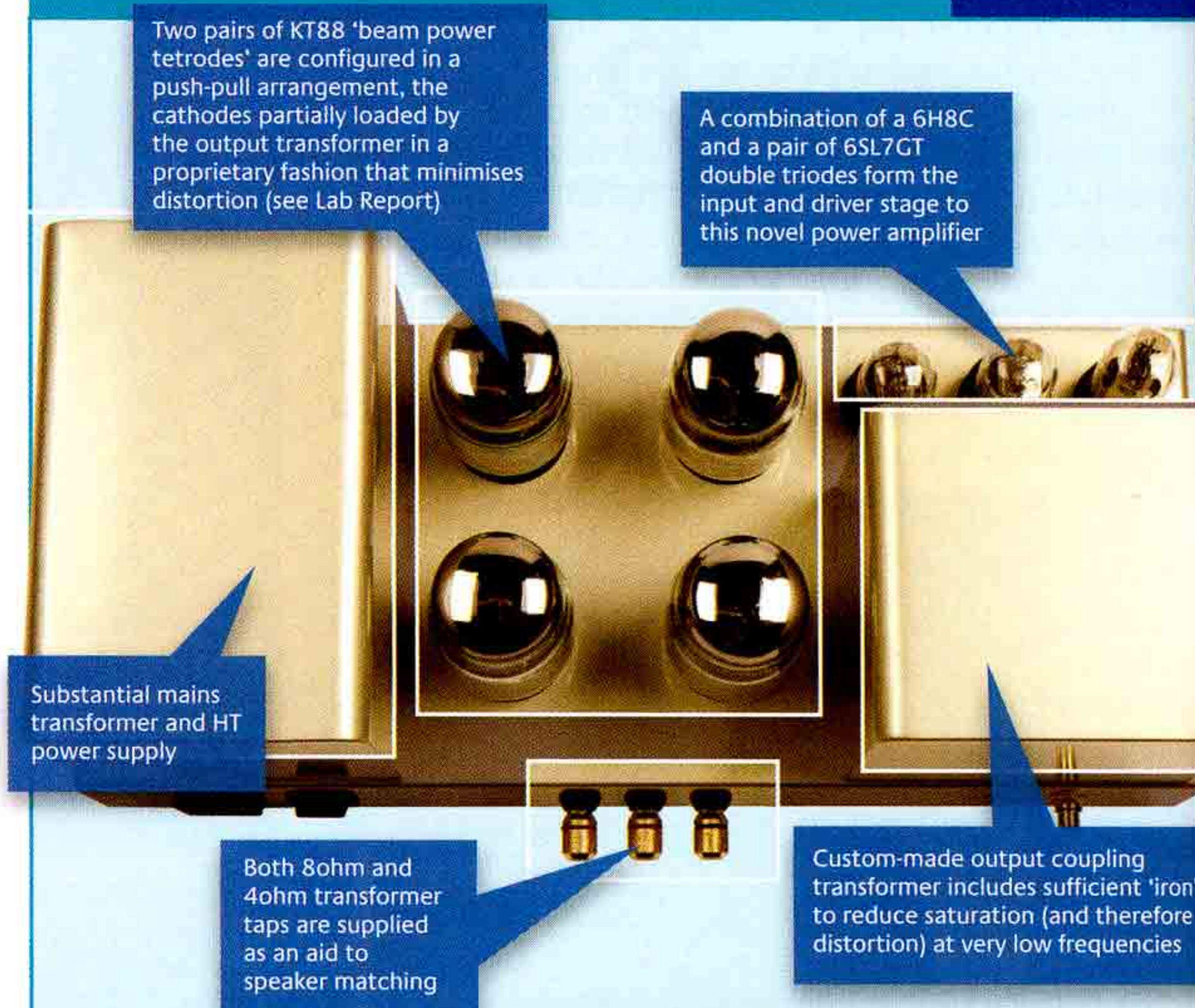
HI-FI NEWS VERDICT

For long-term Quad II lovers, who have stuck with the originals through thick and thin, and even those who purchased Quad II Classics or the Quad II-forty, power has been an issue for decades. Not anymore. Ballsy, with deep, rich bass. Big-sounding, with loads of air around instruments. Timeless styling. And that Quad sound. Oh, mama, do I want a pair.



QUAD II-EIGHTY MONO POWER AMPLIFIER / £5000

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**LAB
RESULTS**



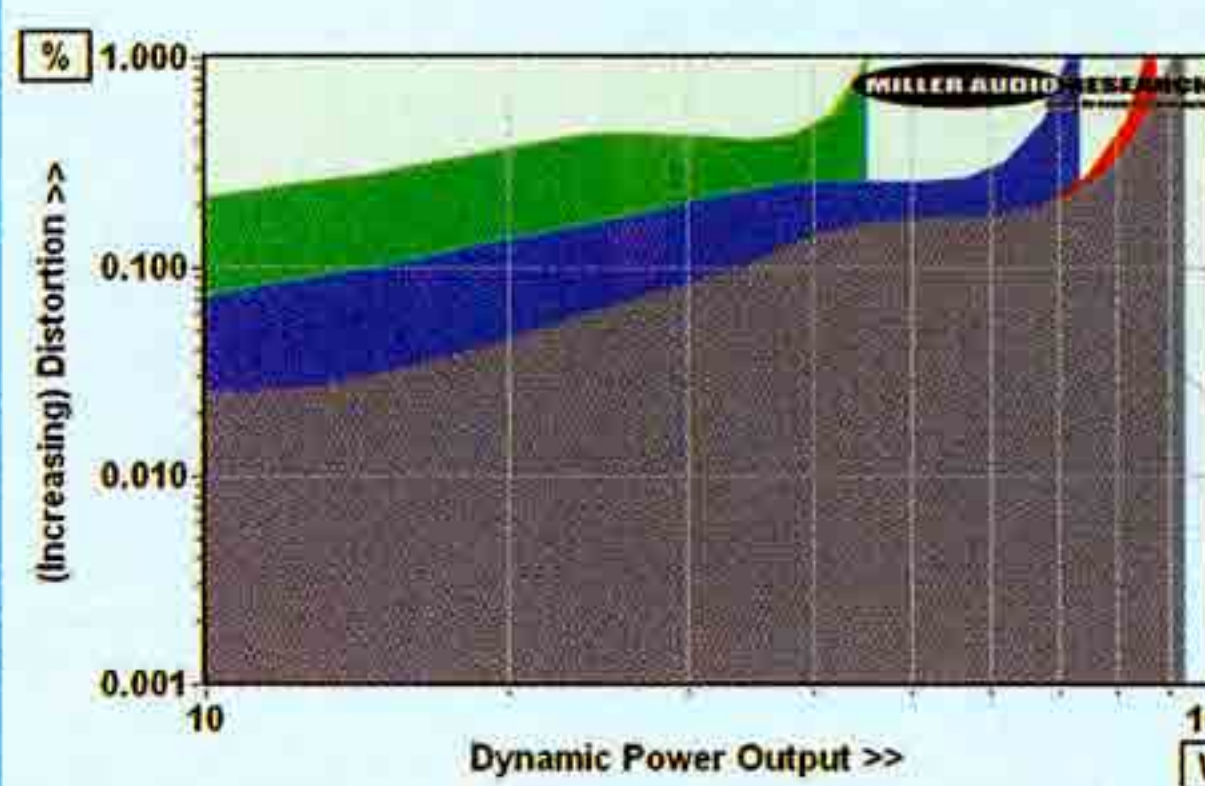
HI-FI NEWS LAB REPORT

Every Paravinci-inspired valve amplifier that I've tested over the years has distinguished itself as a 'standout' product, and this Quad II-eighty is no exception. It meets its 80W specification with a full 90W/8ohm and 60W/4ohm via its 8ohm tap, increasing to 90W/4ohm via its 4ohm tap. The amplifier 'idles' at some 195W consumption. There's not a huge amount of headroom, but under dynamic conditions it's possible to squeeze out some 90-95W into 8 and 4ohm loads, sagging to 70W and 45W into 2 and 1ohm loads, respectively (see graph, below).

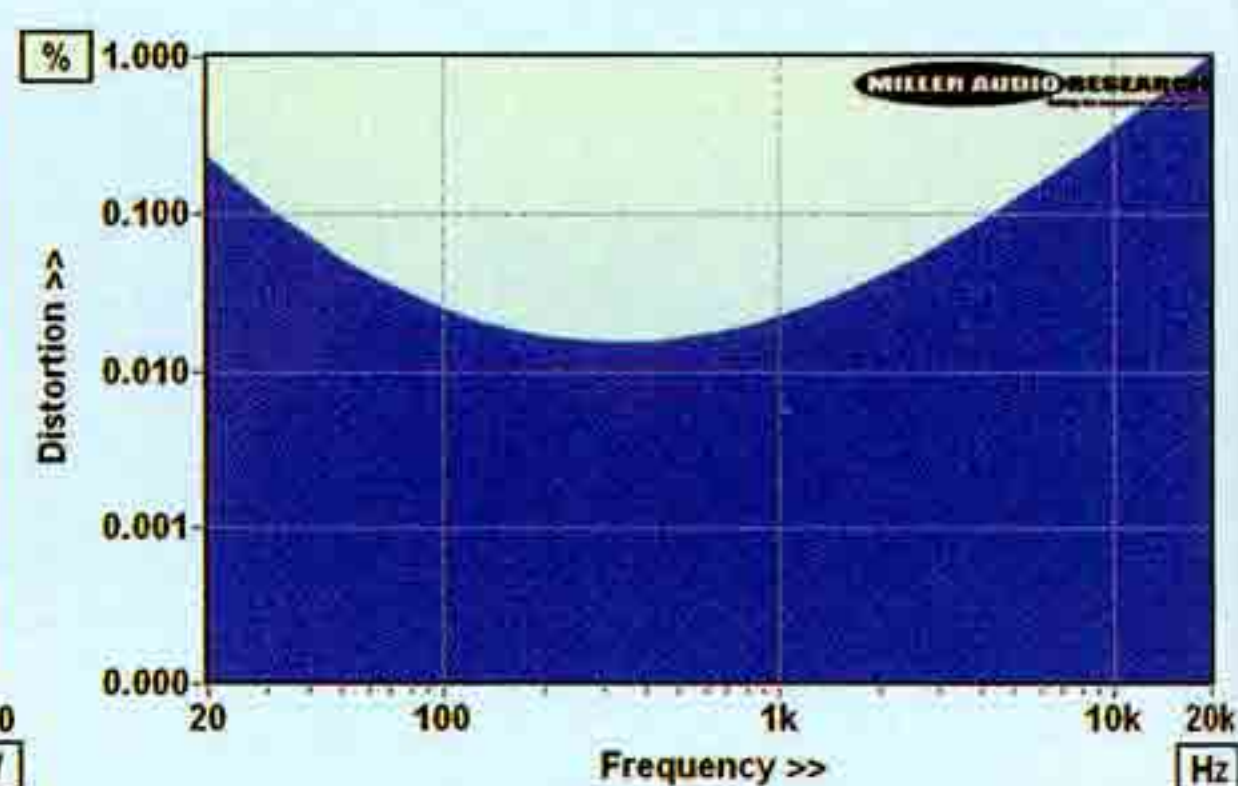
So the II-eighty would rather you partner it with sensitive speakers offering as benign a load as possible. That said, Paravinci has engineered a usefully low 0.42ohm output impedance, so the amp/speaker system response will not be as variable as we have come to expect with other valve

designs. Into a purely resistive load, it's flat out to 30kHz, falling thereafter to just -4dB at 100kHz. Even into a 1ohm load it only falls to -0.4dB at 20kHz. Distortion, too, is impressively managed, falling to a low 0.015% through the midrange at 10W/8ohm before increasing to ~0.2% from 40-80W/8ohm. At 1-20W/8ohm, the merest transformer core saturation adds 0.2% at very low frequencies while the KT88's own non-linearities bring this to ~1% at the very highest frequencies. This trend is reflected in the graph's blue trace, below. The distortion harmonics are very extended (10th harmonic and beyond), however.

Otherwise, the II-eighty benefits from impressively low hum and noise (-79dBV), a wide 95dB A-wtd S/N ratio (re. 0dBW) and a respectable +27.5dB gain, requiring some 1.1V input to raise its rated 80W/8ohm. PM



ABOVE LEFT: Dynamic power output is limited into low impedances, 8ohm (grey), 4ohm (red), 2ohm (blue) and 1ohm (green)



ABOVE RIGHT: Distortion increases at the bass/treble frequency extremes

HI-FI NEWS SPECIFICATIONS

Power Output, 8/4ohm (<1% THD)	90W via 8ohm tap/90W via 4ohm tap
Dynamic Power, 8/4/2/1ohm	95W/90W/70W/45W
Output Impedance (20Hz-20kHz)	0.406-0.428ohm
Frequency Response (20Hz-100kHz)	+0.0dB to +0.05dB
Input Sensitivity (for 0dBW/80W)	120mV/1095mV
A-wtd S/N ratio (for 0dBW/full output)	95.1dB/113.5dB
Distortion (10W/8ohm, 20Hz-20kHz)	0.015-1.0%