

Unison Research Triode 25

With this handsome anniversary design, the long-established Italian valve amplifier specialist offers triode sounds without tears, and a convenient USB input to boot

Review: **Steve Harris** Lab: **Paul Miller**

The triode tube (or valve) is the oldest and simplest amplification device, but for many audiophiles it still takes pride of place. There are plenty of practical, affordable and easily-accommodated triode amplifiers to choose from. Among these some of the most elegant are the wood-fronted creations of Unison Research, whose latest offering is this £2500 Triode 25 integrated.

SO WHY NOT SET?

Unison Research owes its existence to Professor Giovanni Maria Sacchetti, who founded the company in 1987. Sacchetti had always nurtured a passion for music, and began experimenting and building amplifiers from a very early age. After graduating in electronics, he embarked on a career as a university lecturer, and continued to teach for some 25 years.

At the same time, he developed and designed all the products for Unison Research – although, in the case of the Unico hybrid series, he was assisted by a long-time university colleague, Leopoldo Rosetti. But at the end of 2014, after a period of serious ill-health, Sacchetti relinquished his role. The Triode 25 was in fact his last design for Unison Research. However, with improving health, there's a possibility that he'll be coming up with something new of his own in the future.

For some enthusiasts, the only amps worth considering use triodes in single-ended mode, where the audio signal is amplified by a just one tube. But single-ended triode (SET) power amplifiers are expensive to build, partly because they need a special type of output transformer; and they are bulky and low-powered in relation to their cost. So all but the most specialised tube amps today use the push-pull principle, where a pair of output stage tubes amplify the positive and negative halves of the audio waveform.

Unison Research itself has long created SET amplifiers. But the Triode 25, intended as a modern, versatile and user-friendly product, is a conventional push-pull design. It's essentially a new and thoroughly updated version of the original Triode 20 [see boxout]. But instead of a phono stage, the Triode 25 offers a built-in DAC with associated USB digital input.

Its output tubes are EL34 pentodes, with the circuit configured to run these in either triode or pentode mode – the latter specified at roughly double the triode-mode power output (50W). A further user adjustment gives two options for the level of negative feedback used. Along with the four EL34s the Triode 25's valve complement includes three small-signal double triodes, two ECC83s and a single ECC82.

With a well-made chromed valve cage surmounting the wood fascia, the Triode 25 is tidy and compact. There are only

three front-panel controls, an on/off switch, a rotary source selector and a volume knob. There is no standby function, while warm-up is quite rapid,

Below the on/off toggle is a receiver window for remote control commands, as the Triode 25 comes with Unison's system remote handset [see p63]. This too has a wooden housing. But of the 30 rather tiny buttons on its metal front plate, only two (volume up and down) are relevant!

While the volume control operates remotely thanks to a motorised potentiometer, the source selector is strictly manual. Switch positions start with the USB input, and continue with three line inputs labelled CD, Tuner and AV, plus one for Tape. Above the fascia, on the apron beneath the chromed cage, are some further controls that won't be needed every day. To access these you need to loosen four bolts at the corners of

'The Triode 25 presented vocals in an almost caressing manner'



RIGHT: Lifting the protective cage reveals the choice of 2xECC83 (12AX7), ECC82 and 4xEL34 output tubes. Bias adjust, mode and feedback options are all accessible from here



LEFT: Rotary controls on the Triode 25's sculpted wood fascia are for source selection and volume, the latter also operable by remote control

you could often find yourself being drawn almost unexpectedly into the meaning of the lyrics.

It didn't lack power at the bottom end, but with my B&W CM10 loudspeakers [HFN Sep '13], on some tracks a heavy bass line could seem to muddy the overall effect.

However, I got very good results with the Dali Ikon 6 and the excellent little Dynaudio Excite X34 floorstanders.

Before going far, I naturally tried the pentode-mode option. But with repeated experimenting I found the comparison problematic and in the end I felt I just

the cage using the long hex key provided, when the cage can be removed.

In the centre are two small toggle switches, one to select triode or pentode mode, the other to change the negative feedback between 'high', nominally 5dB, and 'low', nominally 1.8dB. It's stated that the level of feedback is always relatively low in any case, never exceeding 12dB.

Nearer the front is a small illuminated meter, a toggle switch and a pair of rotary trimmers to adjust the output tubes' bias. The Triode 25's adjustment is described as 'approximately 20% self-biasing and 80% manual', Unison Research saying that its mixed approach 'minimises calibration errors while preserving the power tubes and other circuits.'

On the rear panel are the expected speaker terminals, though with no provision for load matching [see PM's Lab Report, p63]. Then come the ranks of

phono sockets for line input connections, along with a pair of outputs for Tape and another for line-level connection to an active subwoofer.

Finally, there is the vaunted USB digital input, specified as compatible with LPCM signals up to 384kHz and DSD up to 5.6MHz (DSD128) via DoP. Complete and helpful instructions are provided, covering driver installation and configuration for foobar and JRiver under Windows. As usual, for Mac users no driver is needed. No problems were encountered setting-up and the DAC worked very well.

FREE AND AIRY

Once in place and warmed up, the Triode 25 made an immediately pleasing impression, sounding warm, sweet and appealing on many recordings that I tried. It could present vocals in an almost caressing manner, so that on familiar tracks

couldn't be sure that the pentode function was operating as intended. Two samples were tested by PM with the same outcome, so I continued listening – as I'm sure most users of this amplifier will do anyway – on the Triode setting.

As for the high/low feedback option, after experimenting it became clear that the low-feedback position actually was preferable, breathing just a bit more life and realism into the sound.

Given a modern studio production the Triode 25 could deliver with warmth and power. On the 2003 re-creation of 'The Pink Panther Theme' from *Ultimate Mancini* [Concord SACD-1034-6] the heavy bass sound of Abraham Laboriel had real shape and depth. There was a feeling of air around Plas Johnson's solo sax, while the brass ensemble sounded free and airy. Joey DeFrancesco's Hammond-and-Leslie sound really swirled and overall the Triode 25 brought life to what can often seem a rather dry recording.

This amplifier was capable of bringing tangible sounds up out of a convincingly black silence, which is certainly not the case with some valve models! A good example was the beautiful unaccompanied voice of Rosa Passos on 'Duas Contas' from opening *Rosa* [Telarc CD-83646]. Here the singer's voice is heard in an environment that is dead quiet but not dead (if you see what I mean), so while her delivery is intimately miked, it is bathed in a delightful studio ambience. Rosa's voice and her gorgeous guitar were captivating. ➔

UNISON'S TRIODES

Back in 1987, this Italian company got started with the Gloway, a five-tube preamp with phono stage. Its first power amplifier was the solid-state 80W Ruler, but this was soon followed by a valve power amp called Nimbley, using KT88 beam-tetrodes in push-pull and claiming 25W in triode mode, or 50W in pentode mode. By the early 1990s Unison had launched its first all-valve integrated, the Triode 20, using two pairs of EL84 output tubes and again switchable between triode and pentode mode. Also using two ECC83 and four ECC82 tubes, the Triode 20 included a MM phono section. Unison Research continued to develop single-ended triode amps, from the baby Simply 2 up to the big Absolute 845. But for its 25th anniversary, the company has created a thoroughly modernised version of the push-pull Triode 20, the appropriately-named Triode 25.

LAB REPORT

UNISON RESEARCH TRIODE 25

Ordinarily I will test pentode/triode mode amplifiers in both settings but with greater deference to the higher output/lower THD typically offered by the former. In this case, with some uncertainty about the pentode configuration, and in the spirit of the amplifier's name, I focused on the 25's *triode* mode performance. With its output transformer broadly optimised for 6ohm loads, power output was roughly equivalent into 8 and 4ohm loads (2x28W and 2x23W respectively) with very little headroom beyond this under dynamic conditions – 30W and 25W into 8/4ohm loads, falling to 18W/14W into 2/1ohm loads [see Graph 1, below]. As ever with a low feedback triode mode amplifier, maximum power output is largely determined by how much distortion is tolerable rather than by a hard clip.

In practice THD rises from 0.14% at 1W to 1% at 8W, 1.5% at 25W and 5% at 28W (all 1kHz into 8ohm). Versus frequency, distortion rises through low bass and high treble (to 1.6/1.5% at 20Hz and 20kHz at 1W and 4.6/8.5% at 10W) as the transformer core begins to saturate and as the influence of any compensation falls away [see Graph 2, below]. Unison has engineered a very flat response from its Triode 25 – within $\pm 0.3\text{dB}$ from 20Hz-20kHz and with no obvious ultrasonic resonance as the output falls away beyond 60kHz to a respectable -3dB point of 80kHz. There is a +3dB lift at 3Hz however, so turntable/reflex-loaded speaker combos will need to be used with care... Noise, meanwhile, is low for such a design, assisting an A-wtd S/N ratio of 83.5dB (re. 0dBW). Readers may view a comprehensive QC Suite test report for Unison Research's Triode 25 by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Three line inputs are provided alongside tape in/out and a line-level 'sub out' connection. The fixed-tap speaker connections are via substantial 4mm posts/sockets while the USB input is compatible with 32-bit/384kHz and DSD128 files

With orchestral music, the Triode 25 once again seemed able to breathe life into recordings that can sometimes seem rather thick and uninspiring. Listening to a Barbican recording of Brahms' Symphony No 1 with Haitink [LSO Live LSO0045] the Triode 25 conveyed the timbres of the orchestra well, and although the overall feeling was still rather constrained, the recording became very listenable provided you had the volume setting just right.

SWEET OLIVIA VOCALS

With 'The End', the opening track of Kings Of Leon's *Come Around Sundown* [Sony 88697782412], I couldn't help being impressed by the big drum sound and shimmering cymbals and, as I'd found on so many other examples, the Triode 25 gave a lively presence and tangibility to the vocals. But eventually I felt that it was in danger of running out of steam on this material.

Returning to female vocals, I put on Olivia Trummer's *Fly Now* [Contemplate CMN14005]. In the opening 'Precious Silence' I felt that the Triode 25 successfully made the most of the sweet and alluring texture of Trummer's voice, and the way she complements this with her liquid-sounding pedalled piano notes. The subtleties in this recording were well brought out, yet the Triode 25 sounded a little less graceful as the track built up to its loud and densely-recorded climax.

Listening to a recent jazz recording like the Tori Freestone Trio's *In The Chop House* [Whirlwind Recordings WR4648], which features just saxophone, bass and drums, proved intriguing with the Triode. It gave a warm and engaging result, with Freestone's sax singing and crying with real 'humanity'. The character of the double-bass was quite well conveyed with only its very lowest notes becoming a little soft and uneven.

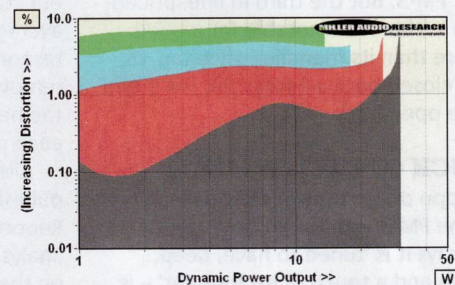
As for soundstaging, the Triode could certainly deliver an expansive, open picture with plenty of atmosphere. On Muddy Waters' *Folk Singer* [Discovery Sounds HDR CD1001] a satisfying stereo image extended well beyond the speakers, and Muddy's vocals were compellingly intense, in the centre of an enormous and very 'live' space. The Triode 25 really seemed to thrive on the reverberant quality of recordings like this. ☺

HI-FI NEWS VERDICT

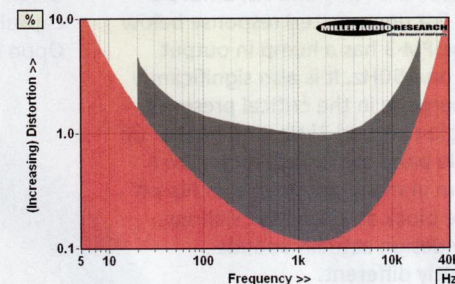
Neat and stylish, the Triode 25 represents good value thanks to its inclusion of a more than satisfactory USB DAC. It gives a good deal of the enticing, tactile quality we hope for from tubes, without compromising too much on bass extension, and with commendably low noise. Despite a question mark over the pentode-mode option, as a *triode* amp, with suitable speakers, it performs admirably.

Sound Quality: 82%

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ABOVE: Dynamic power versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (cyan) and 1ohm (green) speaker loads up to 5-10% THD



ABOVE: Distortion versus frequency at 10W/8ohm (20Hz-20kHz, black) and 1W/8ohm (5Hz-40kHz, red)

HI-FI NEWS SPECIFICATIONS

Power output (<5% THD, 8/4ohm)	28W / 23W
Dynamic power (<5% THD, 8/4/2/1ohm)	30W / 25W / 18W / 14W
Output impedance (20Hz-20kHz)	1.9-2.2ohm
Freq. response (20Hz-20kHz/100kHz)	-0.3dB to -0.16dB/-9.7dB
Input sensitivity (for 0dBW/25W)	35mV / 123mV
A-wtd S/N ratio (re. 0dBW/25W)	83.5dB / 97.5dB
Distortion (20Hz-20kHz re. 10W/8ohm)	0.11-1.4%
Power consumption (Idle/Rated o/p)	105W/286W (1W standby)
Dimensions (WHD) / Weight	300x200x450mm / 20kg