

VTL S-200 Signature

Promising tubes without tears and plenty of power, this imposing heavyweight is the first stereo amplifier to join the monoblocks in VTL's high-tech Signature Series

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

When a company chooses to call its amplifiers Wotan and Siegfried, you expect something heroic, and indeed the VTL Wotan Reference MB-1250 was one of the world's most powerful production tube amplifiers when it was launched in 1995. But those Wagnerian names might also convey something about the musical interests of president Luke Manley and his company's commitment to serious music.

As he says, 'We've always felt that valves are really good for music, because they don't need very much error correction from negative feedback. But I've found users today are more music lovers than hands-on hobbyists, people who don't really want to fiddle with the amplifiers. If you think about our auto-bias and fault-sensing systems, this makes it an amplifier for people who just love music.'

GLOWING LIKE GOLDFISH

These user-friendly features are a major aspect of the current VTL Signature Series, including the latest S-200 Signature Stereo power amp reviewed here. Below the range, VTL has the Performance Series of simpler, manual-bias power amps, and at the top of this line is the 150W/channel stereo ST-150. But the Signature amplifiers also feature fully-balanced circuitry, bigger main power supplies and separate power supplies for the input and driver stages.

So the S-200 was developed to meet a demand for an amplifier priced between the most powerful Performance Series model and the upscale Signature Series monoblocks. Though based, like the ST-150, on four 6550 output tubes per channel, it has newly-designed output transformers, a larger power supply, and the Signature Series control electronics.

When running, the tubes can be seen through the smoked glass front window,

discreetly glowing like fish in a dimly-lit tank. Lurking to left and right are the big output tubes, four on each side. As standard, the S-200 comes with 6550s, but our sample was fitted with KT88s, an option that adds £200 to the retail price.

As the 'Balanced Drive' wording on the glass proclaims, there is a fully-balanced differential input stage, feeding a phase-splitter which drives the push-pull output stage. In this dual-mono layout, the two small tubes at the front are 12AT7 (or ECC81) double-triodes for the input stages, and behind them is a pair of 12BH7 double-triodes for the left and right driver or phase-splitter stages. Nestling between those driver tubes are the two small toggle

switches for VTL's variable damping factor control, an innovation that has already been applied to several Reference Series and Signature Series models.

The DF switches adjust the level of negative feedback around the output and driver stages, altering the amplifier's output impedance and consequently the damping factor (the ratio between the amplifier's output impedance and that of the speaker it is driving).

In VTL's Siegfried Series II Reference monoblocks, and also in the MB-450 Series III and MB-185 Series III, the Damping Factor control offers four possible settings. But other models, including the S-200, give a choice of three settings. In either



RIGHT: Substantial PSU and output transformers dominate the rear of the chassis while, within the cluster of tubes, VTL allows speaker damping factor to be selected



case, 'Low' gives the minimum amount of feedback and hence the lowest damping factor, for 'the least loudspeaker control, and the most natural sound'.

MATCHING AMP TO SPEAKERS

Giving more control for 'speakers that need it', but with some impact on sound quality, the 'Med' and 'Hi' positions increase the feedback by 2dB steps. So while the S-200 doesn't have the usual 4ohm and 8ohm speaker connection options, DF switches can be used instead to matching the amp to your speakers.

When powered up by the main rocker switch on the amp's rear panel, the internal logic system checks that everything is in order. Behind the glass front, the green LEDs on the deck behind each of the eight output tubes flash briefly in sequence, and the Mute LED will light green to indicate that the amp is in standby mode.

To go from standby to operating mode, you touch the centre Power button, when its LED will glow blue, while the Mute LED

will flash red for around 30s, during which time the power tube LEDs will blink once again, showing that the auto-bias system is calibrating the bias voltage for each tube. Leftmost of the three buttons is the Mode switch. On coming out of standby, the Mode LED will indicate whether the amplifier was last set for tetrode or triode operation, by glowing green or red respectively. A touch of the button will switch from one to the other, with the amplifier automatically muting for a few seconds during the changeover.

Once the Mute LED goes out, the amplifier is fully operational and you can play music. However, this LED also comes into play with VTL's fault sensing system. If it flashes rapidly, there is a power fault, eg, a blown fuse, or a tube fault. If one of the output tubes is drawing excessive current, its adjacent LED will blink green or show solid

'The DF switch set at "Low" produced one of those jaw-dropping moments'

ABOVE: With tubes seen glowing through smoked glass, the S-200 shares the control system of VTL's Signature Series monoblocks, and offers switchable triode/tetrode operation

green. In this case, the user can switch off and replace it.

With a non-critical fault, such as low current draw, both its own LED and the front-panel Mute LED will blink green slowly. In this case, the amplifier will continue to function, but the tube should be replaced as soon as possible. Happily, none of that happened

when I switched on. After a couple of gentle relay clicks from inside, the amplifier pronounced itself ready to play.

TRIODE MODE WINS

I first left the S-200 to warm up with a CD on repeat. It just happened that the disc in the player was *Remembering Big Bill Broonzy* [Beat Goes On Records BGOCD91], a collection of mono tracks from 1951. Hardly modern standards, I know, but when I came into the room to start listening, it sounded so arrestingly good that I just let it play. As the amplifier was then running in the normal tetrode mode, I couldn't resist testing out the triode. And this was something else. Now there was an even freer and more natural quality to the music, a real feeling that you were hearing an actual performance.

Reverting to tetrode mode for Mitsuko Uchida and the first of Debussy's *Etudes* [Philips 422 412-2], which begins deceptively with the simplest of finger ➔

A FAMILY BUSINESS

It was in 1983 that the late David Manley arrived in the UK from South Africa and set up the original Vacuum Tube Logic company. As a recording engineer, he'd turned to tubes to get a better sound in the studios. His teenage son Luke came too and worked with him to build up the business in the UK. They then moved to the US, and started VTL USA in 1987. In 1989, David launched new pro amplifiers under the Manley brand, and at first these were manufactured in the existing VTL facility. But 1993 saw a parting of the ways, and a complete separation of the two businesses. While David now ran Manley Labs, still focused on pro audio, Luke took full control of VTL, developing more sophisticated amplifiers for the high-end market. Today, Luke runs the company with the help of his wife Bea Lam, an audiophile and trained classical pianist who also has a degree in electrical engineering and a master's in computer science. He was happily back in the UK last year to demonstrate VTL's latest products at the *HFN* Hi-Fi Show.



ABOVE: Rear connections include balanced inputs – a selector switch grounds the unused phase for unbalanced. A trigger input allows remote power-up from standby

exercises, there was immediately a gorgeous sense of Uchida's velvety touch and a fine sense of the acoustic space. Switching to triode mode gave an even sweeter sound to those soft single notes, and an even more enveloping quality to the Snape acoustic.

Zoe Rahman's 2007 album *Live* [Manushi MANUCD003] was recorded at the Dean Street Pizza Express, a venue that presents the opposite kind of challenge to the big reverberant space of Snape Maltings. Once again, I found myself preferring the triode sound, which seemed to give a truer impression than I'd ever heard of the piano and the acoustic setting on this disc.

GAINS IN PRESENTATION

The DF switches at the Mid position were deemed appropriate for the B&W speakers I was using, but of course I had to try the low-feedback alternative – adjusting the volume to compensate.

Setting the switch to Low produced one of those jaw-dropping moments, where a sound that I'd already thought was excellent became even better. With Patricia Barber's 'Snow' from *The Cole Porter Mix* [Blue Note 50999 5 01468 2], I was hearing more depth, a greater sense of three-dimensional presence from Barber herself when singing, while Neal Alger's beautiful guitar had a yet more luscious and mellow presence. I didn't think the bass end was compromised, and I really appreciated the gains in overall musical presentation.

After that, on practically every recording I tried, the VTL amplifier brought unexpected pleasures. It could bring out the best in a silky-smooth audiophile offering, like the Mozart Clarinet Concerto with Musical Fidelity

boss Antony Michaelson as soloist, engineered by Tony Faulkner in the acoustically favourable Henry Wood Hall [MF017]. Here the VTL was gorgeously light, airy, and spacious with a delightful string sound and a beautifully clean and open bass end.

On studio rock recordings too, the VTL evinced a very satisfying LF sound, deep in extension and coherent in the integration with the frequencies above. Low parts, whether taken by an acoustic string bass or a bass guitar, always seemed to take their proper place as the foundation of an arrangement, because the sound, from the fundamental to the higher harmonics, seemed to have the wholeness of a real instrument.

A great example was Ry Cooder's *Bop Till You Drop* [Warner 7599-27398-2], where a bass part that can often sound opaque and mechanical had unambiguous pitches and a real bounce. And this was really just an aspect of the fine open quality of the sound as whole, which allowed you to hear and appreciate the many strands in a complex mix without effort. ☺

HI-FI NEWS VERDICT

Amplify fulfilling VTL's mission to make tubes user-friendly, this well thought-out design brings all the benefits of glowing 'bottles' with hardly any of the headaches. As for the sound itself, it would be true to say that the VTL gave fresh insights to everything played, but that wouldn't convey what this amplifier does. Simply, the S-200 offers endlessly absorbing, effortless musical enjoyment. Warmly recommended.

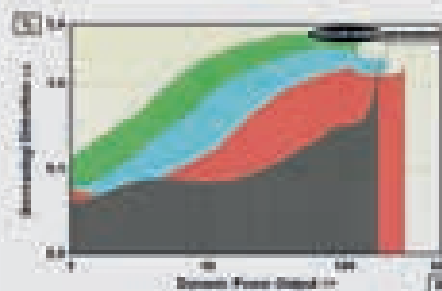
Sound Quality: 84%



VTL S-200 SIGNATURE

Rated by VTL at '200W in Tetrode and 100W in Triode' modes, the power, distortion and frequency response of the S-200 Signature seems optimised for ~50ohm loads (set for 'Medium' damping factor under test here), the amplifier yielding closer to 155W/95W respectively into 8ohm with a healthy 2x240W available into 4ohm. The 'Medium DF' output offers a moderate 2ohm source impedance that's very flat across the audio range and goes on to deliver 175W, 270W and 195W into 8, 4 and 2ohm loads under dynamic conditions [see Graph 1, below]. Maximum current is ~11.2A at <2% THD, further suggesting the S-200's compatibility with minimum 4ohm-load speakers. Distortion climbs gently with output through the midrange from 0.05% at 1W to 0.08%/10W and 0.25%/100W while the hefty transformers allow a good deal of power at very low frequencies (0.25% at 20Hz/10W). [See Graph 2, below.]

The 2ohm source impedance will modify the amp/speaker system response with variations in the latter's impedance trend, but into a 'flat' 8ohm load the response is very uniform and stretches up to 65kHz (-0.1dB) before rolling away to -1.35dB/100kHz. Unlike many tube amps, there's no obvious ultrasonic transformer resonance or notch in response, instead there's a broad lift in >20kHz output with decreasing load reaching +0.4dB, +1.2dB and +2.6dB/65kHz into 4, 2 and 1ohm. Below 1kHz there's a very gentle shelf amounting to -0.1dB/100Hz and -0.13dB/20Hz but this shouldn't influence its bass performance. The A-wtd S/N is acceptable but not exceptional at 82dB (re. 0dBW). Readers may view an in-depth QC Suite report for VTL's S-200 Signature amplifier by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Dynamic power versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (cyan) and 1ohm (green) speaker loads. Optimised for ~50ohm loads



ABOVE: Distortion vs. frequency from 5Hz-40kHz at 10W/8ohm (left = black; right = red)

HI-FI NEWS SPECIFICATIONS

Power output (<2% THD, 8/4ohm)	155W / 240W
Dynamic power (<2% THD, 8/4/2/1ohm)	175W / 270W / 195W / 125W
Output impedance (20Hz-20kHz)	2.08-1.98ohm
Frequency response (20Hz-100kHz)	-0.13dB to -1.35dB
Input sensitivity (for 0dBW/150W)	60mV / 760mV (Balanced in)
A-wtd S/N ratio (re. 0dBW/150W)	82.4dB / 104.2dB
Distortion (20Hz-20kHz re. 10W/8ohm)	0.075-0.93%
Power consumption (Idle/Rated o/p)	310W/680W (3W standby)
Dimensions (WHD) / Weight	470x230x457mm / 48kg