

Audio Research VT80

Conceived to partner the Foundation series LS28 preamp, but with a circuit design inspired by the REF75, the new VT80 looks set to tip over ARC's own applecart

Review: **Ken Kessler** Lab: **Paul Miller**

Regular readers know that I have been a dedicated Audio Research user for decades, and have been in love with the REF75 [HFN Nov '12] ever since it first appeared five years ago. Upon learning that the new VT80 is a £7998 'trickle-down' descendent of that amplifier, I was dying to have a go at it. The experience was ear-opening, but an analogy presented itself.

If you're not a car guy, this will bore the pants off you but here goes: the Porsche 911 has a baby sister called the Cayman, which is a closed Boxster. It is spectacular, and costs many thousands less than a 911. While reviewers of a certain disposition want to say, 'Buy the cheaper car!', every single true Porsche aficionado I know says the 911 still has the edge, however brilliant its siblings. Why? Because Porsche is not stupid, and maintained a quality gap. So did Audio Research.

I point this out because the bulk of this tale is about an amplifier so good that you'll wonder if the REF75SE is worth another £1500 or so. What compounds the dilemma is the shocking price of the optional KT150 valves. The review sample was fitted with KT120s, with the KT150s available as an upgrade at £218 *apiece!* One has to hope/believe that those supplied by Audio Research have been sprinkled with fairy dust or some other magical potion. Alas, I had no spare KT150s or other valves to try out in the VT80, so this review deals solely with the stock, KT120-equipped model.

Rated at 75W like the dearer sibling, the VT80 seems indistinguishable from the REF75SE save for the latter's manual bias and front-panel meters. What makes the VT80 noteworthy is the inclusion, for the first time ever in an ARC product, of auto-bias. The circuit is a proprietary, in-house design, and it's a godsend if you are a tube

RIGHT: The VT80's underbelly reveals a dual-mono layout on a single PCB, adapted from the REF75 but now with auto-bias added. AC mains [centre left] and output coupling transformers [upper/lower left] are also from the REF75

swapper: you can change the KT120s and the amplifier does all the work [see PM's boxout, facing page].

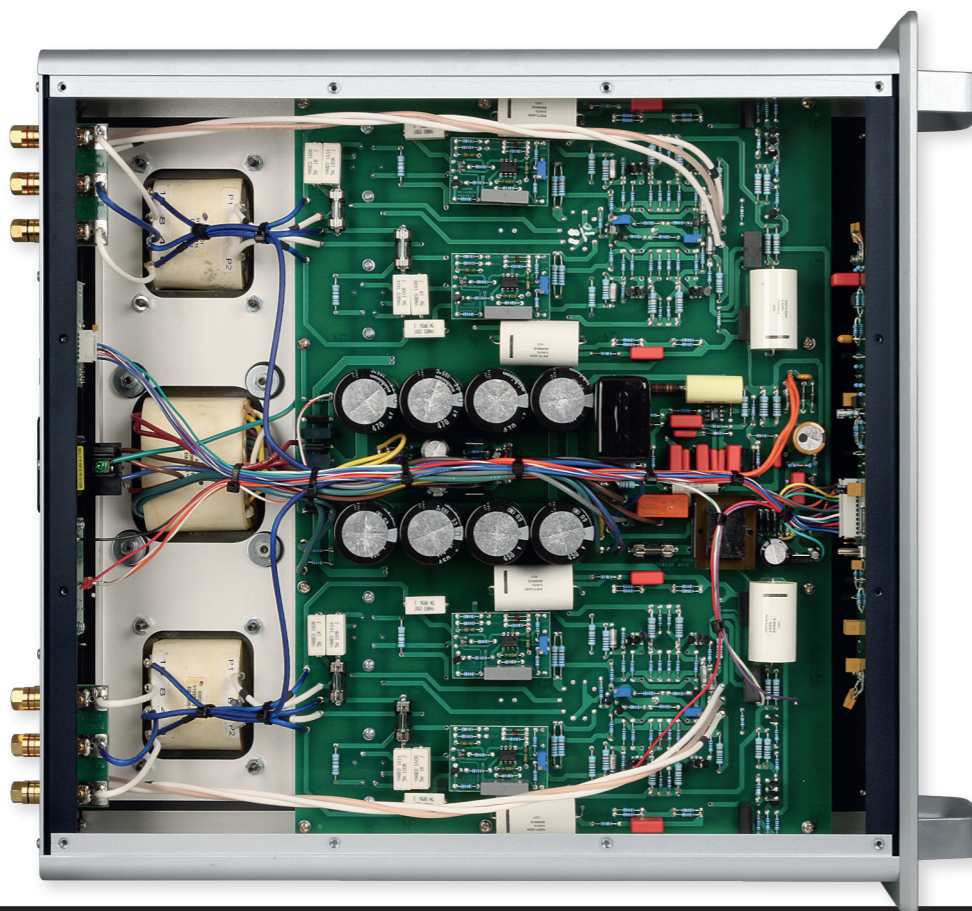
CLOSES THE GAP

This amplifier has a specific role to play, filling a hole in the Foundation catalogue, joining the LS28 line stage preamplifier [HFN Jan '17], the PH9 phono stage [HFN Dec '16] and the DAC9 D/A converter [HFN Sep '17]. It also raises further questions about the blurring of lines between the various Audio Research ranges, because not only does this close the gap with the REF75SE, it offers a different kind of performance from the power amp section of the G Series' GS175 [HFN Jan '16]. Let's not get side-tracked, though, because the G Series seems to be out there on its

own, a bit of a lifestyle diversion, while Foundation is the meat-and-potatoes range and Reference is just what its name states.

Audio Research says: 'Compared to the GS175, the VT80 adds our best preamplifier input section design, a better performing feedback path from the output transformer,' as well as including the aforementioned auto-bias circuits. 'If compared with the GS150 [HFN Jan '15], the VT80 uses the same preamplifier and same feedback mechanism.'

While the REF75SE remains my personal, er, reference, I have to admit to being seduced by the look of the VT80, as well as by its amiable sound. Its only visual oddity is a glossy black front panel in the middle of the fascia that looks like it should display something, but all it does is provide a tiny



green light to indicate power on. Other than that, all you get is an on/off button.

Before gazing at the back, take note of one of the nicest valve cages going. Did the Italians way up the ARC food chain have something to do with this? It looks fantastic. At the back the VT80 has both balanced XLR and single-ended RCA inputs, selectable by a tiny toggle. Another toggle chooses between auto-switch-off and defeat, that powers off the amp if no signal is detected after two hours. Multi-way binding posts allow the connection of 4ohm and 8ohm loads, the unit accepts a 12V trigger for remote power-on, there's an RS232 socket for integration into installed systems, and the company has fitted a tiny window at the back which shows tube usage in hours.

SILKY SOUNDS

Because the VT80 arrived during a period of change *chez* Kessler, I used this with Martin Logan Summits [HFN Nov '09] and

KEF LS50s [HFN Jul '12 – and see p32]. The front-end consisted of a Marantz DV8300 universal player, SME 30/12 turntable/arm with Air Tight PC1 Supreme cartridge, Denon AU-S1 transformer and an EAT E-Glo phono stage. Wiring was a mix of Crystal and Transparent. And because my room has been torn apart for maintenance,

cleaning, etc, I decided to use the opportunity to fire up the Quad ESLs – yes, the 57s [HFN Nov '57]. A big mistake on my part, because they sounded so, so *divine* that I was distracted and it put me off my pace. They are still the finest-sounding speakers ever made – maximum levels notwithstanding.

When I kicked off the session with Lou Rawls' *At Last* [Blue Note CDP 7 91937 2], it – how do I put this? – *glowed*. As much as one wants to attribute this to the Quads, it also applied to the Summits and the

I took the rare chance to fire up my Quad ESLs – yes, the '57s'

TUBE-ROLLERS REJOICE

Audio Research has long held to the belief that power tube circuits equipped with simple manual bias adjustment, rather than auto/servo bias regimes, typically sound better and offer improved long term reliability. In practice some ARC amps have been able to accommodate a limited range of different tube types provided the valves have the same electrical requirements. For example, legacy 6550 and KT88 output tubes may be implanted into recent models like the KT150-equipped GS150 [HFN Jan '15], provided the power amplifier is carefully re-biased following the change. Nevertheless the new VT80 is the first ARC amplifier in the company's 47-year history to utilise an auto-bias circuit, and the first to really cater for the growing band of 'tube-rolling' enthusiasts. Designed entirely in-house, ARC's inaugural servo-adjusting tube amp is likely to be the first of many to offer this convenience. **PM**



ABOVE: The low-profile chassis and sleek alloy fascia with its black inlay and handles is clearly designed to match the Foundation series phono stage, DAC and preamp

LS50s. There's an openness to the VT80 that defines its character relative to the REF75SE, which is also airy and spacious. But the VT80 also has a certain silkiness that's more pronounced than the sheen of the REF75SE, which makes the latter seem more commanding rather than caressing. However closely related these two are, they differ enough in attitude to keep the newer amp from undermining the existence of the older model.

ROCKING OUT

It wasn't the voices that illustrated this, as Rawls' richness and Dianne Reeves' crystal clarity were unchanged. The uncanny element was the atmosphere around the voices, as well as the instruments. Piano, in particular, had a lifelike ring so convincing that I had to pop into the other room to bang out a few chords on our old upright!

Moving to *Sgt Pepper's Lonely Hearts Club Band* on vinyl [Apple 4553420602557], the moments mounted up, creating an impression of an amplifier that has no problem rocking out or playing demure. Stand-out sensations included the attack of the fierce guitar work on the *Sgt Pepper* reprise, the build-up of the coda to 'A Day In The Life', the calliope-like sounds in 'Being For The Benefit Of Mr Kite'.

All profited from the amplifier's lack of coloration, and a lack of haze. Rhythms →

LAB REPORT

AUDIO RESEARCH VT80

Unlike ARC's integrated GSi75 amplifier [HFN Jan '16], which employs KT150s, the VT80 uses the same 6H30 double triodes but with a pair of KT120s per channel. In practice it offers a very slightly reduced power output but a distinctly more refined overall performance, largely because it shares more in common with the exalted REF75 [HFN Nov '12]. Indeed, both the REF75 and VT80 are rated at 75W/ch but both offer closer to 2x70W and 2x65W into 8/4ohm via their 8/4ohm taps, respectively. The dynamic power tests also reveal the similarity in the REF75/VT80 design with both offering 78W, 73W and 100W into 8, 4 and 2ohm with a full 115W into 1ohm, besting the GSi75's 7.7A maximum current with 10.7A [see Graph 1]. So the VT80, like the REF75, is more speaker-tolerant than the more recent GSi75, especially via its 8ohm tap where a more substantial 105W is possible under dynamic conditions into 4ohm loads.

From here, the similarities between the VT80 and REF75 are positively explicit. Both have the same +24.9dB gain (balanced input) and both, with their superior PSU smoothing and layout, show great benefits in terms of reduced noise and channel crosstalk – both the REF75 and VT80 are some 20dB *quieter* than the GSi75 with an astonishing A-wtd S/N of 97.8dB (re. 0dBW) and wide >80dB stereo separation (20Hz-20kHz). The VT80 also has a reduced 0.97-1.25ohm output impedance, so variations in amp/speaker response are less influenced by loading. Into 'flat' 8 and 4ohm loads it has half the treble roll-off of the GSi75, amounting to -0.4dB/20kHz and -5.3dB/100kHz via 8 and 4ohm taps, respectively. Distortion is lower too – just 0.01-0.05% at 1W/8ohm to 0.08-0.5% at 10W/8ohm [all 20Hz-20kHz, see Graph 2 below]. PM



ABOVE: Balanced (XLR) and single-ended (RCA) inputs are selected by a toggle and separate 8/4ohm speaker taps are offered on 4mm terminals. Note the 15A blade-style mains inlet and second toggle to facilitate auto shut-off, preserving valve life

had a particularly infectious flow. Then tracks by The Detroit Emeralds and The Hues Corporation allowed analogue and digital comparisons. Namely: 'Feel The Need' [Greatest Hits, Westbound CDSEWD 119 (CD); *Feel The Need* Atlantic K50372 (LP)] and 'Rock The Boat' [The Very Best Of The Hues Corporation, Camden 74321 603422 (CD); *Freedom For The Stallion* RCA APL 1-0323 (LP)]. So wide is the dynamic span, so free of 'clutter' the presentation that A/B comparisons of CD vs LP were accomplished with unmistakable consistency and lucidity.

FLEXING ITS MUSCLE

With these latter tracks the VT80 was able to flex its lower-octave muscle. This amplifier has richness down below, with the benefit of a lack of flab, so the snap of the bass when required has a level of attack one expects of overkill solid-state amplification. What further reinforced my feeling that the VT80 is truly out-of-the-ordinary was the sensation provided in this area through two speakers that are hardly exemplars of bass playback: the Quads and the KEFs. I even hooked up some LS3/5As to reaffirm this.

Searching for an explanation, I can only surmise that the VT80 has such near-perfect balance, top-to-bottom, that the overall sound benefits from this in a way that defies logic. To be sure, devotees of small speakers like LS3/5As and polite speakers like the '57s train, or will, themselves to 'fill in' the bass. Switching from the ML Summits to LS3/5As proved this to be illusory, but I've never had a problem with 'the beautiful lie'.

By any measure, the VT80 is a stellar performer, regardless of

source or material. But the vexing question remains: does one need even to consider the REF75SE? Let me explain it this way: while the differences are minimal, they are of a calibre that any seasoned audiophile will detect. What matters is how important are the areas where the REF75SE excels. To my ears, it delivers a more potent sound, but also one that will be less forgiving of ancillaries. The VT80 is simply less 'authoritarian'.

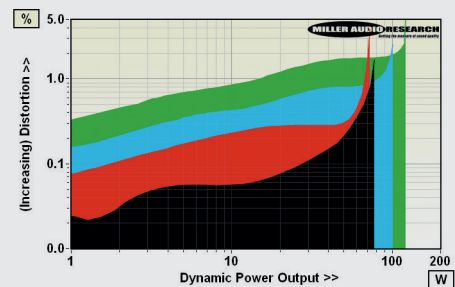
So let me leave you with this buying tip – ask your dealer to set up a side-by-side demo of REF75SE and VT80, both with the *same* valves (it doesn't matter if they're KT120s or KT150s). Even if your budget doesn't stretch to the REF75SE the demonstration will let you hear *exactly* how they differ.

I'm sticking with the latter simply because I've lived with it for so long that I have grown accustomed to its character. But if I suddenly woke up and the VT80 was in its place, my anguish would last no longer than two rotations of an LP. ☺

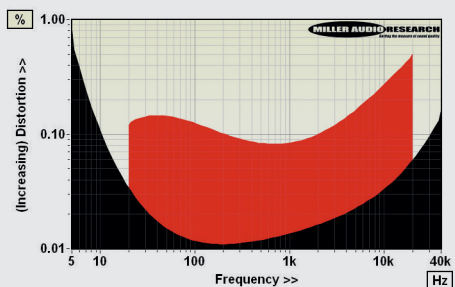
HI-FI NEWS VERDICT

As one who has always loved ARC's 'entry level' power amps, I'm delighted to report that the VT80 provides more than a whiff of what makes the Reference Series so coveted. Whatever I fed it, whatever it was asked to drive, the VT80 acted like a thoroughbred, a sweet-sounding powerhouse, robust yet always exhibiting finesse. If I was in the market for a valve amp in the £8k region, this would top the list.

Sound Quality: 86%



ABOVE: Dynamic power versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (cyan) and 1ohm (green) speaker loads. Maximum current is 10.7A



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

HI-FI NEWS SPECIFICATIONS

Power output (<2% THD, 8/4ohm)	70W 65W
Dynamic power (<2% THD, 8/4/2/1ohm)	78W 73W 100W 115W
Output impedance (20Hz-20kHz)	0.97-1.25ohm
Freq. response (20Hz-20kHz/100kHz)	+0.00dB to -0.4dB/-5.3dB
Input sensitivity (for 0dBW/70W)	160mV 1350mV (balanced)
A-wtd S/N ratio (re. 0dBW/70W)	97.8dB 116.3dB
Distortion (20Hz-20kHz re. 10W/8ohm)	0.078-0.51%
Power consumption (Idle/Max. o/p)	211W 460W
Dimensions (WHD) / Weight	483x262x493mm 20.7kg