

Benchmark SMS1

From Benchmark, one of the pioneer makers of DAC/headphone amplifiers, comes a small monitor that's served the brand at hi-fi shows for years: the SMS1 two-way
 Review: **Ken Kessler** Lab: **Keith Howard**

Without knowing it, I had been repeatedly auditioning the £2499 Benchmark SMS1 speaker, albeit in an earlier form. It has been a habit of mine to drop in on Rory Rall, Benchmark's Sales Manager, at the International CES and any other shows we might be attending, because he and co-exhibitor Dave MacPherson of Studio Electric have a penchant for The Beatles – often using the 24-bit versions on the USB 'apple'. Their room has always been a haven for weary visitors, and the sound, via Dave's speakers, complemented Benchmark's electronics.

COMPLETES THE SYSTEM

Because Benchmark is more of a pro brand than audiophile, it was a pleasant surprise that its compact, high-value-for-money, combination DAC/preamp/headphone amp units found such favour among domestic users [*HFN* Jul '13]. Recently, the AHB2 power amp joined these control units [*HFN* Mar '15], so it was natural that the company would want a speaker to complete a system.

Subconsciously, they'd been 'road testing' Dave's now-discontinued SE Monitor, on which this is based, in the toughest of conditions: at shows. The SMS1 is a re-worked speaker [see boxout], not least in its more elegant appearance. I loved the steam-punk/retro aesthetic of the original SE version, but this is even prettier.

Despite serving studios since 1983, Benchmark chose to make the speaker domestically tolerable, offering it in a choice of black, mahogany or padauk side panels, the latter two of solid hardwood and adding £100 to a pair. In addition to matching your décor, they are removable for repair or replacement.

Benchmark also adds that the panels aren't purely cosmetic because they stiffen and dampen the sides of the enclosure,

RIGHT: Beefy black cabinet with wooden side panels is fronted by a mesh grille with robust frame in a natural metal colour, protecting a 170mm woofer and a 25mm soft dome tweeter

'contributing to a tight and well-defined bass response' [see Lab Report, p55].

Still, given that its customers are, in the main, professional users, Benchmark has made the speaker rugged in a chunky, off-road-vehicle way. The durable stainless steel mesh grilles are fabricated from the same material used for fine microphones, boasting excellent acoustic transparency. And the toggle for selecting between single and bi-amping modes is industrial-grade, rather than use a teensy-weensy mini-switch.

Benchmark proudly calls the speaker 'a return to acoustic suspension', arguing that small, ported speakers 'create the illusion of bass extension by emphasising certain frequencies – hence the name "tuned port".' It feels that ports, at least in smaller speakers, 'often produce a non-linear bass response', or the dreaded 'one-note bass'.

Returning to a sealed enclosure, Benchmark says that the performance is more linear, and capable of 'impressively deep bass'. As audiophiles are aware, and as users of original AR speakers learned a half-century ago, the cost of this is sensitivity. As a result, Benchmark advises against using low-power single-ended

valve amplifiers, though large valve amps will suffice. Naturally, they recommend the brand's own solid-state AHB2.

Vertically arrayed are a 170mm custom-made co-polymer woofer and a 25mm soft dome tweeter. The passive crossover, operating at 3kHz, is fitted with audiophile-grade components including non-inductive wire-wound power resistors. Benchmark is obsessive about tolerances, especially to ensure unit-to-unit matching [see boxout].

Interestingly, instead of fitting two pairs of binding posts, the company chose to use

'Voices sounded lifelike, with a blessed absence of sibilance'



a conventional pair of multi-way binding posts for single wiring, with a SpeakON 4-pole connector for bi-amping. This is certainly more convenient for all the wiring needed to bi-amp.

A TIGHTER BASS

While studio users might simply position these on mixing desks, I gave them the full audiophile treatment. Benchmark recommends 36in-high stands, but – relative to my listening seat – there was a trade-off. Bass increased slightly when I put them on 24in Cliff Stone Foundation stands, and they were better vis-à-vis my ear-height but resulted in a slightly reduced soundstage. I suppose I could have piled cushions onto the seat, but the trade-off was not so great as to alter the performance in a crippling manner. Toe-in is a matter of taste.

Despite the reduced sensitivity noted in our Lab Report [p55], they didn't seem inordinately hungry – I even gave them a burst of PS Audio's wee Sprout [*HFN* Feb '15], which coped nicely. Things changed dramatically, however, when they were connected via Crystal Cables to the D'Agostino Stereo Momentum [*HFN* Aug '12] – more in keeping with the

READY MADE MONITOR

Benchmark's VP of Engineering, John Siau, told *HFN*, 'The SMS1 was designed by Dave Macpherson of Studio Electric. We had shared space with him at a number of shows because we appreciated the clarity and overall sound of his speakers.' Benchmark subsequently purchased exclusive rights to the design and moved production to its facilities in Syracuse, NY. The crossover was split to facilitate bi-amping and upgraded with audiophile components including custom-built Clarity caps, from the UK, and close-tolerance air-cored inductors.

'A key to Dave's design' says John Siau, 'is the crossover frequency set above the midrange, which we believe contributes to the vocal clarity of the SMS1. At the low end, the sealed-box design was chosen for a tight, well-controlled bass while the tweeter was selected for low distortion and a smooth response.'

recommendation of an amplifier in the 30-200W region. My trusty Audio Research REF 5SE preamp, Marantz CD12/DA12 CD player and Pono and Astell & Kern digital players completed the system.

It struck me that I had heard this speaker's parent at least a half-dozen times, and figured that I had a pretty good measure of it, enough to start not with my verdict on the SMS1, but with the differences between the old and the new. The natural choice of music was the 24-bit Beatles material mentioned in my intro.

Memories play tricks, but my gut feeling is that Benchmark has tweaked the SE by tightening up the bass – which is still a bit rich – and refining the top end. I loved the original SE simply because it was so musical.

That has not been lost, as evinced by George Martin's piano solo during 'In My Life' from *Rubber Soul*, which had the same engaging naturalness (despite being speeded up).

But I was thrown by a couple of things, having lived for many years with AR's 2ax and Radford's TriStar 90. Both were sealed enclosures, the latter also having a woofer that seemed too large for its volume. What

they had was a characteristically tight and dry bass. The Benchmarks are nowhere near as overly damped as those much larger classics, sounding in many ways more natural, if arguably less precise.


COPING WITH KODO

Instinctively, I put on Kodo's *Heartbeat: Drummers Of Japan* [Sheffield Lab CD-KODO], which exacerbates shortcomings found in mini-monitors. Bless 'em, the Benchmarks coped better than manfully, delivering extension that would have rattled an LS3/5A to destruction. The weight and the mass were convincing, leaving the listener in no doubt that one was hearing absurdly oversized percussion.

Only a slight fluffing in the decay of the bigger 'thwacks' reminded me that my customary, and significantly costlier, Wilson Alexias were not in use [*HFN* Mar '13]. To reproduce those notes, a lot of air has to be moved with incredible fluidity and control. Even so, the SMS1 was more than convincing: it was exceptional given the speaker's size.

Because anomalies in the low end are less offensive to me – too much bass notwithstanding, which will drive me from a room – I was more concerned with the mid and treble. The SMS1 has a high crossover point, so the larger driver is acting as a true mid/bass unit. Suffice it to say, voices sounded genuinely lifelike, with a blessed absence of sibilance.

Wanting to hear how the character of the bass might affect voices delivered through the same transducers, I put on the Four Seasons' 'Walk Like A Man' [Rhino Box Set 8122795939]. Its 'footsteps' ensured that there was bass present below the harmonies and that world-class falsetto, and it was a reminder never to presume – whatever experience tells you – that a speaker will do such-and-such.

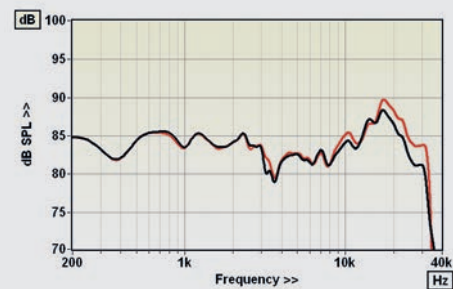
There was no compromising of the vocals' clarity, no clouding of the space. The bass was soft-ish, as it should be, but 



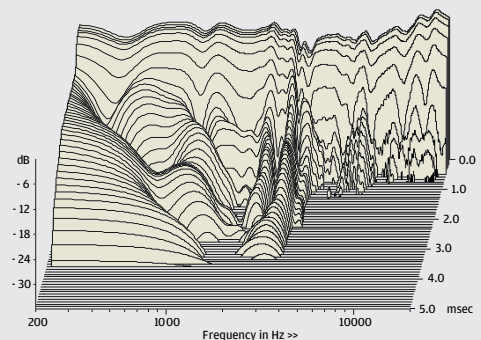
BENCHMARK SMS1

Benchmark claims 88dB sensitivity for the SMS1 but our measurements suggest this is a considerable overestimate. Our pink noise figure of 84.3dB indicates that 84dB is a more representative figure, and much as you would expect of a closed box speaker of this size. The quoted nominal impedance of 6ohm is also too optimistic: we measured a minimum modulus of 3.6ohm, indicating a 4ohm nominal figure. Impedance phase angles are well controlled, as a result of which the minimum EPDR (equivalent peak dissipation resistance) is a relatively high 2.2ohm at 54Hz, although a second dip to 2.3ohm at 358Hz means that the SMS1 isn't quite as amplifier friendly as that figure suggests.

Measured at 1m on the tweeter axis with grille removed, the forward frequency responses [Graph 1, below] show a distinct presence band dip followed by a rise to a peak at 17kHz. As both occur above 3kHz they must largely be laid at the door of Benchmark's choice of tweeter. Response errors are consequently a little on the high side at ± 4.7 dB and ± 5.1 dB respectively (200Hz-20kHz). Pair matching error is a little high too at ± 1.3 dB but would be much tighter but for narrow-band disparities near 3kHz and approaching 20kHz. Diffraction-corrected near-field measurement showed the bass extension to be 56Hz (-6dB re. 200Hz) – fair for a small cabinet – but with a peak of +4dB at 100Hz, suggesting that the bass alignment is underdamped. This is confirmed by analysis of the impedance which indicates a system Q of > 1.5 . Stir in the obvious breakup resonances seen in the CSD waterfall [Graph 2] and it's hard not to conclude that the bass driver is oversized. KH



ABOVE: Forward response shows a dip in presence followed by a treble peak. Bass is underdamped



ABOVE: There's a clear breakup mode at 3-4kHz that correlates with the dip in its forward response

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	85.5dB/84.3dB/83.7dB
Impedance modulus min/max (20Hz–20kHz)	3.6ohm @ 20Hz 22.2ohm @ 1.9kHz
Impedance phase min/max (20Hz–20kHz)	-37° @ 2.7kHz 42° @ 996Hz
Pair matching (200Hz–20kHz)	± 1.3 dB
LF/HF extension (-6dB ref 200Hz/10kHz)	56Hz 31.9kHz/32.8kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	1.9% / 0.9% / 0.1%
Dimensions (HWD)	345x260x250mm



LEFT: Rear has terminals for conventional wiring via multi-way posts, or SpeakON NL4 4-pole twist-lock input connector for bi-amping, selectable through a substantial toggle switch

with speakers of higher cost and greater dimensions: a 'real' sense of the metallic resonance to his banjolele.

The effect was as pronounced with the piano playing throughout Lou Rawls' *At Last* [Blue Note CDP 7 91937 2], essentially the correct

reproduction of the sonic clues that, for example, distinguish one make of piano from another.

RETRIEVING DETAIL

with more weight than I expected. What made it so involving was the way the harmonies meshed, the resolving power of the tweeter ensuring that each singer could not only be heard clearly, but defined in their own space.

Studio denizens and audiophiles are inherently suspicious of each other. Few in either camp realise that they should have a mutually beneficial interplay. In this instance, Benchmark has been working with and selling to receptive audiophiles for some years now, so it is among the very few from the pro sector that realises hi-fi enthusiasts actually *listen*, and for the music – not just an earth loop or some overload that might have crept into a recording. With this background, the SMS1 standmounts join a select group that includes the JBLs, KEFs, Tannoys, Harbeths and others with both studio and home suitability. ☺

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With such fecund lower registers, Little Feat was an inevitable choice, the *Rad Gumbo: The Complete Warner Bros Years* collection [Warner 8122796057] allowing me to indulge in their hits. For those who attribute rhythmic properties to a hi-fi system, the boogie that is 'Oh, Atlanta' shuffled and slid with the requisite swampy feel. Even the forlorn ballad, 'Willin', impressed with its precise, perfect tempo. Little Feat always married super-tight playing with a *faux*-sloppiness. This sophisticated playing with rhythms never caught the Benchmark SMS1 speakers unawares.

Given that Benchmark's roots are in studios, making the SMS1 a monitor in the true sense, it was important to hear what they could do with detail retrieval and clearing away sonic debris. George Formby's *When I'm Cleaning Windows – His 52 Finest 1932-1946* [Retrospective RTS 4104] had, I thought, yielded all of its riches over wide bandwidth systems into which I've fed it. Silly me... to my delight, the Benchmarks delivered a little benefit of their own that I had previously noticed

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HI-FI NEWS VERDICT

This classy monitor has a distinct character, leaning toward the rich at the bottom and the analytical at the top, rather than the totally neutral 'studio' sound I might have anticipated. If the balance suits your taste, you'll find it sounds bigger than a small two-way, it's easy to drive and the perceived value suggests a price of at least a grand more. And it is defiantly, unapologetically, a speaker for rockers.

Sound Quality: 84%

