VIVID AUDIO B1 LOUDSPEAKERS

Think high-end speaker manufacturing and you'll very easily compile a list of high-profile European and US manufacturers. You'll have no difficulty coming up with a few Aussie ones too. But in the last few years, from the African continent no less, a new and innovative design house has emerged. The company's products have received thunderous fanfare from enthusiasts and journalists around the world while it has rocked the high-end corporate jungle with its unique designs, its use of advanced materials, novel drivers and sophisticated manufacturing techniques. That company is South Africa's Vivid Audio, which was founded in 2004 by Robert Trunz, who once owned a majority shareholding in B&W and acted as its managing director, Laurence Dickie, who worked in B&W's R&D laboratories from 1984 to 1997, and Philip Guttentag, who was South African distributor for B&W and Mark Levinson.

THE EQUIPMENT

The Vivid Audio B1 speaker is unique. It looks like a stand-mount design, but it's actually a floorstander, as it is one piece with its slimline integral stand. The speaker itself is an oval enclosure constructed from composite materials, ovoid or tear-shaped, and finished in a range of beautifully-applied automotive high-gloss colours. The sample speaker loaned to me for review was finished in a metallic-speckled black gloss… quite the eye candy!

The B1's baffle houses the three custom-

designed drivers. In fact, the drivers are a much-evolved legacy of one of designer Laurence Dickie's first gigs as leading engineer for B&W in the early 1990s. Dickie was in charge of prototyping and engineering what was to become the legendary B&W Nautilus speaker (most audiophiles call it the 'snail'): a design that took the world by storm. So revered is the 'snail', despite its complex quad-amplification configuration, that delivery is constantly in back-order with a typical waiting time of three to six months…not bad for a speaker that's been in continuous production since 1993.

Dickie has carried through, in evolved versions, most of the groundbreaking technologies that were used in that classic 'snail' design. For starters, the B1 features a curved cabinet that has minimal obstruction on the drivers' radiation pattern—it creates almost no diffraction effects.

mum and precise diaphragm control.

The integral stand is a minimal profile design (again aimed at having no effect on driver dispersion) and tapers down to a wide oval stabilising base which houses two sets of speaker binding posts allowing for bi-wiring or bi-amping. Vivid provides cable jumpers for standard cable use. I found the position of the terminals a tad awkward, because they're so low down that even with the high-quality adjustable speaker spikes in place (five per speaker) there is little room for cable clearance and cramped finger space for terminal adjustment.

The B1 bears a healthy set of specifications crowned by the superb frequency response—for a relatively smallish speaker—of 39Hz to 33kHz –2dB. Sensitivity is 89dBSPL at 2.83V at 1M. Nominal impedance is specified at 4Ω. Crossover frequencies are 100Hz, 900Hz and 4kHz. The B1

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What's more, the cabinet material is an expensive compound of carbon fibre-loaded polyester that is also carried through on to the integral stand.

The tweeter features a 26mm metal dome which bears the Dickie trademark of 'Tapered Tube Loading' which is, simply put, a resonance and back wave controlling mechanism that is claimed to assist in the production of cleaner and more accurate highs. The same loading tube system (but in a different size and length) has been used at the rear of the 50mm metal dome midrange driver. The unusual bass system features two 158mm metal-coned units, one front-facing and the other on the rear panel, which are coupled with tensioners. The identical drivers are fed with the same signal and the opposing forces cancel any unwanted motional forces from being transmitted to the cabinet walls, where they'd otherwise cause ill-defined or blurred bass reproduction. Further cabinet reactions are suppressed by the twin opposite-facing flared oval ports. All the drivers are built in-house at Vivid Audio and feature massive custom-designed magnet systems that aim to maximise flux in order to exercise maxi-

with its integral stand weighs in at 38kg and measures 1250×430×530mm (HWD). The multi-layer automotive paint finish is of a very high standard and a full palette is available at extra charge.

PERFORMANCE

I found positioning the speakers to be relatively easy because the oval base allows you to shift them around easily prior to inserting the metal spikes/cones after I'd finally determined the final position. That position included a little breathing room behind the speakers, as recommended by Vivid Audio, to allow the rear driver to do its thing. The speaker is quite responsive to shifting around in terms of its bass output with obvious low-end variations and improvements to be gained from its careful boundary proximity placement and coupling.

I'd have to say at the outset that Dickie knows his drivers. The B1 is a model of tonal balance and overall refinement. And the drivers blend in a way that is seamless; the common diaphragm material and expertly-voiced and merged crossover points allow the speaker to disappear within the listening environment. The disappearing act is further enhanced by the intelligently-designed enclosure shape which optimises the dispersion.

Also due to the construction materials used in the cabinet, the full frequency spectrum enjoys a total absence of colouration or the type of nasality and bass blurring that a resonant enclosure can inflict onto the sound. The B1 is as neutral, superbly clean and crystal-clear a conduit as you're likely to hear.

And unlike many mid-sized speakers, the B1s can rock pretty hard. Perfect Circle's The Noose from 'Thirteenth Step' starts with a muted drum line then, a couple of minutes into the track, from the murkiness bloom snappy snare whacks that are superbly captured by the studio engineers. The B1's blinding transient attack ability handled the snare extremely well and, within the limitations of the relatively small 50mm midrange driver (when compared to the more common 125–165mm drivers), it presented enough dynamic briskness to drive the track along. Once again the tonality was spot-on; the snare sounded like a snare.

Dickie has wisely voiced the B1 to be a very balanced and accurate reproducer within its performance envelope. The midbass is not exaggerated at the expense of the lower octaves so the overall bass reproduction is very clean and consistently even. This accuracy may leave some die-hard rock n' rollers a tad wanting in terms of punch where the kick drum lives, for example, but for its size and driver complement the B1 performs very well indeed (as noted previously). And surprisingly, the bass lower down still comes through quite powerfully, although (and the measurements pages will perhaps confirm this) I suspect there is a steep roll-off at around 40Hz—at least there seemed to be one in my room. Nevertheless, the B1 performed admirably in the bass region given its size and my listening room's capacious dimensions (5.5 metres long, 10 metres wide and 4 metres high).

Doug McLeod not only has an extraordinary blues voice but is also one fine guitar player. His finger-picking style on steel strings is a minefield of micro-information as nail, finger and string meet. The B1 reveals an immense level of detail in a totally natural way and without smear or congealment; each item of the performance has its own identity as well as forming an amalgamated, or unified, part of the whole.

The 50mm mid dome and tweeter are an exemplary and totally unified team when handling subtle low-level resolution that many other speakers completely gloss over.

And the B1, given the extraordinary amount of resolution and detail retrieval that it is capable of, is a sweet performer. Never shrill, never harsh, not even marginally bright. This is truly expert speaker voicing.

The ovoid shape is not just the result of trying to achieve a pretty look nor a 'we want a point of difference' marketing tactic. The B1's low dispersion shape (there's minimal baffle profile near the tweeter and midrange drivers) throws a massive soundstage in all perspectives—lateral, depth and height—while images are fleshed-out and accurately placed. Enormous soundscapes were the benefits with orchestral pieces while intimate parlours were the illusion with small-venue live acoustic recordings and chamber music.

> *The Vivid Audio B1 is a truly remarkable mid-sized speaker which features intelligent design and engineering while never losing sight of the heart and soul of music.*

CONCLUSION

It's been two in a row at the Kramers'. The last speaker I reviewed was also an extraordinary mix of high technology and state-of-the-art performance. In fact, by pure coincidence it was the B&W 802 Diamond, a speaker that bore developed technologies that Dickie himself invented back in his days with the company. And indeed, there were remarkably-clear similarities between the two speakers in the evenly uncoloured, sweet and resolving mids and highs. In the B1, Dickie continues the tradition and carries the concept in a new and more personal direction. The B1 is truly a remarkable mid-sized speaker which features intelligent design and engineering while never losing sight of the heart and soul of music. Vivid indeed. ***Edgar Kramer***

VIVID AUDIO B1 LOUDSPEAKERS

Brand: Vivid Audio
Model: B1
Category: Floorstanding Loudspeakers
RRP: $20,500
Warranty: Five Years
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Superb engineering
Neutral and balanced sound
Aesthetically beautiful

Awkward binding post placement
Floorstanding competition may offer higher bass output

LAB REPORT: Turn to page 85.
Test applies to review sample only.

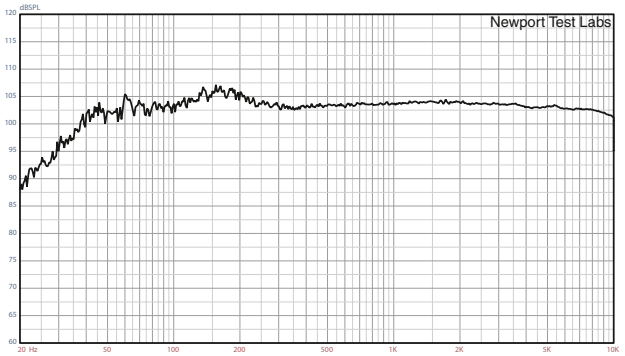
TEST RESULTS

Graph 1 shows the in-room frequency response measured by *Newport Test Labs* using pink noise as a test stimulus. The trace on the graph is the unsmoothed average of nine individual frequency sweeps (i.e., separate measurements) measured three metres in front of the speaker, with the central grid point on-axis with the tweeter. Although the upper measurement limit for this graph is 10kHz, you can see that the response between 300Hz and 10kHz is very close to being a straight line! This is superb performance from a loudspeaker.

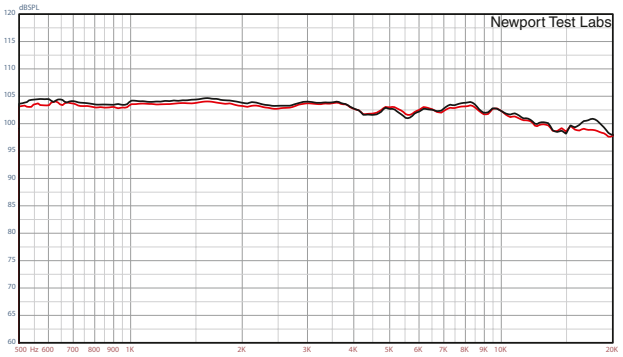
The trace below 300Hz is not quite so linear, being affected somewhat by the room's own acoustic, but you can see the low-frequency response holds at reference level right down to 40Hz, which is admirable for such a small loudspeaker.

The 'bump' in the response between 100Hz and 200Hz would be audible, but the 'lift' is only around 3dB and will in any case be affected by where you place the speakers in your own room.

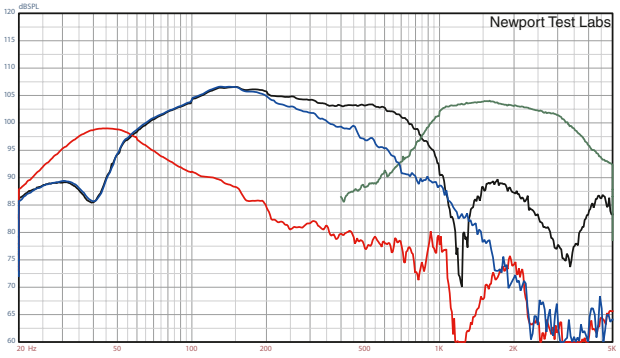
The second graph shows the Vivid Audio B1's high-frequency response in greater detail, using a gated sine measurement technique that simulates the frequency response that would be attained in an anechoic chamber. It shows the difference between listening to the speakers with the grilles fitted (red trace) and without (black trace). On the evidence of this graph, I would definitely recommend listening to the B1s with the



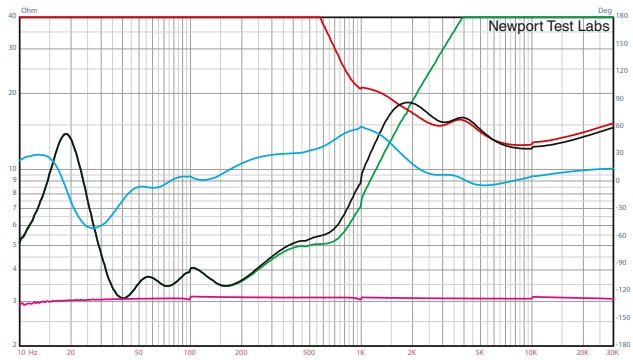
Graph 1. Averaged frequency response using pink noise test stimulus with capture unsmoothed. Trace is the averaged result of nine individual frequency sweeps measured at three metres, with the central grid point on-axis with the tweeter. [Vivid B1 Loudspeaker]



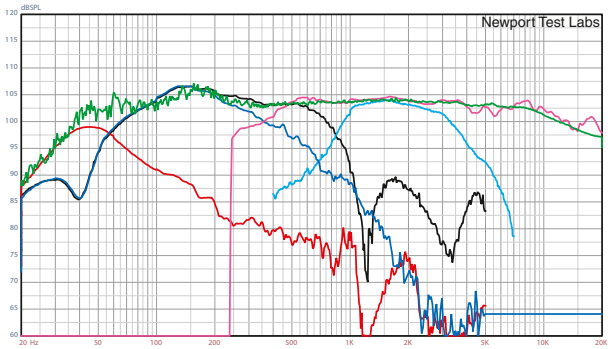
Graph 2. High-frequency response, expanded view. Test stimulus gated sine. Microphone placed at three metres on-axis with dome tweeter. Black trace shows response without grille fitted. Red trace is with grille. Lower measurement limit 500Hz. [Vivid Audio B1]



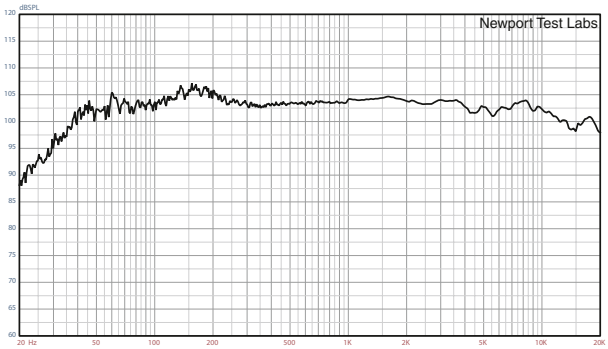
Graph 3. Low frequency response of front-firing bass reflex port (red trace), front-firing woofer (black trace) and rear-firing woofer (blue trace). Nearfield acquisition. Port/woofer levels not compensated for differences in radiating areas. Green trace is the nearfield frequency response of the midrange driver. [Vivid B1 Loudspeaker]



Graph 4. Impedance modulus of high pass section (red trace), low pass section (green trace), and of system (black trace) plus phase (blue trace). Pink trace under is reference 3-ohm precision calibration resistor. [Vivid Audio B1 Loudspeaker]



Graph 5. Composite response plot. Red trace is output of bass reflex port. Black trace is anechoic response of front-firing bass driver, dark blue trace is anechoic response of rear-firing bass driver. Light blue trace is sine response of midrange driver. Pink trace is gated (simulated anechoic) response above 300Hz. Green trace is averaged in-room pink noise response (from Graph 1). [Vivid Audio B1 Loudspeaker]



Graph 6. Frequency response. Trace below 900Hz is the averaged result of nine individual frequency sweeps measured at three metres, with the central grid point on-axis with the tweeter using pink noise test stimulus with capture unsmoothed. This has been manually spliced (at 900Hz) to the gated high-frequency response, an expanded view of which is shown in Graph 2. [Vivid Audio B1 Loudspeaker]

grilles in place, because they're effectively acoustically transparent, and the grilles offer additional protection for the drivers. As you can see, there is almost no difference between the two traces. The speaker grille does block a little of the energy between 15kHz and 20kHz, but few people over the age of 30 would hear any difference at all, because hearing acuity usually tops out at around 16kHz over this age.

The low-frequency performance of the Vivid Audio B1 is interesting. *Newport Test Labs'* measurements of it are shown in Graph 3. You can see the front-firing bass driver's response (black trace) extends flat right out to 600Hz, after which it starts rolling off so the midrange driver (green trace) can take over. However the rear-firing driver's output is rolled-off early, with a 6dB/octave filter cutting in at around 180Hz. Both drivers' null point is at 40Hz, but you can see the maximum output of the port is very slightly higher in frequency, at around 45Hz, though the port produces significant energy from around 25Hz right up to 80Hz. There is some unwanted energy transmitted through the port around 2kHz, but otherwise the port's output is very controlled.

Newport Test Labs' measurement of the Vivid Audio B1's impedance suggested to me that Vivid has made some running changes to this design, since it's significantly different to measurements of an earlier model that I've sighted. However, one thing that has not changed is that the speakers present a very low 3Ω load to the driving amplifier at 40Hz, and the impedance remains below 4Ω between 32Hz and 240Hz, and is constantly well below 6Ω between 27Hz and 700Hz. However the phase angles are not extreme, so any well-designed amplifier should be able to cope with these impedances. I was pleased to see that Dickie has made sure the impedance at high frequencies is higher than 8Ω and gets higher with increasing frequency, which means it's not going to trigger any amplifier protection circuits prematurely.

Graph 5 is a composite that essentially shows how the traces in all six graphs 'fit' together to give an overall picture of the Vivid Audio B1's performance with various different test signal types, in a variety of acoustic conditions. Although we haven't shown it as a separate graph, the B1's midrange and high-frequency performance is almost identical across ±30° horizontal and ±30° vertical axes, which is one additional reason for the superb performance shown by the trace in Graph 1. This uniformity of dispersion means you can choose to angle the speakers towards your listening position—or even *away* from it if you choose!—and you can also sit or stand while listening and still get essentially the same high level of performance. This latitude gives additional flexibility so you can place the speakers to optimise bass performance in the room, as this will be trickier than usual due to the rear-firing port and bass driver. Essentially, the overall response of the Vivid B1, as measured by *Newport Test Labs*, extends from 40Hz to 20kHz ±3dB.

Newport Test Labs' measurement of sensitivity fell well short of Vivid Audio's specification for the B1, with NTL returning a figure of 86.5dBSPL at one metre for 2.83Veq. This is a little less than the average which means you should think about using a moderately powerful amplifier in order to ensure maximum dynamics from this design. ***Steve Holding***