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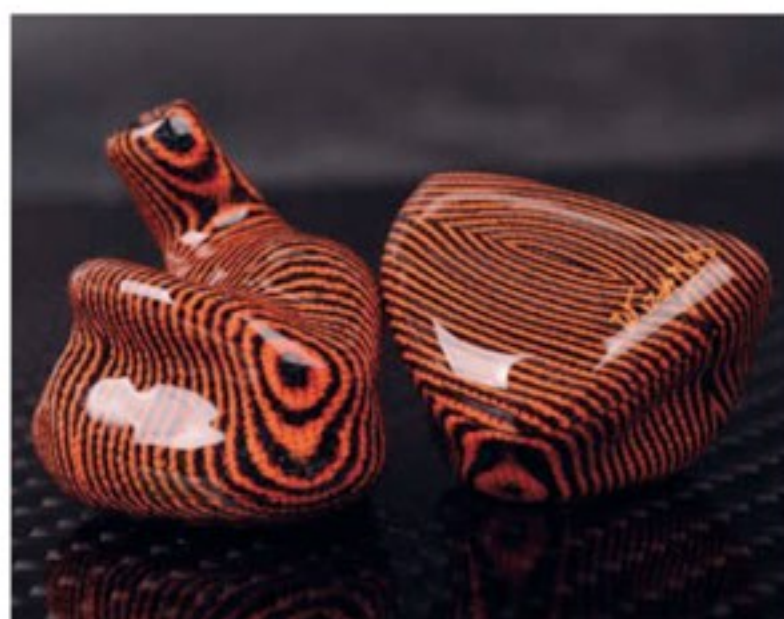


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Vivid B1 Decade loudspeaker

by Jason Kennedy

It's anniversary time again, this time for Vivid Audio, which celebrated its 10th birthday recently. To mark the occasion, designer Laurence 'Dic' Dickie went back to the first speaker he created for the company: the B1. He thought it was apt that after ten years in production this model should be given the anniversary treatment. It was also an opportunity to incorporate some of the things that he had learnt in the intervening decade, a period that saw the birth of the mighty Giya G1 in its curvaceous composite cabinet and the subsequent scaled-down offspring that it produced. When Dic first sat down to design the oval B1, he was relatively new to computer aided design; this hadn't stopped him from creating the original and distinctive Nautilus for Bowers & Wilkins, but it turns out that he was originally hired as an electronics engineer to build amplifiers and active crossovers for the brand. The Vivid B1 was, in fact, his first passive loudspeaker design. It was an impressive first effort – not only did he come up with the carbon-fibre loaded polyester compound material it was built with, but also designed the catenary domes used in the mid and treble drivers, and the centre of the mid/bass cone, the latter being mounted in reaction-cancelling formation on front and back of the cabinet. In fact, these speakers are chock-full of innovation, with only the tapered tube driver loading and choice of driver material being retained from the Nautilus project.

The experience that Dic has gained since the first B1 means that the Decade version looks a bit more curvy than its forebear. Vivid is very keen on curves, citing the change in pressure wave radiation that occurs at the edges of square cabinets as a major cause of coloration in loudspeakers. This is an idea that you see in many high-end loudspeakers today: it's why the KEF Blade and many others have avoided sharp-edged cabinets. But when Vivid introduced the B1, it was one of only a handful such designs.

Another idea that has been picked up by other designers is reaction-cancelling (or force-cancelling) driver arrangements, where the magnet systems of mid/bass drivers are on opposing sides of a cabinet, and braced against one another to keep them under control. Not many speakers have cancelling, opposing drivers in this manner as yet, although the design is gaining momentum in speaker design (KEF's Blade again), and is used in a number of subwoofers because of the larger forces involved.

Many of the other ideas introduced in the original Vivid B1 remain unique to the brand, and one of the most revolutionary is the catenary dome driver. This is a variation on the hemispherical dome used by the rest of the audio world that, when combined with a carbon fibre



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- reinforcement ring around the perimeter, pushes the first break up almost an octave higher than a conventional dome. A catenary shape looks more like the pointy end of an oval and can be seen in chains suspended between pillars. As a result, the dome in the centre of the mid/bass driver is not a dust cap, but an integral part of the driver in order to achieve a stiffer drive unit overall, with ventilation for the voice coil provided by a perforated coil former.

When Vivid’s team sat down to think about what they were going to do with the B1 to make it worthy of the company’s first decade (Vivid’s 10th anniversary was in 2014, so ‘a sense of urgency’ was probably not in the B1 Decade’s design criteria), the initial idea was to build the cabinet using the vacuum-infused composite sandwich technique employed in the Giya models. Dic put curves around the drive units for purely aesthetic reasons, and the Decade looks sexier than its flat-fronted brother, but he couldn’t leave it at that.

The mid/bass drivers on the B1 are both the same size, but the rear facing unit is only used to produce bass, while the front one goes all the way up to 880Hz, which makes this a three-and-a-half-way configuration. The second biggest change found in the Decade version is to this bass driver: the magnet system was created for the bass unit on the Giya G4 and has a longer linear magnetic field than the standard motor on the Vivid C125 driver. It’s only an extra 5mm and the movement of the cone is restricted by the surround, but it lowers inductance and this in turn improves mid-range performance. This means Vivid can roll off the rear driver a little earlier to give a flat power response and, this is where it gets technical, increase the ratio between the front and rear output by 12dB through the lower midrange. It gives the driver being used for bass a true first-order roll-off and this results in a flatter response overall. Dic still isn’t entirely sure why so much subjective improvement has been achieved with this relatively minor change in design, but he’s not complaining!

The rest of the B1 Decade’s armoury consists of two aluminium catenary domes, a 50mm midrange and a 26mm tweeter, which sit at the top of a cabinet that stands just over a metre tall on its integral stand. Another unique feature of Vivid designs that is literally obvious on this model is the use of reflex ports on opposite sides of the cabinet. These mean you can see straight through the speaker itself. This is another example of reaction cancellation through symmetry, air movement through a port causes a reaction from the cabinet, but if two ports are opposed they balance one another out without moving the box. There are more remarkable ideas in this speaker than there is space to describe them here, but suffice it to say that this is about as far from a ‘me too’ product as you will find anywhere in audio.

Cable connection is made via WBT bi-wire terminals at the back of the base, and there are five high quality stainless steel spikes for each speaker. However, these were left in the box and the speakers sat on carpet in the first instance. The mid and treble domes now have injected moulded protection

grilles with a hole pattern based on the mineral skeletons of radiolaria (look them up on Wikipedia!), which makes a change from the “we tried all sorts of designs and listened till our ears bled” explanations for tweeter grilles found elsewhere! The B1 Decade also comes with metal grilles that magnetically attach to front and rear and arguably add to the speaker’s appeal.

The Vivid had to follow Bowers & Wilkins remarkable 803 D3 speakers in my system and I was deeply concerned that there would be no way that they could take their place without leaving a lot to be desired. The Vivid is 50% more expensive than the B&W so it should be better, but price is no indication of quality. Therefore, I was pleasantly surprised that after a few tracks I didn’t feel that I was missing out, and that the Vivid even brought qualities to the performance that had been less obvious before; qualities that make the B1 Decade an instantly engaging loudspeaker. Its key attribute is the one that I hold in highest esteem: timing. It sounds so right in this respect that I was bowled over and had to listen to all of Kurt Vile’s ‘Pretty Pimpin’ [b’lieve I’m goin down... Matador] – in fact, just writing this makes me want to repeat the experience, it was that compelling. You can make a speaker that ‘times’ well with a single driver in a simple wooden box, but it won’t be as effortlessly revealing, as low in perceived distortion, and not nearly as evenly balanced in tonal terms as this. Several more tracks later, I was reminded that you can normally hear what a speaker is made of; cone and dome materials in particular have distinct characteristics as do many cabinet materials. Here... nada! Absolutely no hint of metal, no emphasis on cymbals or electric guitars, and no sign of cabinet resonance. Instead you hear huge differences ►

“I have yet to hear a Vivid loudspeaker that I didn’t like, but the B1 Decade is special.”

- ▶ in recordings because the tonal character of each voice and instrument is presented without the ‘little and often’ harmonious colorations that most speakers add. And, as mentioned, timing is spot on, and this applies right down to the lowest notes.

In balance terms, the B1 Decade has a warmer upper bass than the 803 D3, yet within that warmth you hear bass lines and reverberations that just didn’t make themselves apparent with the bigger speaker. It is also very smooth through the mid and top: presumably this is down to the various engineering breakthroughs involved with the dome drivers, but in all honesty you could be listening to a silk dome and a paper cone, so effortless is the end result. However, those drivers rarely give this degree of resolution, as their own colorations usually get in the way and mask the quietest notes. Not forgetting that the wooden cabinets they usually inhabit join in the fun by vibrating and adding to the overall presentation. Wood does this in a pleasant way of course, which is why it’s such a popular material, but ultimately you have to be making a lot of effort to get a wooden box of any size to be ‘quiet’ when it has a vibrating drive unit attached to it.

Back to the music: I picked up a *Nina Simone Sings Ellington* CD at a bootfair recently. Although this no-name recording drips with poorly-recorded syrupy strings, nothing undermine the power of her singing on ‘A Little Sugar In My Bowl’. Initially what you notice is the style of the recording that sounds ancient, the piano is positively distorted yet the voice breaks through the narrow band, distinctly ‘flavoured’ balance of the recording technology used at the time. This Vivid tells you all this and more, while putting the performance front and centre. It is very much a music-first product because it has been successfully engineered to have as little character as possible without the designer forgetting the point of the exercise. It’s surprising how often the science takes over, leaving the art as an afterthought in this game; but not here.

I have an admission to make which is that the majority of speakers I review end up on Townshend Podium isolation bases: once you start using these things it doesn’t sound right unless you carry on. The B1 Decade is the first speaker in over a year that has bucked that trend, and its timing in particular is better without the isolation. The midrange gets more revealing and image scale increases with Podiums, but that crucial factor is weakened. I’m not sure if this is because the speaker is so good at cancelling its own vibrations or if the material is particularly inert, but it’s quite an achievement either way.

In working on an upcoming review project I tried a Beyond Frontiers Audio Tulip amplifier with the B1 Decade and got unusually good results. The amp’s speed, delicacy, and openness suites the Vivid to a tee – the depth of image, the subtlety of the bass, and the fine detail that this combo exposed was addictively good. Bass notes in particular reveal harmonic shades alongside the fundamentals, and modern pieces like Laurie Anderson’s ‘My Right

TECHNICAL SPECIFICATIONS

Type: 3.5-way, four-driver, integral stand speaker with reflex loaded enclosure.

Driver complement: One 26mm aluminium dome with tapered tube loading; one 50mm aluminium dome with tapered tube loading; two 158mm metal coned mid/bass drivers with reaction cancelling bracing.

Crossover frequencies:

100Hz, 900 Hz, 4kHz

Frequency response: 39Hz – 33kHz
+/- 2dB on reference axis

Impedance: 4 Ohms

Sensitivity: 89dB/W/m

Dimensions (H×W×D):

1095 × 265 × 375mm (420mm base)

Weight: 36kg/each

Finishes: rosso red, piano black.

Price: £18,500 per pair

Manufacturer: Vivid Audio

Distributor: Vivid Audio UK

Tel: +44 (0)1403 71 3125

URL: www.vividaudio.com

Eye’ [*Homeland*, *Nonesuch*] are absolutely beautiful – captivating in fact – and a good example of how recording technology has progressed over time. You can enjoy the tonal luxury of Decca SXLs with this speaker, but it won’t gloss over the character of such classics... it will let you hear them exactly as they are.

I have yet to hear a Vivid loudspeaker that I didn’t like, but the B1 Decade is special. It lets more of the music through by virtue of its balance and its spectacular timing. The fact that you can hear so much through it is rather good, too. But if you want a pair don’t procrastinate; the Decade is a limited edition model with only 200 being made in each shade, rosso, and piano black. +