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WILSON BENESCH VERTEX

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EQUIPMENT REVIEW

Wilson Benesch Vertex loudspeakers

By Alan Sircom

When is a standmount not a standmount? When it's a Vertex. OK, on a scale of one to 10 of jokes, that hardly makes it to a 'one', but the stand of the Wilson Benesch Vertex two-way standmount is integral to the structural integrity of the design. It is part of Wilson Benesch's new four-strong Geometry Series, which includes the floorstanding £8,095 Vector, a new center channel the Fulcrum and a new flagship speaker, the Cardinal which having seen the baffle with my own eyes, I can reliably inform will be vastly larger in size and price relative to the first speakers in this series.

One of the few points of commonality between subjective listeners and their objectively-driven counterparts is the importance good loudspeakers have on the overall sound of hi-fi. Good loudspeakers well set up in the right room is a sure-fire way to good sound. It is also commonly accepted loudspeakers offer the most variation in performance. Many feel that, because of these two fundamental maxims of modern audio, the next great jump forward in sound quality comes from the loudspeaker above all.

When you think about improving the lot of box loudspeakers, there's potentially not a lot left to do. Every variation of cabinet size, port, drive unit complement, crossover network and box shape has been tried. So, if there's any significant changes in box loudspeaker design, it may well come from using new materials.

This is not exactly new. For almost as long as there have been cone and dome loudspeakers, manufacturers have been using something more than paper cones and fabric domes. From the 1960s, brands like KEF and Bowers & Wilkins pioneered the use of new materials in drive unit technology, but arguably no company pushes the envelope of materials science these days quite like Wilson Benesch.

The Sheffield-based company has established useful contacts within the university materials science and engineering scene, both in the city itself and around the country. This harks right back to the company's original turntable and tonearm designs more than 20 years ago, which used carbon fibre long before it was fashionable to do so.

Wilson Benesch describes the Vertex as a "two-way, true phase linear, free space, ported enclosure, stand mounted monitor." I could do the same expressed over several hundred words, but the terse description fits extremely snugly. It's all those things, now let's look at them in detail.

The 'two-way' part is absolutely correct. Except these aren't off-the-shelf drive units. They aren't even hot-rodded versions of off-the-shelf drive units. They are Wilson Benesch's own Semisphere 25mm soft dome tweeter and Tactic II 170mm mid-bass unit. It's easy to dismiss the new Semisphere as just another one-inch soft dome tweeter, but this one took Wilson Benesch a decade of R&D, involving lots of experimentation with new dome materials, (increasingly) rare earth magnet materials and a distillation of the tweeter-maker's art to come up with something special. The result is a tweeter dome material with a mass about a third of its predecessor, set in a side-and-rear venting into a silencing chamber, allowing the system to have a first resonance point at nearly 6kHz. The tweeter assembly itself comes in at just over a kilogramme.

The Tactic II mid-bass unit is perhaps better known, if only because it was developed from the Tactic 'multi-role' drive unit used in many previous Wilson Benesch designs. Like the Semisphere, this is no ordinary drive unit, and is a product of Wilson Benesch's pioneering work with Sheffield's Hallam University. The driver is the result of extremely advanced electrical and mechanical engineering analysis, way beyond the abilities of the vast majority of loudspeaker makers, to produce a highly optimised motor system. Controlled right down to the lines of flux level, the 8mm thick neodymium magnet has increased flux density across the coil by almost 50% on its predecessor, which allows for a cone mass almost a third lighter while achieving a claimed 3dB increase in driver sensitivity. The net result is lower distortion, higher sensitivity drive units. Bolting them to a front baffle of thick alloy means they sit in a rigid environment, and that helps, too.

Surprisingly, as does the death of the cathode-ray tube. Now that loudspeakers go into a land of plasma, LCD and LED monitors, the need for magnetic shielding has effectively evaporated. And yet, manufacturers still mag-shield their drivers, despite some of the deleterious effects such shielding can have on the magnet's behavior. Wilson Benesch – always the pragmatists – felt there's no need to compromise a drive unit just to keep a defunct 20th Century technology happy, and the result is a more linear driver.

Drivers alone do not a loudspeaker make, and it's in the Advanced Composite Technology monocoque cabinet that Wilson Benesch really shows its mettle. The monocoque is made up of a woven carbon fibre bonded to layers of energy absorbing resins, used to form the rear and sides of the cabinet. This material ends up being about as thick as a typical MDF cabinet and is precisely moulded in an RTM system the geometry of which is designed to maximise stiffness. The result is both a cabinet ▶

material and enclosure structure that has a series of complimentary resonant 'signatures' that cancel one another out in the bass and midrange, while high-frequencies are transferred and damped by the carbon fibre. This gets close to the goal of a box loudspeaker free from cabinet coloration.

The twin reflex ports fire down, which goes some way to explain why the stand is an integral part of the Vertex design. Rather than supply speaker and stand in separate boxes, the Vertex is supplied with stand attached… with high-tensile bolts. Short of taking a baseball bat to the speaker, nothing's going to move it from that stand, and to be honest, you are more likely to break the bat than the speaker. And why are you hitting a loudspeaker with a baseball bat, anyway? The stand also contains a cable management system (rhodium plated bi-wire terminals are at the rear of the base of the stand, the cables are hand-wired, and are sliver-plated copper wires from something hush-hush in the military. If I told you where they came from, you'd be dead before you finish the sentence) and the first order crossover on the tweeter This last features the usual laundry list of greatness, including selected polyprop capacitors and air-cored inductors. The three point stand does come with useful spikes, which are adjustable from the top of the stand, they also allow adjustment of the speaker's rake angle, which is surprisingly important in the quest for good sound.

The Vertex is all about balance. You need to install them with care, as they aren't easy to dismiss with a 'three feet from the rear and side walls' wave of the hand. Wilson Benesch recommends 'voicing' the speakers in the room, finding the best spot where four carefully chosen pieces (spoken word, full orchestral, something you have a personal emotional connection with and something rhythmic) work well, and taking some not inconsiderable time to find this sweet spot. Listen, move, listen again, move again, and so on until you find your best balance. The company also recommends some 70 hours of run in, but the review samples had already had many more hours on the clock so any changes to performance should have been the stuff of history.

Choice of amplifier is extremely important. The Vertex is a window into the soul of the system, and the right amp can make a huge difference to the performance. Put them on lively sound electronics and they sound completely different to something warm and relaxing. In that respect, the Vertex is more of a chimera. The speakers aren't power hungry, but they come to life on the end of both quantity and quality. The specs (89dB sensitivity, four ohm minimum impedance) belie the Vertex speakers' desire to be well-fed. We found they got what they crave from the Devialet D-Premier (Wilson Benesch have used one in its own demonstrations) and the Burmester system (*ohne* speakers) featured in this issue. With such a system, they simply 'resolved'.

These speakers do this because they are inherently uncoloured. An interesting aside here is that some amp/speaker combinations are designed to even out the idiosyncrasies of the one another. By inserting a speaker that doesn't play that game, you can sometimes expose the true character of the equipment that goes before the Vertex, and sometimes those electronics come up short. I wouldn't blame the loudspeakers here.

I'm not the most jingoistic person on the planet, but it's a fine thing for an Englishman to say that the Vertex shows we are still damn good at making state of the art things, and still know how to make a damn good two-way standmount. Because – even though the stand is integrated – it remains a damn good two-way standmount.

The Vertex does make the reviewer's job easy and difficult in equal measure. Easy because there's lots of technology to talk about; difficult because it does its job so well. Some loudspeakers try to be musical instruments, this tries to be a reproducer of music in its entirety. Highlighting specific examples of this is to try and pigeon-hole a loudspeaker that defies classification. Play Blues and it sounds like the Blues. Play an orchestral piece and it sounds orchestral. Ditto, jazz, rock, world music, dance... what have you. If the music has scale and dynamic range, the Vertex portrays it well. If it's weedy and compressed, it portrays that too. Stereo is simply is what it is supposed to sound like, given the recording and the room. It does what speakers are supposed to do, and so few really achieve; it plays what it is given.

That bespeaks maturity in the speaker, the system and the listener alike. Beautifully made, this is no "mug's eyeful"; the Vertex demands a listener who doesn't want fireworks unless the music specifically ordered fireworks. One who is prepared to put in the hours of listening and adjustment to get the best possible sound and who builds systems that are even-handed and well-balanced. If all of this makes you think 'boring!', you aren't ready for the Vertex yet. Come back when shiny things begin to lose their lustre.

One thing that is exceptionally clever about this design is that its double reflex port design is one of the least 'porty' sounding loudspeakers around. The speaker has the speed of delivery of a sealed box, and none of that chuffing port sound you get from most ported loudspeakers.

This is the kind of speaker that will never appeal to the 'musicality' brigade. There's no magic, no special pleading for the beat, no power of the pace, just a very natural sounding speaker. Rhythm in the Vertex is a function of the performance and the installation, rather than an intrinsic quality of the loudspeaker or the system. That the can bring out the rhythmic properties of a performance, and that it is demanding enough to make those properties hang on factors such as placement shows just how uncompromisingly honest these loudspeakers are.

With this honesty comes the fact that you cannot bend the laws of physics just to suit loudspeaker sales. This is (effectively) a two-way standmount loudspeaker. It delivers good bass for a loudspeaker of that kind of design, and is ideally suited to work in small rooms of mostly brick; the sort we British pay far too much money for. In a bigger space, or a room that doesn't have the same construction methods, the bass rolls off honestly and accurately. But it rolls off. In truth, I would rather have a loudspeaker like the Vertex that rolls off predictably than a speaker that introduces its own distinct sub-100Hz booms to make the speaker seem bigger than it really is. Especially as those last few bass notes can be underpinned better by Wilson Benesch's own Torus infrasonic generator. However, those who have risen through the small speaker ranks looking for the ultimate small-box design might at first find the honesty of the Vertex almost disconcertingly honest.

That's the thing about the Wilson Benesch Vertex. It couldn't be more truthful if it were sworn in on the courtroom floor. If you want a speaker system that adds 'that certain something' to the sound, this isn't it. But if you are after a mature approach to sound reproduction that doesn't come with the usual baggage of favouritism, a speaker that genuinely reproduces whatever signals its fed honestly, accurately and without prejudice – and especially if you are either seeking these goals in a small room, or accept that the best way to make full-range stereo sound is through a 2.1 or even 2.2 channel system – the Vertex should be very high on the list. +

Tactic 2 woofer cross-section with internal components highlighted

TECHNICAL SPECIFICATIONS

Type: Two-way, true linear phase, free space, ported enclosure, stand mounted monitor
Drive units: 1x 170mm Wilson Benesch Tactic II mid/bass unit
1x 25mm Wilson Benesch Semisphere soft dome tweeter
Low frequency loading: Double reflex port tuning
Frequency response: 44Hz-30kHz ±2dB on axis
Sensitivity: 89dB SPL @ 1m on axis. 2.83V input
Impedance: six ohms nominal, four ohms minimum
Maximum SPL: 118dB @ 1m
Power Handling: 200W peak
Dimensions (WxHxD): 23x105x37cm
Weight: 23kg including stand
Finish: Regal silver, Black and Titanium. 10 wood finish options to order

Price: £4,650 per pair (including stands)

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