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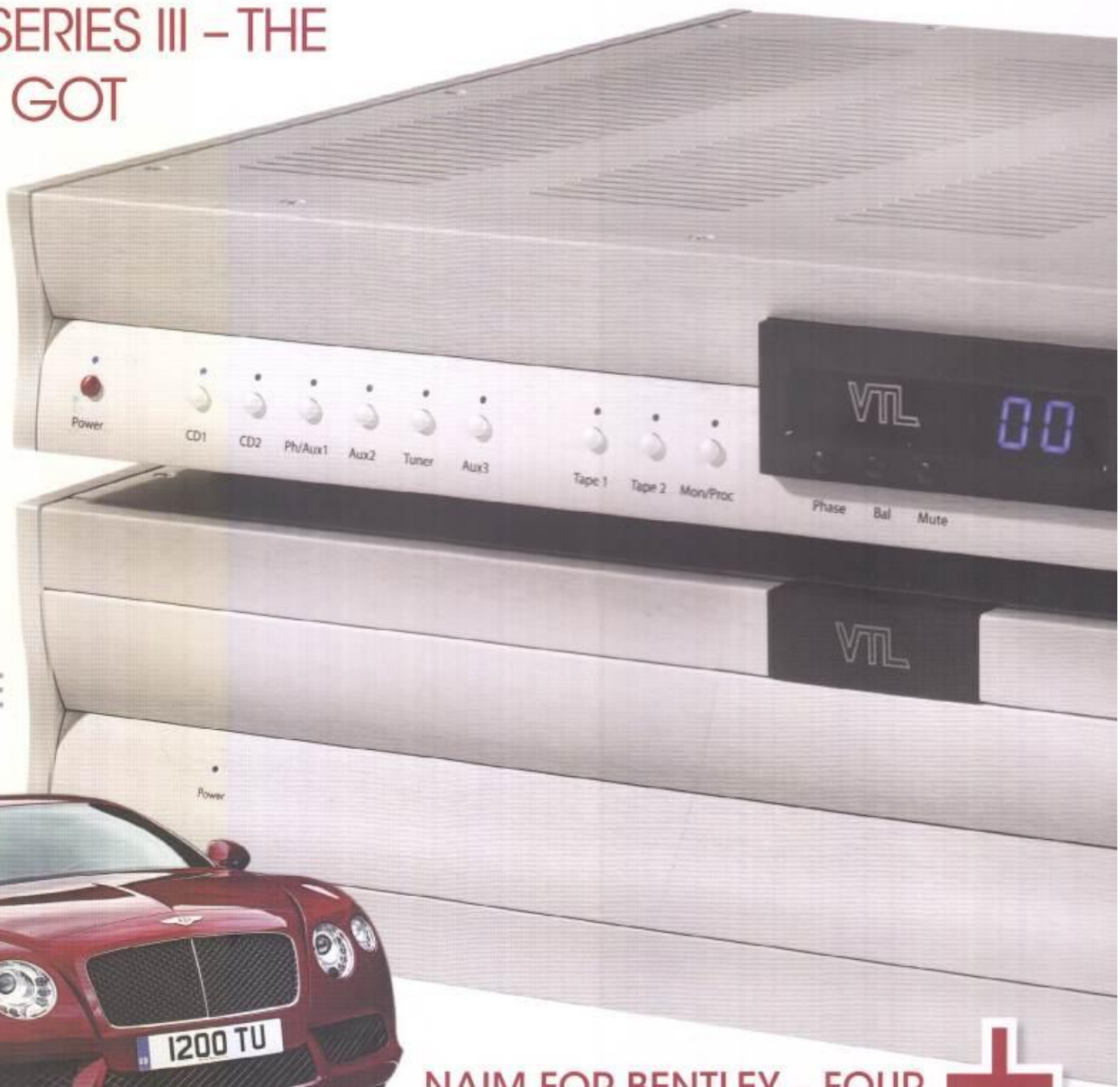
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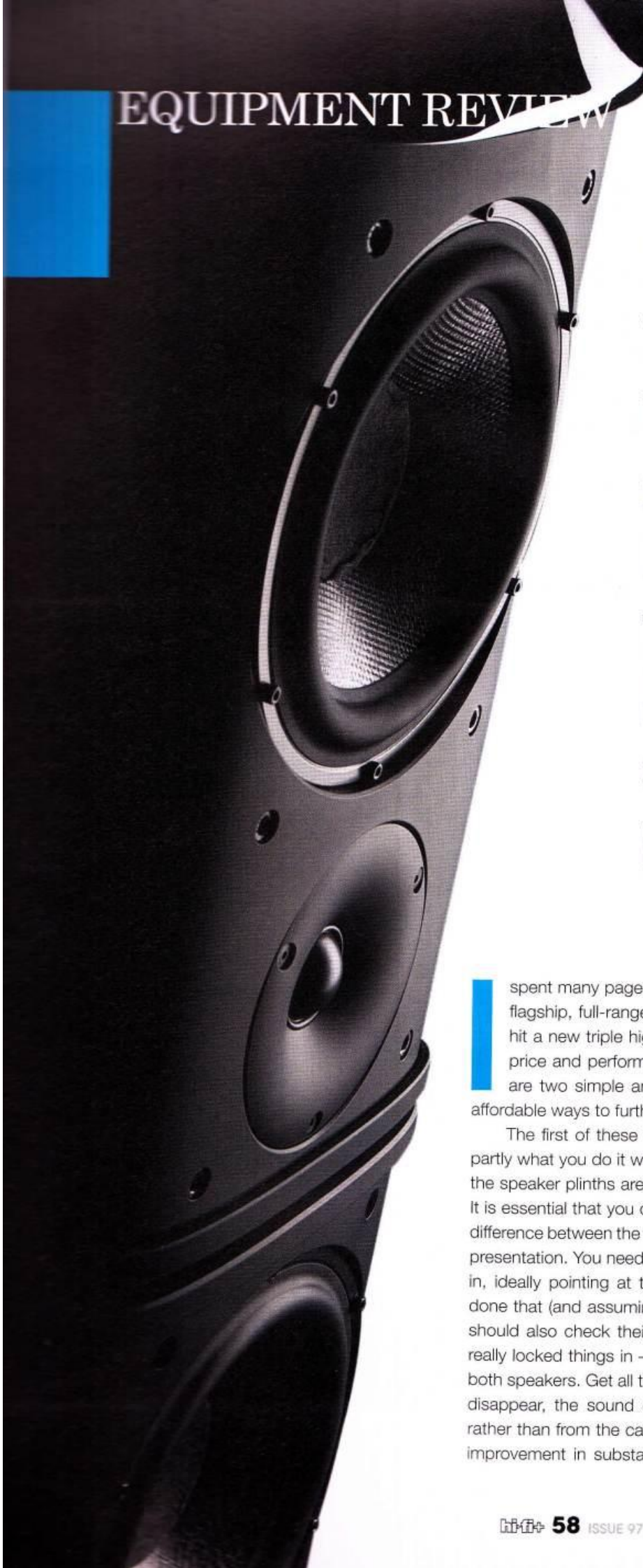
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Cherry on the icing on the cake... getting even more from the Wilson Benesch Cardinal Loudspeaker

By Roy Gregory

I spent many pages in Issue 96 heaping praise on Wilson Benesch's new flagship, full-range loudspeaker, the Cardinal. You could argue that they hit a new triple high for UK speaker designs, of engineering excellence, price and performance. But, as genuinely impressive as they are, there are two simple and (at least in the context of their £55,000 price tag) affordable ways to further improve their performance – significantly!

The first of these is entirely to do with set-up: partly what you do, and partly what you do it with. Those massive hand wheels on the rear corners of the speaker plinths are there for a reason – to allow you to level the speaker. It is essential that you do so. With a speaker this tall and narrow, any angular difference between the two enclosures will be clearly audible in the soundstage presentation. You need to get the speakers exactly vertical and precisely toed in, ideally pointing at the shoulder width of a seated listener. Once you've done that (and assuming that you've already optimised their placement) you should also check their rake angle. I found a slight down angle/forward tilt really locked things in – but again, you must make sure that it is identical for both speakers. Get all the angles correct and that's when the speakers simply disappear, the sound coming from the space between and behind them, rather than from the cabinets themselves. But you'll also notice a worthwhile improvement in substance and dynamic impact. Singers are more present ▶

▶ and more believable. The space around and between musicians and instruments is more clearly defined and drums in particular have more body, volume and weight.

The other aspect of set-up involves those four sets of speaker terminals on the Cardinal's underside. Given that few if any listeners will be running quad-wired cable sets, it looks like jumpers are going to be an essential component. Make sure that you use identical jumpers across the various legs of the crossover, and that they are made of the same wire as your speaker cables. With a speaker design in which the engineering is this coherent, any unnecessary discontinuities in the rest of the set up are painfully apparent. You'll only achieve the full measure of the Cardinals' integration if you make sure you take these small, extra steps. They may appear trivial in cost or material terms but they can still do considerable harm if they are not attended to.

One of the Cardinal's most remarkable qualities is its seamless sense of integration. The sound is incredibly consistent from top to bottom, with no audible breaks, discontinuities or changes in character. Instead, they sound like a single driver. But, to achieve that you must pay attention to the steps outlined above. Positional precision will result in that completely coherent soundfield, behind and separate from the speakers; cable coherence banishes any shifts in tonal balance or energy levels. But less than ideal arrangements in either of these regards and the blemishes are all too obvious. If the sound clings to the speakers, if instruments sound like they are living inside them, then look to the vertical angle and toe-in. If the treble sounds even slightly fuzzy or spot-lit, it's almost certainly related to the jumpers being used. However, get these details right and you'll be rewarded with a sound that really does have a space, a life and an energy all of its own, apparently free and independent



of the system reproducing it – which makes for a system that's much more convincing and far more enjoyable.

Given how good the Cardinals will already be sounding, the next step might seem like overkill, but believe me when I say, once you hear it, it will be a no-brainer. If you really want to hear what these speakers can do, then add a Torus Infrasonic Generator. Given the size (and price) of the Cardinal, you might well wonder why you should need to add a sub-woofer, and what exactly a sub-woofer can add anyway? Well, the answer to that is that the Torus is no ordinary sub-woofer, its combination of an remarkably stiff, light, large-diameter diaphragm and soft suspension with an incredibly powerful, mechanically grounded, push-pull drive system and external amplifier delivers astonishingly clean, fast and well-defined bass fundamentals from a package that is compact, elegant and at £6,400, refreshingly affordable for the performance on offer. I reviewed the Torus (along with the small, three-way Trinity loudspeaker) back in Issue 59, giving it one of that year's Awards. In ▶

► fact, if I had the luxury of a settled system, the Torus would be an essential part of it. Instead, I'll have to settle for it being an essential add-on for the Cardinal.

Because Wilson Benesch weren't prepared to go for the "big-driver and added padding" solution to low frequency weight, the Cardinal depends on speed and precision to deliver its bottom-end substance, a balance it strikes with remarkable success. Indeed, simply listening to the Cardinal won't leave you feeling short-changed – until you hear it with the Torus! The main cabinets might boast a -3dB point at an impressive 25Hz, but there's no mistaking what the Torus adds to the party! Play the moody, somber opening to Rachmaninov's 'Isle Of The Dead' (Jurowski/LPO 0004) and the cardinals give you a convincing sense of space and presence, but add the Torus and the acoustic simply expands, taking on a new height and greater space between and around instruments. The bass notes offer more texture and timbre, with a blossoming of tonal colour across the rest of the orchestra. All of which is to be expected from an orchestral heavyweight like this. But what you probably aren't expecting is the shift in pace and timing. Using the Torus makes the Cardinal on its own sound clipped and hurried. Adding the bass unit brings a stability and anchored sense of timing that allows the music to swell and breath, to take on a more stately and far more effective tempo, transforming the emotional intensity and impact of this live performance.

The Torus couldn't do all that unless it integrated really well. The good news is that it does so – and does so very easily. It's preferred positioning, central between the speakers and the same distance from the listener to its center as to the speaker baffles, certainly helps, but there's more to it than that. The unit's clever design, super stiff cone and astonishing level of control are what allow it to keep up with the Cardinal, while the lack of boxy colouration further aids the seamless integration; if you want to know just how seamless, try it on something small and intimate.

Mathilde Santing's album *Water Under The Bridge* (WEA WX18 – 240683) is full of delicate, intricate yet joyously upbeat pop. The track '(I'm Not Mending) Broken Hearts' is a perfect case in point. With a rolling, rollicking rhythm, sudden switches in density and instrumentation and a complex arrangement underpinning Santing's fragile vocal, it's tailor made to reveal the first hint of clumsiness or excess weight anywhere in the system. But once again, adding the Torus brings the song to life, adding shape and texture to the tactile bass line, vibrance to the sax and presence to the drum kit. But what really impresses is how much more solid, separate and naturally expressive the voice becomes, how much more explicit the rhythmic patterns. Listen longer and you realize that what the Torus has done is pick out the cymbal work and percussion motifs that accent the shifts in pace and tempo. Suddenly, what was simply noise takes on definition and a proper place in the mix. They say that you'll hear a good sub-woofer in the system's treble response and (in the words of the song) – if so, there goes your proof.

The wrong side of £6K might seem like a lot of money for a small increase in bandwidth for what might already be considered a full-bandwidth design. But that £6K will turn the £55K you've already invested in the Cardinals from seriously impressive to somewhere beyond your wildest dreams. If you want a system that really can sound live, that lets you forget the means of reproduction and simply lose yourself in the music, the Cardinal/Torus combination does just that. It does it without fear or favour, bringing out the best in recordings rather than fastening on their weaknesses. What the Torus does for the Cardinal is allow it to let go – in the best possible sense. As a listener, it will do the same for you, which places its contribution pretty much beyond price. The Cardinal is great, the Torus is great too – but together, the whole is so much greater than the sum of the parts. +

TECHNICAL SPECIFICATIONS

Type: Sealed chamber infrasonic generator

Driver: 450mm dual motor, carbon-fibre cone with mechanical ground post

Bandwidth: 10 – 150Hz

Amplifier: 200 Watt bi-polar, DC coupled

Weight: 32kg (Torus)

Dimensions (WxHxD): 450mm diameter, 330mm high

Price: £6,420

Manufacturer: Wilson Benesch Ltd

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