

# Standing the pace

**hi-fi**  
WORLD

For those who crave speed and insight above bass and boom, Wilson Benesch's Arc standmounting loudspeaker is in a class of one, says David Price...

**A**lthough regular readers will know that these days I'm a keen advocate of a certain classic monster Japanese three way loudspeaker with bass drive units of twelve inches in diameter, the truth is that – in my earlier years when I didn't have a listening room appropriate for behemoth boxes – the only loudspeaker I could listen to was the original Linn Kan (mark one).

As anyone who's ever heard one will tell you, these late seventies miniatures, packing *de rigueur* (for seventies speakers, of course) KEF B110 midrange drive units, married to sweet ScanSpeak 207 cloth dome tweeters, were quite ridiculous. There were two key reasons for this: first, the aforementioned B110 was called upon to perform not only midrange but also bass duties, and second, Linn didn't sweeten the pill by drilling holes in the cabs (i.e. port them) in a bid for better bass extension/sensitivity.

Oh no, they did not – and the result was a speaker with nothing to speak of (excuse the pun) below 110Hz (I always used to think that the '110' referred to the roll-off, but it was of course the cone diameter in millimetres!). And not only did they have bugger-all bass, but they were criminally insensitive too – the only speaker I've seen trip the cooling fans of Naim NAPI35s. Ah, those were the days...

Anyway, I digress. My point is that the original Kan Ones were a faintly ridiculous contrivance, but – wow – could they play a tune! In fact, they were so dextrous, so dynamic (providing you could muster an amplifier of at least 100W RMS plus), so rhythmically engaging and so spatial (yes, really, even though Ivor had recently decreed the such a thing as soundstaging didn't exist, if I remember rightly!) In fact, they were so good that even my brother loved

them, who was (is) a gifted musician but certainly no audio aficionado. In fact, he played (plays) the bass guitar almost as good as Nile Rogers, so it was kind of ironic that despite the Kans lack of LF, he bought them from me, drove them with a NAD3020 and plugged his Fender Jazz Bass into them...

The point is that small speakers, if done properly, can be amazing. And even in their point of greatest weakness (i.e. the bass), they can do things that even big speakers cannot. The Kans could and did, but since that glorious, silly, ridiculous LS3/5a look-alike from Linn, few have really floated my boat. And so to the Wilson Benesch Arc.

Now nothing gets past me. The first time I heard these speakers a proper was at the 2005 Bristol Sound and Vision show – literally years after they'd been launched. But given that newness does not (in my book) guarantee greatness, I was keen on hearing more, and so it transpired that I finally got to hear them at home, and review them...

There is no magic to loudspeaker design; much as designers would have you believe otherwise, a speaker's abilities begin and end with [a] the materials used in the cabinet and drive unit and [b] how intelligently they're integrated and/or implemented. It's not snake oil, voodoo or a case of being a very cool brand – it's physics. What sets these boxes apart is – at the risk of being a tad too reductive – the materials technology, which is nigh on unique.

The innovative curved A.C.T. carbon fibre panels that were

originally engineered by Wilson Benesch in 1995 do something that wood or fibreboard, no matter how nicely implemented can't. In this, I'll explain what they bring to the party, so to speak, and why I value it so much. Whether or not you think this important to you as a listener/buyer is another story, and nothing short of a dealer and/or home demonstration will convince you. But at least hear me out!

## TECH TALK

The important thing to understand about speakers is that, by and large, any given product on the market is an assemblage of other people's

products (essentially OEM drive units, married – often very cleverly – to a custom designed crossover and a bespoke cabinet made from fibreboard). Now,

there's nothing terribly bad about fibreboard cabs, and companies like KEF don't half get stunning finishes from them, but they're not ideal. As Wilson Benesch modestly point out, you don't get Formula One racing cars made from

Arcs, aside from those ever-so-special cabinets, is the drive units, which again are WB fare: one 170mm (7") Wilson Benesch Tactic bass / mid range unit, and one 25mm (1") ScanSpeak soft dome, hand painted silk dome tweeter. The drivers are loaded with double reflex ports. Being an 'infinite baffle kind of guy' (I'm reaching forty years old, allow me my conceits), I'm not naturally drawn to ported loudspeakers, but this is no longer 1978 and although Linn could (just about) get away with IBs back then, I doubt if more than three people would buy the Arcs (with their compact 310x 230x 370mm cabs) if they didn't have at least this concession to real world operation nowadays (my brother and I would take the first two pairs...). So, the result is a claimed -6dB at 42Hz and 30kHz, and -3dB at 45Hz and 25kHz with 88dB at 1 metre on axis. 2.83V input [see MEASURED PERFORMANCE].

Still, they're no stroll in the park for an amplifier – especially when you consider their quoted 6 ohm nominal load - and methinks the likes of the brilliant Sugden A2.1a (my fave £1,000 integrated) would be going 'absent without leave' at the merest sniff of the WBs. You're really talking 100W RMS to tickle the Arcs; I used them with the TacT SDA2175 power amp and the Musical Fidelity X-150 integrated, both of which made an extremely nice noise with them.

The crossover frequency is 5kHz; the midrange crossover is first order, the tweeter crossover second order. Selected polypropylene capacitors and air cored inductors are used throughout. Internal wiring is multi strand silver plated copper, PTFE jacketed cable harnesses, with soldered connections throughout and short path PCB design is used. Links are supplied for single or biwire applications, with in-house machined gold plated copper alloy terminals. WB quote a power handling of 200W peak unclipped programme – which tallies with my experience. Internal volume is 10.5 litres and weight 11 kg apiece. They have the option of bespoke stands, which stand the speakers 950mm from the floor and make each speaker weigh 28kg. The standard finish is polymer coated alloy, although real wood veneers are an option.

### SOUND QUALITY

The easiest way to describe the Arcs is to imagine a Quad ESL-57 shrunk by a factor of three. There's

something eerily electrostatic-like about these speakers that strikes you within seconds of hearing them. Interestingly, it's not just the obvious clarity, neutrality and openness that you'd associate with panel speakers, but the conspicuous lack of cabinetry. Now, with all Quad electrostatics, there are no cabinets at all – only frames – and that's what strikes me as the defining characteristic of the Arcs.

Of course, the Arcs do have cabs, but it's obviously the fact that WB have so ably removed them – to all intents and purposes – that makes them sound so unusual. And just as with Quads, the sound isn't immediately appealing, as you're spared the 'boom tizz' that most MDF boxes introduce. This means that – despite the obvious frequency extension – they don't sound big, powerful and physical in the way that, say, Cerwin Vegas do. They don't euphonise the sound, make it easy, soft, satisfying or benign on the ear. Rather, you get what's coming to you...

Light of the World's 'Time', a classic slice of early eighties jazz funk, is a case in point. There's no massive, room-filling, flare-flapping physicality here. Instead, bask in the amazing midband insight, complete with it's superb soundstaging and projection. The music is upfront and in your face all right, throwing right out into the room (unconstrained by wooden boxes, sure enough) but unlike most loudspeakers which project like stage lighting, these don't rely on excessive mid-forwardness to do the trick.

This is an interesting point. Rule one in the speaker designer's textbook is that, if you want ear-shredding forward impact, crank up the midband. This done, speakers will certainly push out into the room and sound impressive. However, the Wilson Benesch perform this trick whilst still sounding civil and smooth in the midband. This is precisely what I found fascinating about them when I first heard them; they're not raucous or rowdy, yet they push out into the room with a glass-like clarity. Must be the combination of those carbon fibre cabinets and those couth, finessed drive units...

It's also for this reason that music such as this works so well with the Arcs; they're super fast. The lack of bass overhang will unnerve those used to conventionally cabinetted speakers, but thrill them too. There's no boom, but there's oodles of punch and grip and speed and good old unreconstructed shove. The WBs push the groove of the

MDF.

What you need is the lightest, stiffest, tightest cabinet material possible – and right now, that's very probably carbon fibre...

The Arcs, however, don't sport medium density fibreboard cabs; they're carbon fibre. And even if these things had the cheapest, nastiest Chinese OEM drive units inside (and they don't, by the way), then boy can you hear it. Or rather, boy, you can't hear it. Because – as you'll read later – boom, plodding bass and fruity, rich colouration 'came there none'...

The next best thing about the

song along like no other standmounter at the price – even the Acoustic Energy AE1 III. They lack weight and physicality (which the AEs have, at least a little bit more) but make up for it in zing. For this reason, they're a joy with rhythmic soul, pop and funk. No, they're not quite as tight as portless Linn Kan

**REFERENCE SYSTEM:**

**Pioneer PL-L1000/Koetsu Red turntable/cartridge**  
**Whet Audio PS20/MSU20 phono stage**  
**MF Audio Passive Preamp**  
**TacT SD2175 power amplifier**  
**Quad ESL989 loudspeakers**  
**Townshend Maximum Supertweeters**

Ones, but not far off at all.

Cue up some jazz in the shape of Lonnie Smith's 'Expansions' and you find yourself listening in an entirely different way. The WBs have very impressive tonality, one that really communicates the texture of the brass instruments, the rhythm guitar and the Hammond organ, but unlike – for example – Quad ILLs (see p19) they never slow things down. So you get to hear how the instrument sounded at the time of recording, and the rhythms that the musician was playing with it. This is the key to the WBs, and it's a rare combo; we all know that it's usually one or the other, as some speakers are voiced for grip, others for neutrality, but if you've got the basic physics right then a proper speaker should do both.

At the frequency extremes, the Arcs show their small beginnings. Frankly, no matter what the manufacturer claims, a 10.5 litre enclosure isn't going to thwack you in the back or rattle your fillings. The good news is that the WBs aren't lumpy; there's no cheapo mini-

monitor style bass peak stuck in at around 100Hz that I can hear, they're even as they go down the octaves with no lumps or bumps. But they don't 'rock the house', or even induce a tremor. Obviously, if you want 'banging' dance music, buy £100 floorstanders from Richer Sounds.

Treble is very accomplished. I

have the feeling that it's a tad rolled off, but this isn't to deny that what there is, is very couth and finessed. This is partly what contributes to the creamy sound of these speakers.

Matched with Cyrus electronics (as indeed they were at the Bristol Show), they're very smooth and open and gentle; no involuntary ear canal surgery here. I'd wager that there are few – if any – speakers that come close for refinement, air and space at the price.

**CONCLUSION**

If you manage to read the rest of this issue, the message is that there are some stunning small speakers around these days. True, they're all just a little less focused than the aforementioned Kans were – and probably none the worse for it. Indeed, the general standard is amazingly high – even from £250 Monitor Audio Radius 90s, for example. Still, it's nice to see and hear something that really does offer something different, something that really convinces you why you spend the extra, which is precisely what the Arcs do. The fact that they look utterly stunning – and really add to your domestic quality of life as well as your

musical enjoyment – is a bonus. Just match with a warm, sweet amplifier and source.



**VERDICT** ●●●●●

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**MEASURED PERFORMANCE**

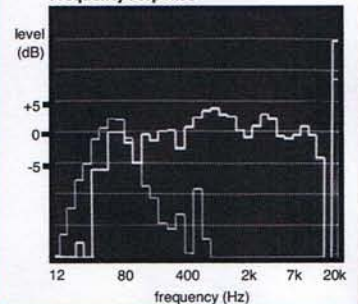
The small Arcs have a fairly pronounced frequency response lift around 1kHz, our analysis shows. Above this output slowly falls by 4dB overall at 16kHz and this was audible in the pink noise test signal, which sounded very smooth and easy, free from hiss and light in nature.

Normally, pink noise rumbles but not in this case, as the Arcs reach down smoothly to 63Hz before rolling off and the port is tuned to this frequency. However, measuring -6dB at 40Hz the Arc can also reproduce lower frequencies. In most rooms it should work fairly nicely with nodal frequencies to give a fast, controlled sound, free from the LF boom of nodal overdrive which the larger Curve can suffer. The Arc is a ported reflex, but the ports are underneath, so it must be used on the stand provided. Close-to-wall use is appropriate.

Sensitivity was normal enough at 87dB, good considering this is a 7ohm loudspeaker – a high impedance nowadays. The impedance curve is flat, meaning the Arc is almost a perfect resistor, storing no energy in reactance. This is great for all amps, including valve amps.

The Arc will project well and sound quite forward, due to its measured response peaking. It's tailored for near wall use and small-to-medium rooms. In measured terms it is carefully wrought to offer a smooth sound and a very easy amp load. NK

**Frequency response**



**Impedance**

