

Wilson Benesch Endeavour Loudspeakers

by Roy Gregory, February 16, 2015

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Trickle-down is perhaps one of the most interesting yet misunderstood aspects of audio design. The justification offered for flagship components at eye-watering prices is so often, “Of course, the technology/experience/performance will trickle down to the rest of the range,” generally delivered with that smug, just-dodged-a-bullet air of self-satisfaction. It all fits so neatly into the accepted, apologetic approach to the prices charged by the audio industry -- the same logic that constantly wheels out the law of diminishing returns as an excuse for poor performance.

Well, just in case you guys selling this stuff haven't heard the alarm bells ringing, that sort of BS doesn't actually wash anymore. If you make a flagship product, then these days its performance and material content had better justify its price tag. The best recent example of this that has come my way is Wilson Benesch's Cardinal. This is a speaker that delivers remarkable

performance from a package that includes an imposing cabinet built entirely from high-tech composites and extruded aluminum, stainless steel hardware and six different drivers, with every last bit of it built in-house, yet priced in the distinctly non-flagship, mid-five-figure range. It's a package and performance that literally shame much of the six-figure competition.

But it's not just the performance and engineering that are impressive; it's the thinking too. Which brings us back to the concept of trickle-down. If you want developments at the top of your range to be applicable at lower price points, you'd better be sure of both the integrity of your design and the integrity of your thinking. That's because there are two ways to trickle down the benefits of a flagship product. You can take the overall concept and execute it with more affordable engineering (the Wilson Benesch Square Five is a perfect example of this, a Cardinal writ



small) or you can maintain the standard of engineering and reduce the size (and bandwidth) -- which brings us to the Endeavour, a speaker that might play Tyrion to the Cardinal's Tywin, but which shouldn't be mistaken for a TV detective.

See the Endeavour in the flesh and there's no mistaking its close physical and technological relationship to the Cardinal, from the drivers and surface finish to the "aero" cap and characteristic concave sculpting of the spine. But whereas the Cardinal and Square Five are conceptual twins, the Endeavour is not simply a Cardinal that's been cut off at the knees. It might use the same technology and share many of the same cabinet elements, but the smaller enclosure and reduced number of drive units presents a different set of challenges and mandates a different conceptual model. In fact, for those familiar with the Wilson Benesch range, it might be tempting to assume that the Endeavour represents more of an updated Discovery rather than a down-sized Cardinal -- tempting but wrong.



placed above the tweeter and augmented by a pair of downward-firing, isobarically coupled bass units, it was a complex yet remarkably successful response to the challenge of extracting useable

bandwidth from a compact enclosure, one that went on to considerable critical and commercial success. So perhaps it's not surprising that Wilson Benesch have revisited the format for the Endeavour, which shares the integral stand, two-and-a-half way topology and differential reflex loading of the Discovery. It also flanks the tweeter with the mid-bass driver above and downward-firing isobarically loaded bass drivers below, so perhaps the assumption that the Endeavor represents an update of the earlier design is understandable -- but that is where the similarities stop. Things have come a long, long way in the intervening decade and a half.



As we'll discover, not everything about the Endeavour is quite as it seems, nor as it sounds -- making assumptions a dangerous business. When the Discovery first appeared 15 years ago, it debuted a novel layout. A two-and-a-half way stand-mount with the forward-firing bass/mid driver

The drivers used in the Endeavor are the same Hemisphere tweeter employed in the flagship speaker, along with Tactic II units specifically built for this speaker, so related but not identical to the ones used in the Cardinal. The cabinet



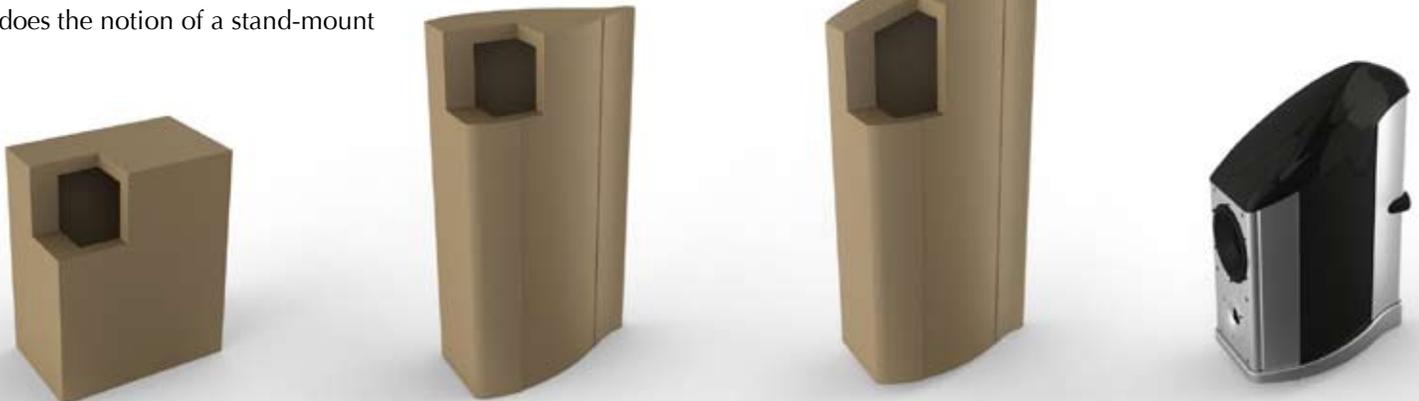
uses the same combination of heavily machined aluminum baffle and side cheeks combined with carbon composite ACT side panels and the massive extruded-aluminum spine inherited from the flagship speaker. In fact, the substantial upright for the Endeavour's stand is built from two Cardinal spines attached face to face -- of which more later. The internal space has evolved significantly, with the bass/mid driver now enjoying its own, dedicated and separately loaded enclosure volume, while the downward-firing reflex ports are helically wound carbon tubes that come complete with screw-in Delrin plugs should you want to seal them -- a definite step forward over the effective but less than elegant alternative of socks!

In all, the Endeavour employs four different forms of carbon fiber, each chosen specifically for purpose. But if you really want to understand the differences between the Discovery and Endeavor, look no further than weights and measures. The Discovery is 43" tall, with a 15-liter cabinet that offers a -2dB point at 45Hz and weighs in at 57 pounds. The Endeavour stands over a foot taller at 58", reaches down to a -2dB point of 38Hz, has a 22-liter internal volume and together with its stand it weighs in at 220 pounds. So the newer speaker is 50% bigger and four times as heavy, goes deeper (and louder) and offers technology that's three or even four generations more advanced. If the Endeavour is a grown-up Discovery, then it's busting out all over. Or, to put it another way, the Endeavour represents an F22 Raptor to the Discovery's F4 Phantom: They were designed to do the same job, look (sort of) the same, but there the similarity ends. Which is just as well, as the price comparison works too. At \$49,500 (£25,500) per pair, the Endeavour isn't just way more capable than the Discovery, it's way more expensive too. Compare it to the universal benchmark for high-end speaker pricing (that would be Wilson Audio) and in the UK it sits right between the Sasha W/P 2 and the Alexia. That's some pretty heavy competition. How does the notion of a stand-mount

stack up against these floorstanding alternatives -- especially a standmount that's just as physically and visually imposing as those floorstanders?

This is where we shed the second set of assumptions -- the ones that go with so-called "minimonitors". There's nothing "mini" about the Endeavour. Once you actually start looking a little closer, you realize that this speaker is actually quite a bit larger than it appears. Let's start with the question of internal volume. There's a huge difference between the visual (external) size of a speaker enclosure and its acoustic (internal) size -- and that difference consists of the cabinet walls. Consider a conventional box, rectangular in shape and built from 30mm material with a double thickness baffle. To match the Endeavour's 22-liter internal volume and 9.5" baffle width, the standard cabinet would need to be around 15.5" deep and 19" tall -- actually not far off of the dimensions of the Endeavour itself: except that as soon as you start to shape or taper that cabinet for acoustic advantage, those dimensions start to grow alarmingly. Mimic the Endeavour's almost triangular footprint and the cabinet gains around six inches in height. And so it goes: Each modification you make in terms of sloping the front baffle or introducing non-parallel sides, internal braces or dividers eats away at that internal volume, making the cabinet physically and visually larger. Build a well-braced, acoustically optimized and mechanically controlled cabinet with a genuine 22-litre internal volume out of flat panels and see how large it ends up.

How come the Endeavor is so large on the inside but so small on the outside? It's mainly down to the minimal thickness of the carbon sandwich side panels, aluminum baffle and side cheeks, elements that add very little physical volume. But it's also down to the complex curves that these materials





allow, which offer significant structural stiffness as well as non-parallel walls that require no stiffening (and volume-consuming) braces. That stiffness is further enhanced by the beefy extruded triangular spine that rises from the stand all the way to the top of the cabinet, doubled up below the cabinet itself with a second section of spine that locks into and couples the machined aluminum baffle for the isobaric bass units directly to the stand's massive triangulated base plate, again similar to but in this case a little smaller than the one on the Cardinal, although it still sports the same stainless-steel coupling legs and cups, with the huge adjusting wheels in the rear corners.

By now you'll have gathered that stiffness and mechanical behavior loom large in the thinking behind the Endeavour. This isn't just about making a speaker that's smaller, cuter or easier to accommodate. It's all about making Cardinal quality, technology, construction and materials available at a lower price point -- and that makes the equation easy. You want to drop the price, use fewer parts and less of the parts. But Wilson Benesch's logic is that if that's the case, why not turn those things to your advantage? So, don't just make a lesser or curtailed Cardinal; make a speaker that is in its own way and on its own terms better than the Cardinal. If the cabinet is going to be physically smaller, it can also be stiffer and better behaved, fewer drivers means that the acoustic center of the design can be more tightly focused and the reduced size also allows you to get it away from the intrusive effects of room boundaries and bass reinforcement, while a well-designed stand means that you don't have to sacrifice mechanical grounding.



Let's take those points in order, but let's start with the drivers themselves. The Tactic II 7" unit and Semisphere 1" soft-dome tweeter feature right across Wilson Benesch's Geometry series. With the plethora of exotic tweeter diaphragms littering high-end audio these days, the use of a 1" soft-dome might not seem all that exotic, but as with all things audio, it's not what you use but how you use it that matters. The latest soft-dome designs have a lot to offer. Building the unit in-house has allowed Wilson Benesch to tailor the tweeter's low-frequency roll-off to suit their preferred first-order crossover topology, eschewing ferrofluid damping in favor of a closed and carefully optimized rear chamber.

Dispersion (helped by the machined concave waveguide in the face plate) and extension are both exceptional for a soft-dome, the carbon-braced silk dome delivering a -2dB figure at 30kHz.

Although all Tactic II drivers share the same elegantly sculpted basket and motor assembly, the isotactic polypropylene cones used in each different design are individually woven to optimize each driver's mechanical behavior and acoustic output for purpose. At the last count, the company

produced over 25 different drivers, all built on the same carefully sculpted, minimalist chassis, with its gorgeously slim, low-reflection, low-turbulence legs. The mid-bass and bass drivers in the Endeavour are each purpose-built, adding another two distinct units to the stock list. The forward facing midrange unit is run wide open, relying entirely on mechanical roll-off to blend it to the drivers above and below it in the range. Both the tweeter and the bass units are integrated using gentle first-order slopes to attenuate their output above 500Hz and below 5kHz.

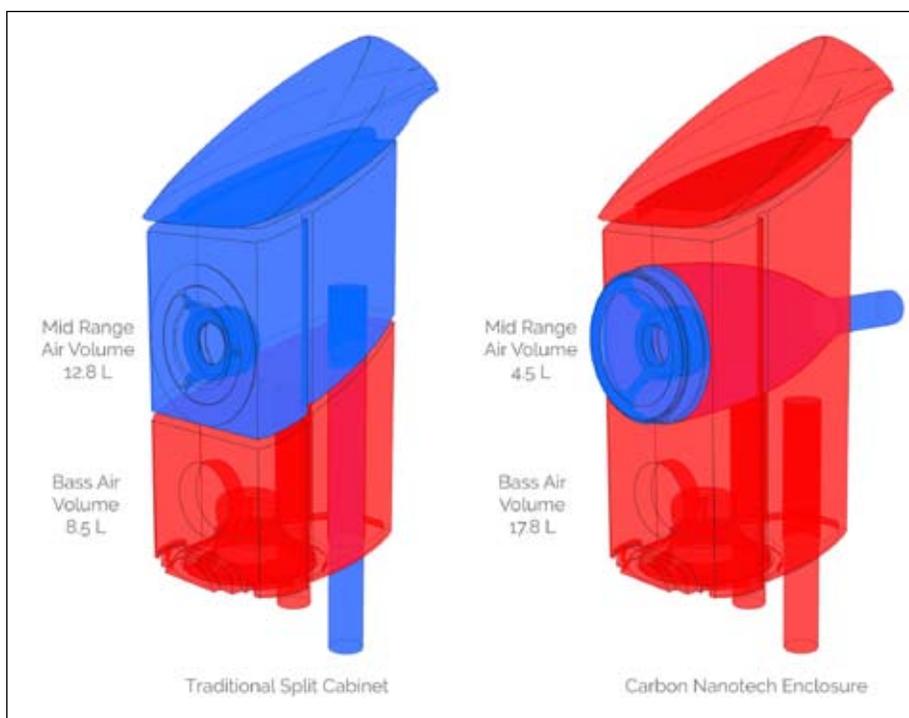


But the crossover topology (although nominally a two-way, first-order electrical but two-and-a-half-way acoustical filter, it is actually much closer to a three-way system in practice) isn't the only thing that's unusual about the way the Endeavour's drivers work together. Having a separate internal enclosure for the midrange unit is far from unique, but in this case the execution is definitely different. The rear wave of the midrange unit is enclosed and rear-reflex-loaded by a critically shaped, bell-like enclosure built from carbon fiber reinforced with nanoparticle-impregnated resin -- or Carbon-Nanotech in WB-speak. This latest development in carbon-fiber technology takes stiffness-to-weight ratios to a new high as well as delivering superb self-damping. Widely used at critical points on Formula 1 cars and more sparingly in top-flight (and seriously expensive) bicycle frames, this is the first time I've come across it in a loudspeaker. Here it performs three functions: the limited volume rolling off the low-frequency output from the driver, controlling and dissipating the energy in its rear wave, whilst also isolating it from interference by the low-frequency drivers (as well as maximizing the available volume for the bass enclosure). This optimized rear chamber adds considerable midband clarity to the Endeavour's performance, helping prevent unwanted energy escaping through the driver diaphragm but also through the cabinet walls. One of the least-understood aspects of loudspeaker design is the damage done by unintended leakage of energy that escapes from the cabinet that's supposed to trap it. In this case, any such energy has to cross not just one carbon-fiber boundary, but two -- the Carbon-Nanotech midrange chamber and then the sandwich structure of the ACT carbon-composite outer enclosure. This

freedom from acoustic intermodulation distortion is key to the Endeavour's clarity and tactile communicative quality -- but I'm getting ahead of myself.

Placing the midrange driver above the tweeter with the bass drivers positioned below puts the high-frequency driver at the acoustic center of the design, while achieving a remarkably tight 10" spacing that spans the acoustic centers of all four drivers. If the Discovery was lauded for its seamless integration, the Endeavour takes that aspect of performance to a whole new level -- helped no doubt by the separation of bass and midrange enclosures and the lack of structural resonance in the stiffer reflex ports. But also adding to that lack of muddle, congestion and musical discontinuity is the direct ground path established by the cabinet and stand. The drivers are all bolted directly to aluminum cabinet elements, with a direct path connecting them to the speaker's spine. Even the midband enclosure is braced between the front baffle (and directly coupled to) the rear spine, providing a direct ground path for the energy it contains. Meanwhile, the enclosure itself is constructed from an ACT sandwich section and the molded "aero" cap, both incredibly light, rigid elements with very low storage characteristics.

Thus, spurious energy is actively encouraged to leave the cabinet, led away by the readily available ground path offered by the substantial and firmly mated, interlocking alloy parts -- the front and bass baffles, the two-piece spine and the triangular base. The three stainless-steel posts on which the whole assembly stand are the final piece of the jigsaw, their increased coercivity and rigid coupling to the large-diameter cups





they sit on actively inviting any remaining energy not dissipated in the structure on down to mechanical ground. Overall it's a clever complex and demonstrably effective solution to ridding the cabinet of unwanted mechanical energy and allowing the drivers an acoustically unpolluted environment in which to work.

The other big decision facing any loudspeaker designer is the balance between bandwidth, cabinet volume and system sensitivity. The smaller the overall volume of the speaker, the more constrained the options become, placing ever greater pressure on either available bass extension or efficiency. Balancing these two aspects of compact speaker design is so often the make-or-break decision in any small speaker project. You've got to extract enough bass to be musically convincing but do so without creating a monster that needs massive amps just to raise a smile. The world of audio is full of compact speakers that can grab hold of monster monoblocks and suck them dry -- all without breaking sweat or into their musical stride. They may not be big but they're not clever either. This is another area in which the Endeavour's thin-wall cabinet scores. Its Tardis-like internal dimensions (and if you don't know what a Tardis is, then you need to check out *Dr. Who*) allow what is remarkable bass extension for its apparent size, while retaining reasonable efficiency and genuinely accommodating drive characteristics. I achieved the best results from the Endeavor with the Engstrom & Engstrom The Lars II and the Berning Quadrature Z monoblocks, one employing a pair of 300B EXS output tubes per side and the other an OTL! Of course, the easy impedance characteristics associated with first-order slopes are a factor here, but even more crucial is the directly connected midbass driver. Although the system is rated at 89dB (itself a remarkable figure given the -2dB point at 38Hz

combined with the compact dimensions of the cabinet itself) it seems more efficient than that, due to the lack of any subtractive crossover across the broad midrange. But the success I enjoyed with these amps is no accident, and as much as it tells you about the Endeavour's easy drive characteristic, it also reveals a lot about its specific, very appealing musical strengths.

Hear familiar music on the Endeavour and once again you are in danger of falling prey to first impressions -- and their associated assumptions. The first thing that strikes me about this speaker is the lean, uncluttered neutrality of its sound. The second is the harmonic warmth, color and presence it brings to instruments and voices. By all means read those two sentences again, because,

yes, they might well (probably do) seem contradictory. After all, speakers that are generally described as warm are definitely not neutral, that warmth coming from a thickening, cabinet-generated coloration in their midbass. But as the description of the Endeavour's structure and materials should make clear, this is a low-coloration cabinet par excellence. So where does that warmth come from? It's rooted in the beautifully controlled behavior of the driver diaphragms, the woven isotactic polypropylene bass



and mid units and the critically braced silk dome of the tweeter. Their inherent self-damping and lack of resonant peaks allows them to develop a full range of harmonics from each impulse, without emphasis or exaggeration. The resulting body and dimensionality they bring to instruments is remarkably natural and convincing, and it's this that invests the sound with



its convincing presence, while the lack of spurious energy clogging, congesting and slowing the midbass is what delivers the clarity and immediacy.

Oops -- there I go again, using confusing and contradictory terms. I mean, who uses the word *immediacy* to describe the performance of a polypropylene cone? The answer to that is anybody who has heard the Cardinal -- or anybody who has heard the Endeavour. Sit down, close your eyes and listen, and that's just what you'll hear -- sound with an almost reach-out-and-touch presence and immediacy. I was fortunate enough to hear Maxim Vengerov play the other day -- an experience that has left a lasting impression and a significant contribution to the CD collection. One of those discs is an Apex labeled Teldec recording [Apex 2564 67300-5] of the Sibelius and Nielsen violin concertos, with Barenboim and the Chicago Symphony Orchestra. Put it on and the fragile opening of the Sibelius sounds quite distant, with a typically midhall balance. Now, start it again, but this time, sit and listen, eyes closed and concentrating and suddenly the music, the instruments, the performers are right there. The physical distance to Vengerov's solo violin is utterly consistent with my row-F seat at the concert -- closer than many people feel comfortable. So why the discontinuity between hearing and actually listening?

Having lived with these speakers for a good while now, used them with a lot of different systems and played them for a lot of different listeners, the reaction is completely universal. Walk into the room with the speakers playing and people never remark on the sound -- until they actually sits down and really listen. Then they're impressed -- and a little confused. The reason lies in our expectations -- the way we expect audio systems to work. It's something you might well have noticed the first time you listened to a diamond tweeter. It probably sounded almost dull and a bit flat, but

what you were hearing was the lack of edge or exaggeration in the high frequencies - - the added sparkle and etching that are the resonant signature of less-well-behaved drivers.

Once your ears adjusted they started to appreciate just how unforced and natural those highs were, how clean and devoid of glare or hardness. The Endeavour presents us with the same challenge, only here it involves the entire range, not just the high frequencies.

First impressions suggest that this speaker has a classic midhall balance, fulsome and warm -- so we naturally assume it will present a midhall perspective, right up to the point where we actually stop and ask the question. As I've already said, actually listen to this speaker and you soon realize that that warmth is generated by its natural instrumental harmonics and tonality, not the added reverb of the hall in which those instruments are playing. We are so used to associating dynamic definition and the resolution of detail with the pared-away, etched, faux transparency that passes for high-end sound that when we hear the real thing coming from a system we almost don't recognize it. The assumption is that if it's warm, then it must also be soft and distant -- yet the concert experience tells you that isn't true. Yes, a live orchestra can shock and even hurt, but it does it with level and dynamics, not edge or glare.





A while ago I scandalized some readers with the suggestion that a good system could outperform a live orchestra on a bad day. It was a conclusion drawn as a result of direct experience. In contrast, Vengerov (ably assisted by Yuri Temirkanov and the St. Petersburg) ably demonstrated just how far we have to go in trying to match a great live performance. The system that prompted the first piece was built around the Cardinal. The speakers that have had to survive in the shadow of Vengerov *et al* are the Endeavours -- and they've done a remarkable job. Time to revisit that Sibelius Violin concerto.

These Wilson Benesch speakers throw a broad and deep soundstage -- another reason why it's worth shutting your eyes when you listen, to escape the visual discontinuity of anything so expansive (and powerful) emanating from something so slender. The quavering *dimuendo* violins that presage the solo entry are beautifully fragile and delicate, a perfect foil for the concentrated energy of the solo instrument. They spread far left, each additional voice adding the space occupied by the woodwinds, violas and larger strings to the orchestral soundscape. The gradual steps build so naturally and effortlessly that the sudden grunt of those early bass underpinnings will surprise you, while the first short, sharp crescendo arrives with a shocking weight, authority and vigor -- just as it does played live. Even with your eyes open, there's no sense of the sound being generated by the cabinets, no telltale aberrations to disturb the fabric of the acoustic space or catch your ear. Instead the performance has a holistic coherence and presence, a natural perspective and scale that stand testimony to the seamless integration of the various drivers, their common tonality and lack of destructive signature. How has this speaker gotten it so right when so many get it so wrong?



The more time I spend with the Endeavour the more I'm convinced that the way it's built and the way it sounds are inextricably linked. That's actually true of all products, but here there seems to be an almost intuitive linkage that connects the thinking directly to the performance. Let's start with the midrange, where so much of what is musically important happens. There's no escaping the fact that, for all the benefits of controllable self-damping that come with the use of isotactic

polypropylene cones, they're heavier than many of the alternatives. To reap those potential benefits, you are going to have to work hard to overcome that hurdle -- which is exactly what Wilson Benesch have done. In running the driver wide open (thus eliminating any subtractive crossover) and working hard to maximize the efficiency of its motor, by using a large 7" diameter swept area and giving the directly coupled amplifier the easiest possible job across the rest of the bandwidth, they screw every last ounce of advantage they can from their material of choice, displaying the benefits, ameliorating the weaknesses. It's an object lesson in sound engineering.

The result is a midband that is tonally natural and rhythmically and dynamically articulate. It's unforced and expressive. No, it doesn't have the almost surreal quickness of some ceramic drivers -- or their leading-edge emphasis and truncated harmonics. Nor does it deliver the part-your-hair dynamics of a horn -- but then so few horns can achieve any level of neutrality. I'm convinced that the optimized rear chamber also plays its part, in terms of its superior shape and structure, factors that deal more effectively with the midbass driver's rear wave, but also because of the nested nature of the cabinet eliminating spurious energy from the musical picture and its action in rolling



off the driver's bottom end. Its clean, clear and uncluttered presentation is key to the Endeavour's musically convincing performance -- and it is founded in that midrange driver and a design that makes the most of its attributes.

Chief amongst those strengths is the uncannily natural tonality and body the Endeavor brings to voices and instruments. Just as it invests Vengerov's fiddle with an utterly convincing (and captivating) sense of presence and power, familiar voices are almost spookily

natural. Jackson Browne's husky singing is instantly recognizable (*Love Is Strange* [Inside Recordings INR5111-0]) as are the range and sheer variety of David Lindley's vocal fireworks.

The complementary character and intimacy in the performance is clear, the easy give and take between two singers who are also friends. But in its own way, the Endeavour's ability to separate, tonally and in space, the various acoustic guitars that feature on this recording is equally impressive. With anything up to six different instruments in play at any one time,

Boring But Useful

When it comes to handling and hooking up the Endeavours, there are a few things that can make your life considerably easier. The first thing is that although these are nominally stand-mounts, the speaker is a single, very solid construction. That means it comes in a surprisingly large crate and is also heavier than you might expect (because of all that aluminum). You will definitely need two people to unpack and position these. Even then, it's not quite as straightforward as it might be.

For starters, the tri-wirable terminals are on the underside of the stand. These accept spades or banana plugs and come with solid-silver wire bridging the connections. Attaching cables is definitely best done with the speaker on its side; make sure that you have a soft surface to go under the stand and something padded to rest the high-gloss finish of the top "cap" on. Spades are the best option when it comes to connecting the cables and make sure that you are connection the right cables to the right sockets -- the layout is listed in the manual but not under the speaker, while the positive and negative connections are not color-coded but annotated using engraved symbols that are not exactly high-vis. This is one of those instances where it pays to RTFB and also have a small, bright torch -- as seen on *CSI* -- to hand. If you biwire or biamp the speakers (and I'd highly recommend the latter), then you'll probably need to retain the silver-wire jumpers between at least two sets of terminals. If so, make sure that you support the terminal evenly by wrapping a single layer of wire right the way around its circumference. The mechanical advantage delivered by the large nuts that Wilson Benesch use on their terminals makes for really tight connections, but is sufficient to snap

a terminal if it is left unsupported on one side so that it can tilt as you tighten it. Learn from my mistake and save yourself embarrassment and inconvenience.

Once you have the speakers hooked up and the cables dressed, you can stand the speakers upright and think about positioning them. This is where you discover that the only horizontal surface on the speaker is the top face of the stand, and all the sides are curved. Leveling is easy enough, because you can place the bubble right between the adjusters, but toe-in requires a reference of some sort. I used a strip of tape to mark the centerline of the stand, between the front post and the speaker's spine, against which I placed the laser. When it comes to placement, the Endeavours are seriously critical of positioning. Too close to the rear wall and they get muddled and congested, too far away and they lack bass weight. This is one speaker where it really pays to work with the nodes -- specific humps and dips in the room's acoustic map -- in your room. I ended up with four different setups, each 8" apart, before I was sure that I'd gotten the speakers in the right place. It's not just the right place within the node, but the right node that you are looking for. It's a process that is time-consuming and awkward, because you need to have the speaker stood on its floor couplers/protectors in order to get the bass just right, but once on them it's almost impossible to move.

Laborious it might be, but it is also essential if you are going to extract the full performance from these speakers -- in musical and sonic terms. Don't be tempted to cut corners and don't think that close enough is good enough -- it isn't. But once you do get it right, the Endeavours will both love and reward you for taking the time and trouble.

-Roy Gregory



the ease with which you can locate each and identify both its contribution and the style of its player is particularly impressive. But perhaps most impressive of all is the way the speaker handles audience noise, applause and the inner details of the soundstage. Not only does it project the applause and the multiple sing-along voices forward of the stage and around the listener, but Lindley's Hawaiian guitar is clearly being played flat on his lap, a fact captured despite the individual mics used on each instrument.

At the same time this great live recording reveals that the Endeavour comes up just short of the Cardinal in terms of absolute immediacy, leading-edge attack and bite. Although it's only rated as a single dB lower in efficiency, the smaller speaker, with its narrower bandwidth and more limited swept area can't match the attack and dynamic authority of its bigger brother -- or of competitors like the Wilson Sasha W/P 2 or Focal Scala Utopia V2. It's another part of the contradictory aural jigsaw puzzle that is the Endeavour, contributing to that initial impression of midhall softness. Even though in practice it's the subtlest of effects, it's compounded by the total absence of artificial hardness or edge in the speaker - which is why you start by thinking that it's soft, only to discover that it's not. How is it felt? In a subtle smoothing of instrumental texture, or in the case of *Love Is Strange*, a slight loss of the sheer vigor and intensity that characterizes the performance. Putting that in perspective, it's something that varies with amplifier (far more noticeable with the Quadrature Z than the Lars, for instance) and which is really only apparent when compared directly to some of the best and most expensive systems around. But it is there, and it does help explain the Endeavour's almost schizoid presentational persona.



Doesn't that fly in the face of my earlier description of the speaker as "immediate"? Perhaps, in the general sense of the term, it does. If you take it to suggest sudden impact and instant dynamic response, then clearly the Endeavour is just off that pace. But I'm thinking in slightly different terms. When I described Vengerov's violin as "right there," I wasn't kidding. Lack of grain and a low noise floor are attributes that are normally attached to electronics, but the Endeavour has them in spades.

Its soundstage has a calm clarity simply because the speaker banishes the clutter, the low-level noise and the blurring that come from acoustic intermodulation -- the same as its harmonics are naturally scaled and distinct due to the absence of mechanical intermodulation. The end result is the sense of instruments locked in space and time, with a reach-out-and-touch stability, nothing clogging the space around and between them, nothing between you and them. In

this case that's what I mean by *immediacy*: the Endeavour succeeds in including you in the same, seamless acoustic space as the musicians -- putting you, and them, right there. In one sense you are trading the crisp dynamic impact of more efficient speakers for the Wilson Benesch's inclusive communication and unobtrusive neutrality. The real question is, is it a price worth paying? What value do you place on the speaker's unobtrusive musical coherence, its exceptional neutrality and remarkable musical versatility? That's one only you can answer, but the longer you listen to the Endeavor the better the case it makes, the more you notice the intrusive aberrations that bedevil the competition.

Which is as good a place as any to consider the power and impact of this speaker's bottom end. Consider for a second that 22 liters do not exactly equal a large



cabinet and that essentially, when it comes to moving air, you're going to be doing it with a single 7" driver (with a bit of help through the midbass from the forward-firing unit). What should you realistically expect and what do you actually get? Well, the answer to the first is probably bass that's clean, quick, articulate but lacking weight. The answer to the second is cleaner, quicker and way more articulate than you expected, deeper and way more powerful too. The trick lies in getting the speaker positioned just right so that the speaker's tight, quick, clear bottom end is allowed to reach down as far as possible, while getting all the help from the room that's available. The height of the stand keeps things clean and maintains the uncluttered quality of the midband, the separation of the bass and mid drivers' acoustic enclosures prevents the smudging that might otherwise emanate from such a small enclosure, while the isobaric driver maintains leading-edge attack and dynamic range. Once you've gotten the Endeavours in just the right spot (see sidebar), they deliver bass that breathes, with real power, scale, impact, pitch and tone. On a good orchestral recording (the Vengerov again, or the Philharmonia's Mahler symphonies with Maazel [Signum SIGCD360]) the bass floats convincingly, rather than rumbling across the floor, an acoustic trick that is normally the preserve of much larger, genuinely full-range systems.

Of the Endeavour's price peers, only the KEF Blade (another speaker that perches its bass drivers on high) matches this performance. The grunting bass arpeggios that mark the opening of Mahler's Second Symphony belch forth, full of tension and purpose, rough texture and bustling insistence that bodes well for the massive scale evoked in the later movements -- and you won't be disappointed. It's this ability to marry the air and delicacy, the lyrical sweetness of Mahler's melodies with the dark foreboding of his subtext and the explosive relief of his redemption, the transparency and clarity of a small speaker with the scale, weight, dynamic and musical authority of a much bigger speaker that makes the Endeavour really quite special. It's a neat trick on any level, but to do it so consistently and apparently effortlessly from a cabinet this compact is borderline magical.

The seamless integration of the low-frequencies gives broadband instruments like cello and piano a welcome sense of confidence and stability.

Combined with the instrumental body and musical purpose that characterizes its entire audible range, this brings music like big-band Basie vividly to life, the easy swing and dense tutti thriving on the sure-footed rhythmic flow and unimpeded dynamic response of the Endeavour. Even with this many instruments playing this loud, the sound retains its clean, unforced sense of pattern and organization. But if you want an object lesson in what's being played and why, look no further than Johanna Martzy's fabulous performance of the Beethoven Kreutzer Sonata drawn from the Coup d'Archet Martzy radio recordings box [Coup d'Archet COUP003], a living, breathing exposition on not just Ms. Martzy's mastery of her instrument, but her amazing rapport with long-term accompanist Jean Antonietti. The vivid dynamic contrasts, rapidly shifting tempi, pauses and switches in the accent and direction of the musical line are delivered with a natural weight and authority that brooks no argument. As a performance it's monumental -- both from the artists and the speakers.

When it comes to long-term listening satisfaction, balance is often an underestimated attribute. One of the things that make the Endeavor grow on you -- and go on growing on you -- is the naturalness of its top-to-bottom weighting. One of the real advantages of building your own drivers is the ability to really balance and shape their response, something that becomes abundantly clear once you've lived with this speaker. Once again, integration plays its part, helped along by the carefully controlled dispersion of the Semisphere tweeter, but it's the tonality and sonic continuity that really hit home, the presence, body, range of tonal colors and that uncanny naturalness, born of the absence of edge or exaggeration. Few speakers carry dynamic intent through their upper registers the way the Endeavor does, not just a case of speed and attack, but substance too. You hear it in the sheer presence of Vengerov's instrument and in the vitality of Martzy's performance. You hear it in the brass tutti of both Basie and Mahler, and you hear it in the vocal dexterity and close harmonies of Dolly Varden, the natural presence of voices, the shimmer of a cymbal or the crystal clarity of the sleigh bells on Shawn Colvin's "Shotgun Down The Avalanche" (*Steady On* [CBS 466142-1]). Wilson Benesch's braced soft-dome may not go as high as some, but it dovetails perfectly with their other drivers, investing their speakers with a satisfying sense of



seamless continuity and an attractive sense of presence. It's a balance that seems to strike a new high in the Endeavour, and that lifts the speaker's overall performance another notch.

Which brings us full circle, back to the middle of the mids. History is littered with speaker designs that exhibited fantastic neutrality and/or separation -- often to the complete exclusion of the rhythmic articulation and dynamic sensitivities that bind music into a single whole and carry its expressive power. It's almost as if the contrasting capabilities are mutually exclusive: the more neutral the speaker, the less articulate -- and the less interesting it will be to listen to. The Endeavour might well be the exception that proves the rule. Thanks in no small part to its diminutive cabinet and massive structure, it exceeds the Cardinal in terms of sheer clarity and neutrality, but rhythmically its saving grace lies in the insistence on a minimalist crossover, and in particular that directly connected midbass driver. When it comes to phrasing and shifts in tempo, the shape of a song or overlapping rhythms, pauses in a piece or a measured pace, that solid connection between output stage and drive unit comes into its own, the amplifier able to impose a temporal authority on musical proceedings that's responsible for leaving the listener in no doubt as to what is happening and when. It's why an amplifier with the modest output of the Lars 2 can deliver such a commanding performance, why the

quicksilver dynamics and transparency of the Berning Quadrature Z's is so effective. It's not a forced or hectoring quality, just an ability to better reflect the choices made by the players, their pattern and placement of notes. You hear it in the drum patterns behind "Little Triggers" (Elvis Costello, *This Year's Model* [Radar RAD 3]) and Costello's telling vocal hesitations, you hear it in the shape that Narcisco Yepes puts on his playing in the Rodrigo *Concierto De Aranjuez* [Decca SXL 2091]. It's where so much of the emotional power of music resides.

But perhaps you hear it most impressively of all in the gradually unfolding majesty of the Gorecki's Third Symphony [Polskie Radio PR SACD 2]. The slow opening and overlapping phrases of the split string sections are never ponderous and never lag. The beauty in the pitch-perfect melodic lines and slowly evolving harmonies grows with the breadth and scale of the piece, each line held separate and distinct as they bind and swell into that first massive climax. It is a captivating and compelling performance on every level, and again the performance of the orchestra is matched by the performance of the speaker. For what is nominally a compact design, to achieve such a powerful and dramatic musical impact is remarkable, speaking volumes about not just the quality and clarity of its low frequencies, but their effectiveness too.

It is possibly the most impressive example of the Endeavour's ability to reproduce the structure that underpins music -- and to do so with absolute stability and coherence. Any clogging or imprecision





in the bottom-end pitch, any vagueness when it comes to the placement, spacing or center of those elongated and overlapping bass notes and the whole piece will descend into a turgid, shambling mess. The ability to maintain its grip on the scale, the pace and the pattern of Gorecki's massive masterpiece -- and to do it from the confines of such a small cabinet is all the proof you need that Wilson Benesch really have exploited the potential benefits that come with a smaller speaker. The emotional impact, the beauty and drama, that the Endeavour reveals in this performance are all the reason you need to take this speaker very seriously indeed.

The Cardinal goes head to head with some of the most expensive and respected speakers out there, competes with them and undercuts their price significantly. That stunning combination of engineering and material content together with a surprisingly approachable price tag guarantee their value and should guarantee their appeal. The Endeavour faces a different and much more challenging market. It finds itself right in the middle of the most hotly contested high-end sector. This is where you find the products from all those high-profile brands that customers actually buy. We might all want to own Wilson Alexandria XLFs or Focal Grande Utopias, but for most of us, Sashas or Scalias are more practical and almost affordable. Can the Endeavour match the appeal of those established products and survive in the long shadows cast by their respective flagships? Only time will tell, but if potential purchasers listen with their ears as well as their eyes, they'll discover that this is a speaker that is both very different from the competition and very special in its own right. Its material content and engineering value are frankly astonishing, especially at a time when so many companies seem to be

looking backwards for technological and design inspiration. Wilson Benesch has always adopted a resolutely high-tech approach to the problem of reproducing music in the home. As I've already observed (many times) it's not what you use but how you use it that matters. The Endeavour demonstrates that Wilson Benesch is more than just close to the technological cutting edge: They know how to exploit those technologies to maximum effect -- which means maximum musical benefit.

The Endeavour is a speaker that challenges assumptions and the status quo. It's different in its approach, its materials and the way it presents the musical performance. It turns accepted notions of the established audio swings and roundabouts on their head, surprising and delighting in equal measure. But most of all it succeeds in achieving that quality shared by all really great loudspeakers -- the ability to put the music first. Self-effacing to a fault, this is in many ways one of the least obviously impressive loudspeakers I've heard -- that is until you start listening in earnest and ringing the changes. The way and degree to which it responds to input, whether that's the musical signal or changes in the driving system, underlines just how little of itself it inserts into the process. It gives performers not just a voice but an authenticity in a way that very few other loudspeakers can match.

Which brings us right back to the question of the competition. Casting the Endeavour in the context of the Sasha W/P, latest iteration of the iconic WATT/Puppy, the undisputed most successful high-end speaker of all time, certainly reflects the commercial reality it faces. But then it also reflects its status as a potential future classic. It really is that good.



Price: \$49,500 per pair for standard finishes.
Special-order finishes are an additional \$1795 per pair.
Stands are included.

Warranty: Five years parts and labor.

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Associated Equipment

Analog: VPI Classic 4 turntable with SDS; VPI JMW 12.7 and Tri-Planar Mk VII Ull tonearms; Lyra Etna, Titan i, Scala, Dorian and Dorian Mono cartridges; Clearaudio Goldfinger Statement cartridge; Allnic Puritas and Puritas Mono cartridges; Nordost Odin and Valhalla 2 tonearm lead; Connoisseur 4.2PLE phono stage.

Digital: CEC TL-3N CD transport, Wadia S7i CD player, dCS Paganini and Vivaldi transports DACs and uClock, CH Precision D1 CD/SACD player.

Preamps: Connoisseur 4.2, CH Precision C1.

Power amp: Berning Quadrature Z, Engstrom & Engstrom The Lars II monoblocks and VTL MB-185 Signature Series III monoblocks; Jeff Rowland Design Group Model 125 stereo amp.

Integrated amp: Jeff Rowland Continuum 2.

Interconnects and speaker cables: Complete looms of Nordost Odin, Crystal Cable Absolute Dream or Ultra from AC socket to speaker terminals. Power distribution was via Quantum QRT QB8s or Crystal Cable Power Strip Diamonds, with a mix of Quantum Qx2 and Qx4 power purifiers and Qv2 AC harmonizers.

Supports: Racks are Hutter Racktime or Quadraspire SVT Bamboo. These are used with Nordost SortKone equipment couplers throughout. Cables are elevated on Ayre myrtle-wood blocks or HECC Panda Feet. . Nordost Sort Füt units were used under the speakers.

Acoustic treatments: As well as the broadband absorption placed behind the listening seat, I employ a combination of microperforated acoustic devices.

Accessories: Essential accessories include the Feickert protractor, a USB microscope and Aesthetix cartridge demagnetizer, a precision spirit level and laser, a really long tape measure and plenty of masking tape. I also make extensive use of the Furutech anti-static and demagnetizing devices and the VPI Typhoon record-cleaning machine. The Dr. Feikert PlatterSpeed app has to be the best ever case of digital aiding analog.