

# Wilson Benesch Resolution Loudspeakers

by Roy Gregory, February 14, 2018

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There's an argument that says naming a speaker *Resolution* is just asking for trouble. The word itself is becoming increasingly value-laden in the internecine world of audio commentary, often associated with or used to describe an ultra-detailed, etched, dry, overdamped sound that repels as many listeners as it attracts. That makes such a name a double whammy, with one group of potential customers dismissing it out of hand and others hearing it with certain expectations, and if those expectations aren't met, they'll dismiss it too. Of course, there's always the counterargument, the one that asks what it is you are trying to resolve: detail or information, substance or sensibility? But that's way too esoteric to play en masse. Then there are the other meanings for the word, suggestive of completion or intent, but they aren't exactly top of mind in the audio community, merely adding further possible confusion to the name. Such nebulous, semantic distinctions might seem irrelevant, but if *bright* is a word that sends shudders down the spines of speaker manufacturers and customers alike, it's getting so that *resolution* is not far behind.

Except that the Wilson Benesch speaker isn't named Resolution in an effort to describe its audio performance or musical aims. So, you may well ask, why call it Resolution at all? To honor a ship is the rather unexpected answer -- but not just any ship. *HMS Resolution* was the last (and most renowned) ship commanded by the explorer and cartographer Captain James Cook, the man who discovered Australia, mapped New Zealand and debunked the existence of a vast, Southern continent, amongst other things. Born in Yorkshire, where Wilson Benesch is based, he's something of a hero to the company's chief engineer, Craig Milnes. Is it too fanciful to suggest parallels between Cook's spirit of adventure or journeys into the unknown and Wilson Benesch's quest for new materials and technologies? Possibly, but there's no escaping the fact that Wilson Benesch has consistently introduced innovative materials and manufacturing techniques throughout its thirty-year history, surmounting significant challenges and incurring considerable financial risk, if not the threat to life and limb that eventually did for Cook, whose other ships included the *Discovery* and *Endeavour*. A quick glance at the Wilson



Benesch product line and you can see the theme -- although, while I could envisage products named Adventure and possibly Eagle, Pembroke is way too Tannoy and Grenville is just wrong. I guess that's why the Cardinal got the name it did.

Mention of the flagship model is apposite and not just because the Cardinal established the technological palette and aesthetic stamp from which the Resolution is drawn. In fact, many listeners hearing the Resolution for the first time have thought they were sitting in front of the Cardinal. Short of standing the two speakers side by side, or counting the drivers, they are all but indistinguishable at a quick glance to untrained eyes. It's a similarity that goes way more than skin deep.

The Resolution's drivers employ the same materials and technology (isotactic polypropylene cones, silk domes and neodymium magnets) and are, in several cases, identical to those used in the Cardinal. The split aluminum baffle, deep spine and composite sandwich sides that constitute the cabinet more than just echo the flagship's external construction, while the overall topology and hallmark Troika midrange/treble array are again all but identical. In every important material and technological respect, Resolution can be considered son of Cardinal -- except that's a concept that

involves its own semantic contradictions, even if the reality all too often gives the lie to theory. Besides which, each speaker also possesses its own distinct character and characteristics.

Where does the Resolution differ? It's shorter and shallower, with a simple four-way topology, the bass end provided by four Tactic 2 drivers mounted in close-coupled isobaric pairs -- hence the visible baskets facing the listener. It also offers prettier proportions than the top-heavy, slightly overbearing looks of the flagship. The more elegant top

cap, combined with its more compact dimensions, makes this the most attractive and most easily accommodated large floorstanding system that Wilson Benesch has ever offered. There are those who frown at the exposed baskets on the bass drivers, but as baskets go, these are beautifully finished, and the exposed-engineering aspect of the design doesn't offend me. Curved and perforated grilles are supplied as standard, but these should be removed for serious listening, as their sonic impact is all too audible. Thankfully, the three-point fixings are a cinch to use.

Other than that, everything else about the Resolution is, er, resolutely familiar, from the three-point speaker base, with its massive spikes and adjuster wheels, to the multiple input sockets on the rear spine. There are four sets of Wilson Benesch's in-house binding posts (count 'em), although they only allow biwiring. You select one pair from the three lower sets depending on





whether you want full bass output, a 2dB cut or a 3dB cut, an arrangement that recognizes the fact that the Resolution might well find its way into smaller rooms. I'd really love to see those terminals color-coded and/or labeled, but for most people, hooking the speakers up is a one-time proposition rather than the regular go round of the reviewing cycle, so the black-on-black molded designators will be less of an issue. Just trust me -- a decent penlight is essential.

One other welcome change is to the spikes themselves, which can now be specified with either the standard ball ends (along with the large-diameter footers, topped with three captive balls to ensure stable angular contact on a hard floor) used

by Wilson Benesch since time immemorial, or with actual spiked tips for penetrating carpets.



In addition, the front spike is now slightly longer and with a much deeper well to screw into, allowing greater adjustment of rake angle, particularly when it comes to tilting the speaker forward, which is a good thing, given its proportions and the height of the tweeter. There's also now a locking ring for the front spike, although that wasn't available as I was writing the review.

Put all this together and what you have is a surprisingly compact speaker system (at least in visual terms), standing 159cm (or 62.6") tall and weighing in at a reassuringly substantial 95kg (211 pounds), a pretty remarkable figure considering that so much of the cabinet is constructed from lightweight composite moldings. Wilson Benesch quote -3dB figures of 30Hz and 30kHz, 90dB sensitivity and a 6-ohm nominal load with a 3-ohm minimum, all of which looks like pretty standard stuff.

What those specs don't reveal is the minimal crossover employed for the Resolution. It might not be quite as elegant as the purely mechanical roll-offs employed on multiple legs of the Cardinal, but the excellent out-of-band behavior of the sophisticated polypropylene cones means that simple first-order filters can be used for all but the tweeter, which gets a second-order instead. That makes for a phase-coherent crossover as well as one that's a light touch in dynamic terms. Passive crossovers are referred to as *subtractive* for a reason, so the less crossover you need to actually get the job done, the better off you are likely to be. Naturally, like most things in audio, it isn't quite that straightforward, but the use of woven isotactic polypropylene creates the ability to tailor the response of the individual drivers, meaning that those long overlaps can be implemented without problems. The result is a beautifully integrated and musically coherent speaker, while the minimalist crossover compensates in part for the fact that polypropylene isn't as light as some more fashionable materials, the low insertion loss making up for inertia in the cones. All speaker design is a balancing act, and this is one that Wilson Benesch has been practicing for a while. It might be a unique approach, but it's also one that they've mastered over the years and continue to refine.

Having already said that, to my eyes at least, this is the most attractive loudspeaker Wilson Benesch has ever offered, I also have to say that there's no escaping the engineering focus of its overall aesthetic. If ever a product looked built, this is it, with materials and construction more often associated with high-end electronics than loudspeakers. A world away from flat panels and wooden boxes, with its massive aluminum extrusions and high-gloss carbon panels, the Resolution looks more automotive than audio. Which raises the question, do you really want something that looks like it comes from a sports car in your front room? Fortunately, those wanting to soften or domesticate the look can choose from a range of high-gloss wood veneers for the side panels, or even colored carbon fiber tinted with the exclusive Hypetex process, a closely guarded technique employed by the likes of Aston Martin to pep up their products, although these options come with costs attached. Personally, I like the unadorned honesty of the standard high-gloss carbon weave, although I might be tempted by the gloss white.

Talking of costs, in a world where the global pricing norm seems to be cracking under the strain, what you'll be asked

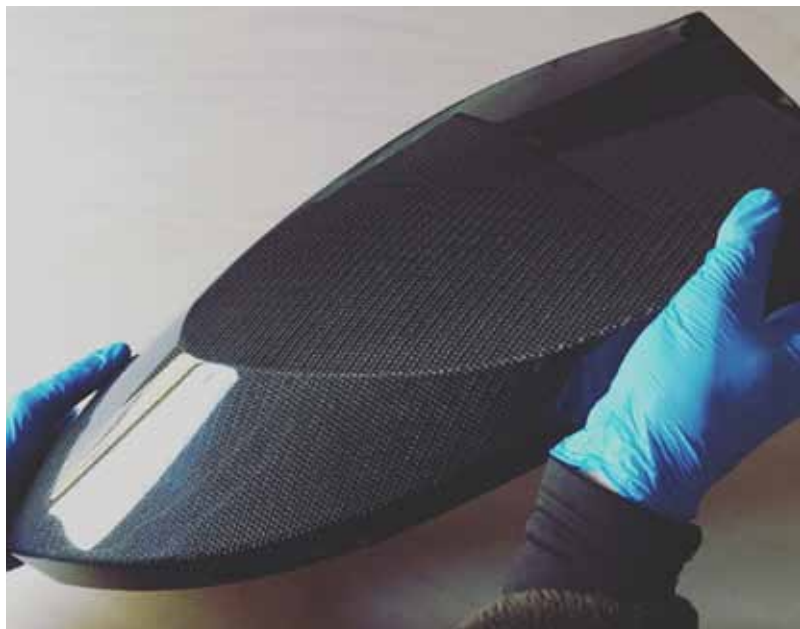


to pay for a pair of Resolutions depends on where you live. In the US, the Wilson Benesch speaker weighs in at \$69,500 a pair, making it around \$11,000 more expensive than the benchmark Wilson Alexia 2. Stand the two speakers side by side and that's both an obvious and a viable comparison, with the two speakers being broadly similar in scale, bandwidth and ambition. But in the UK, the cost equation is very different indeed. Not only does the Wilson speaker cost more in pounds than it does in dollars (!?!), the Resolution is way cheaper, coming in at almost half the price of the Alexia 2, which actually makes it slightly less than the Wilson Sasha 2. So value becomes a question of geographical location as much as, if not considerably more than, performance. Given that the UK will account for a fraction of total Resolution sales, I'm going to apply the international standard, placing the speaker in the same category as the Alexia 2 and judging accordingly. It's the sort of company that the Resolution is comfortable keeping, in many ways its natural place in the market. Those of you lucky enough (or unlucky enough, depending on your point of view) to live in the UK should appreciate the fact that in looking at the Resolution, you are staring at one very serious bargain indeed.

When it comes to matching amplification, the Resolution's benign impedance characteristic and shallow crossover slopes make it an easy load. Just don't think that you can skimp on quality when it comes to electronics. The natural warmth of the speaker's sound, devoid of edge or any tendency to etch or stripping of harmonics in pursuit of definition, might make it less brutal than many high-end designs when it comes to exposing system shortcomings, but ultimately it's no less revealing. I used the Wilson Benesch speakers with amps as varied as the Mark Levinson No.585 integrated, the Berning Quadrature Z OTLs, the Engström Lars (20 watts of push-pull 300B power) and the VTL S-400 II. All worked well, but this was the first speaker I've used with the Levinson that has exposed that amplifiers' characteristic slightly dark and shut-in top end -- at least to the point where it has been a musical issue. You have been warned: just because the Resolutions doesn't shine a spotlight on partnering electronics doesn't mean they let issues slide. In fact, in contrast, their combination of overall tonal neutrality and musical and rhythmic coherence means that any discontinuities or aberrations are both unmistakable and become increasingly hard to ignore.

Likewise, although the success of the Bernings and Engström Lars suggest that low-powered amps will have

no problems, in both cases it is actually the sheer quality of those amplifiers that carries the day, the speaker fastening on the agile clarity and transparency of the Quadrature Z, the natural textures and immediacy of the Lars. But there's no escaping the fact that these speakers thrive on power: the Quadrature Zs are both more powerful and more load tolerant than more conventional OTLs, while the VTL S-400 II is massively capable by any standards. Every Wilson Benesch loudspeaker I've used has preferred to be biwired



and positively loved to be biamped, and the Resolution is no exception. As impressive as the results were with the amps already mentioned, combining the Resolutions with the CH Precision M1s running in biamp mode was nothing short of spectacular. When it comes to selecting amplification to partner with the Resolutions, or selecting the Resolutions to partner with existing amplification, that's something to bear in mind, either immediately or as a future upgrade option.

**W**hile it's dangerous to draw straight-line sonic conclusions from the technology used in a speaker, both the use of polypropylene and the way in which it is used suggest that the Resolution should possess plenty of natural warmth and instrumental or vocal texture. What might surprise you is that, far from the cuddly or dynamically flabby sound that so often goes with such qualities, the Resolution is also far more immediate and dynamically agile than you might expect. Sol Gabetta's *Il Progetto Vivaldi* album [Sony 88697131691] is a perfect case in point. The rich tonality and varied textures of her 1759 Guadagnini are augmented and made



that much more particular by the gut-stringing adopted for this recording, while the small band (just seven strong) allows for plenty of space and focus. The Resolutions deliver all of that tonal range and subtlety, held within a broad, deep soundstage, with plenty of dimensionality to instruments and clear air between them. The acoustic stands independent of the speakers, with no tendency for instruments to cluster around or cling to the cabinets. The careful shaping of the baffles and the vanishingly low signature of the cabinets allow the speakers to disappear, passive guardians to the musical event.

But what startles isn't just the rich instrumental colors drawn from the instruments, especially the solo cello, but the combination of attack and the absence of edge or glare in the bowing. When you reach side four and the transcription of RV 297 ("Winter" from *The Four Seasons*), those familiar opening phrases lull you into a false sense of familiarity, quite unprepared for the dramatic entrance of the solo part, as all that body, substance and color are tied to quicksilver playing that explodes with such verve and life that it literally has you holding your breath. For once you know, absolutely, that this is a cello -- and you know that the playing is absolutely extraordinary.

That combination of natural texture and harmonic resolution brings the Resolutions their convincing sense of proportion, rich tonality and presence. Add their temporal and dynamic coherence into the mix and you have a speaker that's perfectly equipped to reproduce that most testing instrument of all, the human voice -- "testing" not because of its bandwidth or dynamic range, but because of its familiarity. There's nothing we recognize more easily, separate more discriminatingly or classify more quickly and accurately than another's voice. That distinction between singers is rarely as apparent as it is with the Resolutions. Ella Fitzgerald's recording of "This

Year's Kisses" (*Clap Hands, Here Comes Charlie* LP [Verve V6-4053]) shows that her remarkable voice is as impressive as it is unmistakable.

The performance is delicate and airy, jaunty and bittersweet as she uses her effortless range, perfect pitch and fluid phrasing to devastating effect. Let the record run and she brings that same purity and rock-solid pitch to the longer blues lines of "Good Morning Heartache," a song with none of the tongue-in-cheek, almost girlish flippancy of the track before.

Then reach for *Lady Sings the Blues* [Clef MG C-721] and Billie Holiday's version of "Good Morning Heartache" -- a gut-wrenchingly raw and brutally exposed performance without the pristine purity that Ella offers. Rarely can the same song have been sung with such different results; rarely will you hear a speaker that can display the difference between these two voices with such clarity and impact -- the sheer beauty, vocal power and dexterity of Ella; the emotional range and immediacy, the raw edge and pain that underpins Billie. For Ella, that heartache is an inconvenience to be studied or embraced; for Billie it's an old acquaintance, a familiar ache, deep in the darkest recesses of her soul. There's a clarity to the reproduction that rests not on the sort of etched or spot-lit sound so familiar from previous "high-resolution" designs, with their leading-edge emphasis and pared-away harmonics. This is

clarity that comes from the effortless ability to let you hear both the length of a note and its natural decay without being swamped or smeared by the next note. It lets you appreciate a singer's diction, the way he or she shapes a note, as well as the way a player shapes a phrase.

Just as the shape and sense of those voices are laid bare, so too is the contribution of the driving electronics. Swap from the VTL S-400 II to the Berning Quadrature Zs and you gain nimble agility and dynamic precision at the expense of absolute stability, dimensionality, body and musical shape. Swap in the full biamped CH Precision rig and you really





do get pretty much the best of both worlds -- at a considerable price. It's an important consideration, because just as the Resolutions reveal weaknesses, they also underline strengths and character. This means you need to take care in choosing your perfect partner, but that you'll hear that much more clearly the benefits of the choice you've made. Add the Resolutions to your existing system and you'll hear much more of the system you already own -- for good or ill.

Of course, the other side of that particular coin is that the speakers make system setup that much easier and clearly reveal both the efficacy and full value of any potential upgrade. By shining a light on musical performance, the Resolutions also decode the sonic integrity of partnering sources and electronics, the vagaries of equipment matching and the state of the system union. Living with a system imbalance? These speakers will tell you all about it. Plan a wrong turn on the upgrade path? The Resolutions will let you know. They may not squawk, "Make a U-turn," but the message will be almost that clear. You might not thank them initially, but you'll grow to love their honesty and the music they deliver -- as well as the money they save you.

So far I've mainly talked, directly or by inference, about the Resolution's broad midband. Given the soft-dome tweeter and smallish bass drivers (and not a lot of them), you might well wonder about the speaker's performance at the frequency extremes. The Semisphere tweeter is the same doped silk-dome unit developed in-house by Wilson Benesch for the Cardinal. It performs beautifully in that speaker, and it does so here too, partly because, like the rest of the speaker, there's rather more to it than meets the eye. In this case that consists of a carbon-fiber brace that stiffens the dome and raises the first break-up mode significantly without adding undue moving mass. With a response tailored to fit perfectly into the center of the Troika three-driver array, integration is seamless, with no dynamic, dispersive or tonal discontinuities to betray the crossover point. The sense of space and air it brings to natural acoustics, the lack of edge, halo or glare on violin or soprano voice, the attack, bite and texture it delivers through the treble are, if not perfect, then a



perfect match for the Resolution's honest midrange. Yes, I've heard tweeters that are faster and tweeters that seem more extended. They bring a sense of speed and precision to music -- although those qualities can also come at a price in terms of overall coherence or tonal resolution. The fact is, we don't listen to tweeters; we listen to complete speaker systems. I've heard few high-frequency drivers that are more musically informative or integrate as well with the rest of the range. It's all about the whole, and the Semisphere's balance of virtues matches the rest of the Resolution's drivers, creating a whole rather than a kit of parts, helping to re-create a whole when it comes to recordings.

In many ways, it's the same story -- one of seamless integration, dynamic and tonal coherence -- at the bottom end. But this is where the hard choices are so often made -- and where the Resolution differs from a speaker like the Wilson Alexia 2. Looking at the two speakers side by side, it's not difficult to discern the difference in approach. Both speakers employ twin bass drivers, reflex-loaded and with very similar efficiency, but there the similarities stop. The Resolution's twin, 170mm (7") Tactic II isobaric arrays are mounted in the slim, sealed enclosure, handling the range from 300Hz down to the -3dB point at 30Hz. The midbass driver (the 170mm (7") unit above the tweeter) handles the range up to 500Hz, where the midrange proper takes over. In stark contrast, the Wilson Alexia 2 uses a pair of differential bass units (one 8" and one 10") loaded by a far larger volume, the size of the drivers and the volume of the cabinet dictating the thick-set, muscular proportions of the shorter speaker. Together, those drivers offer a significantly greater swept area that, combined with the large internal volume, delivers output down to a -3dB point of 19Hz.

There's more -- much, much more -- to musical foundations than simple numbers, but you get the picture. I've heard the Wilson speaker at a couple of shows and during its UK launch, with various electronics and sources. It moves more air and delves deeper. In comparison, the Resolution's bottom end seems to roll off more slowly, meaning you get useable output down deeper than the numbers suggest, but



it moves a lot less air, although arguably it does so more precisely. The isobaric arrangement delivers notably clean, well-behaved output, reflected in the Resolution's preference for the lowest damping-factor settings on both the Berning and VTL amps. The result is crisp leading edges, excellent pitch definition and wonderfully natural texture and decay -- but the Resolution won't match the sheer weight, the musical oomph, the unbridled gusto that you get out of the Alexia 2. The Wilson delivers more; the Wilson Benesch delivers enough.

But which one is better? Each approach has its own benefits, qualities that will appeal to different listeners, suit different rooms and place different demands on the driving system. You can argue that the Resolution offers superior transparency and definition -- or that the Alexia 2 delivers greater weight and scale. Ultimately, both propositions are correct, but what matters is how they integrate with and support the rest of the range. The lighter touch of the Resolution will certainly suit it to solid, European construction materials and make it easier to accommodate in smaller rooms, but, rather like KT88s and 6550s, or Reiner's Chicago Symphony and Barbirolli's Philharmonia, ultimately you pays your money and makes your choice. Just make sure it is your choice, because the musical results from what are two excellent speakers will be very different in style and highly dependent on the room and driving system.

At its best the Alexia 2 does scale, presence and immediacy like no other speaker of its size. The Resolution relies on a more refined and subtle perspective, as well as its rich, natural tonality. Play the Sibelius Second Symphony (Barbirolli conducting the Hallé Orchestra [EMI Sibelius Edition 7243 567299 2 6]), the opening of the second movement, with its extended pizzicato passage, and the Wilson has the authority to give you the weight of the massed basses and cellos, the familiar volume of Kingsway Hall -- but it's the Resolution that is clearer of pitch and timbre, pluck and release, revealing the transition from basses to cellos and the musical progression through the strings. Which is more important to you? Only you can -- and only you *should* -- decide, but this deft touch and timbral

subtlety are what make the Resolution special and what really define its musical character and overall presentation. Interestingly, both companies offer superb subwoofers to underpin their quasi-full-range offerings. Perhaps it should come as no surprise that the Wilson Benesch Torus is the perfect partner and an obvious (and seriously cost effective) upgrade to the Resolution. The floorstander is more than capable in its own right, but adding the Torus brings an added sense of muscle, scale and attitude to the mix, as well as simply offering extra bandwidth to underpin all that subtlety and refinement.

Which, given the price differential, makes comparison to the flagship Cardinal almost inevitable. How do the two relate? They are different products. The Cardinal is bigger-boned and handles scale with ease. It is more immediate, more dynamically responsive and breathes more easily -- but it doesn't match the sheer continuity and tonal refinement of the Resolution, trading ultimate sonic invisibility for energy, presence and impact. Even adding the Torus to the Resolution, it struggles to match that physical presence and impact, but it has its own cards to play. It sets up a

soundstage and establishes performers that are stable and utterly independent of the speaker enclosures. There are no steps or discontinuities to betray the process, an almost total absence of the usual masking effects that obstruct and obscure, nothing to distract from the music itself. Perhaps that reflects the benefits of a more carefully executed crossover, or perhaps it's simply the result of accumulated experience and a smaller enclosure, but, either way, the choice to trade obvious impact for beguiling subtlety is addictively effective when it comes to long-term listening and musical pleasure.

**T**he Wilson Benesch Resolution is a superb loudspeaker. It is beautifully engineered from high-tech, high-quality materials. Looking at it, you will never find yourself wondering why it costs what it does or where the money went. It is the best-proportioned and most striking of Wilson Benesch's floorstanding designs. It offers unique and demonstrably effective solutions to the well-recognized problems of





loudspeaker design. Like any speaker, it offers its own particular perspective on the musical event, its own balance of virtues. Tonal and temporal coherence are its strengths, its holistic, seamless presentation in some ways more akin to an electrostatic, but a 'stat with bass and balls.

The Resolution doesn't match the scale or emphatic dynamic response of the Wilsons or Stenheims -- or Wilson Benesch's own Cardinal. It doesn't provide the efficiency of a horn, or in standalone form, the bandwidth of part-active systems. But, above all, it delivers a level of musical coherence and insight, a balance of the convincing and the communicative, that puts it at the forefront of current loudspeaker performance. More refined and even than most paper-coned systems, more natural and richer than

most aluminum- or ceramic-coned speakers, far more expressive and engaging than the "high-tech, high-res" brigade, for all its obvious engineering, this is at heart an essentially simple and unfailingly musical device. No speaker is all things to all people, but in a market that seems increasingly divided and polemic, the Resolution sits astride the middle ground, confidently answering many of the musical questions that other speakers ignore or quietly gloss over.

Perhaps what this speaker really resolves is that age-old question: how *do* you make an all-rounder that pleases more people than it disappoints? Listen -- especially at length -- and you, too, may be beguiled by the absence of intrusive discontinuities or colorations, by the Resolution's simple, musical honesty.

**Price:** £35,500 per pair in standard finish; bespoke wood and high gloss, add £2,700; bespoke P1 colored carbon, add £3,800.

**Warranty:** Five years parts and labor.

Wilson Benesch Ltd.  
Falcon House  
Limestone Cottage Lane  
Sheffield, S6 1NJ  
+44(0) 1142 852656  
www.wilson-benesch.com

## Associated Equipment

**Analog:** Kuzma Stabi M turntable with 4Point tonearm, Grand Prix Audio Monaco v2.0 turntable with Kuzma 4Point 14 tonearm, AMG Giro turntable with 9W2 tonearm; Allnic Puritas and Puritas Mono, Clearaudio Goldfinger Statement, Fuuga, Kuzma CAR-50, Lyra Atlas, Etna, Dorian and Dorian Mono cartridges; DS Audio DS-W1 cartridge with matching equalizer; Stillpoints Ultra LP Isolator record weight; CH Precision P1, Connoisseur 4.2 PLE and VTL TP-6.5 Signature phono stages.

**Digital:** Wadia S7i and Neodeo Origine S2 CD players, CEC TL-3N CD transport and Wadax Pre 1 Ultimate DAC.

**Preamplifiers:** CH Precision L1/X1, Connoisseur 4.2 LE, Tom Evans Audio Designs The Vibe, VTL TL-6.5 Series II Signature.

**Power amplifiers:** Berning Quadrature Z, CH Precision M1 and Engström Lars monoblocks; VTL S-400 Series II Signature stereo amp. Integrated amplifier: Mark Levinson No.585.

**Cables:** Complete looms of Nordost Odin or Valhalla 2, or Crystal Cable Absolute Dream from AC socket to speaker terminals. Power distribution was via Quantum Qb8s or Crystal Cable Power Strip Diamonds, with a mix of Quantum Qx2 and Qx4 power purifiers and Qv2 AC harmonizers.

**Supports:** Harmonic Resolution Systems RXR, Hutter Racktime or Quadraspire SVT Bamboo racks. These are used with Nordost SortKone or HRS Nimbus equipment couplers and damping plates. Cables are elevated on HECC Panda Feet.

**Acoustic treatments:** As well as the broadband absorption placed behind the listening seat, I employ a combination of RPG Skyline and LeadingEdge D Panel and Flat Panel microperforated acoustic devices.

**Accessories:** Essential accessories include the SmarTractor protractor, a USB microscope (so I can see what I'm doing, not for attempting to measure stylus rake angle) and Aesthetix cartridge demagnetizer, a precision spirit level and laser, a really long tape measure and plenty of low-tack 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.