

EQUIPMENT REVIEW

Raidho Acoustics TD-4.8 floorstanding loudspeaker

by Alan Sircom

By big loudspeaker standards, the Raidho TD-4.8 isn't actually that big. It stands about as tall as the average middle-aged European and its front baffle is about face-wide. It sits on two outriggers that give the speaker a remarkably narrow footprint. It's deep, yes, but not that deep and is designed to work relatively close to the wall, so it doesn't come intimidatingly far into the room. In short, Raidho's newest addition to the family is the best big little loudspeaker they make.

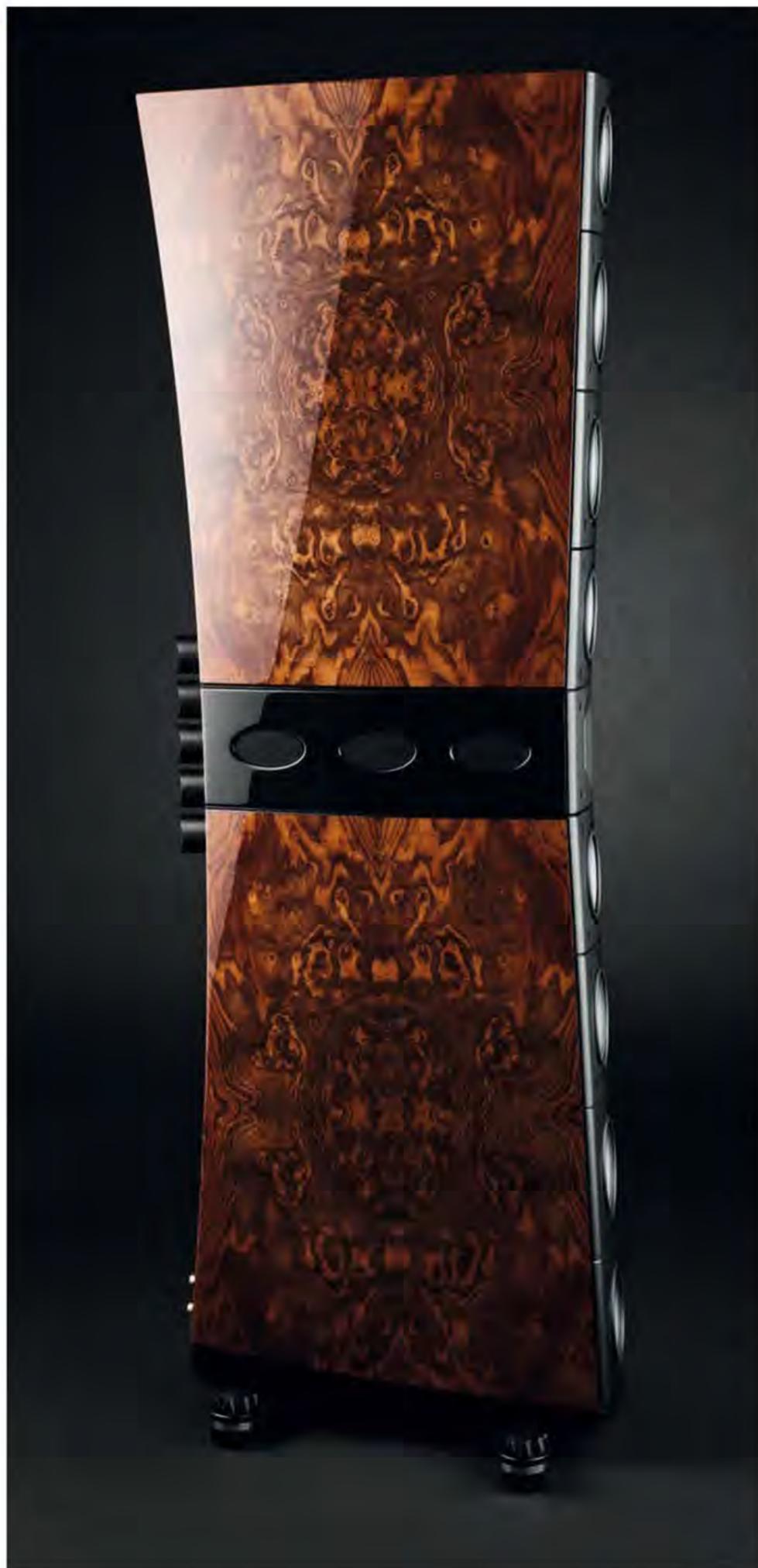
The core to the TD-4.8 is the 'T' part. Raidho moved from aluminium-oxide ceramic drivers to diamond and graphite coated aluminium-oxide ceramic drivers in its top range a few years ago, but while this gave exceptional hardness and lightness, there was a limit to just how much of a coating you can put to a ceramic cone before it fractures, and the diamonding process Raidho uses is already pushing the envelope. Enter tantalum, a material of such ductile strength and heat dissipation, it remains one of the key choices in armour-piercing bullets. A thin layer of tantalum applied to the cone gives it the strength and rigidity (without undue additional weight) to allow the cone to receive more diamond than ever. This makes for a functionally perfect cone material for all the right reasons, with only one downside – the manufacturing process. The tantalum coating process is neither cheap, nor fast, nor capable of significant upscale, meaning that where the move from ceramic to diamond-ceramic was across the whole range, the move from diamond-ceramic to tantalum-diamond-ceramic is always going to be limited to the very top models in the Raidho range.

The TD-4.8 is a pure D'Appolito design, with the two midranges and six bass units flanking the ribbon tweeter. The cabinet itself is a vented sealed box, and right now you are probably saying 'wait, what?' but hear me out. There is a difference between a 'vent' and a 'port' but the forensic use of the terminology has been lost in recent years and many think the two terms are interchangeable. In the case of the TD-4.8, the vent is a small, heavily bunged exit point to an otherwise sealed cabinet. It's not ported in that no air escapes but allows the loudspeaker to benefit from the speed of a sealed box with the bass extension that comes from the cabinet extension. This is also done exceptionally elegantly with five small rear 'exhaust pipes' that, when combined with the overall wing shape of the design, makes for a loudspeaker that looks a little like it's some classic sci-fi wing shape, turned on its side. The finish options are for the side cheeks alone, and include a burr walnut finish, piano black, and any car paint colour you can think of. The loudspeakers themselves connect to the real world using newly designed 'red gold' (gold with a high copper content; not an alloy because alloys are beneath noble gold) single-wire terminals that include 4mm banana plugs.

Moving from diamond-ceramic to tantalum-diamond-ceramic means the drivers look slightly less dark than before (interestingly, the normal black industrial diamond is put under such pressure in the Raidho process, it takes on a slight blue-white hue. OK, no-one's pressing the Koh-I-Noor yet, but this is more like what we think of 'diamond' than most industrial diamond processes). This also allows for a reworking of the crossover and it's here that Benno Baun Meldgaard's input as Chief Designer begins to shine through. This was a project largely already signed off, so Benno's role was primarily final voicing, but this is interesting in its own right, as it brings together the temporal and rhythmic properties GamuT speakers are so highly prized for with the vanishingly low distortion that defines a Raidho loudspeaker. In the process, Raidho has made a high-end loudspeaker that is both an easy impedance load (mostly around 10ohms, with the occasional dip below eight ohms) and a true 90dB sensitivity. This has a great advantage for high-end users, in that they can pick an amplifier on the basis of how it performs, and not simply whether it delivers enough power. In this case, it was fed by an old dCS Puccini+Clock duo, a GamuT pre/power set, and all connected up with Nordost Valhalla 2 cables. You could easily swap out the GamuT models for a reasonably sized tube amp, as those performance figures mean it's all about quality not quantity. In all this though, the TD-4.8 remains resolutely Raidho.

There is that distinctive Raidho family sound, a sound that is exceptionally dynamic and detailed, to the point of making everything this side of an electrostatic sound 'muddy' and 'indistinct'. The step between ▶





ribbon and midrange drivers is not an easy one to overcome (there's a technology change between the two devices, and that is always hard to reconcile), which places instruments like violas ever so slightly less forward in the mix, but even here this lone tonal characteristic is mild in nature, and to overcome it in a dynamic driver concept while retaining the other properties of the Raidho would take a bigger, more demanding, and far more expensive loudspeaker. This is where the Raidho TD-4.8 gives some ground to loudspeakers of the calibre of the Wilson WAMM Master Chronosonic. Note that I said this before asking the price of the loudspeakers; having discovered just how vast the price differential, that still holds... but shows just what company the Raidho keeps.

Playing 'Celestial Echo' by Boris Blank and Malia [*Convergence*, Universal], there's so much going on that you don't normally hear, like the depth and richness to the string synth sounds, and the complexity of those electro percussion sounds. The sealed-vented cabinet really makes sense here, as the cabinet has the speed and uncoloured sound of a sealed box, but with the bass depth that a cabinet of this size cannot normally achieve.

The slow build of King Curtis' 'Memphis Soul Stew' [*King Curtis at Fillmore West*, ATCO] is also a perfect example of what the Raidhos do right. And really right. You have some of the finest and funkier musicians of their time, absolutely not phoning in their parts, and on a good system you can switch your attention between each musician in turn. You can do this here, of course, but what you also get is a visceral real musician playing. Take Bernard Purdie's remarkable drumming. Every phrase is subtly different, within the same groove. This is his thing, and what made him one of the most sought after – and sampled – drummers in that idiom. Every nuance is portrayed perfectly – other systems can make that sound like dropped beats and mis-steps, but it's all part of his triplet play that makes Bernard Purdie so gifted. Of course, you also get the sense of the band playing in a club, ▶

and in the second track you get to hear the people talking in the crowd in a way few other systems ever even approach. That's something truly special.

Moving over to the Mi Buenos Aires Querdo album [Barrenboim et al, Teldec), there's a sense of the acoustic that is both excellent and does not overshadow the musicians or the musicianship. Piano, accordion, and bass alike have a visceral, real quality that is the mark of true high-end full-range systems, but with the rhythmic tautness, speed, and temporal precision of a small sealed box. That's not only quite brilliant but is reflected in the number of tracks you play on each album. But more on that later.

This album also exposes the lie about audio bottom end. These are loudspeakers possessed of a hauntingly deep bass, as exposed by the bowed bass, and the left hand piano work. More importantly, it brings to the fore the humour and intellect of the musicians. Part of that seems to be an absence of distortion on an order of magnitude we so rarely experience in audio. The piano is something of an audio crucible, because almost all of us know what piano sounds like live, and it rarely sounds like that through most audio systems. The Raidhos takes a leap closer, and that piano sounds more like the real thing in a room, at once from a dynamic, tonal, and timbral sense.

Another, personal audio torture test for bass is 'Chameleon' by Trentemøller [The Last Resort, Poker Flat]. This is ideal for testing whether a port is musically intrusive, but that test didn't just show up how well the 'vented, sealed' concept works here (it notionally applies to everything from the D-1.1 on up, but this is where it gets to shine), it was one of those great audio moments that make the hairs on the back of your neck stand up.

Wesseltoft and Schwarz' Duo [Jazzland] is another album that normally gets one track played and ended up staying on for the longest time, the treated percussive sounds and this time a different piano recording just keep on coming. This percussion is more echo and pan than sitting in a 3D space, but it doesn't matter. The sophistication of the sampled sounds, the precision of the soundstage, the dynamic range and the sheer absence of noise from which those sounds emerge sets a standard that some serious players in the audio world should heed.

On the one hand, these speakers act as remarkable monitors. Everything the artists and engineers recorded is

presented with seemingly no attenuation. If this was the known benchmark both in and out of the studio, we'd never hear a compressed recording again because that compression would be immediately and patently obvious. Yet, and this is the clincher, that studio-like quality does not come at the expense of the enjoyment or musicality the loudspeaker presents.

This is one of those rare loudspeakers where the job of a reviewer borders on sacrilege. I have to listen to tracks or even snippets of tracks on albums to highlight aspects of a recording. Those albums are like test instruments to me, and I can determine the integrity of tone with a piano or female vocal, the speed of bass with a synth tone, and so on. That usually means a track rarely stays on for more than about three minutes before the next test music sample gets played. That didn't happen here, simply because turning the track off was an act of musical barbarism. Pick an album, play track one, intending to listen to only that track. Five tracks later you are still mesmerised and reaching for the 'Stop' button is like disrespecting the music itself.

I think that comes from the uncanny amount of detail playing here, or more accurately the absence of those loudspeaker-generated clouds of distortion and colouration normally experienced. Take soundstaging for example; the speaker has a good soundstage, of course, but it's absorbing and enveloping. You are one with the music through that soundstage in the way you don't normally get in audio. Tracks were played right through to the fade, and you hear things that are simply lost in the cones and domes of most loudspeakers. There were a lot more tracks played, with everything from the Rolling Stones to Rachmaninov, and in all cases the same outstanding performance

“The full balance of the speaker remains unchanged at whisper-quiet and when it is given some beans.”

- ▶ was there. At its worst, it was as good as the best of its peers, but at its best – and it was often at its best – this was a speaker that challenged the best in all ways, except for bass extension and the ability to play at PA levels.

Most of all, it makes music supremely intelligible, in a way few other loudspeakers can. Vocal articulation is a given, but so is the articulation of the voices of all instruments. There’s no sense of ‘is that a bass clarinet?’ to music; one quick blast of the Raidho TD-4.8 and you’ll know precisely what type of instrument is being played, almost to the point of knowing what kind of reed the musician prefers.

A pivotal phrase in that last paragraph is ‘quick blast’. It’s pivotal because it isn’t appropriate. This is one of those rare loudspeakers that holds the same tonal balance and detailing whether you play at high volume levels, or whether it’s at late-night listening quiet. In most speakers, the best you can hope for is ‘Mumbling Round Midnight’ but here the full balance of the speaker remains unchanged at whisper-quiet and when it is given some beans.

The loudspeaker does require a seated position to hear what it’s capable of. This might be its biggest limitation in public demonstrations, because too many people seem to think standing in the doorway of an exhibit room counts as ‘listening’ to the speaker. In this case, you are getting at best a Raidho-flavoured impression of the sound. Sitting in the sweet-spot with the tweeter ribbon at the optimum height makes for a completely different presentation. The bass, mid, and treble integrate well, the bass gains solidity, and the sense of openness and expansiveness of the sound and the soundstage is beguiling. You are listening to your music anew because these speakers are resolving so much more in detail, dynamics, and staging. The well-worn audio cliché of ‘veils being lifted’ doesn’t work here; we’re talking blankets. They start and stop on a dime, too.

As discussed earlier, I try to prevent being too immediately aware of price when forming my findings about a loudspeaker. In the Raidho TD-4.8 there’s the physical loudspeaker and the sound it makes. Physically, I was pretty close in setting it in price context. It looks like an elegant loudspeaker in the £120,000–£150,000 price range. But that says nothing to its sonic performance, which puts it in the company of the open-ended flagships that make £150,000 seem like chicken feed. OK, those behemoths and dreadnoughts of the audio world tend to come with increased headroom or bandwidth (as in, you can play them at ear-punishing levels or with the sort of bass impact that impales the listener), but that’s all they trade, and you’ll rarely hear this kind of detail and information on loudspeakers that cost a cool half a million or more. Plus, this is the kind of loudspeaker that doesn’t impose constraints upon the choice of amplifier (it needs to be good, of course, but the Raidho doesn’t force you into a huge transistor power amp because of some gnarly phase angle or crazily low impedance).

TECHNICAL SPECIFICATIONS

Product type: Three way sealed-vented floorstanding loudspeaker

Drive units: 1x Raidho sealed ribbon tweeter, 2x 100mm Raidho Tantalum-Diamond midrange drivers, 6x 115mm Raidho Tantalum-Diamond bass drivers

Crossover points: 200Hz, 3kHz, 2nd Order

Bandwidth: 20Hz-50kHz

Sensitivity: 90dB/W 2.83V/m

Nominal impedance: 8 ohms

Power requirement: >50W

Finishes: Piano Black, Walnut burr veneer, or any colour to order

Dimensions (WxHxD): 20 x 179 x 63cm including feet: 44cm

Weight: 71kg

Price: from €134,000/pair (depending on finish)

Manufactured by: Raidho Acoustics

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Distributed by: Decent Audio

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Tel: +44(0)5602 054669

When a product has few limitations. It feels like an abrogation of duty on my part because such a review could seem credulous. But sometimes there are few limitations. In concluding though I discovered that, yes, there is a massive downside to the Raidho TD-4.8: it’s the ‘Goodfellas Ending’ downside, and I got it the moment the TD-4.8 and I parted company. Now it’s all over. And that’s the hardest part. Today, everything is different. There’s no action. I have to listen to music like everyone else. I can’t even get decent dynamics. Right after they went away, I tried to play *Saxophone Colossus* and I got dinner jazz on the kazoo. I’m an average nobody. I get to spend the rest of my life as a schnook. +