

Perlisten Audio R7t

No mere trickledown, the R7t floorstander inherits a full flood of technology from its flagship stablemate
 Review: **Mark Craven** Lab: **Paul Miller**

Shoppers are always on the hunt for a bargain, so anything labelled 'half-price' attracts attention. Okay, that usually applies more to supermarket biscuits than floorstanding loudspeakers, but with Perlisten's R7t selling for £8100 – pretty much half that of the American company's flagship S7t [HFN Apr '22], while looking strikingly similar – it immediately appears a potential bargain. On the other hand, there must be changes behind the scenes for the price tag to have dropped so much, so the question becomes, will it sound only 'half as good'?

For areas where this model concedes ground on its £16,000 stablemate, the most obvious is the tweeter in the middle of its central DPC (Directivity Pattern Control) array. Beryllium on the pricier model, here it's a far more conventional silk dome, as are the two diminutive midrange domes above and below it – instead of the thin-ply carbon diaphragm (TPCD) drivers of the S7t. This speaker's four 165mm bass/mid units are also cut from a different cloth, using a hybrid pulp material rather than the TPCD cones of the S series.

BABY DYNAMITE

Perlisten hasn't thrown the baby out with the beryllium bathwater, however. The R7t's DPC array is once again a custom-designed, computer-modelled invention, with shape and contours designed to limit vertical dispersion (and thus reduce image-muddying first reflections from floor and ceiling) while increasing horizontal output. And, again, working toward this is a complex crossover network that has midrange units and tweeter sharing some duties, as do the 'inner' and 'outer' bass/mid drivers [see PM's boxout, p77].

The R7t is touted by Perlisten as its 'second-best two-channel system' and it headlines a step-down series also comprising bookshelf, 'monitor', surround and centre speaker models. Interestingly,

there's also another floorstander in the lineup, whereas the S series features just the one. The £6300 R5t features just two pulp cone bass/mid drivers for a more typical three-way configuration and is not quite as imposing as the 1.2m R7t.

HIGH FLYER

At that height, this speaker is going to get noticed wherever you put it. It's not too domineering a presence, however, by virtue of the cabinet being a modest 23cm wide while the curved sides of Perlisten's front baffle bring a degree of elegance to what is otherwise quite a ready-for-business demeanour. Colour options are currently only standard black or white, both with high-quality gloss finishes that will

appreciate a cloth wipe every now and then.

The company's specifications for the R7t include a healthy 90dB sensitivity and a potentially less healthy 4ohm nominal impedance [see PM's Lab Report,

'Morrison was wreathed in reverb, singing in riddles'

p79]. These aren't far removed from those of the S7t, illustrating a speaker designed to the same parameters, including THX Dominus certification. And once again, low-frequency response is rated twice, for bass reflex or sealed 'acoustic suspension'.

One minor difference between the brand's two seven-driver floorstanders concerns their internal Helmholtz resonators. Just as on the S7t, these 'fire' downwards into a side-vented chamber at the bottom of the cabinet. However, while the flagship model hid the two ports' openings behind a screwed-in access cover, here it's only the speaker's (heavyweight) bass plate that needs to be removed if you want to short the resonators with

RIGHT: Mounted into Perlisten's CNC-machined baffle, the central 'DPC array' comprises a trio of 26mm silk-dome mid and mid/treble drivers that are combined with pairs of 165mm HPF (pulp-fibre) woofers configured internally for either vented or sealed-box alignment



SILK ARRAY

We discussed the thinking behind Perlisten's Directivity Pattern Control (DPC) waveguide – the trio of drivers set into the centre of the baffle – in our review of its flagship S7t floorstanders [HFN Apr '22]. In both the S7t and R7t, the shape of this dished waveguide is mapped together with the profile of the three treble drivers to optimise their combined response and dispersion, controlling both the array's vertical *and* horizontal directivity. But the R7t's execution of the array is necessarily less sophisticated [see Lab Report, p79], its three 26mm silk-dome tweeters replacing the two 28mm laminated (thin-ply carbon diaphragm) domes and central 28mm beryllium dome tweeter that feature in the S7t. The crossover is different too, although still tricky to define as the poles are staggered, with overlapping bands. For example, all three 26mm domes play in the midrange above the 1.4kHz crossover point, although the outer pair operate 6dB *below* the level of the centre dome and only up to 4kHz, rolling away at 12dB/octave (2nd order) to leave the lone tweeter singing up to ~30kHz. Completing the ensemble, the pairs of 165mm fibre-coned woofers operate in unison up to 250Hz with the innermost set continuing up to meet the array at 1.4kHz. PM

Perlisten's supplied foam inserts. Do be aware, however, that while the process is quicker, it's still a chore as it requires each 45kg speaker to be flipped over.

Also, you might not even bother: the speakers arrive in bass-reflex configuration and Perlisten explains the sealed option is primarily intended for when the R7ts will be used in a system with a subwoofer, or positioned in a void behind an acoustically transparent projector screen (where the less material-wobbling airflow, the better).

With regard to the R7t's heavy metal bases, these mimic the approach of the S7t, angling the cabinet back by a couple of degrees with outrigger feet plus spikes ensuring a stable footing. Also supplied are five circular grilles that snap into place magnetically over each driver's footprint.

BETTER BY HALF

If you're a potential Perlisten customer aching to own the S7ts but unable to stretch your budget that far, fear not. The R7t is a brilliant runner's up prize and shows my earlier 'half as good' comment to be the flippant nonsense it was. These floorstanders share much of their flagship brethren's star qualities – including dynamic ability, low-end control and cavernous soundstaging – and in the area where they most notably 'suffer' in comparison, high-end detailing and clarity, their performance is superb for the money.

As we audiophiles love to experiment, I ignored Perlisten's own advice and began listening with the Helmholtz resonators shorted. This revealed an impressively sophisticated bass. Both AC/DC's 'Gone Shootin' from their album *Powerage* [Epic 510762 2] and Michael Jackson's 'Baby Be Mine' [Thriller, Epic; 88.2kHz/24-bit] offered a wealth of

information in the bottom octaves. Cliff Williams' basslines in the former welcomed close inspection, sounding more tuneful and supple than I remembered, while the Jacko track featured slabs of funk synth.

Yet if you're like me and always order the sticky toffee pudding from the dessert menu, you'll want to leave the speakers' ports open. Do this and they sound a little less polite and controlled, but more willing too. The scale of the soundstage, while already huge, just felt even bigger.

The Doors' 'This Is The End' [The Doors, Rhino Records; 96kHz/24-bit] sashayed out of the R7ts with a wide, deep, vast image that emphasised the track's enigmatic production. On the right was Robby Krieger's sweet arpeggio guitar, from the left came John Densmore's percussion and then, centre but to the back, appeared Jim Morrison, wreathed in reverb and singing in riddles. It was a remarkably evocative, immersive performance, and one that only got better when the speakers unleashed the snap and heft needed to bring Densmore's chaotic tom-tom rolls to life.

TRUE GRIT

This feeling of largescale, towering audio plays well with all flavours of music. The R7ts sent the high frequency effects in 'Pressure' [44.1kHz/16-bit download], from drum 'n' bass producer John B, over my head, while grippy, gritty sub-bass flattened my carpet. Clarence 'Gatemouth' Brown's 'Sometimes I Slip' [Alright Again! Rounder Records; 44.1kHz/16-bit download] put me in a front-row seat at a blues club, gorging on Hammond organ, piano and sax. Even something more delicate and intimate, such as Linda Ronstadt's 'Blue Bayou' [Simple Dreams; Rhino Records Tidal Master], benefited from this full-range delivery. ➔

LOUDSPEAKER



'Blue Bayou' brought something else to my attention – this speaker's laudable ability to not intrude on what Claude Debussy termed 'the space between the notes'. Ronstadt's quivering vocals had a succinct, clipped presence, and bass guitar notes stopped and started without trace of a soft edge.

Speaking of bass, this speaker came close to matching the higher-spec S7t in my room – neither model is particularly brutish, a tight rein ensuring clarity is maintained from the bottom up. I might venture that the R7t is just a touch warmer and

LEFT: The R7t's three-and-a-half way (250Hz/1.4kHz/4kHz) crossover is split between the bass/mid and DPC array drivers enabling bi-amping/bi-wiring if the chromed links, pictured here, are removed. Side/rear vents come into play if the R7t is configured in reflex mode

looser in its delivery, but regardless, it sinks wonderfully deep, shifts plenty of air, and puts a lifelike spin on drums, bass and orchestral pits.

SWEET EMOTION

There's plenty of midrange panache here too, with the R7ts sounding authentically musical with Bernard Herrmann's brass-laden *Cape Fear* score [...*Motion Picture Soundtrack*; MCA MCD10463], and smartly separating the layered vocals of Alice in Chains' 'No Excuses' [*Jar Of Flies*; Columbia 474855 2]. What's missing, in comparison to the S7t, is that last level of insight into pinprick details – in the case of the Alice in Chains track, hi-hat triplets and other percussive licks and clicks didn't sound completely unfettered.

Perhaps, then, this isn't quite the speaker for ultimate audiophile analysis. But it is one for eliciting an emotional response. Dire Straits' 'Tunnel Of Love' [*Making Movies*; Vertigo 800 050-2] sounded sublime, with punchy drums, smooth keyboards, textured vocals and a fine rendition of one of the greatest guitar solos ever played. For those who like to close their eyes during listening, the R7ts are heaven sent. Put another way: as Knopfler's Schecter Strat gave way to the piano toward the track's end, I started to well up. It really was that good. 🎧

HI-FI NEWS VERDICT

A floorstander with the voluminous output you'd expect given the size, the R7t backs up this sense of scale with savvy soundstaging, a flair for transients and deep, tuneful bass. Yes, it's overshadowed – also in price and size – by Perlisten's own S7t model, but the value-for-money here is off the charts. If your listening room can accommodate it, this 'second-best system' would make a great first choice.

Sound Quality: 88%

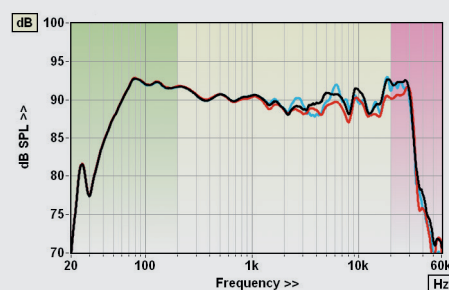


LAB REPORT

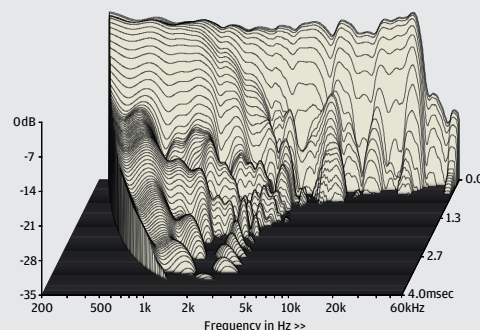
PERLISTEN R7T

With its cabinet design and DPC array [see p77] inspired by the S7t [HFN Apr '22] albeit with a reduced internal volume, simpler drivers and crossover, the trade-offs between the £16k S7t and this 'half-price' R7t are worth exploring. Measured on the silk dome tweeter's axis, the Perlisten R7t's response shows a more pronounced midrange dish [Graph 1, below], but is actually no less uniform than the S7t with errors of $\pm 2.3\text{dB}$ and $\pm 2.4\text{dB}$, even if pair matching is a poorer 2.2dB, principally from 8-20kHz. Sensitivity may also be lower than the S7t's 91.5dB but it's still bang-on Perlisten's claimed 90dB at 90.5dB/1kHz and 89.8dB/500Hz-8kHz. Furthermore, the softer treble dome avoids the high-Q resonance of the S7t's tweeter without sacrificing extension (33kHz/-6dB re. 10kHz) or distortion (0.4%/10kHz re. 90dB SPL). However, there are breakup modes visible in the CSD waterfall at 3-4.5kHz [see Graph 2] and as slight ripples in the response of one speaker [black trace]. These did not occur in the S7t and are presumably from one of the inner bass/mid drivers.

Two downward-firing resonators (unplugged here) exhaust through slots near the cabinet's base at ~25Hz, supplementing the 47Hz-250Hz/-6dB bandwidth of the outermost woofers and 57Hz-570Hz of the innermost drivers, realising a diffraction-corrected bass extension of 45Hz (-6dB re. 200Hz). Again, this performance comes at the expense of a tough amplifier load: the R7t has fractionally lower minima of 2.7ohm/28Hz (and is sub-4ohm/65Hz-525Hz) albeit with slightly less extreme $+37^\circ$ /- 42° swings in phase angle than seen in the S7t, but its minimum EPDR of 1.4ohm/4.7kHz and 1.54ohm/490ohm is no cakewalk. PM



ABOVE: Response inc. nearfield summed driver/port [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; w. grille, blue



ABOVE: Cabinet modes are well damped, leaving a mild inner bass/mid driver resonance at 3-5kHz

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V - 1kHz/Mean/IEC)	90.5dB / 89.8dB / 87.9dB
Impedance modulus: minimum & maximum (20Hz-20kHz)	2.7ohm @ 27.5Hz 12.2ohm @ 1.39kHz
Impedance phase: minimum & maximum (20Hz-20kHz)	-42° @ 3.46kHz +37° @ 687Hz
Pair matching/Resp. error (200Hz-20kHz)	2.3dB/ $\pm 2.3\text{dB}/\pm 2.4\text{dB}$
LF/HF extension (-6dB ref 200Hz/10kHz)	45Hz / 32.9kHz/33.9kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.25% / 0.23% / 0.4%
Dimensions (HWD) / Weight (each)	1268x230x350mm / 45kg