

# Perlisten Audio S5t

Derived from Perlisten's S7t flagship, and featuring the same DPC array, the S5t is simply more 'user-friendly'  
 Review: **Mark Craven & Paul Miller** Lab: **Paul Miller**

**F**ew loudspeaker brands come racing from the gate, but Perlisten, from Wisconsin, US, has gone from unheard of to a serious challenger in very short order. First up, in 2022, was the EISA Award-winning S7t floorstander [*HFN* Apr '22], which introduced the company as a high-end marque, and this was quickly followed by its second-tier R series [*HFN* Aug '22]. Now we get the S5t, essentially a slimmed down version of the S7t, with all the appeal that this entails.

As Perlisten will have it, requests for a version of the S7t more suited to smaller rooms had become 'too numerous to ignore', so the S5t was born. Selling for £13,600 in its standard black and white gloss finishes, or £15,800 for the Ebony option shown here, it really does look like a baby brother to the S7t. In fact, the only visual difference between them is that two drivers have gone missing...

*'It unwrapped the busy mix, sounding fresh and new'*

## POWER OF TWO

Which ones? Not any from the DPC (Directivity Pattern Control) array, as this is a Perlisten speciality, a version of which can be found on all its speakers. Rather, it's the S7t's woofers, which exclusively covered the bass range up to 500Hz, that have been culled, leaving the S5t with a pair of bass/mid units crossing over at 1.2kHz.

Going from four 180mm drivers to two has enabled Perlisten to make the S5t around 20cm shorter, which on paper doesn't seem like much but visually makes a significant difference. The width of 24cm is the same, so it's not particularly portly, and depth remains a more sizeable 40cm. Cabinet weight, for what it's worth, has been trimmed to 43.2kg from 55.7kg.

The effect of removing the two dedicated bass drivers impacts the specification [see PM's Lab Report, p65], although Perlisten still rates the low-frequency extension at a 'typical in-room' 20Hz (with the speaker operating in bass reflex mode), or 23Hz (sealed box).

Meanwhile, side-facing vents toward the bottom of the cabinet relate to the S5t's internal Helmholtz tubes, which can be left fully open or sealed.

## CLOSED SAUCE

Interestingly, another specification change concerns the high-frequency response, which here is 32kHz as opposed to the S7t's 37kHz, suggesting that although the S5t features the 'same exquisite DPC array', the speaker has been further 'tuned' to

compensate for its reduced driver complement.

Like KEF's UniQ or B&W's Tweeter on Top, DPC is Perlisten's secret sauce. The result of an extensive development process, including Comsol acoustic modelling, it

features a central 28mm beryllium dome tweeter flanked by 28mm thin-ply carbon diaphragm (TPCD) midrange drivers above and below. All three units sit within a large, dished fibreglass waveguide, which – along with the crossover network and driver position – aims to ensure the desired horizontal and vertical dispersion of the speaker's upper-mid and treble.

While the S5t is smaller than the S7t, it's lost none of the bigger brother's sense of style. The look perhaps fits the UK/European idea of an 'American' speaker, particularly with the distinctive checkerboard finish to the (also TPCD) bass/mid drivers. But even if this floorstander appears less 'swish' than some high-price rivals, build quality and attention to detail is excellent.

The curved front baffle, finished in black, blends well with the gloss cabinet sides, while the rear-panel speaker binding posts for its split crossover are robust. The circular feet that – in conjunction with a

**RIGHT:** Perlisten's 'DPC array' comprises a 28mm beryllium tweeter and upper/lower 28mm TPCD (thin-ply carbon diaphragm) domes. The two custom 180mm TPCD bass drivers are configured for either vented or sealed-box alignment



## MULTICHANNEL TOO

Aiding the impression that Perlisten arrived as a 'fully formed' outfit, and not simply a boutique brand, is the fact that – from the outset – it's targeted both hi-fi *and* home cinema enthusiasts, albeit above a certain price level. The S5t tested here is just one speaker in a range that also includes centre channel and on-wall surround options, as does the more affordable (but still premium) R series.

More recently, both ranges have been joined by architectural/custom install speakers. System builders therefore have in-wall and in-ceiling options to either match with Perlisten's conventional cabinet designs in a 'hybrid' set-up, or to complete a fully invisible system. Models in the S series run from a compact but still three-way S3i-c in-ceiling unit, with slightly reconfigured DPC [pictured, inset], to the S7i-LR, which is effectively an in-wall iteration of the S7t flagship [HFN Apr '22]. Additionally, Perlisten has two ranges of subwoofers, split between the premium D series models (not S series, for some reason) and step-down R series. The top-line option, the 92kg D215s, features two 380mm bass drivers in a push-pull configuration, plus a 3kW-rated DSP-driven amplifier.

Perhaps the only option Perlisten's lineup is now lacking is an in-wall subwoofer to match its architectural models. Maybe that's coming next...



steel plinth – support the cabinet offer easy adjustment of levelling, and individual speaker grilles let you choose which, if any, of the S5t's drivers you want to cover up.

Once again this Perlisten speaker earns THX Dominus certification, meaning it has passed muster for use in home theatre systems at sizes of up to 184 cubic metres. Sensitivity is quoted at a useful 89.5dB, but with a nominal impedance figure of 4ohm you'll want to use it with the sort of amplification its price tag and size implies.

### CRISP 'N' DRY

Even in bass reflex mode, the S5t doesn't deliver the sort of bass opulence you might idly imagine from a speaker of its size and specification. It favours neutrality over warmth, the low-end greeting you with a firm handshake rather than an enveloping hug. Sometimes it can even sound a little dry, albeit in complete control, and next to that there's so much else to savour: a wide, high soundstage; excellent detail across the audio band; transient attack; and more. Above all, perhaps, it's supremely revealing.

For example, Rebecca Pidgeon's 'Now Begins' [Parts Of Speech Pieces Of Sound; self-released 44.1kHz/16-bit] enjoyed a wonderful bass sound and delicate depiction of its percussion, plus the floaty, expansive soundstage. It was slick, modern and ethereal. But at the other end of the musical spectrum, the raw production of 'Combination' from Aerosmith's 1976 album *Rocks* [Columbia 474965 2] shone through, even while the precision of the S5t unwrapped the deceptively busy mix to make it sound

fresh and new.

Multiple guitar parts and layered vocals weaved in and out from various parts of the stage before Joe Perry locked into the centre for a fuzz-laden solo.

Equally revealing was 'Take It Easy' by The Eagles [Eagles; Rhino Records 192kHz/24-bit]. This sounded sweet and smooth in the midrange and bass, without losing any crispness to its percussion and leading edges. Backing vocals surged from behind singer Glenn Frey, and such was its resolution that my focus drifted during the main guitar solo to the banjo plucking away quietly in the background, not a detail I'm always aware of.

### ANGLE GRINDER

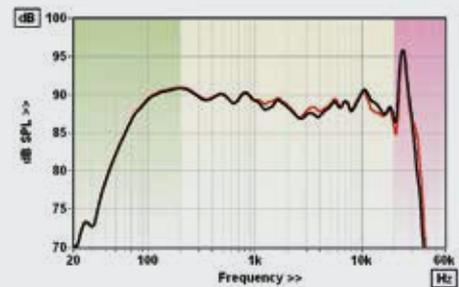
Back to the S5t's handling of bass and low-end detail, to which I'll say if it's on the record you'll hear it. Justin Martin's 'Miss Me Yet' [House Of Fame; 44.1kHz/16-bit] is a fine example of R&B/hip-hop in the 2020s, blessed with samples, synthetic beats and deep bass notes, the latter given genuine extension here. Similarly, 'Stalker' from drum 'n' bass producer Aphrodite [V2 Records VVR1006952] filled the room with metallic-edged bass notes that, thanks to the loudspeaker's uniform dispersion, appeared to attack me from all angles.

That said, the S5t is more confident in its portrayal of finer bass elements, doing so with speed and grip. The syncopated drum intro to The Steve Miller Band's 'Take The Money And Run' [Greatest Hits 1974-78; Mercury 44.1kHz/16-bit] warranted a few listens to appreciate the absolute control over the kick-drum and snare, ⇨

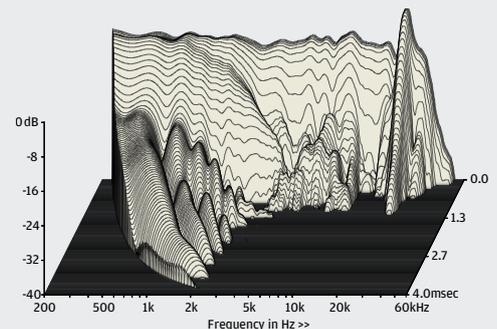
## PERLISTEN S5t

With the same DPC array as the S7t [HFN Apr '22], but married to just a single pair of 180mm TPCD bass/mid drivers, the S5t is cut from the same sonic cloth, albeit with slightly reduced sensitivity and bass extension, and increased midrange/treble distortion. Measured fractionally above the axis of the central beryllium dome tweeter – the likely seated listening axis with the speakers tipped back by 2° – the Perlisten S5t's response [Graph 1] is very slightly dishd but actually more uniform than that of the S7t with tighter ±1.9dB and ±1.7dB errors, respectively, as it builds back to a slight peak at 10kHz. The response dips just prior to the familiar 24kHz dome resonance [pink shaded area, Graph 1, and CSD waterfall, Graph 2]. Pair matching is a 'looser' 1.2dB (200Hz-20kHz) and while no grilles were supplied, we've measured a benign, circa ±0.5dB variation in mid/presence band output with previous Perlisten speakers. Sensitivity is very close to Perlisten's claimed 89.5dB at 89.3dB/1kHz and 88.8dB (500Hz-8kHz) here, but this is ~2dB lower than the S7t and partially explains the S5t's higher 0.6-1% THD at 90dB SPL/1m.

The (diffraction-corrected) bass rolls away a little earlier than might be expected at 60Hz (-6dB re. 200Hz), a product of the 180mm drivers' 60-500Hz range (-6dB) and muted 27Hz port/slot tuning, but boundary reinforcement will improve this figure in practice. Nevertheless, the generous sensitivity and clean bass comes at the expense of a modestly demanding load – a dip to 2.89ohm/155Hz and 3.0ohm/15.9kHz with maximum swings in phase angle of +59°/20kHz and -50°/80Hz lead to dips in EPDR of 1.25ohm/105Hz and a less concerning 1.06ohm/23kHz. PM



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



ABOVE: There are minor modes from 500Hz-3kHz and 10kHz but the S5t is generally well damped and 'clean'

**LEFT:** The S5t's three-way (1.2kHz/4kHz) crossover is split between the bass/mid and DPC array drivers enabling bi-amping/bi-wiring if the gold-plated links (seen here) are removed. Side and rear vents come into play if the S5t is configured in reflex mode

might not give you what you want. As an example, the blues brilliance of Taj Mahal's 'Leavin' Trunk' from the album of the same name [Columbia 480968 2] captivated with its blasts of rough-edged harmonica, but the speaker's unvarnished approach had me hankering for a bit more bloom and scale to the bassline and drums.

### BACK TO BLACK

Other times though? The S5t will blow you away. Joe Bonamassa's 'High Water Everywhere' [...Live From The Royal Albert Hall; Provogue PRD 7274-2], with its heavy drumming track spread across a huge stage, was an eye-opening moment. The twang of the steel string acoustic guitar had righteous attack, the singer's vocals were projected high and far, and the speakers disappeared entirely from view.

Of course, this recording is demo-worthy and mixed to sound gargantuan, but Perlisten's floorstander did it justice. And I got the same impression from Black Sabbath's 'Symptom Of The Universe' [Sabotage; Warner Records RR2 2822], arguably the first ever 'thrash metal' track. The S5t didn't shave an ounce off the grit and texture of Tony Iommi's serrated guitar riff, while drums and bass crashed around behind. I could have been in the Black Country in 1975. ☺

### HI-FI NEWS VERDICT

Perlisten's S5t is more than a fine runners-up prize for those whose listening room (or budget) can't accommodate the larger S7t floorstander, as it goes about its business in mostly the same way. **Imaging focus, speed, resolution and instrumental detail are all on the menu, and while its bass output isn't extravagant it still hits hard, with musicality. This is another superb speaker from the fast-expanding US marque.**

Sound Quality: 88%



while the fullness, tightness and speed of the bass transients on Dire Straits' 'Tunnel Of Love' [Making Movies; Vertigo 800 050-2] formed a firm foundation for Mark Knopfler's vocals and Fender fireworks.

By being so dynamic, precise and fleet of foot, the S5t brings a feeling of directness to whatever you're listening to. Lalo Schifrin's funky 'Main Title' to Clint Eastwood's *Dirty Harry* OST [Aleph Records] sounded immediate, almost like having a live percussionist at the end of the room. Dolly Parton's recent star-studded cover of 'Let It Be' [Butterfly Records] did the same for the big, rolling piano played by Paul McCartney, while the duo's vocals were as recognisable as ever, down to Dolly's slightly pinched pronunciation.

There will be times the S5t's measured, transparent performance

### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V - 1kHz/Mean/IEC)	89.3dB / 88.8dB / 87.2dB
Impedance modulus: minimum & maximum (20Hz-20kHz)	2.89ohm @ 155Hz 22.5ohm @ 53Hz
Impedance phase: minimum & maximum (20Hz-20kHz)	-59° @ 70Hz +50° @ 998Hz
Pair matching/Resp. error (200Hz-20kHz)	1.2dB / ±1.9dB/±1.7dB
LF/HF extension (-6dB ref 200Hz/10kHz)	60Hz / 30.6kHz/33.2kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.09% / 0.6% / 1.2%
Dimensions (HWD) / Weight (each)	1119x240x400mm / 43kg