

Perlisten D15s

Leading the US marque's range of certified 'THX Dominus' single-driver subwoofers, the D15s aims to keep its massive 380mm woofer on a tight leash via state-of-the-art DSP
 Review: **Mark Craven** Lab: **Paul Miller**

Just as the American audio manufacturer Perlisten sells a varied range of loudspeakers [*HFN* Apr/Jun/Aug '22 and *HFN* May '25], it also features an equally expansive line of active subwoofers. They don't quite come in all shapes and sizes – the shapes never vary beyond flavours of cuboid – but there's a broad sweep of price and specification to match different room sizes. Towards the top of the lineup is the £5500 D15s, reviewed here.

Presently, this is the most expensive of Perlisten's single-driver models. Above it in the hierarchy are two dual-driver units, the D212s (£7000) and D215s (£9000), while below are several models, single and dual-driver, in the D series and more affordable R series. The naming convention is straightforward, so you soon learn that the D15s has one 15in/380mm woofer, the D212s has two 12in/300mm woofers, and so on, down to the smallest R8s (£1500), with its lone 8in/200mm driver.

SEAL OF APPROVAL

As for the 's', this signifies that the subwoofer has a sealed, rather than ported, cabinet. Currently there's no need for this suffix, as all Perlisten's subs are sealed designs. When I spoke last year to the brand's chief technology officer, Erik Wiederholtz, he revealed a dislike of ported designs for their tendency to increase group delay, something that will affect the perception of a

subwoofer's 'tightness'. And precision, as also seen in the Directivity Pattern Control (DPC) driver arrays on Perlisten speakers, is one of the brand's chief concerns.

The 's' certainly doesn't stand for small, as any sub with a 380mm driver is going to be fairly big-boned. The D15s is almost cubic, measuring 528x500x500mm (hwd), and weighs 46kg. Pads for both carpet and hard floors are supplied to help slide the subwoofer into position. These are then removed to leave it standing on four, pre-attached rubber feet. Unusually, there's no grille included, but you can buy one [see pic, below] for £120. Most probably won't bother, and the D15s, in its smart piano black finish, isn't unpretty even with its driver exposed.

'There's no shortage of sturm und drang when needed'

Made from carbon-fibre and claiming a ±30mm linear excursion, this front-facing unit is framed by a half-roll surround and backed by an aluminium voice-coil, FEA-optimised Nomex spider and a 'massive'

magnet using multiple aluminium shorting rings. The driver is set within an 80mm-thick HDF baffle, its outer edges curved to give the D15s a degree of living room respectability, while the rest of the

cabinet (internally braced horizontally and vertically for rigidity) uses 30mm HDF.

TOUCH AND GO

Central to the sub's rear panel is a metal plate offering stereo inputs and outputs on RCA and XLR connections, plus trigger and service ports, and a power socket/switch. Missing here is any sort of control, because Perlisten – similar to fellow US marque SVS [*HFN* Apr '25] – has done away with rotaries for crossover and gain, etc, and moved them to both a touchpanel (within the D15s' top surface) and partnering app. Frankly, this is far better than having to delve around the back of a big cabinet to fiddle with settings.

The small touchpanel is useful but controlling the subwoofer with Perlisten's app [see boxout, p75] is best, as it's only here that you have access to the full gamut of configuration and calibration tools. These are made possible by the same advanced 48-bit DSP platform and 32-bit ARM Cortex processor found across all its subwoofers, and this digital brain is



RIGHT: Only available in a piano black finish, the D15s is seen here with optional fabric grille covering its single, front-facing 15in/380mm carbon-fibre bass driver

also tasked with monitoring the voltage, current and temperature of the D15s' Class D amp stage, rated at 2kW.

Another feature of Perlisten subwoofers is THX certification, which may well mean more to those of a certain 'vintage'. The D15s carries the top-tier THX Dominus specification, meaning it's been measured by THX to reach (unspecified) targets related to distortion, SPL and frequency response. It also means it's recommended for rooms up to 185m³, although there's nothing to stop you installing it in a more modest space. When used on its own in a hi-fi system, Perlisten's recommendation is to position the D15s between the main speakers, around one-third of the total wall length, to 'balance' room modes.

MEASURED MIGHT

Much like the company's loudspeakers, the D15s is a controlled and focused performer. This is perhaps expected considering its price tag, and the digital signal processing and amplifier management at play, but the finessed sound here can still surprise. Even when pushed to showcase the full extent of its low-end reach, through film soundtracks mixed with subwoofers in mind, Perlisten's model remains unflustered, not once veering into rambunctious territory. You can spend a quarter of the D15s' money and get a subwoofer that sounds more 'up-and-at-'em'. But you won't get this model's sense of poise, purity, and grip.

Paired with the big Bowers & Wilkins' 801 D4 Signature floorstanders [*HFN* Sep '23] in the *HFN* listening room, and

following a manual calibration of crossover and level, the D15s showed a fine touch when filling out the bottom octaves – but also no shortage of *sturm und drang* when needed. There's none of the slightly 'agricultural' vibe that large-driver woofers can give off, which means this sub's impact on some music can be very discreet. The sealed cabinet is subjectively as quiet as a church mouse.

The D15s' presence is always there, though, as on composer Lalo Schiffrin's

ABOVE: Perlisten's internally braced cabinet is fronted by an 80mm HDF baffle. Top surface houses a 2.4in LCD touch display for control of master level, trim, EQ presets and input/output settings

'Main Title' for the Steve McQueen classic *Bullitt* [Aleph Records; 44.1kHz/16-bit], where the delicate nature of the music, and the space between brass, wind and string instruments, wasn't overshadowed by the subwoofer adding extra depth to

the sound, with all the nimbleness of percussionist Larry Bunker. Follow-up track 'Room 26' has more of a Latin-tinged lounge jazz feel, and again the D15s gently bolstered the weight and scale of the jaunty bassline.

As our colleague Ken Kessler has remarked in the past [*HFN* Sep '22], the benefit of a sub is sometimes more apparent when it's removed from the system. Using Perlisten's smartphone app for quick A/B comparisons, and playing Stevie Wonder's 'Living For

PERLISTEN APP

A free download for iOS and Android, the Perlisten Subwoofer app enables full control of the D15s, from basic setup to advanced calibration. Operating over Bluetooth for a fuss-free connection, it presents its tools in a mostly intuitive manner, fronted by a 'home page' showing a Master Level setting. The app can manage up to eight subs in total, individually named if desired so you might have 'front left' and 'front right' in a home cinema setting.

Controls are grouped onto separate screens, so the app remains uncluttered on a smartphone [see inset pics]. 'EQ' offers THX, Small Room and Big Room bass roll-offs, the first of these recommended as 'the best starting point', while 'Crossover' has settings for low-pass filter, phase and a (0-100ms) time delay. 'Trim' allows $\pm 3\text{dB}$ adjustment of individual subs in a multi-sub system, and 'Input Control' manages gain settings for the sub's RCA and XLR inputs. There's also an Auto Turn On function, in addition to a user-defined standby timer on the 'Setup' page. Lastly, 'PEQ' offers custom adjustment of gain, Q factor and frequency across ten bands. As with its time delay tool, Perlisten recommends the use of REW room measurement software to calculate the necessary settings.





LEFT: Rear panel offers stereo/LFE inputs, and 'pass-through' outputs, on single-ended and XLR, plus a 3-12V trigger and USB-B (service) port. Full user controls are found on Perlisten's app

The City' [Innervisions, Motown; 96kHz/24-bit], the synth bassline seemed drier and less fulsome without the D15s, and the midrange that little bit less defined.

It was the same with the title track from Dire Straits' *Brothers In Arms* [40th Anniversary Edition, UMC; 44.1kHz/24-bit], where the sub helped to not only underpin the storm effects in the opening and add extra body to the bass – there was also a better contrast between these lows and the keyboard and guitars, making for a more open, dynamic sound. The memorable drum fills on the same album's 'Money For Nothing' were huge and resonant, the funk-fuelled slap bass on 'One World' snappy and attacking.

THRILLED TO THE BONE

Turn to more bass-centric music, and Perlisten's subwoofer really earns its crust. 'Jumanji', from Danish dance music producer Hedergaard [Oblivion, Universal Music; 44.1kHz/24-bit], features driving, Bangla-esque beats and these arrived with astonishing weight and substance, giving the track a bigger, more dramatic feel. This is music to be danced to, and the D15s guaranteed this came across. 'Magenta Riddim' by DJ Snake [Carte Blanche; self-released] is cut from a similar cloth, albeit reggae influenced, and here the D15s dug into the pounding beats with bone-crunching slam.

This ability to augment what's there across all genres of music, without upsetting the balance of the system, is this subwoofer's calling card. In unison with the B&W speakers, and with careful setting of the level, the D15s slotted nicely into place. There was no sense of

colour to its sound, just solidity and effortless extension, so that both the deep drums and low piano notes of Michael Giacchino's theme to *The Batman* [Water Tower Music; 48kHz/24-bit] appeared bigger, but naturally so. Then, once the piece segued from foreboding introduction to more optimistic tones, the subwoofer threw its weight into the swelling strings without muddying the sweet detail higher up the audio band.

So, what we have here is a sub that combines hair-raising power and slam with speed, delicacy, and control – and even if your taste in music doesn't benefit much from the former, it will from the latter. Whether it was The Doors' 'The Changeling' [L.A. Woman, Warner/Rhino, 192kHz/24-bit], with its propulsive blues groove and staccato keyboards, or Club For Five's ethereal 2009 cover of Kate Bush's 'Running Up That Hill' [WM Finland; 44.1kHz/16-bit], the D15s always elevated my enjoyment. ⬇

HI-FI NEWS VERDICT

Being a single-driver, sealed cabinet subwoofer, Perlisten's D15s carries a premium price compared to similarly specified rivals. Yet there are excellent rewards for those who invest, from the power, control and deftness of its performance, to its extensive calibration tools and ease of use. And if your budget won't stretch, you'll find the same features and technologies further 'down' the Perlisten line..

Sound Quality: 88%



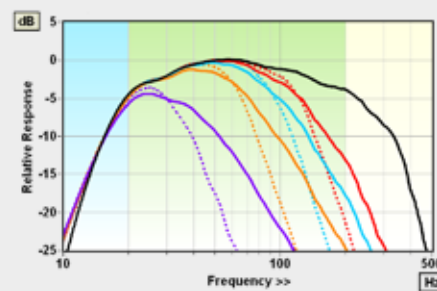
LAB REPORT

PERLISTEN D15S

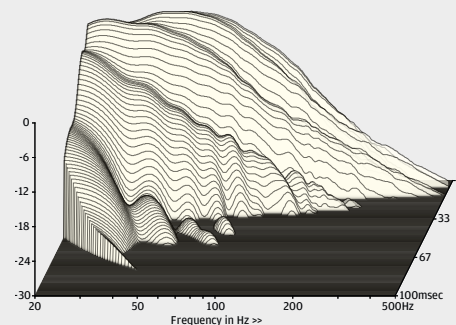
With its LPF disabled, the D15s' working bandpass is a maximum 18Hz-250Hz (–6dB re. 50Hz) with a short 3msec latency and a maximum in-band group delay of 28msec/20Hz. Also, the impulse decay time is a very swift 19msec (re. –20dB) – impressive given the moving mass of the driver. With the most extreme 30Hz/24dB low-pass setting, the bandpass squeezes to 15Hz-38Hz but with an increased 5.5msec latency, a protracted impulse decay of 110msec and 54msec group delay at 20Hz.

Set to 'Big Room' mode, with a default 80Hz/12dB slope, the bandwidth relaxes to 18Hz-100Hz (–6dB re. 50Hz), group delay is 38msec/20Hz and decay time settles out to 47msec [see Graph 2]. Switching to THX mode reduces bass output by –3.5dB/20Hz versus the 'Big Room' setting, decreasing the impulse decay time to 40msec (re. –20dB) and group delay to 35msec/20Hz. However, the 'Small Room' option invokes a gentler 2nd-order roll-off with a reduction in low frequency phase distortion – and arguably improved sound – as group delay is reduced further to 27msec/20Hz and the decay to 30msec.

The intermediate LPF settings yield 15Hz-54Hz (30Hz LPF), 17Hz-81Hz (60Hz), 18Hz-110Hz (90Hz) and 18Hz-135Hz (120Hz, all re. 12dB slope). Relaxing the slope to a first-order 6dB widens this to 15Hz-87Hz (30Hz LPF), 17Hz-115Hz (60Hz), 17Hz-132Hz (90Hz) and 18Hz-142Hz (120Hz). The steepest 24dB/oct slope gives a narrower 15Hz-38Hz (30Hz), 16Hz-73Hz (60Hz), 17Hz-99Hz (90Hz) and 18Hz-129Hz (120Hz). Finally, while distortion reaches 1.5% at 20Hz/90dB/1m SPL – this is 'only' a 380mm driver after all (!) – it swiftly drops to <0.1% above 35Hz. This is a powerful and versatile sub. PM



ABOVE: Corrected ground plane responses. LPF off, black. 30Hz LPF, purple; 60Hz, orange; 90Hz, blue; 120Hz, red (12dB/oct, solid; 24dB/oct, dashed)



ABOVE: Reflections rather than resonances are seen across the 380mm driver (80Hz / 12dB slope)

HI-FI NEWS SPECIFICATIONS

LF extension (–6dB re. 100Hz)	15Hz
Maximum bandwidth (–6dB re. 100Hz)	18-250Hz (LPF off)
Max. group delay (20Hz-100Hz, 80Hz LPF)	38ms @ 20Hz (Big Room)
ETC decay time (to <–20dB, 80Hz LPF)	47ms/30ms (Big/Small)
THD 20Hz/60Hz/100Hz (for 90dB SPL/1m)	1.5% / 0.07% / 0.10%
Power consumption (Idle/Standby)	3W / 30W
Dimensions (HWD) / Weight	528x500x500mm/46kg