

System Audio Legend 7.2

Not all audiophiles have massive listening rooms... System Audio comes to the rescue with an on-wall 'LCR' loudspeaker aimed at both AV and two-channel enthusiasts
 Review: **Mark Craven** Lab: **Paul Miller**

If you're looking at System Audio's Legend 7.2 and thinking 'Why would I want to hang a loudspeaker on my wall?' then it's probably not the model for you. And that would be understandable. Many hi-fi enthusiasts have the space and flexibility to accommodate floorstanding or standmount speakers, and no need to pinch real estate from any surface other than their living room floor. For those, an on-wall speaker is a solution to a problem that doesn't exist.

However, in the world of home theatre, on-walls are often a necessity, because when a system can easily include seven models at the 'base-level' (ignoring any in-ceiling units for Dolby Atmos playback), saving space becomes paramount. Furthermore, regardless of how many speakers a buyer might require, a slender, discreet, wall-mounted one is more easily sold as a 'style solution' than conventional carpet-hogging floorstanding cabinets.

Therefore, with brands hoping to target as many potential customers as possible, offering on-wall products makes sense. For reasons I can only guess at, it also appears a particularly popular strategy in Scandinavia, with Danish company System Audio joined here by national rivals DALI, Jamo and M&K Sound (but not the more hi-fi devoted Dynaudio), plus XTZ (Sweden) and Arendal (Norway), to name a few.

CENTRE STAGE

The Legend 7.2 is priced at £1050 each and is an 'LCR' model, intended to be used for the front left, front right and centre channels in a AV system, or as a stereo pair in an above entry-level hi-fi set-up. Because of this, its design allows it to be positioned either vertically or horizontally. Look around the rear and you'll find there are no fewer than six two-way keyhole fixing points, plus cut-out grooves to accept cables, for a flush fit finish, in four

different directions. The speaker terminals are naturally inset too, although you'll need to use a bare-wire connection, or perhaps a spade end, for an authentic 'on-wall' installation – unless your interior designer has chased cables in-wall...

This positioning flexibility also informs the asymmetrical layout of the Legend 7.2's drivers. The tweeter is a 25mm silk dome, working off a neodymium magnet and sat within a DXT (Diffraction eXpansion Technology) acoustic lens that aims to improve off-axis response and reduce the effect of cabinet diffraction. This driver isn't located dead centre, but towards one edge of the baffle. When using the Legend 7.2 as a centre speaker, it would usually be mounted with the tweeter at the top, closer to ear height (or flipped over if the cabinet is being placed above a projector screen). When used as a stereo pair, I

would expect the majority of owners to position the Legend 7.2 vertically. Interestingly, thanks to the cabinet layout, this actually gives you the choice of having the tweeter 'in' from the speaker's pair of 130mm bass/mid units, or outside (recommended by System Audio to afford a wider stereo image).

The aforementioned bass/mids, like the tweeter, are the same as found elsewhere on the Legend series. Hewn from carbon fibre, they

RIGHT: A pair of 130mm carbon-fibre coned bass/mid units cross over at 2.5kHz to a 25mm soft-dome tweeter. The MDF cabinet is available in white and black [p3 and p69] finishes

feature inverted dustcaps, resonance control rings within the driver surround, and are mounted in a cast aluminium chassis. Both handle the same frequency range, with a claimed low of 35Hz [but see PM's Lab Report, p69] up to a crossover point of 2500Hz.

NOW YOU SEE ME

Made from MDF and rather basic in its boxy finish, the Legend 7.2 doesn't have *objet d'art* aspirations. We're in 'form, meet function' territory. Finish options are System Audio's customary black or white, each version supplied with a colour-

matched magnetic grille. Opt for the white models and keep the grilles on, and – in a room with white walls – you'll come as close to an invisible speaker as it's possible to get, despite the 154mm cabinet depth.

The Legend 7.2 is one of three on-wall offerings from System Audio – two others, from the Saxo series, are smaller and more affordable – and the only one with an upgrade path to active 'Silverback' status. In Silverback guise, at a cost of £650 per speaker, its passive crossover and speaker terminals are replaced by a module comprising three Class D amplifiers (rated at 225W in total), DSP crossover and DAC.

A balanced XLR input replaces the 4mm terminals while a USB socket services firmware updates and System Audio's 'RAM tweaks' to change the speaker's DSP profile [see *HFN* Aug '21]. Furthermore, Silverback speakers include a wireless receiver using 96kHz/24-bit-capable WiSA technology, enabling it to pair to a WiSA transmitter, such as System Audio's £400 Stereo Hub, or hardware from brands including Primare and Harman Kardon.

WALL OF SOUND

Our first taste of System Audio was as a new-to-the-UK brand (although a going concern since the 1980s) with its Legend 40 floorstander [*HFN* Aug '20] voiced to sound direct and largely neutral. That three-way speaker would leap into action with the dynamic ups and downs of music, and the Legend 7.2 shares this approach, presenting with plenty of verve, and not softening treble edges. In this respect it feels like part of the wider family, even while its sealed, wall-mountable cabinet does invoke some performance differences.

BOUNDARY GAIN

Loudspeaker designers down the decades have sought to get the mythical 'quart from a pint pot' and while some recent active, DSP-driven boxes from the likes of KEF [*HFN* Oct '17] and, indeed, System Audio [*HFN* Aug '21] have achieved improved bass extension by more sophisticated means, classic passive on-wall speakers can get away with (relatively) smaller cabinets. This is because they exploit the acoustical phenomenon of boundary gain, the 'mirroring' of a loudspeaker's low frequency output when placed up against a wall. Imagine this stereotypical wall really is a glass mirror and we can actually 'see' a reflection of the speaker behind... Now, provided the distance between the real and reflected loudspeakers is significantly less than the bass wavelengths being reproduced, their respective outputs are broadly in phase and constructive. Hence the boost. Textbook conditions predict a doubling of +3dB in sound power output or +6dB in SPL, numbers that increase to +9dB and +18dB, respectively, if the speaker is placed into a three-boundary corner.

There is no free lunch, of course... In practice the exact *position* of the on-wall speaker is critical in optimising the desired boundary reinforcement while also minimising the room's inevitable modal resonances. Moreover at higher bass frequencies where the 'distance' between the real and imaginary/ reflected loudspeaker becomes a significant fraction of the wavelengths being reproduced, the shift in relative phase will result in degrees of constructive and destructive output. As a result, the frequency response becomes uneven [see blue trace, Graph 1, Lab Report p69]. **PM**

Give it a good amount of power and it will deliver a big, dramatic soundstage that holds firm as you ramp up the volume.

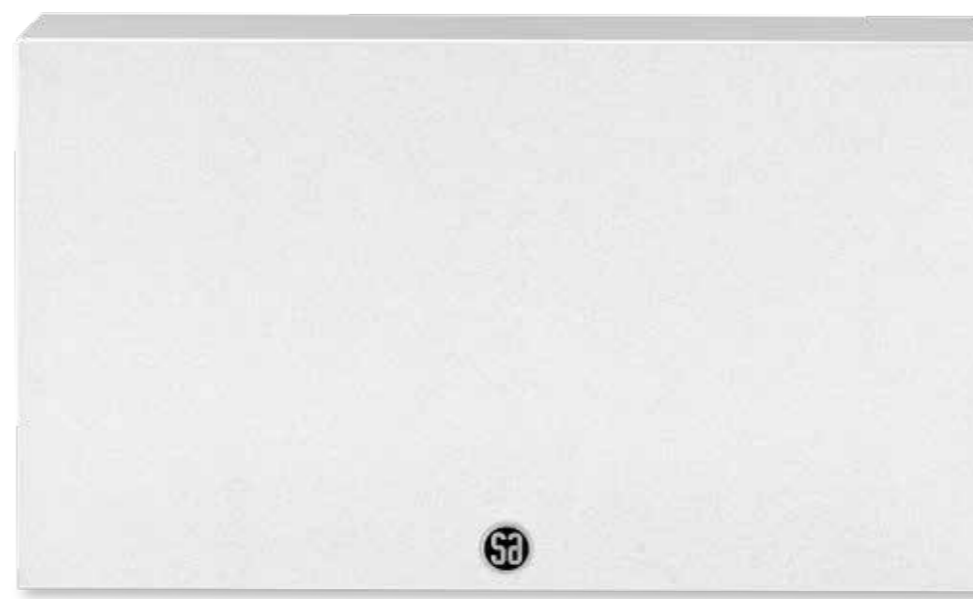
I struck gold with Joe Bonamassa's *Blues Deluxe* album [Provogue PRD 7158 2], which really let the Legend 7.2 strut its stuff. The title track, a slow-paced, sparsely populated blues jam, features the guitarist intermittently flexing his fret fingers above a melodious 12-bar bassline that holds the whole piece together. This should be duly prominent in the mix, and here the clean and fulsome presence of the bass guitar was a treat, the speaker clearly putting its boundary positioning to good use.

Yet the star of the show is Bonamassa and his generational talent. In 'Blues Deluxe' he experiments with tone, reverb and distortion, snapping from crunching bite to delicacy at the drop of a (hi)hat. I was happy to hear the '7.2 conveying all his tonal tricks, with most of their impact intact. Bonamassa's mind-melting solo was also nicely separated from a well-spaced and large-sounding backing band.

MANAGING EXPECTATIONS

This on-wall speaker is not a comprehensive low-end star, however, as that pleasing punch to notes in the upper bass region isn't joined by real extension. Chase & Status's 'Original Business' [*RTRN // Jungle*; Virgin/EMI CDV 3233] showcased succinct percussion detail and the speakers' ability to lock into a groove, but when the deep synthesised bass arrived I wanted more of it. Perhaps I'm guilty here of being seduced by the sight of double bass drivers, while forgetting this sealed speaker offers a modest 9.7 litre cabinet volume. In comparative terms, that's akin to a compact standmount, and expectations should be factored accordingly.

With the Legend 7.2 there's no scope to fine-tune output with toe-in, not to mention bringing the speakers away from the wall. I was therefore not surprised to occasionally come across tracks where a combination of boundary gain [see PM's boxout, ↗



LOUDSPEAKER

LAB REPORT

SYSTEM AUDIO LEGEND 7.2



LEFT: Mounting hardware is inset into the cabinet, with notches to support the speaker in both 'portrait' and 'landscape' configurations. Cables are routed through slots in the rear panel – to the single 4mm terminals – keeping it flush with the wall

[Visions, Blue Groove; CD] the reedy sax and powerful vocals of Nina Simone throughout *I Put A Spell On You* [Verve Music Group; 192kHz/24-bit], or Anne-Sophie Mutter's intense violin in the John Williams/Weiner Philharmoniker performance of 'Devil's Dance' [John Williams *In Vienna*; Deutsche Grammophon 483 9045]. This on-wall speaker definitely has a musical side to its direct, powerful demeanour.

Given enough width, and with tweeters on

p67] and my room's own acoustics seemed to exaggerate bass presence: for example, 'Jesus, Etc', from Wilco's *Yankee Hotel Foxtrot* [Nonesuch 79669; 96kHz/24-bit], had a plump quality that slightly overshadowed singer Jeff Tweedy's mid-western drawl and the violin harmonies. Yet other times, as with the Bonamassa track, or a guilty-as-charged replay of The Eagles' 'Hotel California' [Rhino Records; 192kHz/24-bit], the range of frequencies dovetailed better.

BRICK OR PLASTER?

It's important to note that I mounted the Legend 7.2s on a brick wall. Of course, there's no reason they couldn't be used on a drywall (the 9.3kg weight shouldn't bother a well-drilled plug), but I'd imagine they might sound a little different if the plasterboard joins in...

Otherwise, and with a range of more serene material, the Legend 7.2's mid and treble handling helped shine a revealing light on instrumental textures and vocal nuances, be they the quivering steel string guitar in Hans Theessink and Terry Evans' 'Gotta Keep Moving'

the outside, the way my pairing crafted Williams' expansive 'Raiders March' from the same set brought to mind a CinemaScope image of Harrison Ford, fedora on head and bullwhip in hand. The brass, string and woodwind players were dotted around a large soundstage, joined by insistent timpani hits and cymbal crashes. That all this was coming from loudspeaker cabinets of such manageable dimensions was quite the eye- and ear-opener. ☺

HI-FI NEWS VERDICT

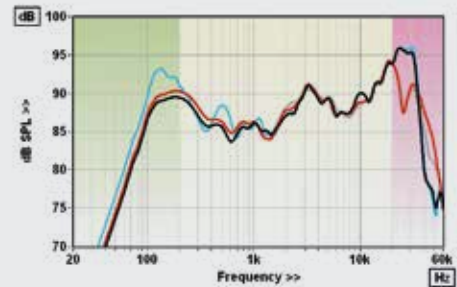
Anyone who has previously viewed on-wall speakers with a degree of suspicion or bafflement should grab an audition of System Audio's Legend 7.2. This easy-to-fit two-way speaker packs a punch with bass and percussion, grabs hold of musical details and offers an output that belies its size. There's nothing fancy about the cabinet styling, but that comes with the territory. And your vacuum cleaner will love it.

Sound Quality: 83%

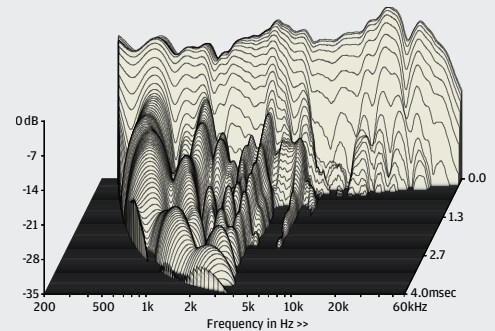


With the speaker arranged in 'landscape' guise, and measured on the tweeter axis, its forward response shows a boosted presence and high treble [Graph 1], the trend giving high response errors of $\pm 4.8\text{dB}$ and $\pm 5.0\text{dB}$ but with a tight 1.2dB pair matching (200Hz-20kHz). The two 130mm pulp bass/mid drivers are tuned quite sharply to a high 130Hz while on-wall boundary reinforcement results in a limited boost to LF output [green shaded area, and boxout p67] and a bass extension of 75Hz (-6dB re. 200Hz). There's also some lobing out to ~600Hz [blue trace] although, measured freefield, the response is smoother and the diffraction-corrected bass extension only slightly diminished at 85Hz. Also, resonances seen in the CSD waterfall [Graph 2] from 2kHz-5kHz are exaggerated by on-wall mounting but that, of course, is the designated habitat for the Legend 7.2.

Switching the cabinet through 90° and measuring on the same axis produces a response that matches within $\pm 0.5\text{dB}$ [grey trace] including the +9dB treble peak at 19kHz (re. 1kHz). The midband depression also yields a lower 86.2dB/1kHz sensitivity than SA's claimed 89dB, although this improves to 87.1dB across 500Hz-8kHz, so the Legend 7.2 will develop higher SPLs with modestly-powered amps than the 1kHz figure might suggest. Furthermore, distortion, at ~0.1% (re. 90dB SPL) remains usefully low across the midrange. Finally, while SA offers a loose '4-8ohm' spec, for the Legend 7.2, in reality impedance drops to a low of 3.3ohm/155Hz and remains sub-3.9ohm at 20Hz and 20kHz. The 'toughest' load appears near the 2.5kHz crossover where a 6.8ohm impedance is married to a -54° phase angle. PM



ABOVE: Response inc. nearfield drivers [green], corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; vertical [grey]; on wall [blue]



ABOVE: Treble is 'clean' but there are multiple low-level modes associated with the bass/mid drivers

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V - 1kHz/Mean/IEC)	86.2dB / 87.1dB / 85.8dB
Impedance modulus: minimum & maximum (20Hz-20kHz)	3.28ohm @ 155Hz 31.5ohm @ 95Hz
Impedance phase: minimum & maximum (20Hz-20kHz)	-59° @ 1.82kHz +52° @ 505Hz
Pair matching/Resp. error (200Hz-20kHz)	1.2dB / $\pm 4.9\text{dB}$ / $\pm 5.0\text{dB}$
LF/HF extension (-6dB ref 200Hz/10kHz)	75Hz / 38.2kHz/50.4kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	1.2% / 0.11% / 0.35%
Dimensions (HWD) / Weight (each)	470x286x154mm / 9.3kg