

JBL 4349

Styled after its classic 1970s studio monitors, but equipped with patented 21st century horn and compression driver technology, the 4349 is a not-so-compact fun factory

Review: **Mark Craven** Lab: **Paul Miller**

American loudspeaker company JBL has a 75-year history – and the work of founder James Bullough Lansing dates back even further. For *HFN* readers, who are in the know, it might seem odd that the brand is now more popular on the UK high street for its extensive range of affordable Bluetooth speakers and wireless headphones. Luckily for us the company still maintains a ‘serious’ side, and it’s from there that its two-way 4349 monitor hails. A wide-baffle speaker with a compression mid/treble driver and 300mm woofer, it can trace its heritage all the way back to the company’s first creations – and couldn’t be more different from a pair of budget earbuds.

Priced just shy of £7000, the 4349 is the most recent addition to JBL’s Studio Monitor series, a seven-strong range that pledges the ‘same exceptional dynamics and accuracy that producers and engineers employ in leading studios’, which begins with the £1500 4306 bookshelf model and culminates in the £12,000 4367 floorstander. It’s not a member of JBL’s Classic lineup [see boxout, p51] yet is still described by the company as having a ‘retro design’.

BIG LOVE

How retro? Well, finish options for the satin wood veneer are conventional walnut or black walnut, rather than all-the-rage gloss white or light grey, and aside from a cutaway on the edges of the front baffle, the 4349 is vehemently rectangular. Those with a penchant for the speaker stylings of the 1970s will be in their element.

It’s also large. Some retailers refer to it as a ‘compact bookshelf’ (JBL goes for ‘compact monitor’), but as it stands 74cm tall and 44cm wide you’d need an impressively hefty bookshelf to accommodate it – and even then it likely wouldn’t hold the 4349’s 36kg weight. Better that you stump up the £320 for

JBL’s low-profile, open-frame JS-120 stands which lift the enclosures off the floor and tilt them back at the listener. The general aesthetic is purposeful, so if you whip off the grille to appreciate the size of the bass unit, and legacy blue baffle finish, you’ll also expose the push-fixing holes.

DOUBLING DOWN

For the treble, JBL is using its in-house D2415K unit – the ‘D’ standing for dual

as the device uses two 1.5in ring diaphragms made of Teonex polymer, two voice coils and two motors, resulting in an ‘incredibly efficient design’.

The diaphragms are mounted with a phase plug behind a protective mesh grille, which is all that’s visible in the recessed centre of the speaker’s HDI (High-Definition Imaging) horn. This mathematically-honed waveguide is a brand speciality, also found on JBL’s HDI series of floorstanding and bookshelf loudspeakers.

RIGHT: JBL’s precision-moulded Sonoglass horn supports a 38mm compression driver with HF and UHF trims [see Lab Report, p53]. Bass is handled by a substantial, reflex-loaded 300mm pulp-coned woofer

The 4349’s bass driver is a lightweight but rigid paper pulp cone with a 3in voice coil and substantial suspension. Designed for very high output with low distortion, it’s tuned via a pair of front-facing bass-reflex ports down to a claimed 32Hz [see PM’s Lab Report, p53]. Keeping it in check is an enclosure with 1in-thick walls and internal V-shaped bracing. The crossover network uses ‘air-core inductors, wire-wound resistors and low-ESR metallised-

‘It steers clear of being a mere “party speaker”’



film capacitors, and incorporates separate 'HF and UHF' attenuators that are accessed between the loudspeaker's horn and grille. These provide gentle passive tuning of the 4349's treble output [see grey traces, Graph 1 in PM's Lab Report].

Otherwise, JBL's recommendations for optimal performance include placing the 4349s between 1.8m and 2.4m apart, toeing them in if you insist on going wider. A 50cm clearance from side walls is also suggested, but with the speakers' ports front-facing they seem less fussy about their distance from rear walls.

FEEL THE WEIGHT

Take a quick look at a pair of 4349s and you'll probably form an idea of how they sound. What else should one expect from a two-way combining a 300mm woofer and a cavernous horn than deep bass, candid highs and an in-your-face presentation? And, to an extent, you'd be right – the

HORN HERITAGE

Established in 1946 in Los Angeles, JBL also has ties to Hollywood royalty – founder James B Lansing, in his previous company Lansing Manufacturing, developed the compression unit and bass driver of the Shearer Horn, a loudspeaker favoured by movie studios and a recipient of a 'Scientific and Technical' Academy Award in 1936. Similar designs lifted JBL off the launchpad nine years later, finding their way into use as studio monitors as the country's music industry exploded, and adopted by audiophiles at home. Breakout models included the 4320, the forebear of the brand's current Studio Monitors series, and the L-100 – its best-selling speaker, reborn in 2018 as the L100 Classic [HFN May '19] and again this year in a Classic 75 limited edition. And who could forget the Paragon, a 2.7m-wide single-chassis stereo speaker-cum-sideboard that was in production from 1957 to 1983? Weighing 390kg and featuring twin horn-loaded 380mm bass drivers, it's unlikely to be resurrected. But we can dream...

4349 does all these things if you want. Yet it steers clear of being just a 'party speaker', marrying a dynamic, wideband ability with rich resolution and a nature that's kinder than you might anticipate. First, though: the obvious stuff. Where

the 4349 stands – or squats – head and shoulders above much of the floorstanding competition is in terms of bass weight.

'There's no replacement for displacement', goes the old saying, and JBL's woofer certainly does shift air, bringing a level of physicality to the listening experience if your music warrants it. Trance track 'We Come 1' by Faithless [Outrospective; Cheeky Records, 74321 850832] thumps and pulses passionately, but equally impressive is the presentation of Prince And The New Power Generation's funkfest 'Cream' [Diamonds And Pearls; Tidal 44.1kHz], a track that's as much about a sense of groove as anything else. Here the major-key bassline bounces along, supported by punchy percussion, in a manner that's almost visceral.

MONITOR MODE

Ostensibly, these speakers seem happy running off low power but not having a SET tube amp to hand, I settled on a modest but capable AXA35 from Cambridge Audio [HFN Sep '19] and was surprised by how easily the speakers hung off it. However, pushed hard, this combo found the 4349 prone to a brash edge, the sound of notes being squeezed out rather than dancing into play under their own steam.

'Excitable', from Def Leppard's *Hysteria* [Phonogram 830 675-2], benefited from the 4349's dynamic approach, sounding broad and deep. Yet only when bringing in a beefier, price-matched integrated, in the shape of Audia Flight's FLS 9 [HFN Feb '21], was I rewarded with a tighter, leaner feel to the 4349's bass delivery, a better grasp of instrumental subtleties and a more nuanced top-end. However sensitive the speakers are, only the big amp enabled them to show off their fullest potential.

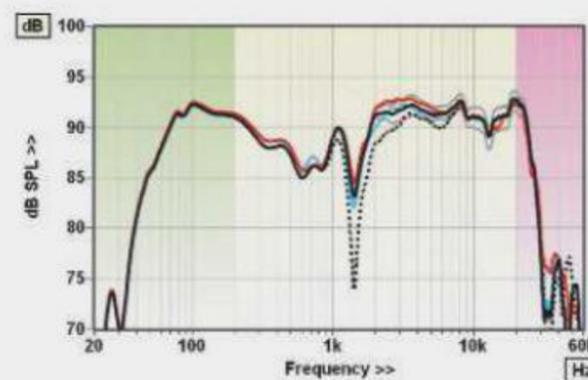
I also felt compelled to address the 'accuracy' that is the notional calling card of any speaker designed with one foot in 



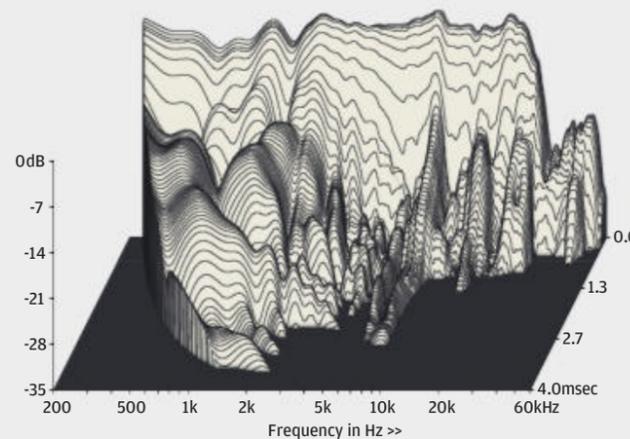
JBL 4349

Where you sit may prove vital in getting the very best from JBL's 4349. Avoid the temptation to 'look' directly into the throat of the horn for there's a substantial -14dB notch at the ~1.4kHz crossover [dashed trace, Graph 1]. The midrange output is better integrated at a distance, but the most uniform forward response, and reduced exposure to the horn resonances [see waterfall, Graph 2], is achieved listening between the horn and woofer [Graph 1] even though the response errors are still high at ±4.2dB and ±4.5dB (but a far 'flatter' ±0.9dB from 2kHz-10kHz). The HF trim operates above 2kHz and the UHF above 4kHz, the compound effect of the +1dB and -1dB settings illustrated by the two grey responses [Graph 1]. The influence of the snug-fitting bass grille is not substantive [blue trace] while the 300mm pulp-cone woofer delivers reliably low distortion bass (just 0.2%/90dB SPL/1m) whether exposed or hidden. The reflex alignment is slightly 'peaky' [green shaded area, Graph 1] with a steep roll-off below 100Hz, augmented by ports tuned to 35Hz, yielding a diffraction-corrected -6dB extension of 45Hz (re. 200Hz).

With that mid/treble horn on show there's hope of high sensitivity and JBL's 4349 does not disappoint, achieving 89dB/1kHz/1m and 90dB from 500-8kHz, despite the switchback in response. JBL's nominal 8ohm impedance is accurate, the 4349 presenting a very 'easy' minimum of 7.5ohm/118Hz, well away from the highest (though not especially 'high') phase angles of +47°/371Hz and -49°/74Hz. There's a 6ohm dip at an ultrasonic 30kHz, but this will not be troublesome – so the 4349 is an easy enough load for triode tube aficionados! **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: Horn resonances are present at ~4-8kHz while the strong 1.4kHz mode occurs at the crossover point

LEFT: Bi-wire/bi-amp-compatible 4mm speaker terminals come courtesy of JBL's split 1.5kHz crossover. Note the wood-finish veneer wraps to the rear of the cabinet



with, for example, Lu Kang's Spoey230 [HFN Dec '20], but JBL's horn waveguide lived up to its promise of avoiding overt directionality.

While its midrange tone and detail are commendable, bass and sparkle remain the stars of the show, leaving the 4349 never quite sounding as 'in love' with the music as you might want

the studio monitor camp. As much as I tried to provoke the 4349 into enveloping me with cloying warmth – via the likes of Pink Floyd's 'Wish You Were Here' [Eponymous; Tidal Master] – it refused to play ball, preferring to leave the grit and texture of instruments unpolished.

STARS OF THE SHOW

Considering the 1.5kHz crossover point between the high-frequency driver and bass unit – high for a 300mm woofer – I was worried the drivers would pass each other by like ships in the night. But following JBL's placement recommendations and sitting a little further back than I might normally, they seemed to mesh together well enough.

The Rolling Stones' country-tinged ballad 'Wild Horses' [Sticky Fingers; Polydor 376 483-9] sounded sweet and lucid in the midrange, Keith Richards' 12-string acoustic guitar adding a shimmering gloss to Mick Jagger's emotive vocal delivery. Meanwhile, Charlie Watts' drumming arrived at the start of the chorus with just the right amount of punch.

Using the JS-120 stands yielded a better soundstage, although even without them these short-form speakers don't just throw their efforts at your carpet. There's less of a sense of expansion beyond the cabinet edges than I experienced

for the price. But a counterpoint to this is the sheer dynamism on offer. This speaker never failed to respond to transients, enjoying the rock 'n' roll theatrics of The Dead Weather's '60 Feet Tall' [Horehound; Tidal 44.1kHz], while bringing a surging, room-filling scale to John Williams' 'Theme From Jurassic Park' [Jurassic Park Original Motion Picture Soundtrack; Tidal 44.1kHz]. And 'dynamic' is a useful catchall for the 4349's general demeanour. There's a thrilling energy here, coupled to a surprising nimbleness considering JBL has used one 300mm bass unit where other companies might have opted for a smaller twosome. ⏻

HI-FI NEWS VERDICT

The 4349 is unlikely to convince horn sceptics they should jettison their three-way floorstanders, as the sonic signature of this two-way doesn't depart from the established JBL template. They sound big, with abundant energy to match, and are backed-up with delectable bass handling. They aren't sniffy about what you power them with, either. Fans of the form factor, with low-power tubes, will surely lap them up.

Sound Quality: 80%



HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	89.1dB / 89.5dB / 87.4dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	7.5ohm @ 118Hz 47ohm @ 60Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	-49° @ 74Hz +47° @ 371Hz
Pair matching/Resp. error (200Hz–20kHz)	1.45dB/ ±4.9dB/±4.2dB
LF/HF extension (-6dB ref 200Hz/10kHz)	45Hz / 27.5kHz/26.2kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.2% / 0.3% / 0.9%
Dimensions (HWD) / Weight (each)	737x445x343mm / 38kg