

Rockport Technologies Orion

Leveraging its 30 years of innovative speaker design, the Orion features Rockport's 'next generation' cabinet
 Review: **Mark Craven** Lab: **Paul Miller**

Named after the Maine town where it started in 1984, although now based down the coast in South Thomaston, Rockport Technologies has been known by audiophiles since the 1990s as a manufacturer of high-end – and heavyweight – loudspeakers. The Orion floorstander tested here is no exception, weighing 163kg per piece and selling for £165,000. Suffice to say, it's a far cry from the early sub/sat systems of chief designer Andy Payor [see boxout, p45].

The Orion sits one from the top in Rockport's range, the flagship spot being held by the £229,000 Lyra. And because the manufacturer easily fits the definition of 'boutique', with a small staff and production runs that other companies would consider 'limited edition', there are only four other options. Rockport's Lynx, its newest model, is essentially a smaller version of the Orion, and priced £89,000. Then there are the more modestly sized Avior II (£53,500) and Atria II (£43,500) floorstanders, plus the £21,000 Taurus centre channel speaker. And that's your lot.

LEAN MACHINE

That £165k price is for the Orion in its standard Diamond Black Metallic colourway. The company will also paint your pair in 'virtually' any colour, using a 20-step, nine-layer automotive-grade process, for a £6700 premium – our review pair sports 'Porsche Quartzite Grey Metallic'. Fellow US manufacturers Wilson Audio [HFN Sep '24 & Jan '23] and Magico [HFN May '24] have similarly wide-ranging finish options, and such customisation is arguably expected considering the market sector. But even if you stick to the standard option, you're sure to admire the aesthetic.

This is a rather striking-looking speaker, and easy on the eye despite bountiful dimensions of 127cm high, 36cm wide (excluding feet) and 67cm deep. The

cabinet is artfully curved, tapering front-to-back and top-to-bottom, and has a slight backwards lean to facilitate time alignment. It sits on four low-rise outriggers and passes the hi-fi 'tap-test' with flying colours – I'm hard-pressed to recall a speaker with such a seemingly inert, 'rock-solid' construction.

SHELL SCRIPT

It's here where much of the Orion's story lies. Like its Lyra sibling, the speaker features a three-element cabinet focused on eliminating resonances and improving rigidity. First, at its core, is a one-piece aluminium structure, cast with integral ribbing and bracing, driver mounting surfaces and a precisely shaped inner chamber for the Orion's midrange driver. On top of this

are placed two 'shell' pieces made from vacuum-fused carbon-fibre, one flanking the Orion's sides and rear, the other forming the baffle housing. The latter is bonded via an epoxy adhesive to the aluminium core, making use of CNC-machined 'registration' points. Next, the main shell is secured in place before the void between the alloy and carbon-fibre shells is filled with 52kg of a dense viscoelastic material. The name given by Rockport to this enclosure design? 'DAMSTIF'.

As for the three drivers, these are custom-made and engineered specifically for the Orion. At the top is a 32mm beryllium dome tweeter, ↗

RIGHT: The cabinet's lacquered carbon-fibre outer shell is offered in standard 'Diamond Metallic Black' and custom colours. The bass and mid drivers cross at 140Hz and feature sophisticated carbon-fibre/foam sandwich cones

'The name Rockport gives to its enclosure? "DAMSTIF"'



'The void between the alloy and carbon-fibre shells is filled with 52kg of a dense viscoelastic material'

LOUDSPEAKER

ORIGIN STORY

Rockport Technologies, then called Payor Acoustics after founder Andrew Payor, began life in 1984 with a compact sub/sat speaker system – it wasn't until 1990 that a new high-end product brought about the change in name, and it was a turntable [right], rather than a loudspeaker. The Sirius Phonograph, with air-bearing suspension, was upgraded two years later to an iteration featuring a constrained-layer damped granite plinth with pneumatic suspension. Next, in 1996, came the direct-drive Sirius Phonograph III, which weighed 242kg (including a 28kg platter) and was described as an 'all-out-assault' on turntable design.

Rockport never topped this flagship model and has since focused on loudspeakers instead. Its first model, launched in 1993, was the Procyon, a three-way floorstander with active bass section. This speaker employed drive units from third party suppliers, but the cabinet was an innovative in-house design, formed of inner and outer glass fibre/epoxy composite shells around a viscoelastic core. Subsequent Rockport models, up to the present-day Lyra, Orion, *et al*, have continued this constrained layer approach to cabinet construction, albeit with different materials, in pursuit of 'simultaneous optimisation of stiffness, damping and mass'.

mounted into an aluminium waveguide claimed to increase sensitivity below 5kHz and improve transition around the 1.8kHz crossover.

The 178mm midrange below is a sandwich composite carbon fibre/foam type, the 'spread tow' construction of the outer layer resulting in its distinctive checkerboard pattern [also seen on other loudspeakers – see p72].

This material is again used for the Orion's 330mm woofer, its large size chosen to provide

LEFT: All mounted into the inner alloy cabinet core, the 13in/330mm woofer benefits from floor boundary reinforcement and is joined by a 7in/178mm midrange and 1.25in/32mm beryllium tweeter, set into a shallow waveguide



'full bass extension' from the speaker's 'reasonably small cabinet volume'. The woofer is positioned low in the enclosure to accommodate its size and gain a degree of boundary reinforcement, similar to the arrangement used in Estelon's XB Diamond MK II [HFN Mar '25]. The crossover is set at a higher 140Hz here, while our sample featured the £2000 bi-wire upgrade with the crossover split between its bass and mid/treble arms [see p47].

Rockport's manual explains how to uncrate the Orion, with the wonderful phrase 'carefully tip loudspeaker forward just enough...' while removing the fitted castors. Once the adjustable feet are installed, you're advised to adjust the cabinet's rake if your listening height is 5cm above/below the tweeter. The manual also recommends angling the cabinets to aim roughly 2m behind the listening seat. (As PM's Lab Report reveals [p47], they are not meant to be listened to on-axis.)

DEEP SPACE

Whatever one might expect of a loudspeaker of the Orion's price and stature, it surely delivers – in spades. In the HFN listening room [see p41], with a BAT REX 500 power amplifier [HFN Jan '24] and VK90 preamp, the performance was, to put it bluntly, superb. These are speakers of refinement

and precision, but gripping excitement too. The sound is open and detailed at the top-end, blending delicacy with attack. In the midband, instruments and vocals are crafted with richness and realism. And underneath there's a low-end solidity and depth most other speakers only dream of.

Hans Zimmer's 'Beginnings Are Such Delicate Times', from *Dune: Part Two* [WaterTower Music; 48kHz/24-bit] was revealing of the Orion's upper-band clarity. As this eerie instrumental unfolds, The composer's use of high-pitched synths and percussion recalls the sand-swept vistas of the movie, and the speakers played it all with an exquisite sense of openness and sparkle. But by contrast, electronic bass notes were palpable, ☞

'The horn solo was a rollercoaster of dynamics'



ROCKPORT ORION



ABOVE: The three major components of the Orion's enclosure are seen here – an inner cast alloy shell, with ribbing and internal bracing, sandwiched between an outer carbon-fibre/polyester carapace and baffle plate [see p43]

sounding thunderously deep and brilliantly integrated into the musical whole.

Rockport's Orions presented the myriad synth notes and effects across the Zimmer set with fluidity and presence, and this vivid but entirely natural sounding midband also worked wonders with Nik Kershaw's 'Dancing Girls' [*Human Racing*; Universal UMC/REP2013]. Here, jittering electronic rhythms acted as a springboard for various keyboard tones, while Kershaw's vocals reclined in the mix, smooth as ice. Follow-up track 'Wouldn't It Be Good', with its lolling bassline and signature keyboard melody, came through bigger and thicker, the horn solo a rollercoaster of dynamics.

The Orions drew me in to The Band's 'Up On Cripple Creek' [*The Band*; Capitol Records 192kHz/24-bit], first with their beautifully rich and buoyant low-end. But my ear was also drawn to the confident soundstaging that placed keyboards, drums and vocalist Levon Helm at different

depths, and teased out guitar licks stage right. From a similar era, The J. Geils Band's '(Ain't Nothing But A) House Party' [*Bloodshot*; Atlantic/Rhino BA2 7260] was painted canvas-wide, with harmonica and cowbell flanking guitar and organ – the markedly different textures of the two instruments laid bare.

NUANCED NOTES

This is a fun, three-minute track, and its carefree vibe was expertly conveyed by the speakers, which are more than happy to let their hair down and power into an energetic groove. Given Bob Seger's 'Shakedown' [*Beverly Hills Cop II OST*; MCA 254 782-2], the strutting, funky rhythms flew out with foot-tapping energy, the thick synth chords sounding lush. Backed by the muscle of the BAT power amp, the Orions effortlessly filled the listening room, unruffled by playback at high volumes.

The bass weight, resolution and dynamic snap on offer make these a fit for your rock and jazz collection, but they're equally potent when playing more down-tempo recordings. Alison Krauss and Robert Plant's 'It Doesn't Bother Me' [*Raise The Roof*; Warner, 96kHz/24-bit], featured

ANDY PAYOR

Andy Payor, chief designer at Rockport, says development of the Orion began in 2019 with the aim of creating the 'purest expression of a full-range, dynamic driver loudspeaker', albeit one that could 'fit into home listening spaces where a larger speaker might be intrusive'.

Larger would include Rockport's Lyra flagship, which has a similar cabinet construction. 'However', says Payor, 'in order to hit our price target, it could not be as expensive to produce as the Lyra's cast aluminium and machine profiled outer shell. Given our previous experience with carbon fibre [in Rockport's earlier Hyperion and Arrakis loudspeakers], we knew this would be the ideal high-tensile strength outer shell for the Orion'.

In 2024, Rockport followed the speaker with the Lynx, another three-driver tower. How closely are they related? 'There is certainly an unmistakable family lineage between the Orion and the Lynx, and we're quite proud of that', says Payor. 'There are differences in the construction of the two products in order to hit two distinctly different price points. And while it might seem a relatively simple exercise to "scale down" a loudspeaker design, this isn't the case when you're trying to achieve 95% of the performance for 60% of the cost. Concessions need to be made.' These, says Payor, are mainly around low-frequency performance. 'It won't play with the same dynamic verve in the first octave that the Orion can achieve.'



LEFT: Rugged 4mm plug/spade binding posts sit close to the floor and facilitate bi-amping/bi-wiring (a £2k option). Large reflex port is flared to reduce turbulence

remind some listeners what they've been missing out on.

And you can, without worry, give the Orions the kind of intimate, sparse music favoured by the hi-fi cognoscenti. The recent Bob Ludwig remaster of Regina Spektor's 'Samson' [*Songs*; Sire 093624842484], which features the vocalist accompanying herself on piano, was a masterclass in tonal nuance and clear, smooth mid-tones, plus the detail needed to evoke her finger playing and pedal technique. John Mayer's 'Slow Dancing In A Burning Room' [*Continuum*; Columbia 96kHz/24-bit] is similar, combining acoustic guitars and solo vocal, and again the Orion loudspeakers delivered a sound of immediacy and insight, with small details populating a big stage.

METAL MASTERY

On the other hand, Rockport's floorstanders were able to unpick every ounce of info from the title track of Slayer's *South Of Heaven* [American Recordings 0602537352265] without distracting from its menacing nature. Produced by Rick Rubin, this gets plenty of mileage from the band's lineup of dual guitars, bass and drums, and the strictures of the thrash metal genre. Yes, there must be lengthy drum fills, discordant solos and growled vocals, but it never usually sounds this damn... heavenly. ☺

HI-FI NEWS VERDICT

The Orion's design and spec. speaks volumes about Rockport's meticulous attention to detail, but the proof of the pudding is in its performance. This big-ticket speaker thrills with any genre of music, its sound shifting effortlessly between largescale, weighty drama and articulate, intimate soundscapes. Anyone building a reference-level system should audition. Everyone else? Well, we can dream...

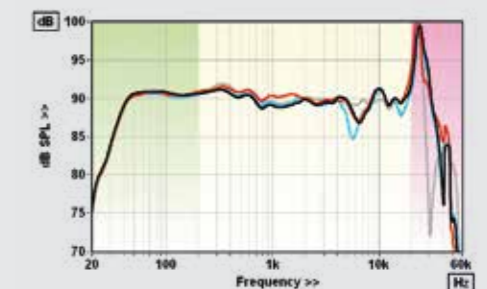
Sound Quality: 92%
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spiningling clarity in its main vocal lines, Krauss alone at first, in front of deep percussion and soft acoustic guitar, then joined by Plant for close-as-you-like harmonies.

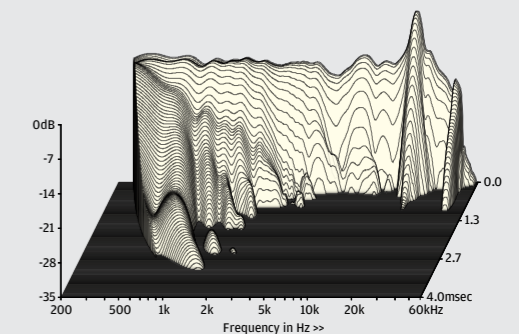
This track builds towards a crescendo, the mix becoming more complex, the musical picture bigger. Through the Orions, not one element of this huge wall of sound sounded out of place. These are speakers that don't exaggerate anything unduly, although the potency of their bass will be sure to

Not unlike Perlisten's tweeter [see p72], Rockport's 32mm beryllium dome has its principal breakup just outside the audioband at 23.9kHz [pink shaded area, Graph 1, and CSD waterfall, Graph 2] although the peak here is *not* preceded by the (typical) notch in output. Instead, the Orion's treble output is very flat with only a slight depression at 6-7kHz. Rockport recommends toeing the speakers out slightly, crossing behind the listener's head, and the ±15° off-axis response [grey trace] shows why – the Orion delivers an exceptionally flat response here (within ±1.6dB, 200Hz-20kHz). Such a uniform amplitude response is rare from a passive, DSP-free speaker system, though the pair matching between the 178mm midrange driver(s) could be improved from the 1.2dB seen here [black/red traces, Graph 1]. This accounts for the difference in the still modest ±2.6dB and ±3.4dB response errors, respectively, though, in all instances, the grille brings a 3.5dB dip between 5-6kHz [blue trace].

Sensitivity is generous, meeting the Orion's specification at 90.3dB/1kHz while distortion holds to within 0.25-0.7% at this same level (100Hz-10kHz). The port, meanwhile, is very broadly tuned from 15Hz-53Hz (-6dB, peaking at 23Hz) and, despite showing minor modes at 106Hz and 495Hz, brings the corrected system bass response down to 30Hz (-6dB re. 200Hz). However, payback comes in a punishing amplifier load! Phase angles are held to within ±45° through the audioband but dip still further to -66°/15Hz, and with impedance minima of 2ohm/52Hz and 2.34ohm/23Hz, the EPDR drops to 0.8ohm/20Hz and 1ohm/45Hz, with long stretches of sub-2ohm up to 1kHz. PM



ABOVE: Response inc. nearfield summed driver/port [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. L, black; R, red; ±15° off-axis, grey



ABOVE: Cabinet and bass/mid driver modes are well suppressed. Dome resonance at 24kHz is short-lived

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V - 1kHz/Mean/IEC)	90.4dB / 89.7dB / 88.3dB
Impedance modulus: minimum & maximum (20Hz-20kHz)	2.02ohm @ 52Hz / 15.4ohm @ 3.6kHz
Impedance phase: minimum & maximum (20Hz-20kHz)	-45° @ 20Hz / +43° @ 785Hz
Pair matching/Resp. error (200Hz-20kHz)	1.2dB/ ±2.6dB/±3.4dB
LF/HF extension (-6dB ref 200Hz/10kHz)	30Hz / 35.7kHz/38.8kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.25% / 0.45% / 0.7%
Dimensions (HWD) / Weight (each)	1278x516x671mm / 163kg