

Monitor Audio Hyphn

They started out as a Concept, and have become a reality combining a skeletal form and novel engineering solutions – but do they sound as other-worldly as they look?

Review: **Andrew Everard & Paul Miller** Lab: **Paul Miller**

As safe bets go, that you've never seen anything quite like the £70k Monitor Audio Hyphn speaker is pretty much a dead cert. Yet look closer and there's actually a lot of 'form

following function' going on here in those two columns with a gap between them, linked by a central belt. And while to unsympathetic eyes they may look like two huge clothes pegs, it won't take long for audiophiles to understand the thinking behind the configuration, however unusual the speakers look by comparison with traditional 'box, domes and cones' designs.

First seen at the 2022 High End Show in Munich, they created quite a stir. Then called Concept 50, they were due to go on sale by the end of last year to mark the company's half-century, it having been founded in 1972 by the irrepressible Mo Iqbal. Time has rolled on, and the speakers are finally here, the 'Concept' having become the Hyphn, and the reality being available in the matt white of that prototype, as well as matt black and 'Heritage Green', the last of these colours a deep, dark shade almost looking black.

WHAT'S IN A NAME?

Of course, the colour is really only a sideshow to the sheer visual impact of the Hyphns. The eye is immediately taken by those two mirror-image enclosures, formed from an exceptionally dense, rigid and 'dead' stone-like mix of mineral and acrylic that's heated and moulded into the required shape. Joining each of the speaker's two enclosures is a front-mounted 'belt', more of which later, which also informs the name: in architectural terms a 'hyphen' is a structure linking two larger edifices, such as the elevated 'Skybridge' between the Petronas Towers in Kuala Lumpur, Malaysia.

Each of the Hyphn's two pillars house a pair of opposing 200mm RDT III (Rigid Diaphragm Technology III) bass drivers, ported to a vent exiting via the cutaway

base of each foot, supported by a pair of spiked, machined alloy outrigger feet. The bass array is designed to be force-cancelling, the horizontally-opposed bass units meaning, as the company puts it, that

'The pillars are a stone-like mix of mineral and acrylic'

'the unwanted vibrational energy each driver generates from an audio signal is cancelled by its opposing twin'.

The upright enclosures have a 12-24mm wall thickness, and include the ports and bracing moulded and machined into the material itself [see rendering, p40]. The effect is impressive, that composite material feeling cool, smooth and reassuringly solid, whichever of the optional matt finishes one selects.

In the central 'belt' – and it does look rather like the waist-wear given to a boxer for winning a significant championship, with the subtle glint of the drivers behind their protective grille – is what the company calls its 'M-Array'. This combination of high and mid-frequency technology comprises a ring of six 50mm RDT III midrange drivers surrounding a single MPD (Micro Pleated Diaphragm) tweeter, making a total of 11 drivers in each speaker.

DIVIDE AND CONQUER

Both midrange drivers and tweeter are in-house designs, the latest Rigid Diaphragm Technology diaphragms still employing MA's light and stiff ceramic-coated alloy but now both reinforced and damped by two

POINT SOURCE

Monitor Audio is not alone in pursuing the goal of a 'point source' loudspeaker, but any solution that uses multiple, non-coincident drivers, without DSP support, can only emulate the principle. Nevertheless, the Hyphn gets closer than most... The speaker's front-facing 'M-Array' positions six 50mm RDT III midrange drivers around a bespoke implementation of MA's third-generation Micro Pleated Diaphragm (MPD) HF transducer, previously debuted on its Platinum Series 3G models. While this is not a coaxial/single-point array like KEF's famous Uni-Q driver [see p56], the symmetry of the layout [see inset picture] does ensure consistent horizontal and vertical dispersion.

In practice, this bears some comparison with the 'nest' of carbon-ply domes and central beryllium tweeter of Perlisten's DPC (Directivity Pattern Control) waveguide [HFN Apr '22]. However, the positioning of pairs of bass drivers as close as possible to the M-Array's acoustic centre is almost identical to the approach taken in KEF's Blade Meta floorstanders [HFN May '22]. In both cases a combination of four bass drivers are arranged in force-cancelling pairs, equidistant above and below the mid/treble array. In the Hyphn, these opposing bass drivers have their acoustic centres in the void between the cabinet pillars, fractionally behind that of the M-Array. Fortunately, below the 350Hz crossover, bass wavelengths are long and the output increasingly omnidirectional, so the effective acoustic centre of this quad of bass drivers is coincident enough with the plane of the M-Array for Monitor Audio to be within nodding distance of its 'point source'. PM



LOUDSPEAKER

rear layers of carbon-fibre. The six mid units combined offer a slightly greater driver area than the single 102mm RDT III midrange used in the latest Platinum 3G models, bringing with it advantages in both bandwidth (crossover design), reduced distortion and dispersion control. The MPD III treble driver, unveiled for Monitor Audio's 50th anniversary models, sits in its own waveguide and represents the apex of the brand's ultra-lightweight AMT/ribbon driver design.

Meanwhile, the belt itself features a 3D-printed resin 'acoustic enclosure' that sits within the machined alloy frame – all fixings being concealed by magnetically-attached metal panels on the outside face of each pillar.

'The three-way crossover has witnessed some fettling'

This, then, is no minimalist speaker, from the sheer number of drivers to the design and construction of the whole enterprise. Of course, by locating those four bass drivers firing inwards into the gap between the two columns, and placing the mid/treble section in front, Monitor Audio is aiming at a 'point source' effect, where all frequencies appear to emanate from the same spot [see PM's boxout, p38].

CONCENTRIC QUESTIONS

Other brands, including Tannoy, KEF, ELAC and, most recently, MoFi with its SourcePoint 10 [HFN Apr '23], use concentric mid/treble (or bass/mid and treble) driver arrays to achieve a truly coincident point source. Monitor Audio is not convinced, claiming that 'traditional dual concentric drivers add intermodulation distortion to the tweeter due to the displacement of the midrange diaphragm, which forms the tweeter waveguide. Monitor Audio's tweeter waveguide is fixed and the drivers create a flat baffle around the tweeter, [so] there is no additional IMD and the midrange can run to its full potential.'

The three-way crossover design has also witnessed more than a little fettling since the Concept 50's launch. Following a series of double-blind listening sessions at MA's HQ, the design team switched over to high-end Claritycaps and encapsulated inductors, the latter designed to reduce any vibrations in the windings.

The new crossover layout is split into HF, MF and LF sections to reduce interaction between the circuits while the PCB layouts have been further optimised for grounding and signal quality. Finally, the crossovers are now decoupled from the inside of the polymer/mineral cabinet to isolate the components as much as possible from any transmitted vibration.

LEFT: This transparent rendering shows the pairs of bass drivers braced into each pillar, along with multiple reinforcing rings and long, downward-firing port

RIGHT: The Hyphn's two-part, mineral-loaded polymer cabinet is both supremely dense and, aided by its machined alloy outriggers, exceptionally stable



It's quite safe to say that no other speaker quite looks like the Hyphn (inside or out) – it certainly makes quite an impact when installed in the listening room, standing almost 1.4m tall and weighing a considerable 107kg per speaker. As I mentioned in the opening paragraph, there's a real 'form following function' thing going on here, and while the styling is certainly exuberantly different, it's not hard to see where the Monitor Audio engineering team is coming from.

By throwing away preconceptions of how a speaker should look – not an unknown way of thinking up here in the rarefied air of the high-end – the company has come up with a skeletal design of remarkable purity. Look long enough and it even starts to appear logical. Well, sort of...

ROUND ONE...

Naturally, all that cleverness would be for nought were the Hyphn not to deliver the sonic goods to match its striking looks, and fortunately it lives up to all that engineering promise. Used on the end of both Halcro Eclipse Stereo [HFN May '23] and beefier Constellation Centaur II Stereo [HFN Feb '23] power amps, with our music sourced from an Aurender W20SE music library [HFN Mar '23] and dCS Vivaldi APEX DAC, the Hyphn speakers rapidly set out their sonic stall. Straight out of the gate, here was a presentation that belied all those drivers doing their thing at once, for this is clearly a speaker that offers remarkable coherence and integration.

LEFT: A total of 11 bespoke drivers (one treble, six midrange and four bass) are positioned in close proximity [see boxout, p38]. Matt white, matt black and very dark 'Heritage Green' finishes are offered

LEFT: Pairs of opposing 200mm RDT III bass drivers are mounted into the inside face of each pillar, reinforced by linking, semi-circular alloy braces

While some designs – even those with lofty aspirations – can make it all too apparent when sound is being handed over between drive units, the treble coming from higher up than the midrange, and the bass clearly being delivered from the big drivers, there's none of that going on here. Instead, there's just a sense of all the sound coming from that 'Lonsdale belt', floating free of the speakers to create an expansive, crisply focused soundstage.

The bass is deep, powerful and yet tightly

controlled, the speakers delivering the kind of definition some would say is the hallmark of compact monitor designs, but with all the low-end extension their size would suggest. For example, with the eponymous first album from Dire Straits [Vertigo UIGY-9032; DSD64], 'Setting Me Up' has all the freshness of much smaller speakers – which is a good thing – along with closely detailed vocal and instrumental timbres, and appreciable bass slam.

ROUND TWO

If there's a 'but' here, it's that even with simple tracks like this the Hyphns need a good dose of amplifier power to motivate them, and one might even suggest that the Halcro amp was marginal in this respect. With bigger, more complex tracks there was some suggestion that limits were being approached, whereupon the Constellation amp successfully flexed its muscles.

These speakers have a very broad comfort zone, which includes the highest of volume levels most



LEFT: In this angled picture, one of the port vents is just visible in the base of the (left hand) pillar. Terminal plate aside, the pillars are mirrors of each other with identical construction

Choir, London [Delphian DCD34296], and the richness of the Hyphns delivers a beautifully balanced, atmospheric listen, both intimate and with a palpable feeling of space in the sound. There's bags of detail in the voices, and absolutely no hardening when the volume swells. With another Rachmaninoff recording – this time the Minnesota Symphony Orchestra/ Eiji Oue 'Symphonic Dances' [Reference Recordings RR-96] – the same qualities are much in evidence.

These speakers are so good at delivering the scale of orchestral forces while still giving excellent insight – the sound is slightly warm and lush, but never excessively so, making them well-mannered and refined rather than subdued. Cultured and easy to listen to, they're totally involving, with no sense of statement speakers trying too hard.

FLOATING LIKE A BUTTERFLY...

They're impressively punchy and substantial with the recently remastered 1974 live recording of Pink Floyd's *Dark Side Of The Moon* [Legacy Recordings; 96kHz/24-bit], which I find somewhat more interesting than the simultaneously released 50th anniversary remaster of the studio album [Legacy; 192kHz/24-bit]. The BBC recording has just enough live ambience to set it apart from the familiar and bring the music up fresh, even with the driving, phasey 'On The Run' with all its studio effects.

The same is true of The Who's much more recently recorded *With Orchestra Live At Wembley* set [Polydor 4883160]. Here the Hyphns show Pete Townshend's guitar can still slam and Roger Daltrey's vocals snarl, but also make the most of the added warmth of the 57-piece 'big band' backing, whether on the opening 'Who Are You' or classics such as 'Baba O'Riley', the latter also notable for the contribution of the 'audience choir'.

With this and the classic Floyd set, the Hyphn shows it can let down its hair and rock hard when required, but then the next moment it can go back to lush and intimate. For example with Joyce DiDonato's radiant *Eden* recital [Erato 0190296465154] every word of 'As With Rosy Steps The Morn', from Handel's *Theodora*, is crystal clear, thanks to the ↻

MICHAEL HEDGES

For our review of these long-awaited flagships we spoke with Monitor Audio's Technical Director, Michael Hedges, about the evolution from last year's Concept 50 to this year's Hyphn. 'In practice few, if any, of the Concept 50's parts have remained unchanged in the Hyphn', reveals Michael. 'We've made significant investment in cast aluminium components including the M-Array's mid-pod, mid-wings, mid-rear chamber, mid and bass driver chassis – these parts were all machined in the Concept 50.'

'Vibration control' has been a key area of focus with the pillars now strengthened with additional ribs and bracing, and the 12mm wall thickness increased to 24mm around the force-cancelling bass drivers. Even the crossover inductors are potted in resin, and the PCBs fixed on compliant mounts, to minimise the impact of any residual vibrations.

The Hyphn is clearly packed with both driver and materials innovation which will surely trickle down into more cost effective solutions. 'We believe our M-Array is a significant step forward in dual concentric/ point-source driver design', says Michael, 'and we are actively working to reduce production costs to leverage this technology into our other loudspeaker ranges.'

'We cannot announce anything right at this moment, but it's a similar story for the mineral-loaded polymer cabinets. Currently, they are handmade by craftsmen who are intimately familiar with the material, but we are also looking into how we may use it in a more mass production environment.' PM



listeners will ever wish to encounter. With Cala's 'The Land's End', from the recent *From The River* release [Wee Studio Records; Bandcamp download], there's a fine breathiness to the woodwind, set against a powerful, atmospheric wash of sound with rock-solid imaging, then a real swing and drive to the track when fiddle and percussion kicks in. The sound is fast and hard-hitting while maintaining balance, even when there are two counter-rhythms going, the warmth of the presentation enhancing, rather than detracting from, the musical flow.

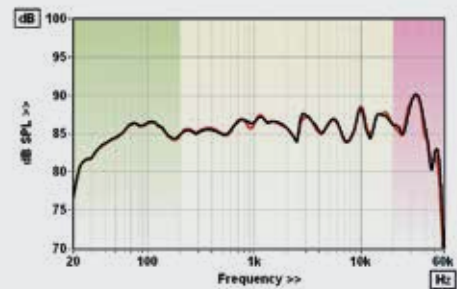
Change pace to the ethereal sound of Rachmaninoff's *Vespers – All-Night Vigil*, courtesy of the King's College

'These are not statement speakers trying too hard'

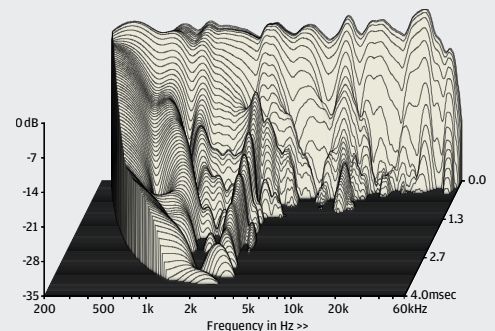
MONITOR AUDIO HYPHN

Measured on the MPD III tweeter axis at the centre of the seven-driver 'M-Array', the Hyphn's forward response is flat in trend [see Graph 1] with mere +2.2dB and ±2.4dB errors, respectively, and a superb 0.7dB channel matching (all re. 200Hz-20kHz). There are a number of benign undulations, although the peak at 2.8kHz is clearly associated with a modal resonance [see CSD Waterfall, Graph 2] as is the less intrusive breakup at ~10kHz. The principal treble mode occurs at a relatively high 33.1kHz [pink shaded area, Graph 1] while the Hyphn's HF extension reaches out to an impressive 44kHz (-6dB re. 10kHz). Sensitivity is not especially high for such a large system, but meets MA's 86dB spec. at 86.5dB/1kHz (or 86.0dB from 500Hz-8kHz). The quoted 800W power handling should still permit very high SPLs with an appropriately powerful amplifier. With that in mind, the Hyphn's minimum 3.6ohm/2.1kHz impedance – and typically >4ohm for 90% of its bandwidth – suggests it's not an especially tough load. In tandem with the ±51° swings in impedance phase, the 1.65ohm/3.8kHz (and 2ohm/75Hz) EPDR is well within the compass of all likely partnering amplifiers.

Another trade-off for the low-ish sensitivity is good bass extension. In practice, the 48Hz-285Hz bandwidth of the two pairs of 200mm force-cancelling bass drivers, supplemented by the 24Hz port tuning, yields a very respectable 26Hz limit (-6dB re. 200Hz). There is a pipe mode at 285Hz (-9dB re. Helmholtz frequency) but bass THD is otherwise just 0.25% (re. 100Hz/90dB SPL) and, through the mid and treble where a simple 2nd/3rd harmonic dominates, the Hyphn incurs just 0.2-0.6%. PM



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



ABOVE: Prominent mode at 3kHz is joined by a minor resonance at 10kHz, but the treble is otherwise clean

LEFT: Although the bass, mid and treble crossovers are split and mechanically isolated within the cabinet, the bass arm is separated from the mid/treble via the (very high quality) bi-wire/bi-amp cable terminals at the base of one pillar

recording, but it certainly delivers on sheer emotional impact.

...STINGING LIKE A BEE

With that caveat about not going crazy with the volume control unless you have massive power on hand, the same goes for Anna Lapwood's wonderful transcription for organ of Britten's 'Sea Interludes' on her *Images* album [Signum SIGCD688]. Yes, the Hyphns will shake the room, but what impresses more is the sheer presence of the great Harrison & Harrison instrument in the nocturnal space of Ely Cathedral. You can feel the air around it, and the way the notes energise the building, to thrilling effect.

Just as exciting, however, is the sound of the Hyphns doing quiet and restrained, with Australian jazz trio Trichotomy's 'Mercury', from the immaculately produced *To Vanish* set [Earshift Music EAR070]. It's just piano, bass and drums here, but everything is played through processors, the piano driven ever onward by the tight bass and percussion. There's a superb sense of impetus and musicianship, with great scale and precision in the piano, tight, sonorous bass and punchy percussion, as the Hyphns deliver a reliably clean, clear and generous account of the recording. These are speakers to enjoy, whatever your musical tastes. ↴

HI-FI NEWS VERDICT

Dashed enjoyable – that's the verdict on Monitor Audio's Hyphns. Yes, they need some hefty amplifier power to be heard at their best, so tempted will you be to keep turning the level up, but with their combination of warmth, definition, focus and insight, they belie their unusual looks with a sound that requires no allowances to be made. The Concept has become a reality – and in serious style.

Sound Quality: 87%



speakers' focused, insightful view of the singer's remarkable voice, with every timbral nuance laid out for inspection. Or then again you could just enjoy the magic of the performance – these loudspeakers work on both levels.

Switch to Depeche Mode's recently released *Memento Mori* [Columbia; 96kHz/24-bit download] and the years drop away as the Hyphns deliver the big, anthemic 'People Are Good' and 'Never Let Me Go' like nothing ever changed. All those synths and ringing details on 'Ghosts Again' sound magnificent, while the deep chugging beat is handled with speed and dexterity by the speakers' unusual bass arrangement. No-one is making claims for audiophile quality on this

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	86.5dB / 86.0dB / 84.1dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	3.61ohm @ 2.1kHz 19.2ohm @ 39.6Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	-50° @ 56.9Hz +51° @ 14.9kHz
Pair matching/Resp. error (200Hz–20kHz)	0.7dB / ±2.2dB/±2.4dB
LF/HF extension (-6dB ref 200Hz/10kHz)	26Hz / 44.1kHz/44.5kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.25% / 0.18% / 0.60%
Dimensions (HWD) / Weight (each)	1392x502x520mm/107kg