

hi-fi news

& Record Review

Exclusive

NEW NAGRA!

Swiss artisan unveils the **PREAMP-IIS**

69
YEARS
of Product
Reviews &
Features



Unison Research

Unico Pre/DM v2
pre/power amplifiers

B&W 707 S3 Prestige

Stylish standmount is a steal

MOON 371

Canada's connected integrated

Børresen X3

Floorstander with 'secret sauce'

BUDGET ESOTERICA

Debut Reference 10

Pro-Ject's £1k vinyl spinner

Lumin X2

Flagship streamer/DAC

• **OPINION** 12 pages of letters and comment • **FROM THE VAULT** EAR Yoshino V20 tube amp from '98

• **CLASSICAL COMPANION** Schumann Cello Concerto • **TOP 20** Miles Davis centenary celebration

• **Contents** We visit Florida's Audio Expo '26 • **READERS' CLASSIFIEDS** More hi-fi bargains galore

UK £5.99



9 771472 256271

05

Børresen X3

Audio Group Denmark's most affordable speaker series has just received a price *cut*, lopping £2k off its X3 floorstander

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

All things are relative, I guess, but in the realm of high-end audio, the Børresen X3 looks like a lot of loudspeaker for the money. Moreover, a recent price cut – just about unheard of in the modern hi-fi market – has brought the speaker down from £10,000 to £8000 a pair. Described as an 'entry-level into the Børresen universe', the X3 draws on technology created for the Danish company's higher-end models [*HFN* Sep '25], from the drivers to the enclosures.

Certainly everything seems to be present and correct here – the cabinet, finished in a choice of black or white piano lacquer with a carbon-fibre inlay on the top and lower baffle, is substantial and of a curved profile, always good for rigidity and keeping internal reflections and standing waves under control. The drivers are also far from 'off-the-peg' solutions – the tweeter is a planar magnetic design, while the driver above it, and the two other 128mm units further down the baffle, have an intriguing chequerboard pattern, somewhere between a chessboard and the flag waved at the finish line in F1. Within their motor assemblies, copper rings are applied to the outer and inner surfaces of the two pole pieces, aiming to improve magnetic flux and reduce inductance. The three crossover inductors are large air-core types too, rather than more affordable ferrite-cored parts.

THE LOWDOWN

Yet the integration of the drivers is perhaps not what it seems [see PM's boxout, p51] as the uppermost unit is run 'full-range' with the tweeter. The pair might easily form a two-way standmount in their own right. All of which means the two lowermost drive units simply reinforce the bass – and do so to a major degree, as the listening sessions were to demonstrate – making Børresen's X3 a bespoke two-and-a-half-way loudspeaker.

There's also the small matter of the septet of ports/tubes on the speaker's 'spine' [see p53]. There are two behind that upper 'don't call it a midrange' unit, and one to relieve

back-pressure on that ribbon tweeter set deep into the baffle. The stack of four ports down at the bottom of the cabinet's rear panel form part of the X3's proprietary bass tuning.

These bass and bass/midrange drivers all use Børresen's 'DCC5' construction, the cone having three layers with what is described as a 'spread carbon fibre' skin sandwiching an aramid honeycomb core. The manufacturer explains that this layered combination of materials delivers an excellent stiffness-to-weight ratio, resisting physical distortion of the diaphragm and reducing spurious resonances [see PM's Lab Report, p53].

The RP89 tweeter is described as a 'ribbon planar' type, and is derived from the HF driver employed in pricier Børresen loudspeakers, but with a reduction of the size of the magnet assembly. Operating from 2.5kHz upwards, the thin film diaphragm weighs only 0.01g but claims a robust design to handle 'very high transients'.

MAXIMUM IMPACT

Initial listening in the *HFN* Reference Listening Room [p41 & *HFN* Yearbook '25] suggested this slender and stylish speaker wasn't short of low-end substance, and this proved to be the case with organist Anna Lapwood's take on Bob Dylan's 'Make You Feel My Love', from her 2025 *Firedove* album [Sony Classical 19802809272]. The sound of the choir of Pembroke College, Cambridge, where Lapwood was Director of Music, was more about impact than pin-point definition via the X3s, with plenty of the chapel ambience rather than solid soundstaging. Then Lapwood adds organ to the mix and its power almost swamped the vocals – it's certainly massive, and massively impressive, but arguably too much for every room and system. ➞

RIGHT: The stiffened MDF/HDF cabinet is offered in gloss black or white with a carbon-fibre inlay atop and on the lower baffle. The 128mm Børresen DCC5 bass/mid driver (with carbon-fibre/honeycomb sandwich cone) crosses to the brand's RP89 'ribbon' planar tweeter at 2.5kHz



'The 128mm DCC5
bass and mid/bass
units have an intriguing
chequerboard pattern'



LOUDSPEAKER

This track clearly hit the spot – the bass peak seen on p53 – but these Børresen speakers were otherwise more assured with the Rattle/Berlin Philharmonic recording of Rachmaninov's *Symphonic Dances* [Warner Classics 9845192] where the sound was very clean, with plenty of weight and dynamics. The speakers delivered thrilling speed and drive in the build of the first movement, plus plenty of slam and punch, before settling into a slow but still rhythmic presentation of the second 'waltz' section. Yes, the soundstaging was still a little 'free form', but it was hard not to like the rich presentation of the orchestra.

Changing tack completely to Squeeze's *Trixies* album [Love Records/BMG 964202912], which revives tracks written and then set aside half a century ago, and that big, bold sound was again much in evidence. As an antidote for those who find many systems too brash and bright, the Børresen X3s will please, impressing even more with the stripped-back 1975 demo of 'Psycho Killer' from Talking Heads' *Tentative Decisions: Demos & Live* compilation [Sire/Rhino R2 728486], where it's interesting to hear the song in its original form. Meanwhile, even if the closing live cover of Al Green's 'Take Me To The River' from a 1977 gig is not the last word in fidelity, and has more of a left-

right mix than a solid image, it had a perky vitality when heard via the X3s.

These floorstanders create a large picture of sound with impressive soundstage spread. However, the sense of inner detail and depth is influenced by how far apart the cabinets are placed and the degree to which they are toed-out (crossing behind the listening position, as set out in the manual). But there was always plenty of low-end power – a theme with these speakers – with the

star-studded Gorillaz album *The Mountain* [Kong KONG 001CD], thumping out 'The Plastic Guru' without overshadowing the contributions of Anoushka Shankar and Johnny Marr. Even on

the stately 'Casablanca' the balance remained rich and weighty, with treble details sweet and informative rather than incisively sharp.

"They cruised through the tightly recorded 'Our Old Street'"

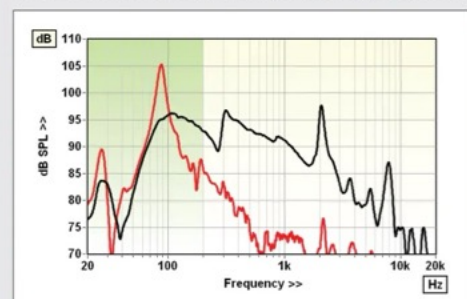
SIGHT TEST

This balance of qualities was also borne out by the safer ground of Pat Metheny's *Side-Eye III+* [Uniquity Music; 96kHz/24-bit], where the speakers cruised through the tightly recorded 'Our Old Street', making the

BØRRESEN'S BASS

Ours is not the first review of the X3 (see <https://audiogroupdenmark.com/reviews>), but none seem to have addressed this speaker's novel bass tuning. Along with the RP89 planar treble it is a key driver of the X3's sound. While the X3 is described as a two-and-a-half-way speaker with a 2.5kHz crossover between its (upper) DCC5 bass/mid unit and planar treble, the transition to the pair of (lower) DCC5 woofers is not specified. In practice there's a steep low-pass filter here, but the drivers are also 'mechanically attenuated' to prevent over-excursion at very low frequencies. This gives the impression of a bandpass centred on 87Hz, the response falling away rapidly either side [see red trace, Graph below]. The lower mode at 27Hz reflects the separate tuning of the four rear ports which, equally, reveal a proportionally lower output at 87Hz – the lower cabinet acting as a 'dual-tuned' bass chamber.

That upper bass/mid unit, meanwhile, has a full 66Hz-1.2kHz (–6dB) range [black trace, below] that includes the strong 2kHz resonance seen on the forward response [Graph 1, p53] and CSD waterfall [Graph 2, p53].



Clearly, this upper DCC5 unit is also working into the bass and is similarly attenuated to prevent over-excursion compromising its linearity in the midrange. The upper ports serve this DCC5 unit and are more broadly tuned, albeit with the Helmholtz resonance slightly offset to 101Hz, and another resonance at 700Hz visible as a port/quarterwave mode. Calculating the full diffraction-corrected bass output is complex, but reveals a strong LF peak at 85Hz [see Graph 1, p53] – lending the sound its impressive kick – followed by a 2nd/3rd-order roll-off and a plateau that stretches bass extension down to 25Hz (–6dB re. 200Hz). PM

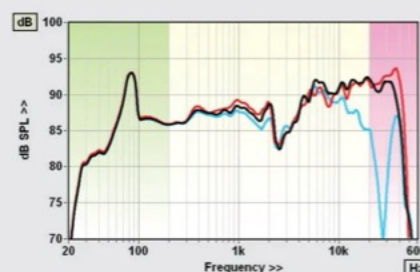


LAB REPORT

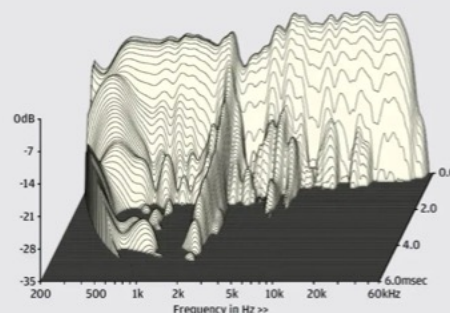
BØRRESEN X3

As we saw with the diminutive C1 [HFN Sep '25], Børresen's design priorities are other than achieving a flat or uniform axial response [see Graph 1]. Here the X3 again reveals a mode at the top of the (upper) DCC5's bass/mid driver's range [also visible on the CSD waterfall, Graph 2] prior to a 6dB notch centred on the 2.5kHz crossover. This local feature, and the more generalised 3dB increase in output once the RP89 planar tweeter takes over, drives the high ± 5.0 dB and ± 5.3 dB response errors, respectively, while the pair matching drifts out to 1.9dB across this same region. Matching planar drivers is notoriously difficult, and though it achieves a creditable 45kHz extension (-6 dB re. 10kHz) distortion is a high 3-4% above 8kHz (re. 90dB/1m).

Otherwise, this presence/treble boost ensures the X3 sounds louder still than the 89.2dB (re. 1kHz/2.83V/1m) might suggest. Moreover, it's important to remember that Børresen specifies a toe-out for the X3, crossing behind the listener, where significant changes in balance can be achieved. At $\pm 15^\circ$ [blue trace] the response errors fall to ± 4.1 dB, with a loss in overall sensitivity of ~ 1 dB traded for improved uniformity. Do note that the treble now falls by 6dB between 10kHz and 20kHz but the dip through crossover, and resonances seen on the CSD waterfall, are much reduced. Neither is the X3 a particular challenge to drive – its 4ohm nominal impedance is met with a minimum of 3.1ohm/20Hz, the modulus increasing in trend with frequency, peaking at 20.3ohm/1.55kHz as the reactance of the DCC5 bass/mid unit kicks in. The lowest 1.1ohm/20Hz and 1.5ohm/55Hz EPDR falls outside the bass bandpass [see boxout, p51]. PM



ABOVE: Resp. inc. nearfield summed drivers/ports [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. L, black; R, red; $\pm 15^\circ$, blue



ABOVE: Planar tweeter is clean. Strong mid/bass cone mode at 2kHz is rapidly attenuated at $\pm 15^\circ$ off-axis

LEFT: A single set of 4mm binding posts feeds a crossover mounted on the rear of the baffle. The top bass/mid unit is reflex-loaded via the two upper ports while the smaller tube attenuates the tweeter's rear output. The lower ports form one half of Børresen's novel bass tuning [see boxout, p51]

relishing the easy-going 'A Thread In The Dark', from Mammal Hands' *Circadia* [ACT 8042-2], I found myself contemplating the whole concept of hi-fi systems making the listener choosy about selecting music that plays to the strengths of the system, rather than *vice versa*. Musing aside, the *Circadia* album manages to please the head and the heart – it's another fine jazz recording from the ACT label, with drums so close up you could almost reach out and touch them, and the instrumentation beautifully realised in a persuasive soundstage picture.

DEMO DELIGHTS

Likewise, the freshness of Paul McCartney's 'rough mix' of 'Arrow Through Me', from his *Man On The Run* soundtrack [Capitol/MPL 602488235297], worked especially well through these speakers. His vocals are slightly recessed, the drums take centre stage and the brass breaks of the finished track are vocalised, giving a real 'work in progress' feel. And with the lovely stripped-back demo of 'Silly Love Songs', again with McCartney's vocals a touch recessed and Linda McCartney's backing vocals laid bare, it's hard not to become immersed in the immediacy these Børresen floorstanders deliver. ☺

HI-FI NEWS VERDICT

Børresen's X3 floorstanders typically delight with their combination of a big, room-filling sound and exemplary build and finish, even if some care is needed in choice of music if they're not to become a little overexcited in the bass. But they are never dull or boring, their idiosyncrasies bringing out a character in the sound that draws you in. If your tastes align with Børresen's vision then you'll likely love them.

Sound Quality: 85%



most of the guitar's distinctive tone even while the cymbals fizzed and shimmered alongside.

By this point I think we're getting a handle on the balance of these speakers – keep the recordings clean and crisp, and they thrive; give them a chance to break loose, and they're likely to take it. While

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	89.2dB / 87.8dB / 86.2dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	3.1ohm @ 20Hz 20.3ohm @ 1.55kHz
Impedance phase: minimum & maximum (20Hz–20kHz)	-25° @ 3.4kHz $+54^\circ$ @ 69Hz
Pair matching/Resp. error (200Hz–20kHz)	1.9dB / ± 5.0 dB/ ± 5.3 dB
LF/HF extension (-6 dB ref 200Hz/10kHz)	25Hz / 42kHz/45kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.3% / 0.2% / $\sim 3.5\%$
Dimensions (HWD) / Weight (each)	1290x345x607mm / 55kg

The **hi-finews** Reader Pledge

& Record Review

Hi-Fi News' readers can take full confidence in the fact that every product featured on our front cover, across the magazine and on our website has been comprehensively examined (inc. photography), lab tested and auditioned at our purpose-built facility

You hold in your hands the world's oldest and most respected hi-fi magazine – *Hi-Fi News* – where heavyweight audio engineering is our stock in trade. All our review products are typically subject to a one-month test process from shipping, unpacking, installation, photography, lab work, extended listening, disassembly/packing and collection. This practice was maintained right through the pandemic period, with full Covid biosecurity adding

to the logistical complexity of our four-week issue schedule. But we did it... never missing one issue of the magazine or compromising the 'Hi-Fi News Pledge':

1. Our hardware reviews are never brief 'hands on' experiences of a product from a press conference, brand-led demonstration or distributor's back room spun up into a four or five page article.

2. Products reviewed in *Hi-Fi News* already have secure distribution and retail channels in the UK. So readers *should* be able to arrange their own auditions if suitably inspired!

3. All review samples are shipped to and installed at our main facility. They are photographed by us (unless stock shots precisely match our templates) and lab tested to a uniquely world-class standard before listening begins...

4. We believe in high quality investigative journalism by experienced writers and editors – we ask questions, we do our research and we make

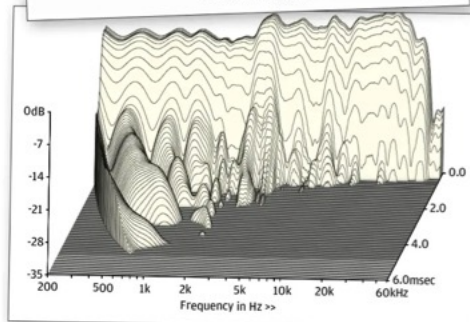
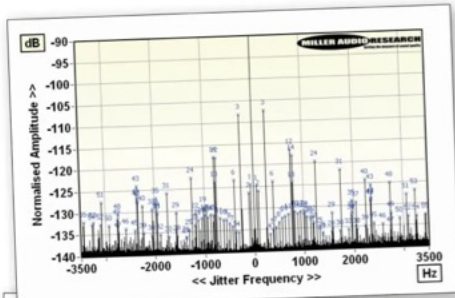
LEFT: Innovative, research-based test & measurement – with exclusive colour 'data visualisation' – underpins every review in *Hi-Fi News*. In each issue you will discover performance-determining facts that are unique to our reporting



ABOVE: Lifting speakers clear of reflective boundaries is crucial in obtaining an adequate 'anechoic' time window for our lab tests. Here's B&W's 707 Prestige standmount [p72] going up

truly independent evaluations. We do not release reviews to brands for 'fact checking' or other modification prior to publication. They read it when you read it.

5. Above all we respect our readers. You demand the best reviews informed by decades of experience, product knowledge and technical expertise. We endeavour to live up to that expectation.



IN THIS ISSUE...

RIGHT: Seen at the rear of the *Hi-Fi News* Reference Listening Room [*HFN* Yearbook '25], on an Artesania equipment rack, Nagra's PREAMP II-S [p42] is dwarfed by the dCS Varèse streamer/DAC [*HFN* Feb '25]

FAR RIGHT: Børresen's 'entry level' series X3 floorstanders, powered by a Constellation Revelation 2 amp [*HFN* Jan '25] successfully filled the *Hi-Fi News* Reference Listening Room with sound [full review, p48]





Ansuz



Aavik



Børresen



Axxess

Audio Group Denmark Roadshow

Audio Group Denmark (AGD) differentiates itself through a guiding philosophy, as refined and groundbreaking as the technologies they've pioneered. In just 12 years, this vision has driven the creation of four individual brands - each offering a superb range of products delivering exceptional quality and an uncompromising sound. When combined, AGD products form one of the most complete and high-performance audio systems available.

Whether you're taking your first step into the AGD ecosystem or looking to elevate your existing audio system, the flexibility is yours. You can build a system at any level and upgrade as your aspirations grow or selectively incorporate products from any of the four brands to bring a profound improvement to your current audio experience.

Handcrafting & innovation

We design and handcraft every component in-house, from loudspeaker drivers to cables and electronic devices. Only the cabinets for speakers and electronics, which we source from trusted specialists, are not made by us. To ensure exceptional quality and audio performance, all products undergo rigorous testing before reaching our customers.

Materials & unique technologies

At Audio Group Denmark, we're dedicated to achieving a pure, authentic sound by exploring advanced materials like zirconium, titanium, tungsten, and carbon fibre. Through research with local universities, we've tested these materials for conductivity, resonance control, and structural optimization. Our innovations, including topology-optimized zirconium, cryogenically treated metals, precision-coated membranes, and advanced coil designs, result in products that eliminate noise, control resonance, and deliver an unmatched musical experience.

Our Brands



Ansuz

Ansuz forms the essential foundation that enables any audio system to reach its full potential. From signal, power and speaker cables to power distributors, grounding solutions, streaming accessories and resonance control devices. Every product is engineered to unlock greater clarity, dynamics, musical flow by reducing noise, distortion and signal degradation to the lowest possible levels.



Aavik

Aavik high-performance audio electronics uses advance circuit design, material science and precise engineering. Every component is created to reduce noise, preserve signal integrity and expand the dynamic scale of music. By lowering the noise floor to an absolute minimum Aavik electronics reveal subtle nuances, projecting them on to a spacious, silent background with striking realism.



FOUR Brands. ONE Philosophy.

ENDLESS Musical Experiences.



Børresen loudspeakers are built on the same ambition: to remove every barrier between the music and the listener. Exceptional clarity, effortless dynamics and an immersive soundstage that brings recordings to life with remarkable realism.



Axxess products are based on the technological development and design traditions of Anzuz, Børresen and Aavik products and is our modestly priced entry range.

