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Nagra HD PREAMP Review
Hi-Fi News November 2018



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editorial

The world of loudspeakers should be something of a sleepy backwater. The technological developments that got us the classic loudspeaker design are mostly decades old. Moreover, while there have been significant step-changes in materials science and the ability to measure every single aspect of a loudspeaker and its cabinet, this has been the case for years. Surely by now we must be at the point of minor nuanced changes in performance?

The loudspeaker might be a mature piece of equipment, but it is still capable of producing profound and surprising performance improvements from year to year. It's a moot point whether this comes down to new developments in the material world, ever better measurement systems, more refined accompanying products giving the loudspeaker the chance to shine, or engineers given an ever freer hand to express their best-possible designs. The fact is, today's loudspeakers are better than ever.

What we have now is greater bandwidth, in a literal and metaphorical sense. The biggest and best loudspeakers are now capable of following ever closer to notional ideals of the perfect loudspeaker. On the other hand, we are also seeing considerably more affordable loudspeakers delivering extremely high degrees of performance compared to the predecessors. And with active and DSP driven loudspeaker designs finally beginning to move from the studio into the home, the performance of loudspeakers at all levels is continuing to get ever better.

It's not hyperbole to say the best loudspeaker designs we have ever heard have appeared in recent years.

The best of this though is the 'where do we go from here?' comments seem to have disappeared from the loudspeaker discussion. We know loudspeakers are improving, and we know they will keep improving over time. The days of an audio industry being preserved in aspic are over, if we want them to be.

That last point is relatively important. Many people are not sold on the pace of modern life, and think past masterpieces are better than current designs. While it's a broad church, audio is pressing ahead!

We got our star-charts mixed up a little in the last issue. On the cover and in one section of the AURALiC review, we wrote ARIES G2 instead of VEGA G2. I mean, it's easy to do – the two constellations are only on opposite ends of the Northern Hemisphere and look completely different – it's an easy mistake to make. Our apologies to any sailors lost as a result of our poor navigation skills.

Alan Sircom
editor@hifiplus.com

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Or email them to editor@hifiplus.com

incoming!

in association with **audioquest**

LETTER OF THE MONTH WINS A DRAGONFLY BLACK

Both AudioQuest and *Hi-Fi+* are passionate about music and the sound it makes. We know what makes a good audio experience, and we know what makes it better. Most modern audio equipment is good, but with the right attitude, right advice, and the right components, the sound it delivers can move from 'good' to 'great' to 'fantastic'. AudioQuest has to deal with a lot of queries regarding audio systems, because almost everything in an audio system is connected with a cable. The company has amassed a wealth of information on a range of topics in audio, both in general terms and with a team comprising keen, specialist audio experts willing to impart their expertise.

Which is why we've teamed up with the good folks at AudioQuest to award the letter of the month a free AudioQuest Dragonfly Black headphone amp/DAC.

The cartridge con

I've officially given up on high-end cartridges! I spent a small fortune on a really good 'famous name' Japanese cartridge only a few years ago, and already it's on its last legs. The cost of a retip is more than most cartridges, and I've worked out I am spending upwards of £5 per album in what I now call, 'stylus fees'.

Roughly how long is a stylus supposed to last, and why can't we get plug in replacement stylus for moving coil cartridges as we can for moving magnet?

Russ Sainsbury, via email

To answer your second question first, the design of a moving magnet and moving coil are different. As their names suggest, a moving magnet has magnets attached to the cantilever that move in line with the groove, and those magnets influence the tiny wire coils inside the cartridge that connect to the outside world. A moving coil is the reverse; the coils themselves are attached to the cantilever, and the movement of those coils through the field of the magnets fixed in the cartridge body create the signal for the phono stage. The stylus in a MC cannot be easily removed without destroying those sensitive wire coils in the process.

The question of lifespan of a stylus depends on a number of factors, but most importantly the stylus profile, and the precision of the diamond's 'fit' in the cantilever. Different stylus profiles wear down at different rates, but typically anything between about 400 and 1,000 hours of play, and about 500 hours on average. So running in a pair of speakers using LP is strongly ill-advised for more than just the extra legwork!

Robert Hay – AudioQuest



Stick a fork in me... I'm done!

After many decades chasing the impossible, in the hope of finding the best possible audio system, and spending tens of thousands of dollars on components, potions, and more than the occasional touch of snake oil, I'm pleased to have finally, officially lost the audio bug.

I've kind of gone 'post-consumer' in my retirement years (not completely, as I hope I'm not dead yet) and right now I'm loving it. I now have a pretty good TV, a good stereo system, an iPad, and electronically speaking... that's about it. I don't own any discs anymore; Netflix takes care of the movies, and Spotify covers my music. I know there are better format options to be had, but frankly I'm content where I am.

Part of this harks back to my 20s, when I read *Walden* by Thoreau, and that desire for a simple minimalist life never wholly left me. It sounds strange and Luddite, but I'm happier this way.

Art Sobeski, via email



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► *I also read Walden in my salad days. It's an intriguing argument, but not as funny as Three Men In A Boat, or as long as War and Peace. I'm not entirely sure what can be drawn from these pithy comparisons, but whether it's called 'neo-transcendentalism', 'downshifting', 'selling up' or 'Swedish Death Cleansing', the idea of getting more human value out of letting go of the things that surround us is tempting. Doubly so for the career-related hoarding that one tends to get with audio reviewing.*

*Nevertheless, even if I wasn't doing the job I do, I might not be ready to downshift just yet. I may have slowed down the acquisition process greatly, but I'm ever optimistic that an even better amp, speaker, or source is always next to be delivered. **Ed***

Losing the lost generation

Good audio almost dropped off the radar in the early 2000s, as people adopted the iPod instead of a CD player. This followed the rise of Napster at the end of the last century. The early adopters of those technologies are the parents of the next generation.. Unlike my generation (where there was always some Dad who had a good stereo system) the children of the Napster/iPad generation will grow up with little or no knowledge of the benefits of good audio because so few will be exposed to good audio systems.

Until we resolve that fundamental problem of early exposure to good sound, there will be no more generations of buyers, and this once-great world of audio will slowly die off, subsumed into being just another app on a smartphone. No-one cares enough about audio to pay for good audio, however, so we might be on a hiding to nothing.

I did hold out hope for good audio in the trend for buying LPs instead of streaming, but I'm less convinced after speaking to some vinyl buyers. They are perfectly happy with their cheap record players, with their LP-destroying tracking weights and dreadful speed control. Not because they know no better, but because ultimately they just don't care.

Ben Sutherland, via email

I hold out some more hope for both the millennials in general and the LP buyers in particular. The former are coming to good sound via ever-better personal audio equipment. Where we fled the nest at an early age, many today are forced to live with their parents well into their 30s and even 40s in order to drum up the deposit on a property, and that precludes conventional loudspeakers in most cases. OK, while some millennial headphone buyers go for the surface and buy bling, many more make an incredibly informed decision about their choices, and even build their own amps and headphones, perhaps creating the next generation of manufacturers. It's my hope that some of those listeners migrate across to speakers when they can.

*I'm also less depressed about the vinyl revival than you. Yes, it may be a fad, but if it is, it's proving to be a hell of a long-lived fad. Not everyone who buys new vinyl and whose natural hair colour isn't 'bald' will play that vinyl on something cheap and awful. Many start that way, but quickly end up buying better turntables, arms, cartridges, amps, and speakers. They are still limited by their domestic position, but are engaged with music and the sound it makes. Hopefully, they will be as proselytising a force for hi-fi as our fathers were! **Ed***

Learning from the past

I've been interested in hi-fi for some decades, and I've seen trends come and go. I played my LPs wet, until I realised it ruined them. I got into PWB and still find folded bits of paper, crocodile clips, and foils from the 1980s. I used the green pen, and I froze my CDs, I tried cones under equipment, and I swallowed the cable party line for years. In short, I tried almost everything, spent a small fortune, and got almost nothing back aside from a few wry smiles from friends and family at my audio lunacy.

There's nothing wrong with any of these things (except for the ruining records part), but these years of 'on trend' tweaking my audio system show just how bankrupt it all is. If they made a difference, they would stay in the system. And I would bet the same happens to the tweaks offered today.

Fred Abell, via email

*There are many tweaks from the 1970s and beyond still very much in use today, primarily because they work. Time is both healer, and filter! **Ed***



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Festival of Sound

by Alan Sircom



Held at the end of September, the Indulgence Show – in the Novotel Hotel in Hammersmith, London – this year morphed into the Festival of Sound. It was hoped that by moving it from a show that tried to cover the finer things in life to a show that tried to cover the finer things in music, it would appeal to London’s music lovers. The organisers developed a solid programme of musical events (including live gigs by James Lavelle of UNKLE fame, Art of Noise, and Squeeze lyricist Chris Difford, *left*), combined with fine rock photography, a songwriting masterclass, lectures, and good audio. The event was well promoted, with organiser, exhibitors, and press alike turning to local and social media to try and drum up traffic.

All of which proves “if you build it, they will come” is a load of nonsense. Unfortunately, despite the best efforts of all involved, attendance remained low. Yes, the attendance was more about quality than quantity, but sometimes you need both.

Here’s the thing. This is a great show, with a number of the best audio brands rocking up at an event that has it all for music lovers. Granted, it’s in London, which is off-putting and expensive to out-of-towners, and Londoners themselves seem to suffer from ADHD and will never commit to an event like this in advance. Also, the hotel entrance itself has bizarrely moved into a dark cavern designed for taxis rather than those walking from Hammersmith tube station. But it’s worth the effort, and it represents the only traditional audio show in the South East. I hope the lack of foot traffic doesn’t spell the end of this potentially excellent event... but it’s now down to the public. If you don’t show, there is no show! +



Although not being demonstrated in Focal and Naim's large room complex, the new £4,499 Kanta No.1 standmount loudspeakers are designed to bring the uniquely attractive sound of the Kanta No.3 into rooms of 25m² and below. And in London that means 'almost everyone.'



Better known for its audio electronics, German brand AVM announced two new turntables in Munich this year, and Festival of Sound presented them for the first time to UK listeners. The top (£5,995) Rotation R 5.3 sports an 'elipso-centric' belt drive and the brand's own new 10" arm.



Now a firm fixture in the Samsung/Harman group, Arcam was at the Festival of Sound demonstrating... the latest Mark Levinson turntable, digital source, integrated amplifier, and Beryllium-sporting Revel tower loudspeakers. Arcam was showing, but not playing, its new HDA series.



Still beaming from taking on the distribution of Nordost for the UK, Renaissance Audio served up a fine sounding room, featuring a VPI Avenger turntable, an Innuos-fed Moon 390/400M electronics package, all feeding a pair of Dynaudio's excellent Special 40 stand-mount loudspeakers.



The ZENith Statement by Innuos is nearing completion. The two-box music server priced around £10k was being compared to the excellent ZENith SE, and consistently showed it a clean set of heels. Innuos were also showing a series of improvements to the rest of the ZEN line, too.



AURALiC's ARIES G1 and VEGA G1 are proving extremely popular, but haven't had as much show air-time as one might expect in the UK. As part of an extremely well-sorted system (yet again), the combination is forming something of a dream team.



This year, most of the Indulgence-based companies decided not to come back for another year, but there was one notable exception – a high-end Surrey-based gin micro-distillery known as Silent Pool. I guess they figured that people who listen to music of an evening are fond of a gin and tonic. They are right!



One of the best all-UK manufacturer combinations saw digital experts Computer Audio Design bringing an updated front-end, amp specialists Trilogy supplied the muscle (including the new 933 hybrid monoblocks) and the Wilson-Benesch Resolution loudspeakers and equipment stands.



Vertere Acoustics showed a prototype of its new lowest expensive turntable, provisionally called the D-Groove. It uses the same motor and pared-back versions of the bearing, spindle, and pulley system of the bigger Vertere decks, but is expected to cost around £2k with arm.



Role Audio is a small, American company with a comprehensive range of 'time-accurate' loudspeakers, all built free from formaldehyde or other toxins used in construction and distributed by The Audio Works (sharing the room with Auden Distribution). The mid-tweeter-mid array used in both the floorstanding Enterprise SE and the stand-mount Discovery makes them suitable for hi-fi and home cinema use, and prices start at £1,200.



Stabi R Turntable, Stogi 4Point 9, CAR-40



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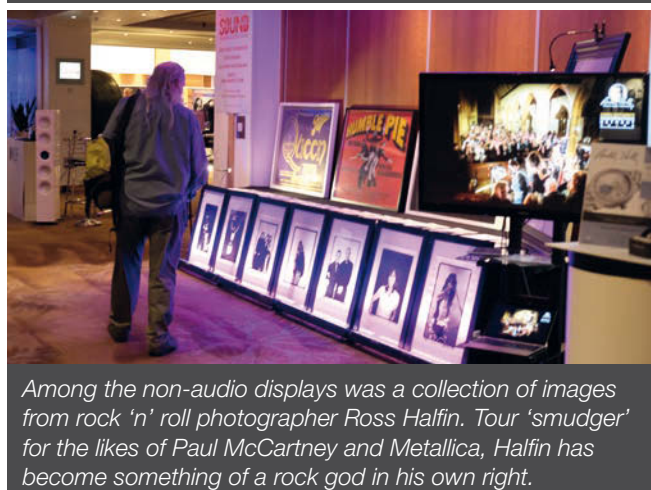
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Kuzma • Magnum Dynalab • Muse Electronics • Running Springs Audio • Vienna acoustics • Zanden Audio



Chris Difford – one of the ambassadors of the Buddy Holly Educational Foundation – offered a day-long masterclass for aspiring songwriters at the Festival of Sound. Ed Sheeran and Roger Daltrey need not apply.



Audiolab gets back to its roots with the high-value £380 6000CDT and matching £600 6000A integrated amplifier. These are designed to follow in the footsteps of the popular 8000 models, which date back to the early 1980s.



Among the non-audio displays was a collection of images from rock 'n' roll photographer Ross Halfin. Tour 'smudger' for the likes of Paul McCartney and Metallica, Halfin has become something of a rock god in his own right.



The stand-mounted baby of Wharfedale's new D-series is the £200 D-300 two-way. It sounded great in a system costing just £1,180!



Chord Company was showing its latest versions of its cables, comparing original Signature Reference with SignatureXL.



KEF was very much in full effect at the Festival of Sound. Alongside a home cinema demonstration, the company was showcasing its new four-strong R Series, which pulls together no fewer than 1,043 changes and developments, many of which were first seen in the top Reference models.

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in an audio cable using
ferroelectric substances.

Patent Number:
US 6,545,213

Method to eliminate RFI, EMI
and other interference in a
power supply.

Patent Number:
US 7,196,892

Power conditioner that
actively corrects A.C. line
harmonic distortion.

Patent Number:
US 7,256,638

Cable elevator that neutralizes
static electric interference.

Patent Number:
US 7,694,917

Device that reduces AC
power line noise using
ferroelectric substances.

Patent Number:
US 8,658,892

Method to reduce dielectric
distortion in signal
transmission cables.

Patent Number:
US 8,912,436

Method to improve
instantaneous current delivery
in an AC to DC power supply.

Patent Number:
10,031,536



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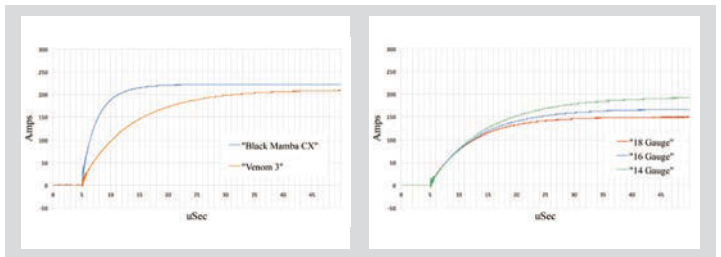
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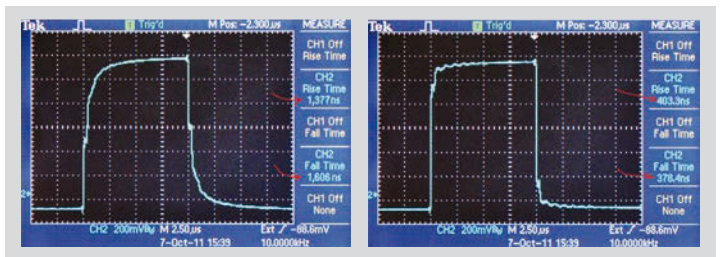


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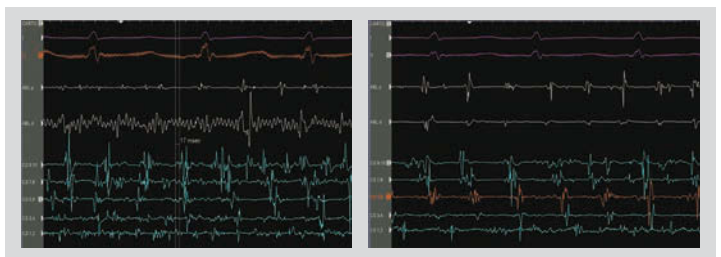


DTCD™ Measurement Comparisons



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Inter-Cardiac Tracing Comparisons

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Audiovector R8 Arreté floorstanding loudspeaker

by Alan Sircom

Audiovector has something of a gap problem. The Copenhagen-based brand has a couple of ranges of superb loudspeakers that cover the entry-level and attainably-priced regions of the audio market, it has the R11 Arreté flagship that costs an order of magnitude more than anything else the company makes, and then it has... nothing in between. Until now, as the R8 Arreté is perfectly designed to fill that gap.

However, filling in gaps in the portfolio is not Audiovector's style; a good thing because too often those range-fillers in rival lines seem to be more about the 'filler' than adding something worthwhile to a loudspeaker line-up. As a result, the R8 pulls together the best of both Audiovector-shaped worlds; bringing much of the R11's performance and technology to a wider audience both in terms of pricing and installation concerns, while distilling the best of what the more affordable SR-Series has to offer. In the process, the R8 allows Audiovector to take stock of developments in design and also becomes a platform to give us a taste of what might trickle down (and trickle up) into future designs.

The slim floorstanding design is very much Audiovector, so much so that the launch of the R8 at this year's Munich High-End Show almost passed unnoticed. Unless you are an eagle-eyed follower of the brand, or see the models sitting side-by-side, you might be forgiven for mistaking the R8 as perhaps an SR6 Avantgarde Arreté in a rich and glossy burr walnut. Those eagle-eyed brand-followers would spot the extra bass

unit and the increased height of the R8, but still might associate it with the SR6 line. This is quite remarkable because up close, you begin to realise just how physically imposing the R8 really is. It's a tall, deep standmount that stands a smidgeon or two higher than a pair of Wilson Alexias, but because of the narrow front baffle and the boat-tailed rear, you simply don't notice that size. It's only when wheeling out the R8 and wheeling in the SR6 do you realise just how big they really are. The same holds to a lesser extent for the R11 flagship, but they stand noticeably tall. The R8's advantage here is that you are not buying a visually arresting, room-dominating loudspeaker, unlike many of its up-scale contemporaries. OK, those who buy audio by the yard may want something more ostentatious to show off just how much they spent, but those of us who have shared listening rooms instead of dedicated man caves will relish the notion of outstanding sound without that constant 'it's too big and ugly' complaint from your non-audiophile other half.

Audiovector isn't a company that makes changes without good reason. It does have a consistent view of how to make a good sound and this is realised by its engineering. And like many companies, this corpus of engineering standards is improved upon with each successive product, adding its own innovations into the mix. The R8 is no different; it brings several important additions to the Audiovector canon.

For example, its new 'Cross Woven Sandwich Carbon Driver' was developed specifically for the R8 to improve upon the existing drivers found in the SR and R models: these have much lighter, stiffer, and more acoustically 'dead' membranes made from precision woven aramid fibres, sandwiched with artificial wood resin. Aramid is a term used in describing a range of extremely heat-resistant and exceptionally strong aromatic polymers. Audiovector claims this new membrane material produces faster, more uncoloured midrange and bass performance, and that certainly seems to be proved out in the listening.

Similarly, the company's clever cabinet with an internal isobaric compound bass system use a hand-built 100mm rear-firing mid-bass driver. This once again builds on the technology used in previous Audiovector designs (in this case the R11), but develops upon the previous model's strengths. Also, the quasi-rear-firing Air Motion Transformer folded ribbon tweeter driver (Audiovector's own, now in its third generation) is incorporated from the top Avantgarde Arreté models of the SR series and the R11. Internally, the R11 features cryogenically treated, 'seven nines' (99.99999% pure) copper wiring, in an asymmetrical loom and using the company's own 'Nanopore' damping material, which is again developed from existing models, and is designed "to give a smooth and natural musical reproduction".





► The big development at present unique to the R8 is what Audiovector calls its 'Freedom' earth grounding system. This uses an extra terminal on the rear panel, designed to accept an earth cable, running to either an electrical or floating ground (such as Entreq). A notionally similar star-earthing arrangement was developed by Tannoy some years ago, but Audiovector's Freedom system takes the concept and runs with it.

Freedom has the kind of across-the-range potential that companies like Audiovector crave. And, given the company's strong adherence to an upgrade path in the SR series, don't be surprised if an extra 'speaker' terminal begins to trickle down to more attainably-priced models in the portfolio. This might require a high degree of performance from the loudspeaker (I'm working with a sample of one here, and it's a bit of a good one at that), but notionally this might be the kind of upgrade that only works with the biggest and best Audiovector has to offer. Or it might become a part of every product in the range. It's certainly extremely audible, and that is easy to check – plug it into an earth, and the sound lifts further out of an already extremely quiet background. Unplug it and it drops back a couple of notches. And it does it instantly. I won't say it's audible to all or idiot-proof, because there are some remarkably resistant ears in audio, and nature has a way of constantly designing a better idiot, but if you can't hear the difference between an earthed and unearthed speaker with the Freedom grounding system, you probably don't need a loudspeaker as resolving as the R8. Or any of the SR range. Or a clock radio. Hell, if you can't hear Freedom in action, stick with car alarms and klaxons. That's about all your ears are good for... sorry!

As with the SR models, installation is fairly straightforward, and the usual 'equilateral triangle, with a slight toe-in' rules apply. But it's here where Audiovector begins to show what it can be capable of. Just place them in the room as a 'first fit' as described and you'll get good sound from them. Take time to install them with great care and attention, in particular making sure the distance from the side walls, rear wall, height and overall level are just right, and you go from 'outstanding' sound to 'awesome' sound! Of course, at this level, it's likely you might not be the mover and installer of this loudspeaker, but make sure the person doing the installing knows what they are doing, all the same.

Also like existing Audiovectors, the R8 craves quality amplification. Not necessarily vast amounts of power, but something that combines power with some rhythmic 'sass'. Audiovector was for the longest time Naim's distributor in Denmark (perhaps understandably, that came to an end when Naim and Focal acted more in alignment across international distributors, and the electronics division in the hands of a rival to the loudspeaker division was never going to sit right) and that classic Naim sound blends perfectly with the R8. A NAP 300 power amp, for example, is ideal. More recently, Audiovector has been nuzzling up to fellow Danes Gryphon, and the Diablo 300 integrated from the brand makes for an awesome combination, especially when you mix in the Mohican CD player from fellow Scandiwegians, Hegel. But more on that later...

In a way, the review is easy. This does all the things the top of the SR range does, but more so and a lot, lot better. Most notable is the increased dynamic headroom. This will stump some of Audiovector's detractors, who mistake control and grip for foreshortened dynamic range. The R8 proves them wrong in spectacular fashion, combining as it does edge-of-the-seat dynamics with the control and precision we have come to expect from the best Audiovectors. ►

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“The R8 is also extremely detailed, and it’s here the Freedom earthing makes its mark. It ‘disappears’ the loudspeakers.”

► This dynamic range comes across as a sense of unforced and effortless energy and scale to any recording. Play ‘Memphis Soul Stew’ [King Curtis Live at Fillmore West, ATCO] and when that brass section of the Memphis Horns kick in, instinct pushes you back in the seat. This track also highlights the freedom of the R8’s sound; Bernard Purdie’s powerful, rhythmically complicated yet deceptively simple shuffle pattern not only requires some muscle, but also needs a light touch to prevent it sounding like a distant and disorganised military band. On the R8, he’s in such good form, anyone with some drumming chops nearby will ‘just happen to pop round’ listen to him play those triplets against a half-time back-beat, look at their hands and feet, and start crying. It’s that effortless.

The R8 is also extremely detailed, and it’s here the Freedom earthing makes its mark. It ‘disappears’ the loudspeakers, leaving you with a soundfield of good, solid instruments in a physical space. It doesn’t sound like there are electronics, wood, and drive units in the way because that noise floor that you barely perceive, but underpins and undermines everything you hear drops further into the background. Vocal articulation, especially of solo female voices, is exceptional, even the syrupy close-miked Malia singing ‘Celestial Echo’ [Convergence, Universal] sounds less processed and more ‘in the room’.

I threw all kinds of music at the R8, from Richard Wagner to Kurt Wagner and back again, and nothing phased the R8. In comparison to the biggest of the SR series and the R11 context was quickly established. The R11 had more bass depth and ‘slam’, but the R8 had better finesse and control over that bass. Put another way, the R11 was the loudspeaker with the on-paper advantage of a few more bass pedal tones, but the R8 is the speaker you would happily prefer to live with. Meanwhile the SR series showed just how big a jump you make when going for the R8. It’s still a great – make that ‘outstanding’ loudspeaker system, but the R8 betters it in every respect. Tonally all three are close to one another, but the R8 just sings more in key.

Back to Hegel for the last blast. While the companies bigger amps would be a good match, the little Röst integrated amplifier couldn’t be a good match for the massive R8, could it? Actually, it worked extremely well. OK, so at anything beyond a reasonable early-evening chill-out volume level, the Röst began to run out of steam, hardening the top end and thinning down the bass slightly, and the overall package lost a lot of the finesse of the Gryphon-Audiovector combination, but the performance was still perfectly acceptable. OK, no-one is likely to plant a top-notch speaker with an amplifier this affordable, no matter how good the partnership, but it shows the R8’s ease of drive is not simply confined to the spec sheet. I’d still not use it with a low-power tube amp no matter how highly regarded, because I think the relative lack of damping factor valves bring may make those cones flap around too much, but in all other aspects of performance, the R8 is genuinely amp-agnostic.

TECHNICAL SPECIFICATIONS

Type: Four-way, rear-radiating floorstanding loudspeaker
Drive units: 1x Audiovector-produced 3rd generation AMT folded ribbon tweeter with acoustic lens, 3x 152mm Audiovector titanium Aramid Sandwich mid-woofers
Frequency Response: 22Hz–52kHz (–6dB)
Sensitivity: 92.5dB
Nominal impedance: 8Ω
Crossover point: 100Hz, 250Hz, 3kHz
Reflex ports: 8" + 6" compound bass reflex
Star earth grounding: Audiovector Freedom Purifier
Dimensions (WxHxD): 22 x 145 x 47cm
Weight: 69.8kg
Price: €54,800 per pair
Manufactured by: Audiovector
URL: www.audiovector.com
Tel: +45 3539 6060

I’m something of a fan of the Audiovector sound, as it combines the precision of something like a Dynaudio with the melodic sophistication of something like a Devore, or a Neat. But that combination gets taken to new levels in the R8, arguably more so than the R11. So often, flagship designs lose as much as they gain, and the best model (in musical terms) can be a more affordable model that was the original test-bed. ‘Less is more’ has resonance in high-end audio among those who let their ears decide their system choices, but the R8 takes that maxim on... and wins. This is the point of inflexion in the Audiovector range; yes the R11 is bigger sounding and in a very large room is generally a better performer, but the quality of the R8 makes it one hell of an upstart. I’d choose the R8 over the R11, and – perhaps more telling still – over the models in the SR range. It’s all pointing in the right direction! +



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Raidho XT-5 floorstanding loudspeaker

by Roy Gregory

The XT-5 is a Raidho speaker, but it's a Raidho speaker with a difference. If you think you know how it's going to sound, best think again. When Alan Sircom reviewed the company's flagship model, the tall, elegant yet not too imposing DT-4.8 (Issue 161), he discovered a new and impressive breed of Raidho. That speaker was preceded by this one – the XT-5 is where it all started, and the good news is that it is smaller, more attainable (if not entirely affordable) but every bit as pretty as the flagship. In fact, such was the step-change in performance compared to the previous models, irrespective of price, until the DT-4.8 showed up the XT-5 was the de facto flagship, despite sitting at the top of the company's junior range.

Raidho speakers have always made a lot of noise. This is not musical output you understand – although they've always put on an impressive show – but profile, especially media profile. For a small company with a short history, they've achieved a lot of reviews and attracted a lot of attention: partly because they looked so distinctive (and generally attractive), partly because they incorporated some genuinely different thinking (and not just the obvious, visible stuff) and somewhat because they sounded different (again, apparently so). The planar magnetic tweeter and those white, ceramic – later, dark grey diamond – coated cones are pretty distinctive. The speakers sounded distinctive too, with phenomenal speed, dynamic coherence and transparency. It made for an immediately impressive and musically articulate performance, and the rest is, as they say, history.



“Dantax drafted in some substantial speaker design expertise, including Benno Meldgaard, the man behind the beautifully-balanced GamuT.”



Except that, alongside those demonstrable strengths sat a set of similar weaknesses. I suspect that the real revolution in the Raidho speakers was the direct connection between the motor assemblies and the machined front baffles, eliminating the traditional driver basket and creating a far shorter path for the escape of spurious mechanical energy – hence the exceptional dynamics and musical clarity. But you can add to that mix a sound that leant heavily on the leading edge of notes, cropping the harmonic tails, crossovers engineered to generate a mid-bass hump and power handling that could have been better – a potentially fatal combination. The result was that the most impressive Raidhos were always the smallest while, with subsequent development fastened on trying to fill out the harmonic envelope and further improve speed and dynamics, the bottom end discontinuities and lack of deep bass became more problematic the larger and more expensive the speaker. Ultimately, that imbalance did prove fatal – to the company – and Raidho was acquired by Danish mainstream audio electronics manufacturer Dantax, who set about putting things right. That involved improving service in the field, but it also meant reassessing the product line and underlying engineering.

There was no denying the striking appearance, innovative engineering or sheer attitude of the Raidho speakers but they needed a bit of balance and a little polish – preferably without losing their attractive industrial design. Dantax drafted in some substantial speaker design expertise, including Benno Meldgaard, the man behind the beautifully-balanced GamuT loudspeakers. The existing models are getting an engineering makeover, with



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“It’s the shape of things to come – and I’m not just talking about the elegantly elongated cabinet with its almost aerofoil cross-section...”

- suitably impressive results, but the XT-5 is a bird of a different feather, an all-new design that showcases both Raidho’s latest cone technology and the revised engineering approach. It’s the shape of things to come – and I’m not just talking about the elegantly elongated cabinet with its almost aerofoil cross-section...

If you’ve been paying attention down at the back, you’ll have noticed that both the TD-4.8 and the XT-5 share a T in their product designation – although in this case that T is not a common factor. The T in TD denotes the use of a super expensive tantalum coating, confined to the outer reaches of Raidho’s Diamond range and well beyond the outer reaches of most mere mortal’s bank accounts. The T in XT stands for titanium-nitride, a development of the white Ceramix cones used throughout the more affordable lines. The “deep ceramic” process used by Raidho creates a three-layer structure, an aluminium core sandwiched between thick ceramic skins. It produces a rigid, lightweight cone with good self-damping – for a ceramic structure. Sputter depositing two, thin skins of titanium-nitride on each side of the Ceramix cone creates an even stiffer structure but crucially, one with better, more tuneable resonant behaviour. Combine that with a more powerful motor with twice the power handling of previous versions, and you have a driver that’s more dynamic, more capable, and delivers a lower fundamental resonance. Add a decent crossover and that in turn translates into a speaker system that’s more powerful, more dynamic and delivers more linear bass – but we’re getting ahead of ourselves.

The XT drivers are tiny – a mere 100mm in diameter, roughly the same size as the bass-mid driver in an LS3/5A – so Raidho gives you six of them. That’s six per speaker! You also get substantial outriggers fitted with adjustable feet – a nicety that used to be a (somewhat kludgy) cost option on older Raidho models, an unforgivable oversight on speakers with such long baffles, where rake angle is going to prove critical. Carefully flared slot ports are built into the rear spine to reflex load the bass. One more hangover from the good old/bad old days: the XT-5 only accepts 4mm plugs, although that should have changed by the time you read this. These are classic Raidhos concerning their tall, slim profile, but the XT-5 takes that a stage further, the narrow 140mm baffle fronting a depth of nearly 500mm and a height of 1300mm. That’s deep, tall and SLIM. I’ve seen wings on aeroplanes with lower aspect ratios than this. It also makes for a speaker that is smaller than it looks in pictures and has a lower domestic impact still. From the front, you barely notice the XT-5, from the side you can’t help but see it, but that’s down to the sharply defined and steeply raked profile and the beautiful Birdseye Maple Burl veneer, something more generally associated with Bentley dashboards and super yachts than loudspeakers. The choice of this exotic veneer is both a statement of intent, a small hint of the XT-5’s real importance in the world of Raidho and a significant contributor to the speaker’s €39,800 price tag. You can always opt for a high-

gloss black finish and save yourself €4,500 without sacrificing performance. Or, if you are interested in just how important that titanium-nitride coating is, you could always listen to the X-5, a mere €26,900 in black, a speaker that employs all the same cabinetry and engineering as the XT model, but with standard Ceramix cones. You’ll soon discover that while the X-5 is mightily impressive for the money, the XT-5 is well worth the extra.

Listening to this new Raidho the first thing you’ll notice is their sheer musical presence. The XT-5 delivers all the attacking vim and dynamic vigour of older Raidhos, but now it’s backed up with some honest-to-goodness body, weight, and welly. The bottom end is more profound than you have any right to expect from such a svelte cabinet, but it’s also fast, tactile, and articulate, sure-footed, pitch-perfect and beautifully integrated. As a result, the mid-band has the sort of body, colour, and dimensionality that’s a first for a Raidho floorstander, while still offering the same textural resolution and immediacy that has always been their hallmark.

Listen to Isabelle Faust playing Mozart’s early violin concertos and the XT-5s deliver a real sense of the incredible skill of her nimble bowing, especially hooked up to a really quick amp like the CH Precision I1 or Goldmund Telos 590. But this is where you also get a real sense of presence, scale, and dimensionality, her movement relative to the microphones and the band around her. This is what the XT-5 brings to the Raidho party – and it’s all to do with the when, where, and how of the speakers’ bottom end. Go to the other end of the musical scale – the Shostakovich 5th will do nicely – and the slim Raidhos present all the stark, chill atmosphere of the opening, the shiver in the strings and the doleful chimes, but then they ►



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► shock you with the sudden weight and impact of an orchestral tutti. This is bass with enough depth and more than enough power to shock and surprise, whether it's Yuri Petrenko waving his baton or the pounding thunder of the *Gravity OST* [Water Tower]. But the best thing about it is that it doesn't just arrive on time, it only arrives when it should. It brings that all-important sense of shape and body to the mid-band, scale and dimensionality to the acoustic, but it does it without slurring rhythms, smudging textures, or dulling leading edges. You get attack, definition, and more than enough weight to impress. There's no loss of the palpable dynamic impact, immediacy, and rhythmic drive that were always Raidho strengths, but now they are more expressive, more sophisticated, and far more subtle. You often saw older Raidho designs used with integrated amps because they needed the coherence of a one-box solution to help tie them together. The XT-5 works the other way round, taking the performance potential of high-end integrations and stretching them as far as they will go, actually delivering on the budget esoterica promise. The XT-5s don't NEED power, but they do like it, so think at least 60 Watts of tubes or a solid 100 Watts of transistors to make them sing.

So, play a great recording and the XT-5s sound great: actually, more than excellent. Play a great recording, and they'll take you back with their incredible combination of delicacy, nimble micro-dynamics and immediacy, their ability to jump in level and density as the musicians demand it – real “they are here” capability. But that's not the XT-5s party piece or their greatest attribute. Sounding good on great recordings is smart but not that unusual: sounding good – unearthing the music on indifferent records – now that's special, and that's what these speakers can do. Whether it's the congested muddle of mid-80s multi-mic'd classical, or the average modern pop recording – all ProTools and loudness wars – the XT-5s have an unerring ability to extract every last ounce of energy and dynamic range, every last millimetre of space and separation, every last breath of air from the sonic quagmire. The next best thing to an audio decompression device, they bring the music back to life, but more importantly, they make it fun again. It's hard to make a case for the sonic quality of Orange Juice recordings, but when Edwyn Collins sings through the XT-5s, you really do wish you'd met a girl like her.

The XT-5 looks and sounds like a Raidho. But it also has poise and balance that goes well beyond just its looks. It has astonishing weight and power considering its slim proportions – and it delivers them (and the rest of the music) with purpose and enthusiasm. Some speakers are more polite than the XT-5, and there are some that are warmer, kinder, and altogether cuddlier: the XT-5s are a pair of musical Jimmy Choos – as opposed to practical, common sense Crocs. They're sharp, stylish, and not afraid to have a good time.

When Raidho decided to re-visit the top-end of their entry-level X-series, I'm not sure they were expecting to arrive at the XT-5. I'm not sure they

TECHNICAL SPECIFICATIONS

Type: Three-way, reflex loaded
loudspeaker

Driver Complement: 1× Raidho planar
magnetic tweeter
2× Raidho TiCeramik 100mm
midrange
4× Raidho TiCeramik 100mm bass

Bandwidth: 33Hz–50kHz

Efficiency: 90dB

Impedance: 6 Ohms

Dimensions (W×H×D):
145 × 1300 × 470mm

Footprint: 300 × 470mm

Weight: 45.5kg ea.

Price: Birdseye Maple Burl – €39,800
High Gloss Black – €35,300

Manufacturer: Raidho Acoustics

URL: raidho.dk

UK Distributor: Decent Audio

URL: decentaudio.co.uk

Tel.: +44 (0) 1642 267012

anticipated just what a ground-up engineering overhaul of the company's driver technology and system design would deliver. The results are as impressive as they are promising – and not a little scary. For all the past prominence and genuinely remarkable moments, the XT-5 is the speaker that really marks Raidho's coming of age. It's like the family sent their awkward, slightly gawky, punk daughter (the teenager with all the attitude) away to finishing school. What they got back has enjoyed the benefits of a little judicious weight redistribution, stands up straight, has learnt how to walk (and dance), to converse in three different (musical) languages – and still has plenty of attitude. What they got back is tall, slim, elegant, confident, and impeccably turned out. What they got back is an audio supermodel! +



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Neat Acoustics Ultimatum XL6 loudspeaker

by Alan Sircom

Neat Acoustic's Ultimatum range is a three-strong expression of Bob Surgeoner's distinctive take on loudspeaker design. It comprises a stand-mount Ultimatum XLS, the flagship XL10 tower, and this, the XL6 floorstander. The logic behind having three flagships instead of just the one behemoth design is simple; people don't just live in man-caves, and some of those with high-end audio aspirations do not live in similarly high-end palaces with rooms large enough to accommodate said behemoth. As the name suggests, the Ultimatum makes a bold statement; it just makes it for people in varying domestic circumstances. It's that kind of pragmatism that defines almost everything about Bob Surgeoner and, by extension, everything about Neat Acoustics too.

Unlike many modern loudspeaker firms, the accent in design is placed on ears over meters. Neat Acoustics is not a measurement-free environment, and the products rely on tried and trusted loudspeaker designs, but when it comes to the final sign-off for loudspeaker design, the way it sounds in a domestic setting takes precedence. Despite suggestions to the contrary, observation-led product design is all too rare in today's loudspeaker world, and Neat receives praise and opprobrium in equal measure from the Twittering classes as a result. Once again, though, this reflects the pragmatism of the company; given a loudspeaker spends most of its time being listened to instead of being measured, perhaps assessing how it sounds might actually prove useful! Who would have thought it?



“The size of the enclosure dictates both the number of drive units used and, as a result, its complexity.”



► Ultimatum started life as a single design, the 150cm tall MF9 from 2001 (which spent six years on the drawing board). This was quickly joined by three more models, which eventually morphed into the XL range seen today. In the process, one of the four designs – the 120cm tall MF7 – was sidelined. The three remaining models all share many common approaches and even common parts. They all feature a pair of upward-firing 25mm EMIT planar/ribbon super-tweeters on the top-plate, they all use the same 26mm SONOMEX domed tweeter, all use the same 168mm NEAT-designed mid-bass unit with an aluminium phase plug, and they all use isobaric bass loading in the design of the birch ply enclosure. The 1m tall XL6 and the 1.5m tall XL10 use NEAT's other 168mm driver (the one without the phase plug) for pure bass duties. The difference is the size of the enclosure dictates both the number of drive units used and, as a result, its the complexity. In the XL6, this means small sealed chambers for the supertweeter and the tweeter, a rear ported chamber for the forward firing mid-bass unit, a second (larger) ported chamber for the internal down-firing primary bass unit, and a similarly-sized sealed box for the other driver in that isobaric design, which fires out of the base of the loudspeaker. This makes the outriggers and feet mandatory and unpacking the XL6 a little more complicated than most.

Isobaric loading is relatively uncommon (in part because of the complexity of the enclosure, the need for the tightest of matching in the drivers in the isobaric chamber itself, and – as it is usually sealed – requiring a very tightly sealed inner chamber, making construction a bit 'spendy'). Isobaric enclosures, like many designs, dates back to Olsen in the 1950s. It requires two identical ►



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► drivers to operate at the same time within a fixed and common body of air on one side of each diaphragm. The pressure between the cones is constant (assuming driver identity) and the drivers are often laid out in a cone-to-magnet design (otherwise the phase of one driver needs to be inverted). The two drivers operate in tandem, effectively making a performance akin to one drive unit in twice the cabinet volume. In other words, isobaric loading effectively yields a driver with twice the moving mass, half the compliance, and half the impedance of a single bass unit, but achieving the low frequency extension afforded by a cabinet nearly twice its actual size. This can come at the expense of some non-linearity, if different air circulation properties cause the isobaric chamber to act non-symmetrically. However, outside of some pretty wild listening sessions in the rainforest in the height of summer, such non-linearities are more 'notional' than 'actual' and playing at party levels for protracted periods leaves the XL6 with distortion-free bass far more than what you might expect from a 1m tall box.

Aside from care and attention in installation (don't pick up the speaker by putting a hand under the base-plate because you'll put a finger through the bass driver, and remember there are drivers on the top of the cabinet

too), the Ultimatum XL6 is perfectly behaved in typical medium-sized European living and listening rooms. The equation is simple; if you have a place smaller than 12'x16', you will probably be best with the XLS stand-mount, and if it's larger than 20'x24' then the XL10 is perfect. Between those two points ($\pm$ a healthy amount of wiggle room), go with the XL6. Start with about half a metre from the rear wall, 60cm from the sides, and a 10°-15° toe in to begin, give the speakers a couple of hundred hours to run in and feed them good quality audio. Its 87dB efficiency and a minimum impedance of about five ohms makes the XL6 not the first choice of speaker for a single-ended triode design, but a good quality solid-state amp of about 70W or beyond should suffice. Bob has used

Blow up the dam!



Let the music flow

Naim's Classic and 500 Series products to good effect with these loudspeakers, as well as designs from some like-minded brands. It's about quality, not quantity... and about rhythm, not refinement.

In a way, that sentence defining the amplifier could pithily sum up the XL6 too. The loudspeaker is one of the best I've heard going into real-world rooms owned by people who don't have a six-figure disposable income and a listening room that could hold a medium-sized orchestra. It's a tidy, open, airy, and most of all musically-entertaining sound, and one that is possessed of incredible levels of bass for a loudspeaker of its size. It feels like you have found the magic spell that lets you squeeze a quart into a pint pot in such real-world European rooms.

As you spend longer listening to the XL6, you begin to detect how some of this beautiful performance is tailored toward sounding good. At that point, you have a 'head vs heart' moment; either that tailoring will trouble you (in which case, you have probably started down a path that ends with electrostatics)... or it captivates you, and you spend the next decade or more loving music through the Ultimatum XL6. In short, although we say a demonstration is vital in audio, with the XL6 it's all but mandatory. There is no easy arbiter to say whether the XL6 leaves you speechless, or dumbfounded. I suspect, it's not even a matter of taste and certainly has little to do with musical tastes. Speaking personally, I couldn't get enough of the XL6 performance; it didn't just rattle my musical chain, it practically bonded to my DNA. The way it portrays that upper-register openness just makes arias take flight; listening to Victoria de los Angeles sing Carmen under Beecham's deft baton on a classic EMI reissue from 1959/60 just pulls you deep into the music. But then the underpinnings hit you as you turn to something with more 'graunch'; My Bloody Valentine's *Loveless* [Creation] is not a popular audiophile choice, but that acme of shoegazing, dripping with distorted guitars, ethereal vocals, and the sheer wall of sound makes the XL6 act like a time machine. ▶



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“I am concerned that this speaker got under my skin so much that I cannot be objective about it.”

► I found myself listening more for the ‘earthy truth’ behind the music rather than the filigree detail, even in recordings that emphasise that information overload. Norah Jones registers a 0.9 on the Krallometer but is the closest I could get to the Full Diana. Her rendition of ‘Court and Spark’ on Herbie Hancock’s *River: The Joni Letters* [Verve] is full of interior detail, microdynamics, spatial information, and all the other things audiophiles crave. And when I listened to it on the XL6, those things didn’t matter and instead I was listening to some really talented musicians riffing on a Joni Mitchell classic. It wasn’t a different track, but it fired off other parts of my brain than usual. Odd... but oddly brilliant too.

Where this speaker does hit its absolute peak, however, is the simple stuff. ‘Who Knows Where The Time Goes’ from Fairport Convention’s 1969 *Unhalfbricking* album [Island] is hard to get wrong because it’s very likely the best folk/rock track ever recorded, but that didn’t prepare me for hearing it on the XL6. Sandy Denny’s voice has a beguiling quality at the best of times, but here it goes beyond mesmerising. It’s just you and her (and the band, most notably Richard Thompson’s subtle guitar mastery) and all the artifice of the studio, the recording, and even the years themselves slip away. It’s that time machine again... it’s 1969, you are there in a studio in Chelsea. All other considerations are set aside; play that track on these speakers, and I defy you just to shake the experience off. We in audio talk about getting new blood into audio; replicate this experience and anyone in earshot got minted as an audiophile.

I’m concerned that this speaker got under my skin so much that I cannot be objective about it. But, in fact, it’s that very aspect that holds the key. If it doesn’t move you, move on. I’m sure if I had been in with a group of people at the same time as I played that Fairport album, there would have been those for whom it left no mark. They might be impressed by such bass depth and dynamics from a relatively small loudspeaker, but they might also find that bass goes for pace over solidity. Personally, if that has to be a trade-off, it goes in my right direction, but not all will agree. There is also a very mild dip in the upper registers, but this is mild enough to be of little actual concern unless you listen to a lot of plainsong and choral work. Similarly, those airy EMIT supertweeters in the wrong room (either too reflective or just too large) will make the soundstage seem diffuse and vague, instead of spacious and direct. And yes, there will be those who find those EMITs make a perfect observation post for the feline neighbourhood watch.

In truth, I had to stretch for these observations, because the Neat Acoustics Ultimatum XL6 had penetrated deep into my musical psyche. To call up these observations seems like a betrayal, or agreeing with someone who tells you your child ‘is a bit ugly’. That’s how far the bonding process goes with the Neat XL6. If the same intensity of emotional connection with

TECHNICAL SPECIFICATIONS

Type: Multi-chamber, multi-driver array, incorporating isobaric internal cavity, plus upward firing super-tweeters
HF Unit: 1x26mm SONOMEX Domed XL
Super HF Units: 2x EMIT 25mm planar/ribbon
Bass / Midrange: 1x168mm NEATBass/ Mid Unit with Aluminium Phase Plug
Bass Units: 2x 168mm NEAT Bass Units
Sensitivity: 87db/1 watt
Recommended amplifier power: 25–200 watts
Impedance: 8 ohms average / Minimum 5 ohms
Finishes: Oak, Black Oak, Walnut, Figured Birch (standard), Piano Black, Velvet Cloud, Red Velvet Cloud (High Gloss)
Dimensions (hwd): 100 × 22 × 37cm
Weight: 34Kg each
Price: £9,750 per pair (£1,460 extra for high gloss finish)
Manufactured by: Neat Acoustics Ltd.
URL: neatacoustics.com
Tel: +44(0)1833 631021

the music happens to you through a pair of loudspeakers, I’m pretty sure you would have the same atavistic reaction. I can fully get the notion that not everyone will share the same experience and that many will prefer a different presentation. And I can’t help feeling that the Neat’s presentation has to be suited to making music sound good, rather than some sterile ‘hi-fi’ concept. But, maybe that’s just what good speakers do! +

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Bowers & Wilkins 606

by Jason Kennedy

Things are afoot in Steyning. Bowers & Wilkins' research facility in the sleepy Sussex town is being broken down and boxed up, but fear not; this is not the end of the UK's most extensively equipped loudspeaker design laboratory, the spiritual home of many great loudspeakers including the Nautilus and its many progenies. It's just that the R'n'D department is expanding and is moving to larger premises 20 minutes up the road in Southwater. So if anything it's the beginning of a new era during which the engineers employed will no doubt be beaver away on technology that will find its way into a wide variety of audio products.

The 606 is the larger of two stand-mount designs in the recently launched 600 series, the sixth generation of Bowers & Wilkins entry-level range of loudspeakers. The company has made some attempt to rationalise the naming and models in this range, the previous 600 series had 68x numbers; the 606's predecessor was the 685 S2 which while it worked for that range was inconsistent with naming in other ranges. Now all the names derive from those in the 800 series, the big boys from whence much of the tech trickles down, so the smaller the last number, the bigger the speaker. The most significant change to the new 600 series models is the introduction of the silver Continuum cone in place of the yellow Kevlar of the outgoing range. This means that there are no Kevlar coned speakers among Bowers & Wilkins audiophile models, if anywhere else for that matter. Continuum's introduction to this end of the range means it's the end of the 'bulletproof' Kevlar era, a cone material that has featured on Bowers & Wilkins speakers for decades.

At the 600 series launch former *What Hi-Fi?* man of action and now B&W Product Communication Director Andy Kerr demonstrated the differences between the Kevlar equipped 600s and the new models, and it was pretty stark. Continuum in these models, which have ►





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“Bowers & Wilkins’ goal with the 600 series is to deliver the best sound that they can at the given price points.”

► been changed in other ways but not too dramatically, makes for lower colouration, higher resolution, and greater transparency. It’s not a subtle difference. The change of port position may have helped here: the 685 S2 had a front firing port as did its smaller sibling the 686 S2, but after extensive research on the company’s part, rear-firing ports can be made without sonic compromise. The same port and terminal tray moulding is used across the 600 and 700 ranges, giving a cleaner looking speaker.

Bowers & Wilkins’ goal with 600 series is to deliver the best sound that they can at the given price points, so expense has been spared on the finishing, which is matte black or white only, and there are no shiny bits of trim either. There are bi-wire terminals, however, something that could perhaps have been shaved back to a single pair, but that benefit is not as high as using the same part across so many models. The money has been spent where it counts – on the drivers. The mid/bass unit has a Continuum cone, as mentioned; this is a woven and coated material like Kevlar, but one with a more controlled break-up characteristic that measures better in all the respects that Bowers is prepared to divulge. There is nearly always a compromise somewhere with new audio technology, but in this case, the benefits have been proven to be so significant in both 800 and 700 series that this new material is clearly a winner.

The tweeter is very similar to that in the 700 series; it shares a decoupled aluminium dome but without the carbon vapour deposition across its surface. There is also a simplified version of the housing behind the



dome. Likewise, the mid/bass cone doesn’t have such a fancy chassis nor the neodymium magnet of 700 series midrange drivers. The cabinets are relatively straightforward, save for magnetic grilles and no visible fixings on the drivers.

It takes a while to get a handle on this speaker because it does everything so well, by which I mean it’s revealing of fine detail, has remarkable bass extension, reasonable timing, and impressive power handling. Speakers at this price point usually have one or two areas that are apparently limited; there is often a degree of veiling of detail and smearing of the cues that give a sense of interplay between musicians. Controlled bass is also a rarity; usually the box joins in and/or the port becomes audible, but there were only one or two occasions where I thought that I could hear the cabinet on the 606. I’m sure that if you put the same drivers in an 800 series cabinet or similar it would be cleaner and quieter, but this box is very well controlled for its price. The only area that gives away its entry-level status is the treble; this is not quite as refined as it could be, not quite as smooth perhaps. But that’s not obvious either and is probably only noticeable to those of us fortunate enough to use considerably more expensive speakers every day. It’s difficult to adjust expectations, but not much adjustment was necessary at all with the 606.

What really impressed me was the clarity of midrange and the power and extension of the bass, I know that smaller boxes have a perceptual advantage inasmuch as you don’t expect them to do deep bass, but even so the muscularity they bring to Beethoven’s ‘5th’ [Barenboim, *Beethoven For All*, Decca] makes the piece considerably more powerful and involving. ►

“The Bowers & Wilkins 606 is very even-handed, revealing an incredibly capable speaker for the money.”



TECHNICAL SPECIFICATIONS

Type: Two-way, two-driver stand-mount monitor with rear-ported bass reflex enclosure

Driver complement: One 25mm decoupled dome aluminium tweeter, one 165mm Continuum cone mid-bass driver

Frequency response: 52Hz – 28kHz ±3dB

Crossover frequency: Not specified

Impedance: 8 Ohms nominal/
3.7 Ohms minimum

Sensitivity: 88dB/W/m

Dimensions (H×W×D): 345 × 190 × 300mm

Weight: 6.9kg/each

Finishes: Matte black, matte white

Price: £549; STAV24 stands £99

Manufacturer: B&W Group Ltd

URL: bowers-wilkins.co.uk

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► Image scale is excellent too which makes everything seem more real. A Bowers R'n'D favourite, Macy Gray's 'Annabelle' [*Stripped*, Chesky], starts with a guitar up in the top left-hand corner of the room and this was projected as well as most of the speakers I've tried it on. It's only when the vocals come in centre stage is there a suggestion of dryness that tells you that this speaker won't require a bank loan. I tried to counter this with a smoother source in the CAD 1543 MkII DAC but oddly all that did was show that the speaker is capable of being more open and relaxed than it had before; the treble character didn't go away, but the midrange revealed hidden strengths.

At the opposite extreme, you can put on the 'Chili Pepper's 'Funky Monks' [*Blood Sex Sugar Magik*, Warner Bros] and revel in the leading edge definition and the speakers ability to give shape and attack to Flea's inspired bass playing. Guitarist John Frusciante may have been the official genius of the band, but Flea was its pumping heart, the source of raw funk that propelled them to success. All this is apparent on these diminutive B&Ws, all this and more. Doug MacLeod's latest release *Break the Chain* [Reference Recordings] is a rather more sophisticated production with a lovely deep, round bass and smoothly sung songs about tragic events, it makes you wonder how on earth makers of sub £1,000 speakers hope to compete. Luckily for them, and us, the market is not an entirely logical place; taste plays its part both in sound and looks. Fortunately for Q-Acoustics, Monitor Audio et al. people are led by aesthetics as much as anything else even when they want sound quality. The 606 isn't unattractive, but neither is it shiny or curvy; it's plain and clean with the

minimum of styling which is a good look in my book. It does have a grille over the tweeter, but that's there for the driver's safety rather than to look cool.

I tried the 606 with a bigger amp, Leema's Tucana integrated, and it responded by delivering more subtlety through finer detail that created more complete imaging from vocals such as Patricia Barber's. Timing is something that speakers get better at with run-in, and possibly I didn't have enough time to do this thoroughly because there is something slightly mechanical about this aspect. Again, however, it's hard to calibrate for the price, and great timing is hard to achieve without either the designer focusing on it at the expense of other qualities or just plain old cost. The Bowers & Wilkins 606 is very even-handed, revealing an incredibly capable speaker for the money, its looks are the opposite of the sonic pictures it's capable of creating, so close your eyes and let your ears 'see' the music. +

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Dynaudio Xeo 20 active stand-mount loudspeaker

by Alan Sircom

Dynaudio is that rare combination of industry titan and innovator. Typically, brands get large, then they get hide-bound by their own conventions, and smaller, more agile companies come along and develop new concepts for the next generation. It happens in almost every circle of commerce and business. That Dynaudio has the cojones to not rest on its laurels shows a brand prepared to move with the times and to make the market move to its own beat. That deserves credit even before we slit the box on the new Xeo 20 wireless digital active loudspeaker.

Xeo 20 – replacing 2014’s Xeo 4 – is a two-way stand-mount loudspeaker, featuring a pair of 65W digital amplifier modules driving each unit independently. It uses a DSP-derived crossover network, which means in theory a new voicing could be downloaded, but in practice, it means the crossover sticks close to the drive units respective parameters. It also allows improved off-axis performance (always something of a Dynaudio strong suit anyway) so there is less of a need for a tight between-the-speakers sweet spot. The Xeo 20’s voicing is broadly similar to that of the company’s LYD 5 active nearfield monitor from the pro world – although these models are considerably cheaper than the Xeo 20, they command an excellent reputation with the studio cognoscenti, so having the Xeo 20 rub tonal shoulders with the LYD 5 is a really good idea. Where the similarities with LYD 5 ends are the degree of interface that the Xeo 20 offers, and it’s here that the Dynaudio design shows some serious forward-thinking on the part of the Great Danes. ▶





► The key here is flexibility. If you have an existing digital device and just want an active speaker system to take in its digital output, the Xeo 20 can accommodate that (to 24 bit, 192kHz precision) through its Toslink optical cable. If you have a full analogue preamp, you could do the same with the pair of RCA connections, or a 3.5mm minijack. Or you can extend this still further with the optional Dynaudio Connect box. Then you can always go wireless, with aptX Bluetooth. It doesn't speak Apple AirPlay, DLNA (unless through the Connect box), or Wi-Fi (in part because entering a password into a loudspeaker – even one as smart as the Xeo 20 – is the stuff of deity-level hacking).

The cabinet itself is exceptionally well made and feels solid. It has Dynaudio's distinctive slot-shaped port running along the top of the rear baffle of the loudspeaker. This port allows a reasonably high degree of room placement options – not quite to the 'room agnostic' levels of the KEF LS50W, but you don't need to be too worried about how close the loudspeaker gets to the rear or side walls. Which brings us neatly to the rear panel of the master loudspeaker. It's amazing just how comprehensively specified a loudspeaker can be with just three switches, the first of which adjusts the sound according to placement ('Neutral', or free space, 'Wall', and 'Corner'). The second is an insanely useful button that rarely figures on this kind of speaker: placement – you define whether the master speaker is the left or right channel. Most other systems force you to use one channel as the master, irrespective of whether that works in your setting. That little switch helps a lot. There are also three zones – Red, Blue, and Green – if you want to use multiple Xeos in different rooms. A remote handset also gives you control over the Xeo 20 (a series of buttons on the top panel are fitted to the Xeo 10, but no other model in the line). Finally, a pair of tiny LEDs describes the status, connection, volume, firmware updates, mute, some troubleshooting, and more. In fact, this is one of those products where the description of its installation process takes longer than the installation. In use, this was quick and simple to set up.

The LYD 5 heritage is clear from the moment you first install these loudspeakers, as they are crisp and studio-clean in performance. The Xeo 20's absolute honesty shines through quickly, with excellent soundstaging properties and fast, precise detail from treble on down. The loudspeaker holds to an accurate rather than overly full and rich sounding bass; DSP helps dig out slightly deeper bass notes than you might expect from a two-way like this, but ultimately it's about clean and dry bass in good order, rather than a bloomy, flubby noise that is ill-controlled and acts like a boat anchor for the sound. This is clean, light, and upbeat instead.

Curiously, what clinched the Xeo 20 performance for me wasn't music (although it scored several aces in musical terms)... it was listening to the *Today Programme* on BBC Radio 4 one morning. This drive-time news and current affairs broadcast is not a good example of the BBC at its best, as it often has heavy compression to be listenable while commuting. But regular listeners are so used to the voices of the presenters and journalists, nuance is surprisingly easy to pick up. And John Humphrys' voice had plenty of 'in the room with you' intelligibility and detail. ►

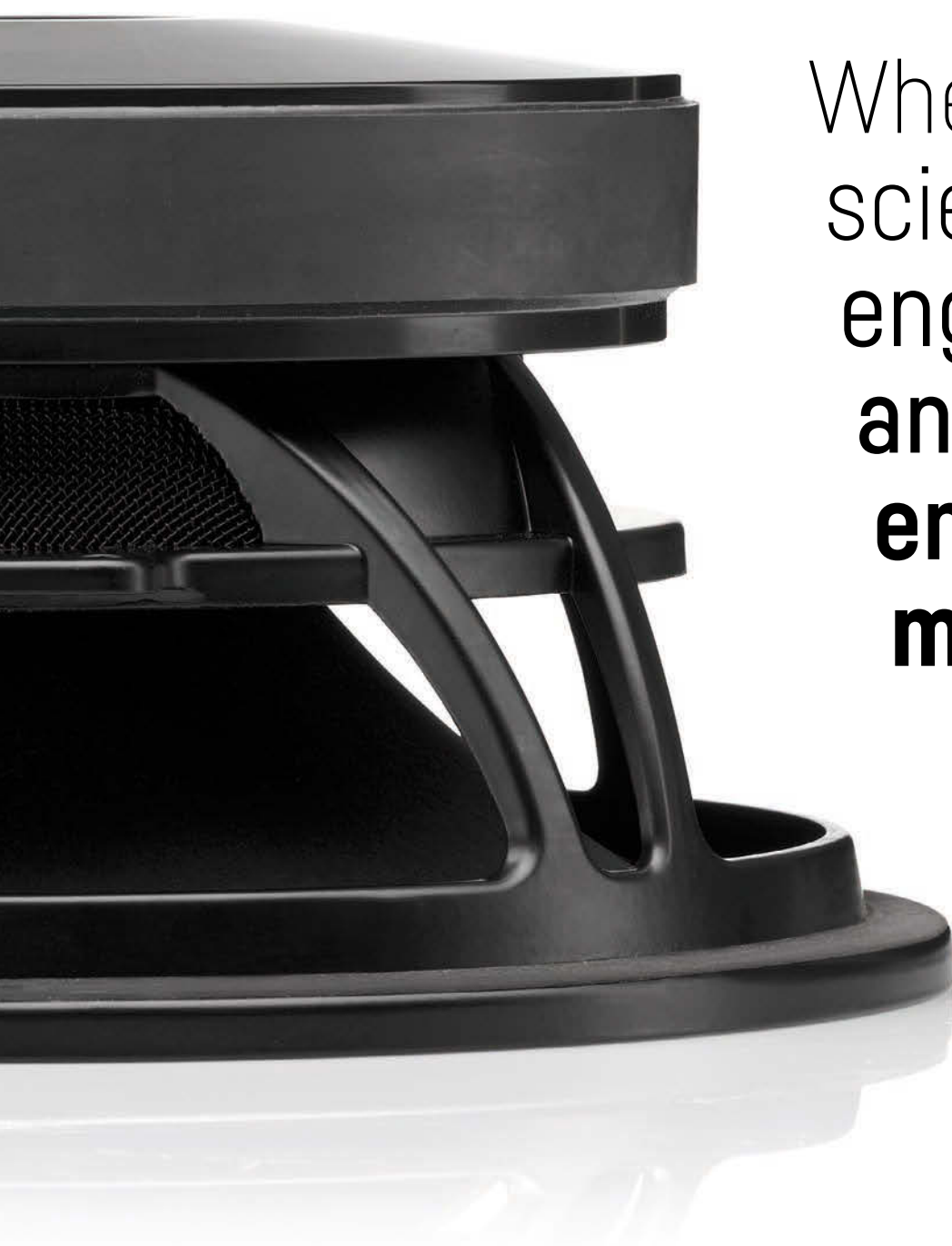


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“In each case, the Xeo 20 played whatever it was fed without prejudice, and with accuracy, detail, and a great deal of precision.”

► Staying with Radio 4 and bookending the day, I tuned in late one night to hear ‘Sailing By’ and the Shipping Forecast, and the same thing happened. As a night owl, I must have heard that damn slow waltz (written by Ronald Binge the year I was born) hundreds of times, it’s an old recording, and can put even the most red-eyed insomniac into REM sleep in seconds. And yet, through the Xeo 20, you could hear into the recording. Binge was Mantovani’s arranger, and the track has the same cascading strings sound that everyone remembers from the ‘Medication Time!’ scene from *One Flew Over The Cuckoo’s Nest*. That and the gentle shuffle on brushes shine through.

Of course, the Xeo 20 is actually capable of so much more. The music is almost secondary to the interface and array of options, but the musical performance is so good you never quite think that. I tried streaming music through aptX, with everything from Skrillex (ah, dubstep... remember those heady times of five years ago?), through Bach Cello Suites [Casals, Archiv], right through to hardcore P-Funk ‘Rumpofsteelskin’ from Parliament’s *Motor-Booty Affair* [Casablanca]. In each case, the Xeo 20 played whatever it was fed without prejudice, and with accuracy, detail, and a great deal of precision.

Dynaudio has been knocking them out of the park of late, and the Xeo 20 is no exception... and yet, that’s perhaps the only blot on the Xeo 20’s copybook. And it’s an unfair blot if you look at it for any length of time. You see, the Xeo 20 is not the Special Forty. Of course, it isn’t; the Special Forty costs more than the Xeo 20 and doesn’t even have built-in amplification. To get the Special Forty to live up to its name requires first-class electronics, none of which are either built into the loudspeaker or provided in the box. A reasonable minimum electronic outlay to get the Special Forty sounding like a honey is at least about the same as a Special Forty. In other words; five grand is not two grand, so stop with the comparison. But you just can’t. The Special Forty is so special that it’s been something of an ‘oh bugger!’ moment in the design studios of many of Dynaudio’s rivals big and small. The Xeo 20 is cut from the same cloth as the Special Forty, but the Special Forty wears it better. If you make the comparison, you don’t hear a more expensive separates audio system culminating in a pair of similarly-sized passive Dynaudios in a nicer finish, you hear the sound of your own resolve crumbling. But, I’m pretty sure Dynaudio won’t be too upset in losing a few sales to itself.

This category is both entertaining and exciting, in no small part because it didn’t exist a decade ago. In fact, Dynaudio was one of the first with the original Xeo range, but the market is growing at a fair lick now, with DALI, ELAC, KEF, and brands that don’t capitalise their whole name like Aurender and Devialet creating something that already seems more than just a niche. This feels like the start of a movement toward high-performance active wireless speakers. Dynaudio has been a part of that from the outset, and just moved back to the flag-waving position with the latest Xeo models.

TECHNICAL SPECIFICATIONS

Type: Active two-way ported standmount loudspeaker
Analogue inputs: Mini-jack, RCA Stereo
Digital inputs: Toslink
Wireless: 24bit, 96kHz (via optional Dynaudio Connect box)
Drive units: 28mm soft dome tweeter, 140mm MSP mid/woofer
Crossover: DSP-based, crossing over at 4.7kHz
Frequency Response (±3dB): 40Hz–21kHz
Amplifier power: 2× 65W Class D
Finish: Black, white
Dimensions (W×H×D): 180 × 320 × 257mm
Weight: 6.2kg
Price: £1,999 per pair
Manufactured by: Dynaudio A/S
URL: dynaudio.com
Tel: +44 (0)1638 742427

I’m not going to call out which of these models is the most flexible because, by the time you finish reading this sentence, three more systems will have appeared to challenge the performance of these three designs, such is the rate of change in this field. But I am tempted by the overall package offered by Dynaudio here. It seems more level-headed than most, yet without being too level-headed or bland. And thanks to that wide dispersion DSP crossover, the Xeo 20 is that bit more listener-friendly than most of its rivals. And it has that studio-like clarity and precision of detail and focus. In all, the Dynaudio Xeo 20 may just be the active DSP speaker to beat! +

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ELAC Vela BS 403 stand-mount loudspeakers

by Jason Kennedy

ELAC has clearly grasped that if you are to sell loudspeakers to an audience that would instead prefer things were invisible (or at least no bigger than a Coke can), you have to make it sexy. The Vela range replaces the 400 Line that has been a staple of ELAC's mid-priced offering for many years. The incoming range abandons the traditional rectilinear styling of that series with post-formed corners and oblique angles to produce a beautiful loudspeaker design with tactile textures to add to its allure.

The slopes are what mark out the Vela. The top has an inset aluminium plate with black anodising that gives it a slick look when combined with the gloss black or white finish of the cabinet. However, it's the base that really sets this speaker apart from the crowd: ELAC has created a die-cast plinth that integrates a downward firing port with a V-shaped opening; it looks great from most angles and in theory allows greater flexibility of placement than a standard rear-firing port. This sort of design detailing alongside the very high fit and finish of the speaker as a whole mark ELAC's BS 403 out as more domestically friendly than its competitors.

The same plinth is incorporated into the two floorstanders in the Vela range – the two-and-a-half-way FS 407 and three-way FS 409, but in those models there is a base plate beneath that extends the footprint and provides for spike fixing. The BS 403 is the only bookshelf model in a range that extends to one further iteration in the CC 401 centre channel, which does not have the die-cast base.





“A reasonable degree of clarity through the mid and treble.”

I initially placed the ELACs close to the wall, with about a 25cm gap behind, which seemed appropriate given their size but the resulting thickness in the bass suggested that they need to be further into the room. Extending the gap in increments, I ended up with 40cm between the back of the speaker and the wall.

Before I discovered the low sensitivity of the ELAC, I hooked it up with the most price appropriate amplifier I had to hand, a Rega Brio, and despite its relatively low power (50W), this combination had some very appealing qualities. What initially made an impression was its excellent sense of timing; it's not exceptional in this regard, but better than average thanks to a reasonable degree of clarity through the mid and treble. It's particularly useful on vocals, which perhaps explains why Norah Jones sounds particularly sultry on Herbie Hancock's version of 'Court and Spark' [*River: The Joni Letters*, Verve]. Likewise, Doug MacLeod projects well on his 'Who's Driving This Bus,' where the deep ambience of the recording is easy to hear, and the bass is articulate if not as deep as other small boxes. That said, the curves and styling of the BS 403 mean that its internal volume isn't that big, as the way that the casting cuts into the cabinet takes away a fair amount of space. It's nicely revealing and refined in the upper mid and treble though; that Jet tweeter clearly has its advantages over a lot of the dome tweeters found in the alternatives at this price.

The only area that made itself heard on occasion was the upper bass, which has a slight thickness that makes specific bass notes seem a little congested. I tried moving the speaker further from the wall, and this lightened the effect but didn't eradicate it. I also tried a lighter sounding cable, but the

▶ ELAC has used drive unit tech from the 400 Line in Vela, so in the 403 there is one of the brand's distinctive Crystal Membrane midbass drivers, a six-inch example with a 95mm cone supported by a large roll surround. This is a sandwich driver with a paper cone backing bonded to a sheet of stamped aluminium foil, a combination said to reduce colouration and improve power handling. The large surround provides for plus/minus 15mm of excursion, so it should be able to 'belt it out' if required. The Jet 5 planar tweeter is a variant on the Heil Air Motion design with neodymium magnets and a claimed response up to 50kHz. It uses a folded foil membrane that requires so much precision in its construction that robots are used for the most demanding part of the process.

Sensitivity is a lower than average 86dB, and nominal impedance is four Ohms, so it needs a bit of power for best results. ELAC makes a dedicated and suitably shiny stand for the BS 403 with a glass base and polished aluminium column, but as this wasn't supplied, I made do with a Custom Design FS104 Signature stand with its filled central column and Blu-tack under the speakers.

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“The ELAC Vela BS 403 has been created to make decent loudspeakers appeal to those who value style as much as content.”

- ELAC is transparent enough to let you hear when this crucial link has been compromised, so I returned to the Townshend F1 Fractal that is my preferred speaker connection. It's a strange one though; the bass times quite well. It's got good shape and while not bone-crunching gives a good sense of power and weight. Image scale is also right, not spectacular but easily able to reveal the nature of reverb on any given recording, so Van Morrison's 'Fair Play' [*Veedon Fleece*, Warner Bros] and Vivaldi's 'Bellezza Crudel' [*Tone Wik*, Barokkanerne, 2L] have large but distinctly different reverb characteristics. The latter also has an appealing fluidity, and the speakers provide plenty of insight into the piece and its performance.

The smoothness of the treble means that the BS 403 needs to be on-axis, that is pointing straight at you, for maximum vitality and evenness, and even then errs on the side of mellow. This is not a bad thing, but will suit some listeners and systems better than others. I tried the CAD 1543 MkII DAC, for instance, which is incredibly natural and relaxed, and as a result it proved a less suitable partner for this speaker. The Chord DAVE, on the other hand, has a bit more get up and go, a bit more urgency in its leading edges and proved a better match. The DAVE can't smooth out the bass, but it provides the zip that the ELAC needs unless of course, you are looking for a speaker to bliss out with (it's good for that). Around this point, I discovered that an amp with a bit more grunt might be appropriate, so I brought in a Leema Tucana, which surprisingly didn't change things all that dramatically at reasonable levels. When the wick was wound up, however, the ELACs did start to say 'how high' when the Tucana said 'jump,' and they got surprisingly high when I put on 'Seeya' [Deadmau5 *while (1<2)*, Astralwerks]. This is a crunchy dance track with a killer kick drum sound; the size of the ELAC drivers and box limited things, but you can get high-level bass out of them should it be required.

With less visceral material in the form of *Waltz for Debby* [Bill Evans, Riverside] the piano is perky, the audience quiet but present, and Scott LaFaro's bass playing is easy to appreciate. What's particularly helpful is that the acoustics of the venue are so well preserved. And again the tempo of the piece is clear to enjoy, but not thrust to the forefront; it shares equal billing with the melody and tone. My final session was with the full might of an ATC P2, a 150 Watt unliftable beast of a power amp, which brought a greater sense of ease, but didn't cure the bass thickness (it's not a power or control thing as far as one can see). The extra space that the ATC amp brought out was welcome and the depth of ambience it revealed particularly useful at putting you in the room with the musicians on a quality recording; the best ones have a sense of naturalness that is particularly inviting.

The ELAC Vela BS 403 has been created to make decent loudspeakers appeal to those who value style as much as content; the world it seems is not yet able to appreciate that listening brings you closer to God when looks are

TECHNICAL SPECIFICATIONS

Type: Two-way, two-driver stand-mount monitor with ported bass reflex enclosure

Driver complement: One Jet 5 air motion tweeter, one 150mm AS XR mid-bass driver

Frequency response: 41Hz–50kHz

Crossover frequency: 2.4kHz

Impedance: 4 Ohms

Sensitivity: 86dB/W/m

Dimensions (HxWxD):
362 × 191 × 240mm

Weight: 7.1kg/each

Finishes: Black High-Gloss,
White High-Gloss

Price: £1,750 per pair

Manufacturer: ELAC

Tel: Germany +49 0431 / 64774-0

Tel: USA +01 714-252-8843

URL: elac.com

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URL: hifi-network.com

not considered. Hey, we have *Jersey Shore* and *Big Brother*... it's a shallow universe! This speaker, however, toes the fine line between the conflicting demands of making concessions to contemporary styling but not so much as to undermine its effortless sound. If you are looking for a speaker that fits into a modern lifestyle and encourages you to unwind at the end of the day, this should be on your 'must hear' list. +

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Dutch & Dutch 8c stand-mount loudspeaker

by Jason Kennedy

DSP in active speakers is not a new thing, but arguably until recently it is not a technology that has realised its full potential. This was proved convincingly by the Kii Three that I wrote about in issue 162: a compact active digital design that combats room problems with a clever bass-cancellation system. So when I heard about Dutch & Dutch's similarly DSP-driven design the 8c I was certainly interested, a lot more perhaps than would have been the case BK (Before Kii). And that's not all that's interesting about this model, as the technology behind the driver array – there are two bass units in the back of the box and a shallow, yet wide waveguide on the tweeter – is based on research done by Harry F Olson at RCA Labs in the early 1970s. Olson was trying to create a loudspeaker that mimics the behaviour of a cardioid microphone. That is a speaker that produces a cardioid dispersion pattern to minimise the effect of reflections from room boundaries. It's the sort of thing that is very hard to create using trial and error but, with the computer modelling that Dutch & Dutch uses, becomes a whole lot more do-able. Dutch & Dutch manages to achieve around 20dB of rearward rejection, compared to 10dB of its main rivals. The first speakers that the company built were for the pro audio market under the Pro Fidelity System brand, but when this led to the 8c they decided to develop a speaker for home users.

The way that the Dutch & Dutch 8c uses the rear wall is inspired by Roy Allison's work at Acoustic Research and especially the work ▶



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► performed by Dr Floyd Toole and Sean Olive at the National Research Council of Canada (and later for Harman Audio) in the 1990s. This approach integrates the room into the way the sound projects rather than trying to minimise it by placing speakers away from walls. Dutch & Dutch recommends you place this fairly substantial stand-mount between 10-50cm away from the rear wall, which seems very close and even more so when you see that there are two decent size bass units in the back. The cardioid element is provided by the way that the midrange driver's rearward output is radiated through vents in either side of the box in anti-phase, the idea being that when the signal from the front of the driver turns the corner it is acoustically cancelled out. You can see why this technology required several generations of engineer to achieve when you consider just how radical this idea is.

Inside the solid oak cabinet of the 8c is 1000 Watts of power for the drivers which breaks down to 250W apiece for tweeter and midrange and 500W across the two bass drivers. The latter are eight-inch metal cone types that inhabit a sealed part of the cabinet and sit above a connection array that allows for balanced analogue or AES/EBU digital

connection alongside an RJ45 port for a networked set up. You can therefore connect the speaker to an analogue preamplifier or a digital source such as a streamer or CD player. In the latter situation volume can be adjusted with an online app called Lanspeaker, which allows for full set up of this loudspeaker. There is another set up option on top of these which takes advantage of the 8c's forthcoming Roon endpoint capabilities. Connect both speakers to your router or network switch and it's possible to select them as Roon endpoints and send signal direct from your library with no need for a DAC or preamplifier as both are built into the speaker.

The power of DSP in this design is remarkable, allowing parametric EQ set up with remarkable precision and ease. When Ultimate Stream brought them down we put them at the recommended distance from the wall and used third party software (REW's room EQ wizard) to measure the response at the listening position using a microphone plugged into a laptop. This shows where the peaks and troughs in the response are and by making a note of them you can adjust the response in Lanspeaker to produce a remarkably flat in-room result. The worse the acoustic character of the room, the greater the potential the system has to create an even result; fortunately the room I use is very even right down into the bass, but it was still possible to iron out a few dips and peaks by this method.

The first step was to try and set up the 8c with Roon – a process that was undermined by the fact that the Roon update was not official at the time and the pair supplied were not at the appropriate firmware level. When those issues were fixed, things got very interesting indeed albeit the first track played revealed a strange phasiness between channels with the image wandering around in a disorientating fashion. I later had Dutch & Dutch investigate this and found a bug in the system that should be corrected by the time this goes to press. Oddly, it didn't affect all recordings and even with those it did the result was so compelling that it didn't seem to matter too much. ►

“I was mesmerised by the melody alone. Loudspeakers like this are a distraction, but in an extremely good way.”

► It became clear that this is a very revealing loudspeaker indeed, yet it doesn't have an obviously transparent and open balance like the Kii Three for instance. This is partly because Roon seems to have a bit of reinforcement in the bass, a characteristic that's been apparent before but not to this extent, but also because this speaker has so much headroom that it makes everything seem effortless. It has that rare combination of precision and a relaxed presentation, which is utterly addictive. You can hear right into recordings and play them as loud as you like without any sense of discomfort, it's almost dangerous from a hearing preservation point of view. I loved the cavernous soundstage it delivered on a DSD rip of *La Folia* [Atrium Musicae De Madrid, Gregorio Paniagua, Harmonia Mundi], the percussion on this sounds so real it's uncanny and the big recorder (a tenor I think) is truly fabulous, the whole ensemble of baroque instruments bursting with life and tonal colour.

On *Hooker'n'Heat* [John Lee Hooker with Canned Heat, Liberty] the energy and presence of the band in the studio is palpable and Hooker's vocal is striking in its visceral realism. This is virtual reality no doubt about it. The 8c in this networked arrangement goes a long way to fulfilling the promise of digital audio. It's been a long time coming, but finally we are getting hardware that genuinely bridges the gap between the studio and the home; this is almost 'reach out and touch it' real. With a more up to date release, *Black Focus* by Yussef Kamaal [Brownswood Recordings], that features keyboards, drums, and bass on a sixties jazz tip the sound is positively magical through this system. Some of the credit must go to the Innuos Zenith SE server providing the data (you can't get out what isn't being put in), but few DAC/amp/speaker combos have got this close to realising its potential.

Given that the 8c's also have analogue inputs I hooked these up with some long runs of balanced cable and put the more than capable AURALiC ARIES G2 and Chord DAVE DAC between server and speakers. The result here was very respectable indeed. *Astral Weeks* [Van Morrison, Warner Bros] sounded glorious thanks to more muscular bass that reflects the character of the DAC and which suits this slightly lean recording. If you hadn't heard the networked set up it would make for very rewarding listening indeed but there was still the allure of the direct digital connection.

To run the 8c with a more conventional digital connection, you connect one speaker to your streamer or CD player's AES/EBU (XLR) output and hook that speaker to the next with a second AES/EBU cable, finally an XLR terminator needs to be put in the 'thru' socket of the second channel. Then you use the selector switch on the back to tell each speaker whether it's the left or right channel. Hopefully by then, you will also have 'grouped' the two channels on Lanspeaker, which will give the ability to control volume and other parameters for both channels simultaneously. This sounds complicated, but is firstly the dealer's job and secondly really not that difficult unless you break

TECHNICAL SPECIFICATIONS

Type: Three-way, four-driver, standmount speaker with active DSP drive and partially sealed enclosure with acoustic cardioid midrange

Driver complement: One 25mm alloy dome tweeter; one 203mm alloy cone midrange driver; two high excursion 203mm alloy bass drivers

Crossover frequencies: 100Hz, 1.25kHz

Frequency response: 30Hz-20kHz anechoic. Flat to 20Hz in room

Amplifier output: 500W LF, 250W MF, 250W HF

Input sensitivity: Not specified

Dimensions (HxWxD): 485 x 270 x 380mm

Protection: None

Weight: 26kg/each

Finishes: White/natural, black/natural, black/brown, black/black

Price: £9,000/pair

Manufacturer: Dutch & Dutch

URL: dutchdutch.com

UK representative: Ultimate Stream

URL: ultimate-stream.co.uk

Tel: +44(0)1252 759285

the unwritten law and use a 192kHz track as your first choice: at present this connection system is limited to 96kHz maximum sample rate, but this is due for an update in future.

The result with this connection is in a similar league to the Ethernet/Roon approach, fabulously immediate and very, very revealing. I put on a favourite Haydn Quartet and I was mesmerised by the melody alone. Loudspeakers like this are a distraction, but in an extremely good way. Dutch & Dutch is to be congratulated for doing such a complex job so well. If you want to hear the future of high fidelity, grab yourself an audition forthwith. +



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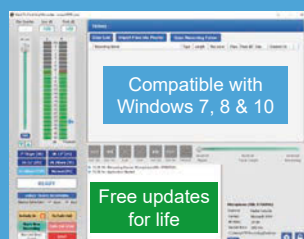
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36 Months
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McIntosh

ON DEMO

Stereo Integrated Amplifier McIntosh MA252

- 160 watts per channel
- Hybrid design: vacuum tube preamp and solid state power amp



£4,499

36 Months
Warranty

McIntosh

ON DEMO

Stereo Vacuum Tube Amplifier McIntosh MC275 MK VI

- 75 watts per channel @ 2, 4 or 8 Ω
- Vacuum tube design
- Legendary design now in Mark VI form



£7,100

36 Months
Warranty

McIntosh

ON DEMO

Stereo Integrated Amplifier McIntosh MA9000

- 300 watts per channel
- 8-band tone control
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£12,995

36 Months
Warranty

McIntosh

ON DEMO

Monoblock Solid State Amplifier McIntosh MC611

- 600 watt quad balanced
- Monogrammed heatsink
- 2, 4 and 8 Ω outputs



£19,995 /pair

36 Months
Warranty

McIntosh

ON DEMO

Stereo Vacuum Tube Preamplifier McIntosh C1100

- Separate audio & control sections
- 12 analog inputs including MM & MC
- Full digital inputs, massive specification



£15,590 /pair

36 Months
Warranty

McIntosh

ON DEMO

2-Channel Solid State Amplifier McIntosh MC462

- 450 watts per channel
- Quad balanced design with McIntosh Autoformers™



£12,495

36 Months
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McIntosh

ON DEMO

2-Channel Headphone Amplifier McIntosh MHA150

- 3 headphone impedance ranges
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£5,995

36 Months
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ON DEMO

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- Plays CD/DVD data discs & USB flash drives



£7,995

36 Months
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ON DEMO

Phono Stage PH-10

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ON DEMO

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ON DEMO

Belt Drive Turntable Valore 425 Plus

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24 Months
Warranty

GOLD NOTE

ON DEMO

Loudspeakers XS-85

- 5 driver design
- Available in gloss black, gloss white or italian walnut



£34,720 /pair

24 Months
Warranty

GOLD NOTE

ON DEMO

Gold Note Cartridges Tuscany (Gold)

- Moving coil



£6,635

24 Months
Warranty

GOLD NOTE

Gold Note Cartridges Vasari (Gold)

- Moving magnet



£318

24 Months
Warranty

GOLD NOTE

ON DEMO

Gold Note Cartridges Donatello (Gold)

- Moving coil



£863

24 Months
Warranty

GOLD NOTE

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Moon 390 Network Player Preamplifier

by Rafael Todes



I've come across Moon's output several times in my reviewing career, as a few years ago I was asked to review a Moon phono stage. I enjoyed living with it; it was not only well-constructed, well thought-out, but it had a lovely communicative sound that was striking.

At the Munich show a couple of years ago, I heard the Moon Ace, the all-in-one Swiss Army Knife that Alan reviewed in Issue 138, playing through a pair of bookshelf Martin Logan's, and was staggered that the unit could quietly, without any hint of pretence be producing an arresting sound that was quite out of the price point in which it was born. I bought the unit and have enjoyed it ever since.

This year at Munich, the Simaudio room was using the 390 Network Player Preamplifier, along with the 400M monoblock power amps, driving some B&W802d2 speakers. Again, I was struck by the talent of this combination and by its effortless music making, and on some of the hardest tracks I could throw at it. I listened for a good hour, not really being able to comprehend the how and why of what this combination was doing, so I was naturally thrilled at the prospect of spending more time with this kit.

The 390 Network Player Preamplifier is more than just a Swiss Army knife. In fact to call it thus would be to sell it short. It has been brilliantly thought out. As a preamplifier, it's reasonably comprehensive. It has analogue and balanced inputs and it has a configurable phono stage, suitable for use with moving magnet and moving coil cartridges and with the ability to set capacitance, gain, input impedance and even change the EQ curve from RIAA. It has a built-in DAC with Toslink, SPDIF, AES inputs, and a USB Type B input capable of up to DSD256 and PCM 384kHz.

There are four HDMI inputs for video or SACD, which is a brilliant touch. I have experimented with video receivers, and I am always shocked to see what a hit you take on audio quality over two channel audio. The 390 does not support multichannel audio, however.

Thus the 390 can take HDMI inputs from say a Sky Box, a DVD player, Apple TV etc., and impressively play the audio. Useful, and maybe a game changer for some. The HDMI output is 4K compatible. There is a USB port for connection to a hard disc etc., and a Simlink for a proprietary way of connecting a Moon CD player.

“The phono stage is not just an afterthought. There is a fast, ‘zappy’ quality here. It’s exciting, dynamic, and thoroughly engaging”



► The volume control operates purely in the analogue domain and avoids some of the sonic compromises associated with a digital control. It uses an optical encoder to create the same ‘feel’ as a digital control. The power supplies benefit from trickle-down technology from the 780D Digital Converter, which also uses the Moon Hybrid Power Supply, where there is essentially a digital switch in the first stage of the supply blocking DC et al., and a linear analogue power supply to feed the unit.

Setting up the 390 is a breeze. There are two antennae which screw into the back of the unit, and you can connect via a network cable, or scan the existing wireless networks. One slight quirk comes when entering the WiFi password, which is a little tricky with a circular knob, the unit predicts the next letter of the password, and you have to take a gamble if the next letter counts or not! That aside, it’s pretty straightforward. There is an IOS app, which is very reliable and does what it says on the tin. I used a combination of the app and Roon, which works well with the Moon, again without any problems. There is a remote control which performs some features and is narrow, shiny, and plastic.

I did many listening tests, with the 400M monoblocks, and also with my VAC Phi 200 power amplifiers, to try and ascertain how the various components within the 390 were contributing overall to the final sound.

I started with the phono input, which was a breeze to configure for my Lyra Etna cartridge. Listening to the marvellously recorded Naim album, Forcione’s Tears of Joy, it became evident that the phono stage in the preamp is not just an afterthought. There is a fast, ‘zappy’ quality here; it’s exciting, dynamic, and thoroughly engaging. The bass is tight, and the wood block is taut; perhaps the decay is not as naturally resonant as my VAC phono preamp, but this is many multiples of the cost of the 390. There is a high-end feel to this; I’ve heard phono stages alone for the same price as the 390 that don’t sound as good.

The area where I suspect this product will be used most is digital. It is interesting to hear the same track played on Tidal, as accessed on the app. There is still the same level of guts and communication, the space is somewhat different, and perhaps the streaming version is a tad less organic, but I’m surprised how similar the two versions sound. I have to navigate between the two inputs using the remote; for some reason the ‘Phono’ input doesn’t come up as an option on the app. A little odd, but one of the only quirks I have found so far!

Onto my terra firma, Simon Rattle and the Berlin Phil playing the eccentric Haydn Sinfonia Concertante, 1st movement. The sound is sweet and totally believable compared with what I’m used to, a dCS Network Bridge plus a Chord DAVE. Rich and full, the bass speed and quality are ►

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“There’s something inviting about what it’s doing. The 390 shows the musicality of the players, the sense of fun, and communication.”



▶ both excellent. The soundstage is well-presented for the price level of the preamplifier, it's not as cavernous and as vast as the VAC/Dave/dCS, but it's impressive. There's something that's inviting about what it's doing. The 390 shows the musicality of the players, the sense of fun, and communication that's going on. It's doing the same thing that I heard from the brand in Munich for the last couple of years.

This file is using MQA, both on the native app and with Roon software. The 390 deals with this integration with consummate ease. I moved on to the Oscar Peterson Trio, specifically to 'We Get Requests' and 'You Look Good to Me', where there seemed to be a problem with the MQA re-release. It sounds fuller and more realistic, but there is quite a lot of wow at the beginning of the track, which isn't there on the earlier CD version. That aside, it's interesting to see what the remastering is doing for the presence of the artists. Either way, that's a bit of a digression, because it has nothing to do with the Moon, except to say it has integrated MQA and Tidal seamlessly into its offering. The double bass is taut, powerful, and the whole track (once we pass the wow-ridden beginning) really rocks.

A brief survey of the headphone output is no surprise. It's no slouch, punchy, clean, and highly capable. Listening to the ball scene from the *Symphonie Fantastique*, Ticcianti and the SCO on Linn, a beautifully recorded 192kHz affair, there is a pleasing combination of clarity and grunt, but also warmth and humanity. The soundstage is spacious, and it exceeds

the capabilities of my old Graham Slee headphone amplifier in sheer presence and communication, a unit which represented excellent value-for-money at over £600.

Substituting the VAC power amps for the Moon 400M's, and going back to the vinyl, Forcione shows some impressive results. The power amps add muscle, precision, and even more tautness. The resulting sound is exciting, engaging and gives some of the percussion instruments more of a spotlight. This was a surprising case of synergy, the components singing together. Of course, a good transistor power amp can leave a good valve amp standing in the bass department, but these two together and a good vinyl set up has really cracked the timing of the track.

It is worth noting that the 400M's are no spring chickens; they have been around for at least the last seven years, they don't seem to have been picked up by reviewers anywhere – they appear to occupy space below the radar. At £7,200 they are something of a bargain, and they seem to have a special affinity with the B&W802d2s. They have the power to grip the bass performance of the speakers and to drive them with aplomb. My turntable is an Inspire Monarch, with an SME V, and I've not heard such impressive bass performance as this on my system. Continuing with the vinyl odyssey, this time the Amadeus Quartet with Cecil Aronowitz playing Mozart's early and utterly charming Bb Quintet op 174 on DG, the combination really captures the vitality of this world-class ensemble. The sound is packed with detail, lovely tonal

“There are choral moments, which can scream on lesser systems, but here have a beguiling line to them.”

► nuance, and the colours of the players’ Strads (not all of them) finessed effortlessly. This is the opposite of many of the digital amps I’ve heard recently. The greyiness and lack of tonal nuance kill them for me. None of that here! All this from the phono stage that comes from a preamp costing £4,750.

The 400M’s have fully balanced differential circuitry, matched Moon bipolar transistors, an over-sized power supply using a custom-designed toroidal transformer, and a healthy 400 Watts at 8 Ohms. The monoblocks are also Class A for the first 10 Watts, which goes some way to explaining the sweetness I’m hearing.

So onto some opera, *Macbeth* conducted by Sinopoli on Philips Digital Classics. Using the 390 and 400M’s – a truly stellar (or should I say lunar combination), once again shows the synergy of the three products. They capture the drama of this extraordinary work. The fearsome orchestral crescendi... 0-60mph in 6 seconds! There are choral moments, which can scream on lesser systems, but here have a beguiling line to them. When the music turns comic, the tightness and grip these units have on the music is the perfect conduit for the wit of the score. When Mara Zampieri as Lady Macbeth gets going with her pyrotechnics, there is no hint of harshness and such control! The full personality of her voice is laid bare.

Finally, I tried Leif Ove Andsnes playing Chopin Ballades and Nocturnes on Sony, as heard through Qobuz, a 96k/24 bit recording. The piano is a funny one for me. It’s tough to capture a keyboard well so that it sounds like a single instrument and not a series of drive units- so it’s more a speaker thing, but the amp and DAC also play a starring role in the success of good pianistic reproduction.

Chord’s DAVE is the master of the piano, but somehow what I’m hearing on this hi-res Qobuz recording makes me want to listen further and further. It’s a beautiful sound with no harsh edges, and the incredible subtlety of Andsnes’ phrasing spins the musical line in an arresting way. Not only is the timbre of the piano just right, but the micro-phrasing that you hear when you stand next to a great musical artist is all there. It is so often lost.

I’ve been hugely impressed with the Moon 390 Network Player Preamplifier; It’s well-engineered, and highly intelligently

TECHNICAL SPECIFICATIONS

390 Network Player Preamplifier

Analog Inputs: Phono Input: MM and MC, RCA Inputs, Balanced Input

Analog Outputs: XLR balanced, fixed and variable output (RCA)

Digital Inputs: Toslink and coaxial S/PDIF, AES/EBU, 4xHDMI, USB Type B, RJ45

Finish: all black, all silver, black with silver cheeks

Dimensions (WxHxD): 43 × 9 × 33.2cm

Shipping weight: 10 kg

Price: £4,750

400M Monoblocks

Output Power at 8Ω: 400W

Output Power at 4Ω: 650W

Finish: all black, all silver, black with silver cheeks

Dimensions (WxHxD): 42.9 × 8.9 × 35.6cm

Shipping weight: 15 Kg each

Price: £7,200 per pair

Manufactured by: Simaudio

URL: simaudio.com

UK distributor: Renaissance (Scotland) Ltd

Tel: +44(0)131 555 3922

URL: renaissanceaudio.co.uk

thought out. It combines a well-facilitated phono stage made without obvious compromise with a top-class streamer which works without faff or fiddle. The headphone amp section is also a serious contender, as is the DAC. Together with the well-kept secret 400M mono power amplifiers, the whole package creates an award-winning partnership that offer outstanding value for money. Anyone looking for a serious high-end system should give this the most careful consideration. To ignore this would be lunacy! +



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Vitus RI-101 integrated amplifier

by Chris Thomas



It's interesting how having a high quality streaming capability and a Tidal account changes your style of listening. As a result, I have been on a bit of a retro kick recently and looking more deeply into the complete works of Steely Dan. I always liked the albums and had massive respect for the musicians they assembled to bring the songs to life. Then they slipped out of my consciousness for a while. I would occasionally catch an audio glimpse of them and be reminded that it was time for a re-visit and this, courtesy of Roon and Tidal, grew into a renewed fascination as I have become more intrigued with their songs. Time has actually leant them a new depth for me.

It was during this musical period that I took delivery of the RI-101, the latest version of the entry-level integrated amplifier from Vitus. This is the successor to the eight-year-old RI-100.

I have lost count of the amount of Vitus products that have passed through my hands since their arrival in the UK, and I am a big fan of the way they go about their business. Their SIA-025 has become an integral part of my whole listening experience and has been both fed and has driven many, many high-end components for years now. It is a real classic amplifier of the modern era design, fully deserving of the many accolades that have been heaped upon it.

I liked the RI-100 when I first heard it several years ago. It didn't have the Class A switching, perhaps so vital to the SIA-025's creamy smoothness and tonal subtlety, but replaced it with sledgehammer driving power and a firework display of dynamics and grip of the rise and fall of musical movement. Who needs 300 watts? Well, the RI-100 can provide an answer to that question every time you sit back to ►

“When the new RI-101 arrived it seemed like a case of “Meet the new amp, same as the old amp”, but looks are inevitably deceptive.”

► listen. The seemingly bottomless well of power gives its own sense of ease. My abiding memories of that amplifier is that it ultimately lacked a bit of resolution and crisp articulation and it was perhaps a little flat and dark in musical perspectives. Certainly in comparison to the SIA-025 which, it must be remembered, is a considerably pricier investment.

When the new RI-101 arrived it seemed like a case of “Meet the new amp, same as the old amp,” but looks are inevitably deceptive. From the outside, the new version has little to distinguish it except, I am told, some extra cooling vents. The chunky industrial design, finished in black for the review sample, makes a bold physical statement with a very familiar and unmistakably Vitus look. Aluminium slab fronts merge into the small central illuminated control window while three flush buttons per side provide the control inputs, volume, and settings. An Apple remote, supplied as standard, offers fuss-free access to essential functions, including standby.

Internally, as you might imagine, there have been many improvements in critical areas. As usual, this Vitus is a modular design. It is beautifully assembled and laid out internally, so much so that it would actually look great with an acrylic top. The heart of all Vitus products is the transformer, and anyone who has spoken to Hans Ole will know just how meticulous he is where these are concerned. This one, an improved version of that found in the RI-100, has an EI-core instead of the UI-core found in the Signature series. The lettering indicates the shape of the core. It really does sit at the very centre of what the Vitus is all about and in the latest amplifier also provides an impressive 300 watts (at least) with extensive and complex modifications to the voltage regulation aimed at reducing noise at this critical stage. This leaves an even inkier black backdrop. But, perhaps the more notable differences between this and the amplifier it succeeds come in the preamplifier section. When you make as many products as Vitus does and arrange them into different categories, upgrading each of them as time passes will undoubtedly incorporate a degree of trickle-down technology. This means a constant striving towards new levels of perfection across the whole range. As one component is improved, so the next level will also be undergoing experimentation to raise performance. No company embodies this quite like Vitus. As such, the ultra-low-noise power supply in the RI-101 is further

complemented by the inclusion of the high-resolution volume control from the SL-103 and MP-L20. The whole section of the amp that handles the inputs is improved too. The result is an amplifier that builds on the original with noticeably increased resolution. It was this that caught my ear as I made my way through my Steely Dan renaissance.

Connections are comprehensive and the rear panel, in stark contrast to the simplicity of the minimalist front, is crammed full of sockets of one kind or another. There are three pairs of balanced (XLR) inputs and two single-ended (RCA) ones. There is a balanced XLR line output too which can be used should you feel the need to go for a bi-amped set-up which would be fascinating. Speaker connections are a model of excellence as you can employ 4mm or spade terminals with ease and superbly solid connections. They are some of the best out there.

To further enhance the amplifier's versatility there are two optional modules available either on delivery or as a half-hour retro-fit by your friendly dealer. Vitus has an excellent reputation where DACs are concerned, and for around £2k you can enhance the possibilities of the RI-101 considerably by adding one. For £3k you have the option of adding a DAC / streamer. These include additional digital inputs and allow the amplifier to function as a digital hub. Now that streaming has really come into its own I can imagine many customers being very interested in this option. The review sample had not been fitted with these modules though.

From the box, I thought the new Vitus to be rather flat sounding and quite dry, which I had anticipated. It was as powerful as expected and the promise of fine detail sitting atop a low-end of unusual power, and impressive grip needed several days to come together and a few weeks of musical work-outs before finally expanding into the joyous, muscular device that sits atop some Stillpoints as I write. Just have a bit of patience and it will come good as the whole scope and presentation of the amplifier moves to another level, the focus clicks into place, and the recorded ambience opens wider and wider. It's about now that it really begins to flex its considerable muscles at all levels and gets to grip with really 'driving' the speakers.

So, I am trying to learn the 'Kid Charlemagne' guitar solo (from *The Royal Scam*), played by Larry Carlton, courtesy ►



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“This amplifier can swing a mighty 300 watts into 8 ohms and this, of course, is one of its significant features.”



► of Tidal and the RI-101 has taken over amplification duties while a dCS Vivaldi DAC is giving it every musical chance to perform. Down in the basement of the song lurk Bernard Purdie and Chuck Rainey, the drummer and bass player, and I became entirely fascinated with the semi-shuffle pattern they are laying down. The Vitus has complete control over the song and the recording. Bernard is the master of doing everything while seeming to do very little. His little pushes and angular rhythmically hypnotic skips are really what drive the song and give it such a classy feel. The RI-101 punches this rhythm out, and the way that his very understated bass drum works with Chuck Rainey's astonishingly precise bass guitar is nothing less than magical, bringing a really locked-in feel. This amplifier allows you to delaminate the song if you want. This is a rhythm section like very, very few others and I cannot think I have ever heard better. The sense of movement through time and the way that these guys bring their utterly superb skills to the song, with so little apparent fanfare, move it to another, timeless level. I love the way the Vitus resolves all these components and that the increases in resolution and quietness have been so brilliantly incorporated to the benefit of the music. It's not

so much the extra detailing of the instruments but more about highlighting the way that the instruments are being played for me. It is also very good at allowing you to easily follow each and every line while maintaining a clear view of the whole. As for the guitar solo? It is one of the greats in my opinion, but I'm still struggling with that one I'm afraid.

The amplifier can swing a mighty 300 watts into 8 ohms and this, of course, is one of its significant features. As I asked earlier, who needs 300 watts? In my small room, I probably don't, but that bottomless well of power makes itself felt even at modest levels to give a notable sense of ease to the dynamics. It's that sense that you really need to hear to appreciate. Such a well of power is not only about volume. Add the increases in amplifier resolution and a purer sense of clarity to the rest of the onboard improvements, and you'll realise that this has released the amplifier to open new musical details and subtleties and quite often, that's where the magic lies.

The bass delivery is excellent and even better when you realise how joined-up it is with the entire bandwidth. It is about as tight and grippy as I have heard, but there is not ►

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“It delivers timing emphasis with ease and has the speed of recovery to match its sense of impact and note shaping.”

► even the slightest hint of compression or any compromise in extension. Tonally it is superb too. Push the RI-101 and it will ask big questions of the whole system. Play some music with thunderous bass and some serious drive and the RI-101 shows what it is all about. I have spoken in the past at the way the Class A Vitus amplifiers have such a beautiful way of unfolding rhythms, tempos, and sheer pace and have often described them as being like a fast flowing river of movement. The improvements to this new amplifier suggest that the Class A setting is not wholly responsible for this. This Vitus is a driving, punching rhythm machine. It delivers timing emphasis with ease and has the speed of recovery to match its sense of impact and note shaping. I can't help but feel that this comes under the general heading of resolution that I see as covering a lot more than instrumental or vocal detail. The vital way that Hans Ole's products illuminate musical movement inevitably has something to do with the inordinate amount of care taken with the power supply in his amplifiers. Add the lower noise floor and the excellent leading-edge control, ask it to drive a system fully capable of responding to high-end musical demands, and the new amplifier seems to be a much more capable performer that operates at a higher level altogether than the model it supercedes.

Many factors make just about any significant purchase a tricky decision and a serious audio amplifier is no different. Price is a prominent place to start. The reputation of the manufacturer is indeed another. The appearance and general presence of the product, its future compatibility with the rest of the system, perhaps the potential for an upgrade and the reality of how it compares with rivals. All these things are likely to play a part. But, maybe the most important thing for me is just whether I enjoy listening to it. A strange comment perhaps. I can't remember the last time I heard an amplifier that was “bad”. By that, I mean an amplifier that left me emotionally cold and disinterested. Desirability though is a different matter and carries a lot of intangibles that are personal to each of us. This new integrated Vitus knocks it out of the park on so many levels, and the ability to supplement

TECHNICAL SPECIFICATIONS

Type: Solid-state two-channel integrated amplifier

Analogue Inputs: 3 × balanced (XLR), 2 × unbalanced (RCA)

Power Output: 2 × 300 watts RMS into 8 Ohms

Frequency Response: DC - 500KHz

Signal To Noise: >100dB

Input Impedance: 22k

Optional Inputs: Dac or DAC / Streamer (consult dealer for details)

Dimensions (H×W×D): 195 × 435 × 470 mm

Weight: 40Kg

Price: £11,800

DAC: £2,000

DAC/Streamer: £3,000

Manufacturer: Vitus Audio

URL: vitusaudio.com

Distributed by: Kog Audio

Tel: + (0)24 7722 0650

URL: kogaudio.com

its capabilities with a genuinely excellent onboard retro-fittable DAC or streamer shouldn't be underestimated, especially taking into consideration the extra costs concerning space and cabling that a separate DAC will incur. It also has that sense of drive-anything power and stability and a seriously engaging sense of very fine detail with something of an iron fist behind it. Musically it has all the Vitus hallmarks of really elastic rhythmic focus and precision coupled with excellent tonality and balance. I can see it being an excellent investment for the serious music lover for years and years. When an amplifier is this good, it has to get a recommendation from me. +



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RME ADI-2 DAC digital converter/headphone amplifier

by Alan Sircom

In all honesty, most domestic DACs fall somewhere between 'inadequate' and 'woefully inadequate' when it comes to telling the world what they are doing. There are exceptions of course – Chord Electronics and its colour-coded control surfaces being an obvious example – but many domestic digital devices limit their interfaces to a few small LEDs denoting frequency, lock, occasionally your choice of source, and power. Sometimes, there's not even a button to be found. The German brand RME comes from the pro-audio world. They do things differently there, and the ADI-2 series – including the ADI-2 DAC tested here – positively bristle with displays and control surfaces.

This is not the only aspect of professional audio that filters across to the general public. First, display aside, the product is that combination of solidly built and no-nonsense in approach; the power supply is an external box, and the case is solid, but not made from solid unobtainium covered in dodo leather and panda eyelids. The rear connectors aren't cast from the purest copper known to man by dwarf-lords. And, unlike many domestic audio brands, the obsession with brand names on the circuit board is not as important as how it performs in its job. You won't find RME crowing about using the latest chipset from the DAC brand *du jour*, just an impressive set of provided specifications and measurements.



“It lacks some of digital audio’s alphabet soup, eschewing inputs such as AES/EBU, BNC, HDMI, I²S, RS232, and RJ45.”



► The ADI-2 DAC’s no-nonsense approach extends to its inputs and outputs. It lacks some of digital audio’s alphabet soup, eschewing inputs such as AES/EBU, BNC, HDMI, I²S, RS232, and RJ45. Instead, it covers the basics with a lone USB 2.0 Type B, RCA coaxial and Toslink optical S/PDIF connectors (AES/EBU is supported if you use an adaptor on the coaxial input). For analogue, it features both single-ended RCA and balanced XLR stereo connectors, and two headphone sockets; a 3.5mm TRS minijack socket for in-ear designs, and a 6.3mm TRS jack socket for headphones. These are not ‘commoned’, but in fact reach back to two separate headphone amplifiers – a lower-gain, lower-noise design for extremely sensitive earphones and in-ear monitors, and a higher-output design for driving traditional headphones.

Then, we get to the nitty-gritty: the control surfaces. Using four push-buttons, three rotary/push knobs, and a small but colourful front-panel display. These are designed to set-up, and operate the DAC, and work in harmony with the black ABS shield-shaped remote. If you begin to wonder why a DAC needs this degree of user interaction, a quick flip through the comprehensive English/German manual quickly demonstrates the thoroughness of the RME concept. You can assign names to inputs and set the preamp to deliver different output levels for the line outputs and/or the ‘Hi-Power’ headphone output (the IEM output remains at a fixed reference -3dBu level), reference input levels, mono/stereo options, the choice of four digital filters, the ability to assign the centre dial to act as a volume or balance control, and controls for adjusting stage width, crossfeed, parametric EQ, tone, and de-emphasis.

Additionally, there’s a choice of three ‘top screens’, or the active display when the DAC is in use. The default is a basic ‘dark volume’ setting which shows a basic textual display of input, output, tone/EQ settings, sampling frequency, output type, and output volume. Volume overloads on this basic screen are clearly visible as the main volume control turns red. Other options are a State Overview, which isn’t a Presidential overview of the Union, but a display of active inputs and their bitstream content, hardware sample rate, and clock source. This is not that useful in fully stable systems, but for those of us who constantly fuss around with different devices (not always with complete success), this is something of a godsend. Finally, there is an Analyser display that shows a basic frequency plot and left-right level display of whichever output is selected. This is a band-pass filter calculation rather than a Fast Fourier Transform, akin to the metering used in a commercial recording studio. As this also gives an indication of output if either analogue outputs or the Type B USB connection are being used to record. Couple that with warning splash screens for a range of errors (including short-circuit detection), and you can see just how alluring this kind of feedback is to most users. While for domestic use, much of the reasons behind this full-on display are fit-and-forget, and of academic use, once the system is set-up, one can’t help but be deeply swayed by that degree of interaction with the RME’s control architecture, and this is echoed in that remote handset. I will admit that I questioned the need for a handset at all at first but overcame my prejudice fast and quickly found it surprisingly useful. ►



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“The RME is also great at delineating instruments and voices in a complex mix.”

► The utility of the RME interface does not buy the ADI-2 DAC a free pass, and it has to live up to its performance sonically as well as ergonomically. And here, notionally, there are three DACs in one to assess: ADI-2 DAC as headphone device, IEM device, and in the context of a traditional audio system. In fact, a quick drop of 3-in-1 works here, because the three different outputs are remarkably similar in tone and intent. This is *somewhat* difficult to discuss in absolute terms because you are going through three separate audio pathways that can sway the performance, but the consistency of that performance shone through regardless. This is easier to check on the two headphone sockets because it's possible to use an IEM at a low gain on the high-output connection, and a pair of headphones through the IEM output. Experimenting with all three types of output results in a headphone socket with more gain, an IEM socket with less noise, and line outputs that sound remarkably similar to the two personal audio options.

That performance, irrespective of output, is one of great detail and insight into the recording as if the RME ADI-2 DAC wants to show off its pro-audio roots once more. You can really ‘hear into a mix’, easily differentiating electronic reverb tails from natural acoustic reverberant spaces. The RME is also great at delineating instruments and voices in a complex mix; I wanted to use the *Deadpool 2 OST* [Sony CD] if only because it allows me to talk about the track ‘Holy Shit Balls’ legitimately. It’s a parody of typical portentous orchestral music used in movies, with a choir intoning those three words of the title over and over again, *Carmina Burana* style. Like a lot of soundtrack work, though, it’s also well recorded, and the ADI-2 DAC lets you deep dive into the music and the recording itself. The consistency of sound meant this quality of analytical insight applied to high-res PCM and native DSD, too.

The array of options does benefit the listener greatly too. They are designed to be implemented in set-up (if required) rather than applied like seasoning on a disc-by-disc basis, but they do work with the system rather than hamper it. I found the filter options more useful than the EQ (although I found EQ helped balance out the forward and bright sound of some IEMs), preferring the default Short Delay Sharp in most cases. Crossfeed, however, is genuinely fascinating, reducing the stereo width in the treble and emulating the sound of speakers in a live space. To some, it’s pointless... to others a revelation.

TECHNICAL SPECIFICATIONS

Type: Solid State DAC with headphone amplifier

Inputs: Type B USB 2.0 (USB 3.0 compatible), S/PDIF coaxial, Toslink, 12V input for PSU

Outputs: 1× pair RCA single-ended stereo line output, 1× pair XLR balanced stereo line output, 1× 3.5mm ‘super low noise’ TRS mini-jack, 1× 6.35mm ‘Extreme Power’ TRS headphone jack, Recording over USB for S/PDIF signals

DSD Replay: Native to DSD256

PCM Replay: 32bit, 768kHz

Filter options: Short-Delay Sharp, Sharp, Slow, Non-Oversampling

DSP: Crossfeed and Image Width options, five-band parametric EQ

Dimensions (W×H×D): 215 × 52 × 150mm

Weight: 1kg

Price: £895

Manufactured by: RME

URL: rme-audio.de

Distributed by: Synthax UK

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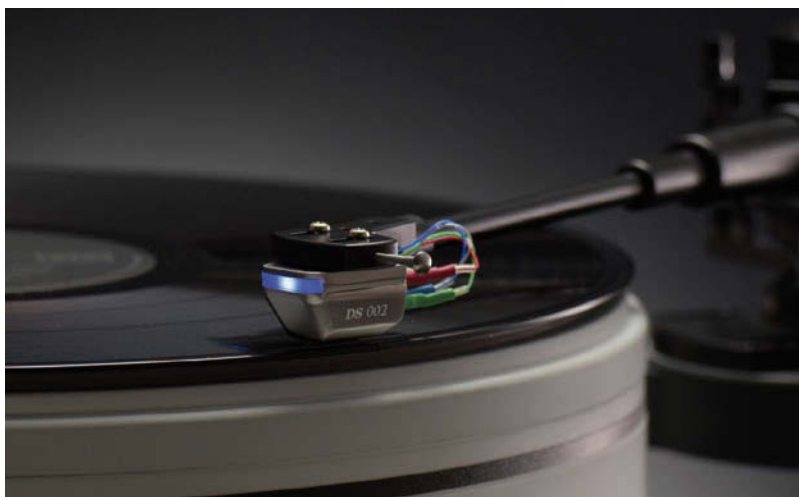
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This gives headphones a more out-of-head presentation and makes digital seem a little more like a turntable, in all the right ways. The sound takes on a depth to the image and an organic sense of physical presence that those of us firmly dunked in analogue replay will love.

Limitations are few in number. The RME is a DAC that stresses detail over rhythm, and some will choose a less forthright, more pleasingly ‘boppy’ sound. Moreover, if you want your DAC to give less than great recordings a soft-landing, look elsewhere; that resolution is always present, always a can opener into the studio... good and bad. Finally, this is not the device to tame demanding headphones with low sensitivity and impedance, as they can sometimes wind up thin and light sounding, EQ notwithstanding.

We’ve barely scratched the surface of what the RME ADI-2 DAC can do, and what it can do is extremely impressive. If you want a DAC that tells it like it is – both regarding detail retrieval and status update and analyser display – the RME ADI-2 DAC is hard to beat for the money. +

DS Audio Optical Cartridges



Cartridges clockwise from top left: DS-002, DS-W2, DS Master1. Phono equalisers from left to right: DS-002, DS-W2, DS Master1

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Schiit Audio Jotunheim Multibit balanced headphone amp/ preamp/DAC *by Chris Martens*



When Schiit Audio introduced its Jotunheim headphone amp/preamp in 2016, it was considered a technical marvel and a bargain. Jotunheim used a unique balanced circuit topology, called a 'Pivot Point' gain stage, developed by company founder and president Jason Stoddard. In theory, the 'Pivot Point' circuit could have been patented, but Stoddard decided against this to avoid divulging the inner subtleties of the design. It works very well, though, as Stoddard observed that, apart from power output, Jotunheim offers better measurable

performance than any other Schiit Audio headphone amplifier, irrespective of price.

The name Jotunheim is drawn from Norse mythology and means "Land of the Giants"—a name that takes on ironic connotations once you realise that while powerful, the amp is actually deceptively small. Its price is small too, coming in at a very manageable £385 or \$399 US. That sum buys you a sophisticated albeit minimalist headphone amp/preamp with balanced (XLR) and single-ended (RCA) analogue inputs and preamp outputs, plus balanced (4-pin XLR) and single-ended (6.35mm phone jack) headphone outputs. Maximum ►

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- ▶ balanced power output is a substantial 7500mW @ 16 Ohms. Distortion is low (<0.001% THD, 20Hz–20kHz) and bandwidth is impressive (2Hz–700kHz, -3dB).

There are two front panel-mounted toggle switches, an input selector and master gain control (for gain of either 2 or 8); a third, rear panel toggle serves as the main on/off switch. Schiit describes Jotunheim as a “configurable” amp in that it offers users the option of adding one of three possible I/O modules: a MM phono stage with passive RIAA equalisation (+£100 or \$100), a balanced AK4490-based Delta Sigma-type DAC (+£100 or \$100), and a true Multibit DAC (+£200 or \$200), patterned after Schiit’s Modi 2 Multibit DAC.

This review focuses on the Jotunheim Multibit model because, like the Modi 2, it is said to offer “the most affordable multibit DAC with a modern architecture—from any manufacturer, from any country in the world.” The DAC is based on an Analog Devices AS5547 multibit DAC and features Schiit’s “unique, closed-form digital filter”—the brainchild of company co-founder and digital guru Mike Moffat. By design, this DAC supports PCM files only, for resolutions up to 24/192.

As in our original review, the Jotunheim amp sounded powerful, refined, and accomplished—shockingly so in light of its price. It offers punch and authority, sufficient detail and resolution, quiet backgrounds, and precise control over the leading and trailing edges of notes. The amp is powerful enough to drive demanding headphones (e.g., the HiFiMAN Susvara), yet quiet enough to use with high-sensitivity CIEMs

(e.g., the Noble Audio Katana). Better still, Jotunheim sounds agile and fleet-footed, offering a brilliant combination of instantaneous energy delivery and cat-quick transient speeds.

The new Multibit DAC option, however, is what really sets Jotunheim Multibit apart. Jotunheim’s original balanced (Delta Sigma-type) DAC was an excellent option for the money, but the Multibit DAC, which costs only £100 or \$100 more, lifts performance to a much higher level. Side-by-side comparisons of the Balanced DAC module vs the Multibit DAC show the latter consistently offers superior resolution of low-level details, greater transient acuity, and markedly more contoured and three-dimensional renderings of instrumental and human voices. In fact, the Multibit DAC unlocks previously hidden layers of performance in the Jotunheim amp; you don’t so much listen to the Multibit DAC, but instead hear through it to access the inner workings of the music. A great example would be the Multibit’s performance on ‘The Mermaid’ from Norma Winstone’s *Distances* [ECM, 16/44.1] where the DAC does a spooky-good job with the harmonically complex sounds of the prepared piano heard at the opening of the track, while rendering the inflexions of Winstone’s voice with rare focus and grace.

For those looking to climb way up the personal audio performance ladder without crushing their wallets, Schiit Audio’s Jotunheim Multibit offers greater high-end bang for the bucks (or pounds, or euros) than any other option I’ve heard to date. +



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SoundEngine2



“...agile and fleet-footed, offering a brilliant combination of instantaneous energy delivery and cat-quick transient speeds.”

TECHNICAL SPECIFICATIONS

Schiit Audio Jotunheim fully balanced configurable headphone amp/preamp

Type: Solid-state, fully balanced headphone amplifier/preamp using a proprietary Pivot Point circuit topology

Analogue Inputs: One single-ended stereo analogue input (via RCA jacks), one balanced stereo analogue input (via XLR connectors)

Other Inputs: Jotunheim provide an internal space and rear panel I/O cutout opening to accommodate either an optional moving magnet phono stage with passive RIAA equalisation, a fully balanced Delta Sigma-type USB DAC, or a full-on Multibit USB DAC

Analogue Outputs: One stereo single-ended analogue preamp output (via RCA jacks), one stereo balanced analogue preamp output (via XLR connectors); two headphone outputs—one balanced (via 4-pin CLR connector) and one single-ended (via 6.35mm headphone jack)

Gain: 2 (6dB) or 8 (14dB)

Frequency Response, Analogue: 20Hz – 20kHz, ± 0.1 dB; 2Hz – 700kHz, -3dB

Distortion:

THD: <0.001%, 20Hz – 20kHz, at 1V RMS

IMD: <0.0015%, CCIR

Power Output:

Balanced: 7500mW @ 16 ohms; 5000mW @ 32 ohms; 3000mW @ 50 ohms; 900mW @ 300 ohms; 500mW @ 600 ohms

Single-Ended: 2500mW @ 16 ohms; 1500mW @ 32 ohms; 800mW @ 50 ohms; 350mW @ 300 ohms; 175mW @ 600 ohms

Dimensions (HxWxD): 15.24 × 30.48 × 22.86cm

Weight: 2.27 Kg

Price: £385, \$399 US

Optional Schiit Audio Jotunheim Multibit DAC module

Type: Multibit DAC module with proprietary closed-form digital filter, based on Analog Devices AA5547 multibit DAC

Inputs: USB

Outputs: Stereo analogue output to Jotunheim's internal I/O module connector.

Frequency response: 20Hz – 20kHz, -0.1dB

Formats: PCM at resolutions up to 24/192

Distortion:

THD: <0.006%, 20Hz – 20kHz, at maximum output

IMD: <0.007%, CCIR

Signal/Noise ratio: >104dB, unweighted, referenced to 2V RMS

Price: £200, \$200 US

MANUFACTURER INFORMATION: Schiit Audio
Valencia, CA 91355 USA

Tel: (323) 230-0079

URL: www.schiit.com

UK Distributor: Schiit Europe

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Transparent Reference PowerIsolator power conditioner

by Alan Sircom

It's not so long ago that power conditioners were not a 'thing', especially in the UK and many European audio circles. We used to pride ourselves on having 'clean' power, as the juice coming into our homes was not fed through as many local transformers as happens elsewhere on the planet. So, while American manufacturers were developing power conditioners and regenerators for an ever-increasing local audience, many Europeans dismissed the notion as gilding the lily. That all changed as we added an increasing number of switch-mode power supplies into the home, whether they be inside home computers, LCD televisions, or the endless cavalcade of phone chargers left dangling on any nearby power-strip. This not only awoke a whole continent to the need for power products but required a change of thinking on the part of the power conditioner providers: rather than inoculate the system against power evils outside of the home, now the enemy was within.

Power conditioners, until very recently, tended toward one of two compromises. They cleaned up the power and made

the sound more refined and open, but either did so at the expense of dynamic range, or by adding a boat anchor to the music. In other words, 'big and slow' or 'fast and thin'. This is why, despite obvious advantages in the midrange, treble, and soundstaging of a system, and the lowering of the overall noise that a good power conditioner brought to the party, many decided that the price paid elsewhere in the musical presentation was too steep.

Transparent was wisely late to the power conditioner game. It has a four-strong line-up of power conditioners, of which the Reference sits below the two-output Opus and XL models and above the multi-output PowerIsolator. The Reference PowerIsolator comes with eight outlets if you are based in America, seven if in the EU, and only six if you live in the UK. This is because the large UK 13A three pin plug has the advantage of large contact area for the live, neutral, and earth pins, and its design makes it impossible to invert AC polarity, but it takes up more real-estate on the PowerIsolator's back panel... and UK fire safety regulations require anything ▶



“I never got to fly on Concorde, but now I realise that I didn’t really want to break the sound barrier.”

- ▶ that carries a current be fused (power cords included), which adds even more size to the UK three-pin plug.

The Reference PowerIsolator (whatever the socketry at the rear) features a quartet of separate noise-isolated parallel filter banks. It also features power factor correction, and – as a mark of how our industry is changing concerning digital audio – a Gigabit Ethernet isolator with surge protection. Unlike many such boxes that merely use a fuse, the Transparent uses a parallel hydraulic circuit breaker, which suddenly becomes all the more advantageous in UK circles, because our systems often have twice the number of fuses than in other countries because of that additional fire safety requirement for a fuse in every power cord. The amp-heavy, curved, and very dark grey box features extruded aluminium side-bars and cross bracing holding a rigid polymer shell, and – like the contents of the filter boxes in Transparent’s higher-end cables, including the Reference power cords recommended for use with this PowerIsolator – are epoxy-loaded to reduce vibration and resonance, as well as add mass to the overall unit.

We at *Hi-Fi+* have a set terminology – the Transparent product falls into the ‘power conditioner’ category – but it really doesn’t fit here. The clue is in the name; *PowerIsolator*. And isolation is what it does and does very well. It’s a rigid, almost impermeable barrier to stop noise from elsewhere on the power line making it into your audio system, across all frequencies. And when you hear that, you soon discover that other products obsessed with the minutiae of power conditioning might not be looking at the bigger picture. Instead, Transparent adopts the ‘do one thing and do it properly’ approach.

The improvements are substantial, especially on higher-resolution equipment that comes with inherent sensitivity to its surroundings. There’s a strong sense of effortlessness to the sound that is more than just lower noise backgrounds (or, more correctly, the result of low noise backgrounds, adequately executed). This also helps free up the inner detail in a soundstage, while retaining the width and precision of that stereo image. Meanwhile, the overall power and dynamism of the music played is undimmed, freed even, and while this is more about ‘grace’ and ‘space’, it doesn’t interfere with ‘pace’ either.

Adding those two Ethernet connections is a boon. As we inevitably move toward a more networked audio approach, it’s

becoming clear that the network is the single largest cause of power-related noise in a modern system. Unfortunately, unplugging your system from that source of noise also disconnects you from Tidal and Qobuz, so radical surgery is worse than the symptoms of the disease. The Reference PowerIsolator shuts out that network noise, and this has a dramatic effect on the sound of your system... even when the network streamer is not in use. If this were the only barrier the isolator brought to the system, it would be gratefully received, but as it also carries the same isolation to the whole system, it’s a done deal.

There is also a ‘secret menu’ trick with using the Reference PowerIsolator. Although it has six outputs in the UK, only use every alternate one. That way you get a double-dose of isolation and adding a second Reference is a way of building on the first without having to trade in or trade up or a bank of XL or Opus models.

I never got to fly on Concorde, but now I realise that I didn’t really want to break the sound barrier. With the Transparent Reference PowerIsolator in tow, I want more of a sound barrier. I want a solid wall between power and sound... and that’s what the Reference PowerIsolator brings, without any sonic booms or rattled windows, unless you want to create your own. We’ve been used to talking about the best of these power products as ‘benign+’ as in, they improve one aspect of performance while doing nothing too wrong elsewhere. This enhances the performance across the board. The power revolution starts here! +

PRICE AND CONTACT DETAILS

Transparent Reference PowerIsolator

Price: £4,875

Manufactured by: Transparent

URL: transparentcable.com

Distributed by: Absolute Sounds

URL: absolutesounds.com

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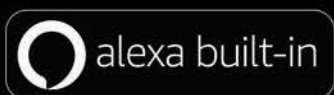


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IsoAcoustics Gaia I, II, and III loudspeaker isolation feet

by Alan Sircom



As late as the middle of the last decade, the only legitimate audiophile option for the interface between loudspeaker and floor was the spike. You drove them as hard as possible into a wooden or concrete floor or sat them on protectors to prevent the spike cracking marble or tile. Your audiophile 'cred' was measured by how inert you could make that loudspeaker, based on the logical assumption that the only part of a speaker that should move is the transducer.

However, an equally logical assumption emerged a dozen or so years ago, that instead of trying to make the loudspeaker cabinets a rigid part of the building, we should instead

attempt to somehow decouple them from their environment. Everything from springs to squash balls to ball-races was drafted into supporting roles for loudspeakers (and even audio electronics) with mixed success. The battle doesn't exactly rage, but it still continues to this day, with some rigidly (pun intended) supporting spikes and others still pursuing the next great interface.

Some of the most consistently successful products to sit under loudspeakers in recent years are the Gaia feet from Canadian isolation specialists IsoAcoustics. These come in three different sizes for different weights of a speaker. The smallest – Gaia III – works with loudspeakers up to 32kg, ►

“The Gaia feet also can make the room have less of an influence over the performance of a loudspeaker.”

- ▶ the Gaia II for loudspeakers between 32kg and 54kg, and the largest Gaia I for loudspeakers up to 100kg. You get four Gaia feet and a mounting kit in each pack, so to install under a stereo pair of speakers, you will need two kits. The Gaia pack comes with a range of screw threads and is designed to replace the spikes supplied with your loudspeakers (not all speaker designers use the same M6 and M8 threads, but the IsoAcoustics website does have an online configurator and SCV a-near infinite range of free options). Just swap out the spikes, level the loudspeakers (using the two knurled collars to lock the screw at the speaker and Gaia ends, and align the logos on each Gaia either directly toward or away from the listening position. While that last might smack of *audiophilia nervosa*, remember that IsoAcoustics cut its isolation teeth on the ISO Series small speaker stands used to stop monitor and mixing desk interacting with one another in some of the best studios on the planet, and even the most curmudgeonly recording engineers swear by them. These are not people known for taking audiophile hocus-pocus at face value.

The Gaia ‘pod’ itself comprises a machined and dark-chromed stainless steel top and base section, separated internally by a secret-sauce internal elastomer structure, this prevents any resonance from the ground interacting with the loudspeaker and vice versa. There is decoupling in the vertical and horizontal planes, which is why the positioning of the Gaia logo is important: it aligns the decoupling with the plane of the drive units. Hocus-pocus status: revoked!

The internal squidgy bit in the middle of the Gaia feet means that when installed, the loudspeaker has a small amount of travel like it’s sitting on a well-damped suspension system. It doesn’t bounce like the suspension of a Linn turntable, and it doesn’t even have the freedom of movement of something like a Townshend seismic speaker platform, but if you are used to rigid speakers spiked into the floor, that slight movement might come over as disconcerting.

The Townshend platform comparison is an interesting one, not least because I have a set to hand. The two perform in an all-but identical manner in sonic terms, with deeper and tauter bass, improved midrange, greater image depth, more solidity of instruments, and improved dimensionality within a stereo soundstage. There’s a greater overall focus to the sound too, with a good sense of rhythm, and no downsides!

This is a good test for the Gaia supports because those Townshend platforms have been holding up my Wilson Duette Series 2 for almost as long as they have been in the listening room. Other supports have come and gone (the Nordost Sort Füt being the closest to unseating the Townshend), but few offered the same package of overall improvement without a compromise somewhere, even if that compromise simply meant an emptier bank account. The Gaia is the first that delivers the goods in a smaller, more manageable package, and at an attainable price.

The Gaia feet also can make the room have less of an influence over the performance of a loudspeaker. Granted, a full set of eight Gaia’s will not replace a need for room treatment, especially in an acoustically unfortunate room, but they will lessen the volume level at which any given room can ‘kick off’ and start to join in with the speaker, adding stray resonances and buzzes at a range of frequencies. On the one hand, the Gaia allows you to play a pair of loudspeakers louder in a room. On the other, it will enable you to play music quieter with less interference on a low level from that room: the perfect example of a win-win.

Unless spikes still speak to you so loudly that you cannot countenance any other form of support system on religious grounds, the IsoAcoustics Gaia makes a whole lot of sense. If you want to hear what your loudspeakers really sound like, put them on a set of these support feet. It’s like your loudspeakers just got a significant upgrade! +

PRICES AND CONTACT DETAILS

Gaia I: £599 per set

Gaia II: £299 per set

Gaia III: £199 per set

Manufactured by: IsoAcoustics

URL: isoacoustics.com

Distributed by: SCV Distribution

URL: scvdistribution.co.uk

Tel: +44(0)3301 222 500

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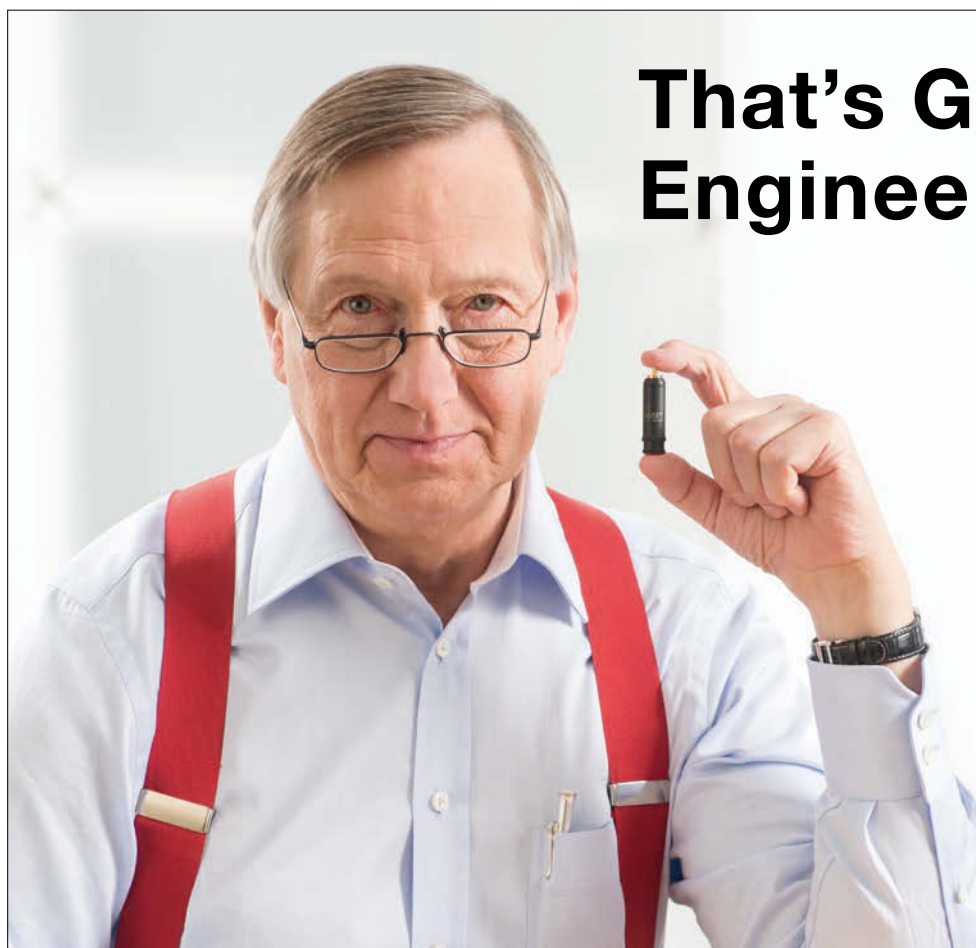
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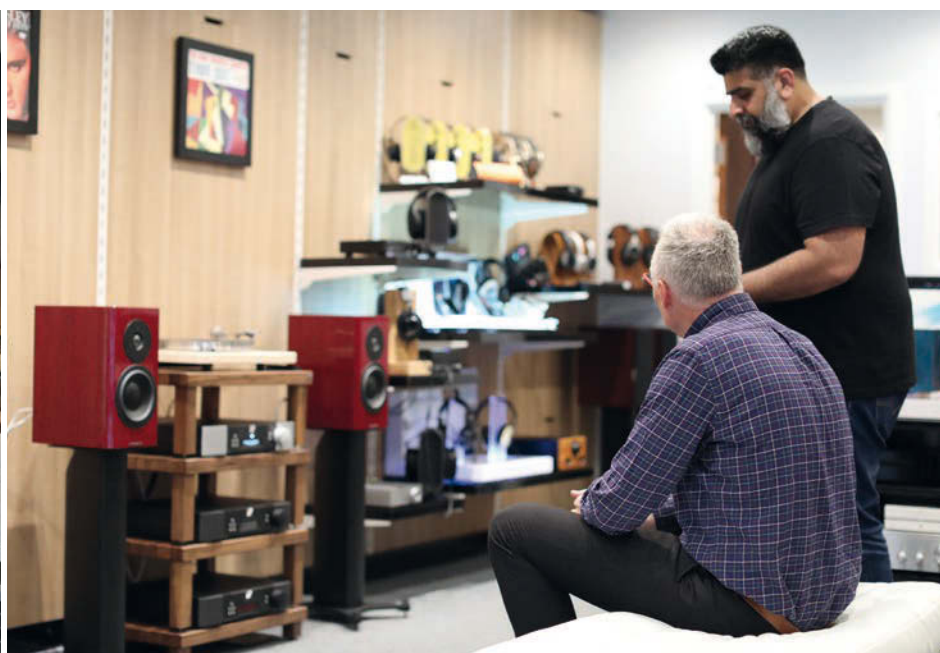
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MEET YOUR DEALER

HiFonix

by Alan Sircom



HiFonix is based in the Royal Town of Sutton Coldfield, which lies just to the northeast of the Birmingham sprawl, in the heart of the Midlands of England. And, unlike most specialist audio stores in the UK today, HiFonix has not abandoned the traditional retail space and moved in with its parents. Instead, the company operates from inside The Lanes Shopping Centre, giving good audio greater visibility than a store hidden in someone's living room or on an industrial park.

The owner of HiFonix, Aseem Hussain, has built a solid high-end hi-fi emporium in only a few years, in a town that is relatively prosperous but not known for its strong audiophile community. He has done this by building on a bedrock of good brands that make a great sound, rather than a 'pile it high, sell it cheap' approach. This is possibly an advantage of not having decades of history in the store because so many rival stores had a race to the bottom when the industry defined itself that way, and now that the specialist store is reasserting itself as a bespoke centre of good quality audio, they struggle to reposition themselves as a high-end retailer. HiFonix, never having engaged in that race to the bottom has no such need to reinvent itself, and instead presents a whole package of high-performance audio, pulling together some of the best brands from the UK and around the world, irrespective of whether they are in the traditional or personal audio space.

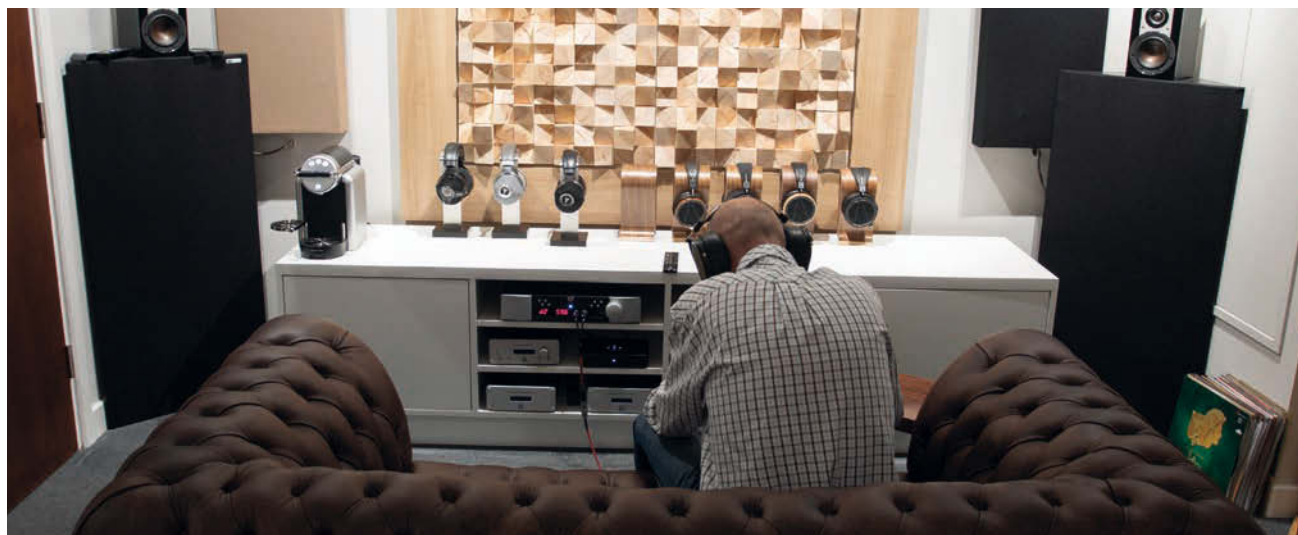
However, that 'right place, right time' idea doesn't say it all, as a store is only as good as the staff and the proprietor, and it's here that Aseem Hussain's influence becomes so important. And given he's made HiFonix a success in record time, it's worth discovering his secrets!

What brands do you stock?

In no particular order, we stock Arcam, Chord Electronics, Dynaudio, Leema Acoustics, MOON, DALI, Astell & Kern, Atacama, Focal, KEF, Ortofon, Audio-Technica, Pro-Ject, Shure, JH Audio, Sonus faber, Nordost, Musical Fidelity, Audeze, Clearaudio, Innuos, Roksan, and Stax.

What inspired you to get into the industry?

It may be the standard answer, but I love music and have always wanted it to sound ►



“My father has always been an inspirational character in my life.”

► great. Such was my desire for hearing recorded music at its very best I stepped away from the family business to pursue this quest within the hi-fi industry.

Who has been your biggest influence?

My father has always been an inspirational character in my life, and now I have this fantastic opportunity to repeat and respect his work ethic. In the audio industry, I take great inspiration from the people who combine design, retail experience, and the very best in audio together. On agreement, I won't name the person who does it best, but he provides an inspirational pathway for me and the future of HiFonix.

What music do you listen to when doing a demonstration?

I always encourage my customers to play music that they are familiar with as this lets me demonstrate how my products can make them sound better than they've heard before. I also like to drop in a little bit of Asian Fusion every now and again. *Beat of Passion*, by A. R. Raham always makes my customers' jaws drop.

What is the best piece of advice that you can give to someone who is looking to upgrade their system?

Everybody hears music differently and enjoys different beats, tones, and nuances. My number one piece of advice is if you feel comfortable listening to a product then that product is suitable for you. But of course, we cannot stop there. This is the point that as an advisor we in the industry we must introduce a new top-quality DAC, an amplifier, a turntable, or whatever will make things sound much better without losing the passion in the music for the listener. People say, “the devil is in the detail”, and with hi-fi customers sometimes they ►

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► can lose track of the passion in the search for greater detail. I say keep searching for “the feel”.

Which do you prefer – downloading, CD, Vinyl and why?

It's very much horses for courses. If I'm in a hurry a quick bit of streaming action is excellent, CDs are convenient, but after a hard day's work nothing beats sitting at home and relaxing listening to my favourite piece of vinyl.

Has streaming taken over from downloading?

Yes of course. The services offered by the likes of Tidal and Spotify are fantastic, and the control applications on the market allow great access at home, at work and on the go. Like many of my customers, I also like to have my music in a physical format. At HiFonix we now source rare vinyl for our customers and always have a good selection on sale.

How do you see the industry five years' time?

I am very confident about the future of this industry. Our collective passion for music never diminishes, and as long as there are still great products to play music on and we present them with excellent service and knowledge, we will have a very positive future. As a retailer in hi-fi, I have a duty of service to my customers. I genuinely feel that more people will be attracted by the high levels of service that exist in our industry that have sadly slipped away in other types of retailing.' +

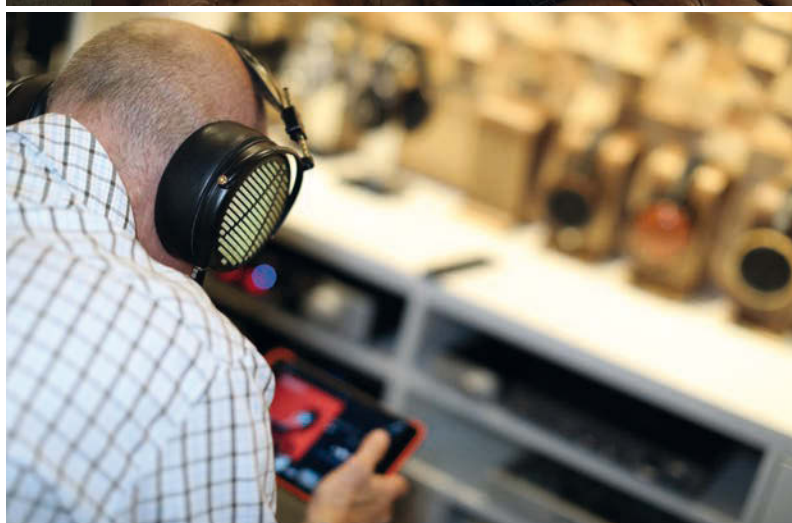
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Dave Gordon of Audio Research

by Alan Sircom

Dave Gordon, Managing Director of Sales and Brand Ambassador for Audio Research is one of the best-known people in the audio business. Every inch the gentleman, he's one of those people who commands near universal respect even among rival brands. Save for a brief sabbatical, he has been working with Audio Research since the late Jurassic Era, and seen the brand go through several key changes. He's better equipped than most in looking back and looking forward.

How did Audio Research begin?

Well, Bill (William Z. Johnson 1922-2011, the founder of Audio Research) had a retail store in Minneapolis called Electronic Industries, that he started in the 1950s. He did TV repair, tube testing, and he sold hi-fi. He sold

great lines like Scott and McIntosh. But, he also designed and sold a lot of custom amplifiers, mixing consoles, microphone preamps, and things like that (there's a big music community in Minneapolis). Bill also modified some Dynaco amplifiers during the 1960s and 1970s. He had some patented designs and originally sold all of his products through Electronic Industries, but it kept him busy, so he sold all of his designs and electronics to a small company called Paplow that was buying up other companies at the time (this was probably around 1966-68).

He quickly realised they were doing a miserable job, so he bought all his rights and patents back, and from that he started Audio Research in 1970. There's actually an SP1 preamplifier from that time in the factory that still has the Electronic Industries front panel, as well as ones with the Audio Research front panels, of course. They were identical except for that panel.

Bill grew up with great tube electronics and at that point everything was turning to solid-state. When he started Audio Research, there were no vacuum tube manufacturers in the US for home hi-fi; just guitar amps. Bill was a pretty serious pianist, and he just didn't believe that solid-state then sounded like real music. But he also believed in wide bandwidth, low distortion, big power supplies, and things like that. So, what he came to market with in those early days was quite different to the established tube amp norms of a decade earlier.



It was a close-knit music and audiophile community in Minnesota: Wendell Diller (now Sales Manager of Magnepan) joined Bill in the early 1970s and was Audio Research's first – or maybe second – Sales Manager. It's funny because Jim Winey of Magnepan was a customer of Bill's and loved KLH9 amps (which he kept blowing up!). This was before he started Magnepan (he was an engineer for 3M at the time and came up with the magneplanar drive unit in his basement in his spare time). Bill loved the original Tympanis so much that he said he'd distribute them, so ARC distributed Magnepan for its first five years, and then Magnepan separated and Wendell went to work for Magnepan around '77. He's still there.

I went in the opposite direction. I got into hi-fi in the 1970s, but I started retail in '82. I joined Magnepan in '85, then transitioned across to Audio Research a few years later.

When did you join Audio Research?

I started in 1989. At that time, the company had already been going for 19 years. It was a fun time, but it was an interesting time because we were having real problems in getting good tubes. Bill had long made solid-state and tube electronics; in fact, in the late 1970s, he thought tubes were on the way out and he didn't think anyone would make them again. When I went to Audio Research, Philips was closing up its US operations and Bill wanted to buy Philips tube manufacturing in the US. And Philips actually said 'no!' Bill could have bought the machines, but the engineers were all retiring, and no-one could make a good tube without those engineers. They were quite honest about it. So, Bill bought 25,000 output tubes and thought that would last him a while... which it did.

What happened when you finally ran out of those US-made tubes?

We began to transition to the Chinese tubes that were just appearing. Some of these could be good, and some could be *terrible*. At that time they were both variable and unreliable; you never knew if you got a tube that would last 200 hours or 2,000 hours, that was the problem.

I actually left Audio Research in '92, and went to Thiel in Lexington, KY. And during that time, in the early 1990s, that's when Audio Research transitioned over to the KT90, which was a really wonderful tube and got them by for quite a while. It was interesting because before I left, Bill always wanted to do a big Reference line of electronics, but he didn't do it because he couldn't get the tubes. However, in 1995, Communism had collapsed, and suddenly Bill had access to the Russian market, and they were still making



these great 6550s and other Russian tubes, and that's when he said "I can do this!" about the Reference Series.

He would never use a tube that would be unavailable long-term because Audio Research at that time was able to repair everything it had ever made.

I came back in '96 and that was when we had just come out with the Reference 2 preamp and the CD3 CD player. The Reference products really took off, but they were beasts! They were laid out horizontally, everything was so big, and they had so many cooling fans. But, that's what Bill wanted to do... he always wanted to make a statement!

How was working with Bill?

Bill was an engineer. He was adamant everything had good specifications. If something spec'd out well, that was the foundation for something sounding good. If it spec'd out badly and sounded good, there was something wrong! However, Bill also understood that we can hear things we can't yet measure, and there was always someone listening to every piece before it went out. Nothing has changed in the way ▶

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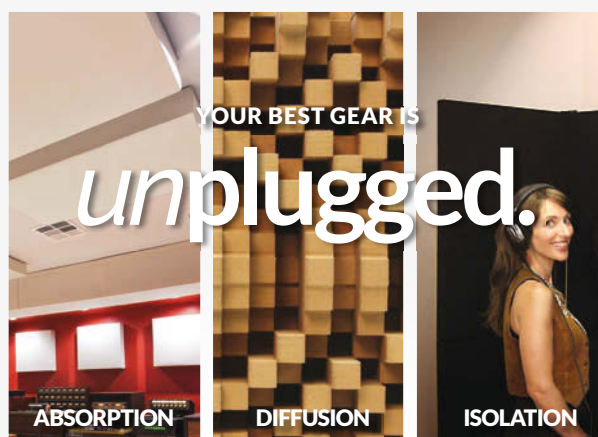
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“We still design our own boards, we do all of our own engineering in house, we install every part on every board by hand, and hand solder.”

► we manufacture products really, from 1970 to today. We still design our own boards, we do all of our own engineering in house, we install every part on every board by hand, and hand solder. And that's quite a lot of labour involved.

However, one of the problems that working with an engineer and a perfectionist is products would change mid way through their lifespan. The SP10 was perhaps the best example of this; the product went through eight or nine versions during its lifespan. That makes it really difficult for inventory, and both new sales and resale values. That's changed now. A product like the Foundation series preamp is signed off as a final design, and that design stays fixed until the next version comes along a few years later.

But, not everything changes, and we still listen to everything before it leaves the factory. Our current set of 'ears' belong to Warren Gehl, and it was Jack Helm before that. The best example as to why we do this harks back to the early 2000s. We were producing a Reference CD player, and we were using an R-core transformer that came from Asia and it was really good sounding; we liked the design and the specifications were locked in. Everything was fine, until one day Warren was listening to the Ref CD player and he started rejecting them. Whenever Warren rejects something on sonic terms, it goes back to Quality Control. They tested these players many times to find out what was wrong. It turned out, the manufacturer for those R-core transformers had changed facilities. Everything spec'd up perfectly, but it was the manufacturing. This was something we could hear – blind – but couldn't measure.

We design all our custom caps, but it's kind of like seasoning a dish. You have to taste it along the way!

How does that fit with a world of different environmental standards?

Things like the introduction of RoHS in the EU were really difficult. It took us about a year and a half to fix. We knew what was coming, and rather than wait for the inevitable to happen, we started listening to different materials, different solders: tin, silver, aluminium. We worked with our vendors until we found materials we really liked. But ultimately, it paid off; we thought our overall sound got about five per cent better after we implemented these changes.

How much of that do you think was down to changes in materials, and how much to new circuit layouts and designs?

It's both! You can't do one without involving the other. It's so many different things. For example, with the capacitors, you need to break them in by running a signal through them, but it's also how they react to other materials. We tend to raise critical capacitors off the circuit board because they sound better that way. We've found we can hear differences in tie-down materials – if you compare clear and black tie-downs, they impart different signatures. And that's very hard for some people to believe.

These are things we want everyone to be able to hear. You don't have to know how an engine works to appreciate how it drives. It's kind of clichéd, but even different brands of standard power cords make a difference. We tried five or six different 12-gauge cords all from different factories in China. The cords all look the same, three might sound the same, one will sound significantly better and two will sound worse!

Of all the products made during your time at Audio Research, which ones do you think are the most significant?

Personally, I think it was the Reference 3 preamp, from just when I rejoined the company in 1996. It was the preamp that really changed things, in terms of what could be done, of the way an Audio Research preamplifier could be configured and used. It set out our store for the way almost every Audio Research control product works ever since. And it sounded excellent too. It still does, even if in absolute terms the Foundation LS28 – currently our least expensive preamplifier in the range – sounds better. That's a sign both of how long-lasting our products are, and how they just keep getting better! +

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record reviews

How To Read Them

The information contained in the record reviews is presented in the following way. Albums are identified by label and – where possible – serial number. Beneath this you will find one or more icons that denote the available formats for the recording. The first icon refers to the format reviewed.

The ratings at the bottom of each review reflect the reviewer's opinion of the recording quality, and musical merits of the album. You'll soon realise that a great many musically significant albums offer less than wonderful sound. Don't let it put you off! For your information, the scale rates a standard, good quality pop recording as slightly below average.

This issue's featured reviewers are:

DD – Dennis Davis

JMH – James M Hughes

JK – Jason Kennedy

	CD		120g LP
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Tristan und Isolde

Wagner

Nilsson, Windgassen, Talvela, Waechter, Ludwig

Orchestra and Chorus of the Bayreuth Festival

Karl Böhm

DG 00289 479 7291



I was surprised to see DG choose their 1966 *Tristan* for release on Blu-ray Audio. Not for artistic reasons; the performance is legendary, and remains among the most vivid and exciting Wagner ever committed to disc. However, the sound was not especially outstanding at the time.

The recording was made during the 1966 Bayreuth Festival, and featured the finest Wagnerian singers of the day. Karl Böhm was not generally considered an 'exciting' interpreter. Yet in the opera pit he was a different animal; his *Tristan* shows that. The surface calmness was deceptive. Passages that need extra thrust get it. The music takes wing with a gravity-defying lift that's unmistakeable. It's as though a new spirit permeates the playing; you sense everyone being carried away by the drama. As a result, Böhm's *Tristan* captured everyone's attention.

In 1966, Birgit Nilsson was at her matchless peak: the *Isolde* of her generation singing powerfully, pouring out a glorious stream of sound. Wolfgang Windgassen (then towards the end of a long and distinguished career) sounds a little strained at times, but is still in fine voice. In fact, the whole cast is excellent, and it

would be impossible to match (or even approach) this standard today.

DG recorded the work over several days in front of a specially-invited audience of about 1,000 people. This meant the singers could 'let rip' without having to worry about fatigue and eliminated stage and audience noises.

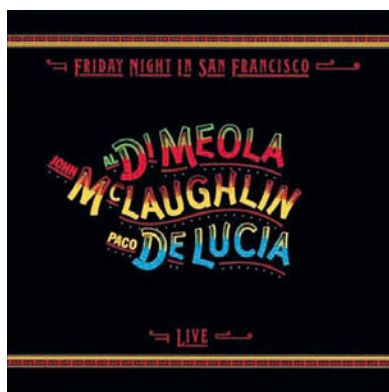
The Bayreuth *Festspielhaus* has a unique acoustic. Wagner arranged the orchestra so it's hidden beneath a cowl, creating a diffuse homogenised sound that is difficult to record and reproduce. So, while this recording does not have the impressive sonic detail and clarity achieved by Decca in its legendary Solti recordings, the sound is arguably closer to the sort of balance one would hear live.

I was pleasantly surprised by how well Böhm's Bayreuth *Tristan* sounds courtesy of Blu-ray Audio. The remastered CDs sound good too, but the two-channel only Blu-ray has even greater dynamic range and a warmer, fuller tonal balance, even if the recording still remains on the bright and forward side, and the lower frequencies lack some fullness and weight. More importantly though, the Blu-ray conveys the excitement and drama of the singing and playing with great intensity.

Universal is obviously committed to releasing its great recordings from the past on Blu-ray Audio. I can't wait for the next one! **JMH**

RECORDING
MUSIC





Friday Night In San Francisco

Al Di Meola, John McLaughlin, and Paco De Lucia

Impex (Columbia) IMP6029

180g

I wish I could remember where I was on, and more than that I wish I could remember that I was at the Warfield Theatre in San Francisco on December 5, 1980, where this concert was recorded. Three of the world's great guitar players played on the same bill, and their performances were to die for. The Guitar Trio formed in 1979, was originally composed of McLaughlin, Paco De Lucia, and Larry Coryell, but after the release of this album, Al Di Meola replaced Coryell as a member.

McLaughlin, the senior and perhaps best-known member of the group, was an early advocate of jazz fusion, and the elements he fused included principally electric jazz and Indian classical music, with some blues, flamenco and western classical music mixed in. A list of the groups he was associated with would exceed the word count of this article, but his albums with Miles Davis, The Mahavishnu Orchestra, and Shakti are well represented in the collections of any guitar fan. Di Meola, known for his lightning speed and technical prowess, trained at Berklee College of Music and came to prominence as a member of Return To Forever. Of Italian heritage, his playing extracts the essence of Mediterranean and flamenco. Sadly, Paco De Lucia passed away in 2014, leaving a powerful body of work (including this

live masterpiece). Where the other two members incorporate flamenco into their music, de Lucia was first and foremost a flamenco guitar artist, and in his case, he incorporated jazz and classical music into his flamenco art. Like Di Meola and McLaughlin, he could play with lightning speed.

Many music lovers first came to flamenco music through its use in jazz. Flamenco, however, dates back to the eighteenth century. Associated with the Romani people of Spain (gypsies), its roots spread wider, encompassing musical styles throughout the Andalusia area of Spain. Today, the sounds of flamenco guitar, castanets and hand-clapping have spread across a wide spectrum of performance styles. Some of my most treasured discs include a three 10" disc set titled *Anthologie Du Cante Flamenco* on Ducretet-Thomson (LA 1051-52-53) published in the early 1950s and Carmen Amaya's *Queen of the Gypsies* on Decca DL 9816.

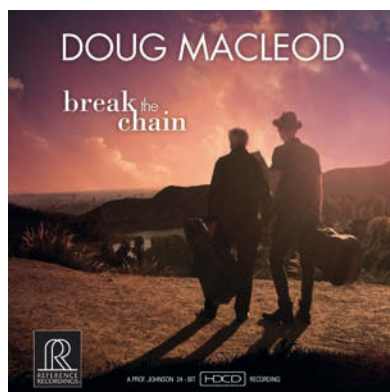
These are likely some of the same records Di Meola, McLaughlin, and De Lucia pored over as youngsters, learning their craft. None of them, however, remained hide-bound or stuck in old ways of thinking, and their updated take on the Andalusia spirit was never more in evidence than in this mostly live recording. Frequently, putting three superstars together on a single disc backfires (the magic almost happened again on their later studio album, *Passion, Grace and Fire*), but here the three play at their respective peaks and the result is one of the great guitar discs of all time.

The LP has never been out of print, and has always been considered an audiophile demonstration record. Even before cracking the seal on my copy of the new Impex reissue, I began seeing reports on the internet, claiming that an original pressing "blew away" the new reissue, or that it was doomed to failure because modern 180 grams records always sound inferior due to chemicals incorporated into the vinyl compound. Rather than sending the review copy back to Impex, I decided to listen to it and compare it to an original US pressing as well as the last reissue, a 45 RPM reissue from the Original Recording Group (ORG) released in 2012, but no longer available. The Impex reissue was mastered from the original analogue master tapes by Bernie Grundman, with Impex's Bob Donnelly sitting in (but not credited in the wax). It's an edition limited to 3,000 copies and pressed at RTI in California. Unlike Impex's recent *Legrand Jazz*, the cover is not the ultra heavy cardboard version used there, but it is still heavy stock cardboard.

The sound is rich yet retains all the detail of the original. The Columbia original, by comparison, sounds a bit threadbare, where the Impex adds plenty of instrumental body and stage depth. It's a big step up from the original and edges out the ORG 45 RPM version by a hair. A huge sonic and musical thumbs up! **DD**

**RECORDING
MUSIC**





Break the Chain

Doug MacLeod

Reference Recordings



It's a sad fact of audiophile life that great music is so rarely recorded with maximum fidelity. Thankfully there are a few examples where the two come together, but they are the differences to the rule. Reference Recordings has a long history of making fabulous recordings, and engineer Keith O. Johnson apparently has a knack for capturing both the sound of the room and the musicians and producing releases that combine naturalness with dynamics in a highly convincing manner. His partner Jan Mancuso appears to be rather good at finding artists to record, and one of the label's greatest assets is contemporary blues singer Doug MacLeod.

Break the Chain is his fourth album for Reference but his 16th since he started making records back in 1984, during which time he has had releases on JVC and AudioQuest. He certainly seems to have tapped into the audiophile market. It's not surprising really; MacLeod plays acoustic blues in a relaxed and spare style. On this album he's accompanied for the most part by guys playing acoustic instruments as well. All of which is ripe for spacious and open-sounding albums with lots of natural reverb in the right room. And that's what you get here: a lovely acoustic guitar, bass and percussion in a studio that has a very even reverb character and just the right amount of space. Johnson's recording captures it correctly so that

a good system can put the band and the acoustic in front of you.

What's more, the music is rather good, too. MacLeod may not look like your typical blues artist, but he sings from the heart and has apparently had his troubles, so he has something meaningful to sing about. He's also a great guitar player and the instrumentals on *Break the Chain* are just as appealing as the songs.

The album kicks off with 'Goin' Down the Roadhouse', an incitement to get off the couch and eat with other people rather than "watching *Law and Order* reruns on a Saturday Night". I guess if you're the sort of troubadour who plays roadhouses for a living this is what you want people to do, but he has a point. Here MacLeod plays a guitar called Moon (they all have names, and there are plenty of them), alongside Denny Croy on open-body bass, and Jimi Bott's drums. 'Mr Bloozeman' rails against all the plastic blues players whose "blues history started around 1984" and who "play more notes in one song than Muddy Waters did his whole life", yet don't have any feel, and there are plenty of those. 'Lonesome Feeling' is a mellow song accompanied by slide guitar alone – it wouldn't be so lonesome otherwise – where the central tenet is lost love. 'Travel On' makes sure you don't get too blue with a driving rhythm that's reminiscent of a train; here the sound is vibrant with clattering slide, bass and Oliver Brown on percussion.

'LA - Siren of the West' is played on 12-string and bass and tells of the dangers that await the aspiring artist

in tinsel town. Zappa put it best when he sang "The people there think that substance is a bore," but MacLeod makes his point well enough. 'Tampa Red' is a lovely homage to his idol played on a National steel guitar with a long instrumental intro and some great lines in the song, "No fixin' with the mixin'" being my favourite. 'Who's Driving this Bus?' is the only protest song on here (and it's hardly a rant), but it makes some good points about the political situation in America today, with some nice rattlesnake percussion and bass accompaniment. 'This Road' has a great shuffle beat and some nice picking on a different steel guitar, which keeps things tonally interesting as does the upright bass. The third side ends with 'Church Street Serenade', a solo guitar piece with picking that genuinely is mellow gold.

The last side of this half-speed mastered, 45rpm double album is where things get truly personal. The title track was written by Doug and his son Jesse and focusses on the abuse that MacLeod suffered as a child and the fact that this can create a pattern. But he managed to 'Break The Chain' and bring up his own son with love. It's powerful, life-affirming stuff and a rare subject for a blues singer, but all the more poignant because of it. Which helps to make *Break the Chain* an album of great music with great sound; both the vinyl and the high-res download are superb. **JK**

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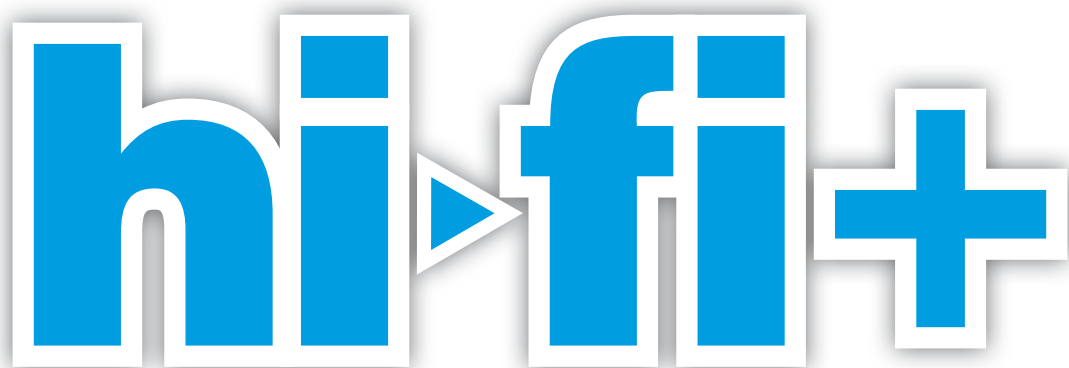
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AWARDS!

It's that time again! We have selected the best of the best products we have seen in 2018, and only the finest get to win a prestigious and coveted *Hi-Fi+* Award. Find out our top picks of the year in every category from huge flagship floorstanding loudspeakers to the smallest phono cartridges and earphones. The must-have products at all prices for 2019 are in the pages of next month's *Hi-Fi+*. Miss it, miss out!



Plus:

Our new-look, sixteen-page, personal audio section,
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Bel Canto e.One PHONO Review
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Audio Research's Reference Series demonstrates once again that it is worthy of the name. A reference is a benchmark by which others should be judged. The flagship models from ARC have always represented the state of the art in vacuum tube electronics, with the Reference 6 pre-amplifier continuing to serve as the control unit of choice for countless music lovers, reviewers and manufacturers who, indeed, demand a reference point for their listening. Joining the existing Reference line-up is

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