

Primare NP30 The luxury link for high resolution streaming





- "Primare's NP30 sounded every bit as good when streaming as when used as a standalone DAC... A great all-rounder."
- "...the Primare is blessed with an analogue richness that's as reminiscent of a top-notch phono stage as it is a DAC... it tells me that what I'm hearing is about as close to the album's studio sessions as I'm going to get within my listening room."



July 2014



August 201



karma-av.co.uk

For more information please visit primare.net.

LOCK

MEDIA

Hi-Fi Choice PASSION FOR SOUND





Musicreviews



Neil Young A Letter Home



Welcome

www.hifichoice.co.uk Issue No. 388 September 2014



Here at *Hi-Fi Choice* we encourage listening to music through a hi-fi system built around separate components and a pair of loudspeakers. However, we realise that listening to music in this way isn't always possible due to the practicalities of our domestic arrangements, where having the

system playing great music is all too often overruled in favour of someone else wanting to watch the TV. This constant battle can see your music having to take a back seat at home if your household is anything like mine.

For plenty of music fans, listening time can end up being restricted to journeys in the car or on the train as we spend an increasing amount of our lives on the move, and lightweight and portable headphone models are often more practical for listening via smart devices. The headphone market has never been bigger as more models than ever fight it out for our attention and new headphone brands introduce models to get in on the expanding market.

In this month's *Group Test* we take a look at six sets of headphones designed to enable serious hi-fi listening at home. This isn't to say that they can't be used on the move, but their larger over-ear and mainly open-back design won't win you any friends among fellow travellers on a bus or train journey. The six models priced from £300 to £500 come from manufactures with a heritage in making hi-fi headphones for use in the home. To find out which ones come out top, turn to page 24.

Lee Dunkley Editor

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Hi-FiChoice Choice Choice Choice

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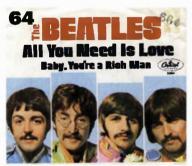
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Audiofile: Dali's new Rubicon speakers





Cabasse Stream Source digital music hub "There are many myths about what you should do to your room to make it suitable for listening"

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AUGIOFICE THE LATEST INDUSTRY NEWS...

Family favourtes

Dali's new Rubicon loudspeaker series promises to impress music lovers and AV enthusiasts alike

PRICE: £875-£3,999 **AVAILABLE:** NOW **CONTACT:** 0845 6443537 **WEB:** DALI-UK,CO.UK

WITH 30 YEARS in the loudspeaker manufacturing business Dali knows a thing or two about designing speakers tuned for both stereo and surround sound applications. Rubicon is the latest family of models to come from the Danish firm tuned for real-world duties, says Dali CEO Lars Worre. He added: "We know a lot of people will be using Spotify at home, and the Rubicons have been tuned for CD giving a mid-way point between streaming and hi-res qualities".

The new series builds on the company's Epicon flagship range and is aimed at both hi-fi enthusiasts and those looking to expand their system to surround sound duties. The new Rubicons employ an optimised version of its ribbon/29mm soft dome hybrid tweeter module taken from

The Rubicons employ a hybrid tweeter array from the flagship range

the Epicon, which Dali says breaks with traditional speaker conventions to provide rich detail with impeccable high-frequency reproduction.

First up in the new range is the Rubicon 2 (£1,599). It's the only standmounter in the Rubicon family and features a 2-way bass reflex design with a 29mm soft dome tweeter and a 6.5in wood fibre mid/bass driver. The first of three floorstander models, the Rubicon 5 (£2,399) is a 2.5-way design utilising the hybrid tweeter module partnered

with the same 6.5in mid/bass driver as its standmounting sibling. The Rubicon 6 (£2,999) and 8 (£3,999) floorstanding models employ the same ribbon and soft dome tweeter arrangement but married to two and three 6.5in mid/bass drivers respectively. Lastly, the Rubicon LCR (£825 each) is the first wall-mounting model from the brand. Like the rest of the speakers in the range it utilises the same hybrid tweeter arrangement but is aimed at multi-channel use.

The Rubicon range is available now in high-gloss black, high-gloss white, walnut, or rosso finishes.

The five-strong range means there's a Rubicon for everyone





COMMENT TOP OF THE POPS

Despite being derided by Thom Yorke from Radiohead and Talking Heads' David Byrne, music streaming services like Spotify are finally being given the recognition that (they at least would argue) they deserve. The Official Charts Company, which is responsible for compiling the music charts, has announced from July audio streams will be counted towards the charts along with single sales and digital downloads. It has argued that this is a necessary reform in light of the growing popularity of digital streaming, which exceeds 200m streams a week. Data will be taken from Spotify, Deezer, Napster, Xbox Music, Music Unlimited and Rara, and 100 streams will equate to a single purchase when compiling the data.

Martin Talbot, chief executive of the Official Charts Company, told *The Guardian:* "Over the last 18 months we've seen a real explosion in the amount of streaming that goes on and it's a rapidly growing market. It's a shift in the way music fans are accessing their music. This singles chart is all about representing and reflecting music popularity and we felt that because of this rapid growth, we had to look to include streaming in our data".

Reactions have been fairly positive with musicians broadly praising the move. Dan Smith, from Bastille (whose single Pompeii is the most streamed of all time) said: "For the charts to be fair it has to reflect how people digest music". Billy Brag, however, has sounded a note of warning: "It is a good thing because it is clearly the way music fans are accessing and listening to music, and sites are making a significant step in getting people to pay for music again, which is positive. But we are early in the process of accessing music in this format and there needs to be something done about the remuneration for artists. We really need a new model with the record companies that makes things fairer."

Only time will tell if musicians benefit from the announcement, but one thing's for sure, the likes of Spotify will be rubbing their hands together with glee...



New MF integrated amps

Musical Fidelity replace the M3i and M6i with M3si and M6si updates

PRICE: £1,099, £2,499 **AVAILABLE:** NOW **CONTACT:** 020 8900 2866 **WEB:** MUSICALFIDELITY.COM

DESPITE ENJOYING FIVE years of success, Musical Fidelity's M3i and M6i have been given a spruce up to reflect the growing popularity of computer-based audio. The new M3si, has had its power increased to a claimed 90W per channel, while connectivity has also been improved upon. Inputs now include phono MM, CD, tuner, a pair of aux (one of which has HT bypass) and a 24-bit/96kHz ansynchronous USB port, while outputs include pre and line-outs alongside a trigger in/out.

The new M6si, meanwhile, is configured as a preamp with two separate and independent monobloc power amps. It adds a phono MC and balanced inputs to the M3si's connection lineup and utilises the same 24-bit/96kHz asynchronous USB input (also used in the company's V-Links), which Musical Fidelity claims has virtually eliminated jitter and distortion, and ensured that noise is incredibly low. MF describes the pair as offering "true high-end sound quality, reliability and a fair price."





IN BRIEF NEW HI-FI RACKS



Sussex-based Audio Suspension is launching two new ways to store your system that it claims will deliver both aesthetic beauty and a "tighter low end to recordings". The Modular Reference Rack has shelves made from high-grade 20mm acrylic that feature an inbuilt spirit level and cut out for cable management, while the legs are made from stainless steel and have silicon seals to isolate the shelves. A two-tier rack will set you back £1,200, while a four-tier option is £2,400. Utilising the same acrylic shelving, the Isolation Plinth has high-quality aluminium legs with chrome steel bearings to support and isolate. It also features a spirit level and will set you back £350. AUDIOSUSPENSION.COM

QuteEX replaces QuteHD

PRICE: £1,195 AVAILABLE: NOW CONTACT: 01622 721444 WEB: CHORDELECTRONICS COUK

Chord Electronics has unveiled plans to give its Chordette range a refresh. As a result, the QuteHD DAC is set to be replaced with a new model called the QuteEX – the EX suffix referring to its DXD (Digital eXtreme Definition) playback capability.

Chord informs us that the EX contains a range of bespoke DAC technologies taken from its flagship QBD76 HDSD (£4,995), from the Choral range. Constructed with a single-piece aluminium chassis that's been milled from a solid billet in the UK, it features familiar Chord design touches, such as the 'porthole' on the top that not only allows a peak inside at the internal circuitry, but also changes colours to indicate different incoming sampling rates. With dimensions of 160 x 70 x 40mm (WxHxD), the QuteEX boasts USB, optical and coaxial inputs and a pair of RCA phono outputs. Signal-to-noise

ratio is quoted at 115dBV,

harmonic distortion is claimed to be 103dBV, and it's dynamic range is 118dBV

Designed by DAC technology guru Rob Watts, it decodes sample rates from 441kHz to 384kHz (PCM), allowing users to experience their music in true high definition. Additionally, it can also process DSD 128 data using the latest DSD-over-PCM standard (DoP) making it one of the most competitively priced DSD 128 and 384kHz USB DACs around. Existing QuteHD owners can be upgraded for £200 plus shipping and should contact their Chord dealer for further details.





www.avidhifi.co.uk

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Introducing Bluesound

Meet the new high-resolution, wireless mutli-room system

PRICE: £399-£899 AVAILABLE: NOW

WEB: BLUESOUND.COM

BROUGHT TO YOU from the owners of NAD and PSB, Bluesound's mission is to "create innovative wireless digital audio products that allow for the most true-to-life music experience possible" and judging by its range of products, it might just succeed. The Bluesound family is made up of a series of dedicated multi-room wireless streaming music players enabling users access to their music around the home.

The Node (£399) is a non-amplified wireless streamer that supports "all music streaming formats" and has a sigma-delta 24-bit/192kHz DAC. The £599 Powernode is an amplified version of the Node with a claimed 90W output alongside speaker

and subwoofer outputs. The £899 Vault is a CD-ripper with 1TB capacity and the same DAC as the Node. The £599 Pulse is a compact streaming speaker with a 5.25in sub and two full-range 2.75in aluminium cone drivers. Finally the £899 Duo is a pair of sats with 4in woofers and 1in aluminium tweeters and an 8in powered sub claiming 280W peak output.



IN BRIEF

GRADO UNVEILS NEW E SERIES



New York-based headphone specialist Grado has introduced its third-generation headphone range, which it claims are "unquestionably its best models ever".

Improvements have been made at every stage of the manufacturing process from fine tuning the magnetic field (by modifying the magnetic motor structure) to ensure greater symmetry throughout the full movement of the voice coil, to changing the glue that holds them together. The new range consists of 10 new sets of 'phones varying in price from £80 to £1,700.

GRADO.CO.UK

BBC loudspeaker returns

PRICE: £3,450 AVAILABLE: NOW

CONTACT: 01626 361168 **WEB:** GRAHAMAUDIO.CO.UK

Regular readers that enjoyed last month's Retro feature on the classic BBC LS3/5A loudspeakers will be forgiven for doing a double take when looking at the picture below, as Graham Audio has launched its take on the classic BBC LS5/9. Key to the project was Derek Hughes, son of Spencer and Doris Hughes

- who formed Spendor when Spencer left his job at the BBC's R&D department. With over 20 years of experience in the pro audio area, Derek was the perfect person to reinvent the original design to the liking of the BBC's very exacting specifications and testing criteria.

The tweeter is the latest 34mm soft dome offering from French manufacturer Audax (the manufacturer for the original BBC model), while the bass driver has been developed by UK company Volt – as has the bespoke crossover

and equalisation network. The birch wood cabinets are internally damped using medium density Rockwool slabs, retained by a cloth lining that's applied by Graham Audio's own upholsterer to the original BBC specification

Recently installed in The Royal Opera House in London and Steve Winwood's Wincraft studio, the LS5/9s are claimed to "greatly enhance any professional level high fidelity system, providing accurate, transparent audio reproduction." This is the first of a number of planed legacy products that Graham Audio will produce with the blessing of the BBC.







PM-1

Planar Magnetic Headphones



Proprietary Planar Magnetic

Life-like, natural sound quality

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Plush padding & reduced weight for comfort

Comprehensive set of cables and

HA-1

Headphone Amplifier



Class A balanced power amplifier

Toroidal power transformer

USB DAC with DSD support

Sabre³² Reference DAC

IR Remote & Bluetooth control

BDP-103D

Universal player with Blu-ray



Dual-core fast loading

Darbee Visual Presence

8 B 10

BDP-105D

Flagship universal player with Blu-ray



Darbee Visual Presence

Upgraded USB DAC supports DSD 64/128

Dual Sabre³² Reference DACs

Toroidal linear PSU

amplifier

optical digital inputs

0

Webwatch Andrew Simpson casts his expert eye over his pick of the best hi-fi websites and online content



Meet the engineers

What goes into designing one of the world's most exclusive amps? Featuring interviews with the blokes that built it, this video provides a fascinating insight into the design approach behind Naim's ultimate Statement. youtu.be/XHPCEoE-4fl



Vote for vinyl

Glossop Record Club brought power to the people last month for its Vinyl Fest 2014 night, where Glossop's musical answer to a book group let its website visitors vote for their live album of choice to take the evening's headline slot glossoprecordclub. wordpress.com/



Moon landing

Another brand keen to show off how its audio creations evolve from the factory floor to your front room is MOON audio, and with its dramatic soundtrack and moody lighting, this video shows just how much attention goes into its crafted end products youtu.be/EfkPro7-3uU



Cambs' blog

Cambridge Audio has been doing some top blogging recently. From the benefits of power amps to cable jargon busting, guides to CD ripping and subwoofer setup, these posts give plain English info to help you get the best from your rig. cambridgeaudio.com/blog/



Make a stand

Good vibrations might have helped The Beach Boys sound, but in hi-fi parlance it's an oxymoron. That's why Vayta's Kickstarter-funded dekk employs Sorbothane to help null any performance-reducing wobbles reaching your kit. See the sound investments so far at kck.st/1n7AYN4

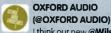


Facebook find

Of all the hi-fi companies on Facebook, Kef has to be one of our favourites for its product pictures old and new, comment and content behind the music. But the big question is: What's Gaz Coombes of Supergrass fame doing visiting the factory back in 1973? on.fb.me/1nbVta8

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CHOICE TWEETS



I think our new @WilsonAudio

Sasha 2's have run in, they're making the hairs on the back of my neck stand up!

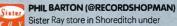


Join the HiFi forum... #forum #music #HiFi *products www.hifix.co.uk/hifi/forum/



GLASTONBURY FESTIVAL (@GLASTOFEST) Don't forget you can catch up on dozens of sets from this year's Festival via @bbcglasto's

site at https://bitly.com/glastobbc



ray Sister Ray store in Shoreditch under construction opening late July Vinyl Only!!

http://bit.ly/1n8Mpml

RICHER SOUNDS (@RICHERSOUNDS)

#Richertips For a 'tighter', more precise bass response, fill your speaker stands with ballast, such as dry sand

VOXTOK (@VOXTOK)

The Voxtok audio capsule has been designed to offer a new musical and digital experience.

http://kck.st/1lyVCVH#Kickstarter#Audiophile

KEITH RICHARDS (@OFFICIALKEEF)

The Keith Richards online store features music from the man himself & albums he's guested on: http://goo.gl/6aLU2A

ART GALLERY (@AGC LONDON) REMEMBERING Syd Barrett, who died this day in 2006. See Emily Play: http://bit.

ly/1vTjof7 Genius. pic.twitter.com/HURZ65ROGd

THE VINYL FACTORY (@THEVINYLFACTORY) British artist recycles CDs to make them

playable on tarntables http://bit.ly/1vTcbeY

AUDIO LOUNGE (@AUDIOLOUNGE) Looking for a new DAC? Why not come in and try the Bel Canto DAC 3.

THE CHORD COMPANY (@CHORDCABLES) Best version of All Along the Watchtower?

Nigel Finn's verdict here: http://bit.ly/1s1sHt1

HIFI GEAR (@HIFIGEAR)

gear Finally, @SoundCloud is supported by @Sonos! Have you filled your home with

music vet? http://hifigear.co.uk/brand/sonos.html #audio #sonos #hiff #music

Connect. With the Future...



K2BT

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ROKSAN

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your favourite music from a Bluetooth-enabled device in original 16-bit CD quality.*

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"I've got a feeling

we're not in Kansas

A voyage of musical discovery: Nuance. Emotion. Artistry. Over the decades, MartinLogan has produced loudspeakers with the sole purpose of getting you back to the music.

anymore...

Having mastered electrostatic technology with the CLS, a skill now embodied in the hybrid Summit X and the full-range CLX Art, MartinLogan has re-imagined speaker technology. MartinLogan speakers address systems from purist two-channel to multi-channel home theatre, with a range including BalancedForce™ Dynamo™ subwoofers, surround-sound and centre channel speakers,

It is no exaggeration to say that MartinLogan speakers are as beautiful as speakers can be and bear aesthetics worthy of the sound they reproduce. They enhance your musical pleasure and your living space.

Because, as Dorothy learned, there's no place like home.



absolute sounds Itd.





The ultimate high-end hi-fi experience

eturning for a second year, the hugely successful Hi-Fi Show Live will once again provide a thrilling showcase for the world's most spectacular hi-fi systems, presented by the industry's most respected professionals. Brought to you by the trusted audiophiles behind Hi-Fi News & Record Review and Hi-Fi Choice magazines, the Hi-Fi Show Live is now bigger than ever with ten additional demonstration suites.

In a refreshing departure from the conventional show format, visitors will be treated to a series of

memorable high-end audio experiences. Each of our major suites will feature examples of the very best that the high-end can offer with scheduled presentations, demonstrations and workshops by a mix of famous designers and audio personalities. Our other suites will offer interactive demos of the best headphones and headphone amplifiers, hi-res digital media and audiophile accessories.

For up-to-the-minute information on exhibiting brands, advance ticketing and other announcements, please visit our website.



1-2 November • Beaumont House Estate • Old Windsor, West Berkshire

hifinews.co.uk/show



Czech Republic - Stereo & Video

Finland - Hifimaailma

France - Stereo Prestige & Image

Germany - Eins Null, Hifi Test TV Video, LP

Greece - Hxos Eikova

Hungary – Sztereo Sound & Vision Italy – AUDIOreview

Norway - Watt

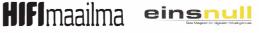
Poland - Audio

Portugal - Audio & Cinema em Casa

Russia - Stereo & Video

Serbia - Hi-Files

Spain - AV Premium Sweden - Hifi & Musik Ukraine - Stereo & Video











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Power drive

Dynaudio ups the ante on its active speaker Xeo flagship lineup through a range of new features. **Andrew Simpson** dials in

roper hi-fi means piles of separates and reams of cables, right? Not so according to Dynaudio, which introduces a wealth of updates to its active Xeo range to push them further into steadfast audiophile territory. Many audiophiles believe that active speakers offer obvious benefits over passive designs. evidenced by the likes of Linn and ATC as two high-end brands offering active models with equally high-end price tags. Why? Because as well as freeing up some hi-fi rack space, placing a tailor-made amplifier inside a speaker's cabinet takes the trial and error of amp and speaker matching out of the equation, meaning the sound you get is closer to what the manufacturer had in mind.

The Xeo 6 replaces the outgoing Xeo 5 (HFC 376), bringing with it a bunch of new features and improved tech that's packed into a more compact cabinet. Along with an updated remote control, there's a simple control panel on each speaker's top surface, for adjusting volume and switching input. And because the speakers sync to each other on power up, adjusting either one via their top panel tells the other to follow suit.

As per the previous range, every Xeo speaker can be individually assigned to left/right/mono duties via rear panel switches, to identify them

within two-channel and larger surround sound setups. You can also allocate them within a 'zone' to cater for multi-room Xeo systems. To further aid placement, there are also room position EQ settings, thanks to more rear panel switches for adjusting bass response for near wall, corner or neutral placement.

Time for a change

While the Xeo 6 uses the same driver complement as the 5 model it replaces – comprised of two 5in long-throw MSP (magnesium silicate polymer) mid/bass woofers and a 27mm soft dome tweeter – inside the cabinets there are updates aplenty. The original Texas Instruments amp modules have been replaced with newer variants and the Xeo 6 now gets three 50W digital amplifier modules instead of the two in the 5, making it a fully tri-amped design and upping its overall power output to 150W per speaker.

The folks at Dynaudio haven't just been busy tinkering with the speaker end of the Xeo package, as the 6 also gets an improved version of the Xeo's transmitter hub, which is a dinky little box that can be plugged into a range of analogue and digital sources for sending wireless music signals to its accompanying speakers. As well as now offering an Ethernet port that hints at future functionality and



a coaxial S/PDIF input alongside its optical and USB sockets, this new hub is also more accommodating for higher-res content. While the last hub was limited to 24-bit/48kHz, this new version welcomes signals up to 24/96 across its digital inputs, which are then downsampled to 16/48 before being beamed into the speakers (see Q&A).

The Xeo Hub comes with its own wall-wart PSU and you can also power it via USB while playing music from a laptop for example, making it a highly discreet and portable music provider. Thanks to its analogue RCAs you can even stream a line-level signal from a turntable over wi-fi.

Externally these new Xeos also benefit from recent revisions to Dynaudio's passive Excite range,

Bass is delivered with more control than the previous Xeo could muster

including magnetically attached full-length grilles that do away with old-fashioned recessed lugs in the front baffle, making for a sleeker finish. They also get the Excite range's excellently engineered cast alloy outrigger feet, which aid stability by broadening the speaker's footprint and offer floor coupling via rubber feet, which house hidden spikes that can be wound into action from above.

With such a plethora of settings, you might expect that getting the Xeos moving some air will involve a fair amount of chin scratching and software configuring, but the truth is it isn't any more taxing than hooking up a pair of passive speakers to your average amp.



Simply connect each speaker to the mains, set their rear panel switches to your preferences and switch them on. Once powered up, the hub locks its signal onto the speakers, so all that's left to do is plug the hub into your chosen source and, as the saying goes, Bob's your mother's brother.

Sound quality

Dynaudio seems to have engineered these speakers to not let their demure proportions stop them from getting the most out of the music. Kicking off the listening experience with the Xeos switched to the neutral EQ setting, with their back panels 55cm from my room's boundary wall and firing down my listening room with just a few degrees of toe-in, I'm surprised by just how much welly they have. A 16-bit/44kHz FLAC rip of The Stone Roses' Breaking Into Heaven sees them lay forth an encompassing soundstage, that's solidly woven together. John Squire's multi-layered lead guitar work is densely rendered with his Gibson's riffs sounding expansive and full of body.

With such a packed wall of sound, this track can catch many an unprepared or well executed speaker out, leaving it all in a muddle while attempting to pull apart everything that's going on in the soundstage. Thankfully the Dyns handle the mix admirably, and take it all in their stride with a cool head. Cymbals are articulated with a clear openness that allows their shimmering tones to remain gentle, without being overwhelmed by Squire's six-string onslaughts coming at you from all angles, or pushed to the sidelines by Mani's energetic bass lines, which also gets plenty of airspace.

Feeding the Hub with a 24/96 FLAC rip of Neil Cowley Trio's Couch Slouch reveals that the cut of Xeo's jib is the polar opposite of the track title's sentiment. Each instrument sounds highly animated as the speakers strut their funky stuff and you have a real sense of the three musicians being completely in tune with one another, feeding off each other and taking the listener with them. What this highlights is how well the Xeos time across the frequency band, especially with notes' leading edges which are rapidly rendered. You get the impression that each speaker's drive units are working together in a seamless and cohesive manner, and this really helps to make



The closest concept to Xeo also come from Denmark in the shape of Audiovector via the Discreet upgrades of digital amp modules and matching wi-fi hubs that replace its passive speakers' crossovers. The hub also promis Bluetooth and AirPlay steaming, but UK prices have yet to be confirmed.

If you like the Xeo's style and sound and don't mind swapping their mains cables for speaker wire to get more inputs and genuine 192kHz playback, you should consider partnering Dynaudio's £2,000 passive X34 speakers (HFC 382) with Simple Audio's £700 Roomplayer (HFC 386) for an equally discreet solution, although you'll need to check if this amp has enough power to really drive the X34s.

instruments sound whole and fully formed. Looking back through my notes on their predecessors, I'd say this newer model has greater grip on the music, especially across the bass and midrange. Whether this is due to their extra amplification or improvements to their DSP I cannot say, but what I do know is that instrument separation across the frequency band seems to have improved over the previous model, and with a smoother transition to the tweeter's cross-over point.

Bass also seems to be delivered with more control than the previous Xeo incarnation could muster, and despite the smaller cabinet size, there also seems to be more of it. With a 16/44 ALAC rip of Ron Sexsmith's Late Bloomer, the Xeos ensure bass notes have enough presence to underpin the music with plenty of punch and detail. With this track you also get the sense that Dynaudio has paid close attention to how the bass is projected at the listener, to prevent the lower frequencies from ambling around at the back of the soundstage. Instead the speakers ensure the bass can envelop the soundstage, reaching the listener in a focussed manner without sounding too forward.

Each instrument sounds animated as the speakers strut their funky stuff

When presented with the more meaty bass wallop of Goldfrapp's *Clay*, the Xeos dig deep into the lower frequencies, where they lend plenty of low down power without letting the bass becoming too flabby sounding. Comparing the Xeos with some of the best passive floorstanders at this price, including those from Dynaudio's own stable, shows that while they can't ultimately achieve the same levels of sheer grunt, the bass they muster is delivered with a sense of authority.

Experimenting with the EQ settings reveals how this feature can be brought into play for real-world listening conditions. The wall setting comes into consideration at distances less than 12cm, giving a similar audible effect to Dynaudio's bass port bungs, by helping to cull unnatural reverberation creeping into the lower levels. The corner setting rolls off too early for my room, although it may prove useful for those with small listening rooms or where nearby furniture compromises placement.



The remote sensor and control panel on top of each speaker shows volume level via a row of LEDs



Combining an active design with digital amps lets Dynaudio keep variables in the reply chain to a minimum, while paying close attention to the Xeo's tuning. Leaving aside revolutionary tech such as Devialet's SAM, which gives precision-mapped signals for a given speaker, most standalone amps effectively drive a passive pair of speakers blindly and have little influence on the signal once it leaves its outputs.

Dynaudio's use of Texas Instruments digital pulse-width modulation (PWM) amp modules means the audio signal stays in the digital domain right from the source (when

feeding the Xeo Hub from a laptop or DAC) through to the amp modules, which have full control over each drive unit as they drive them directly. The Xeo's room position EQ settings are also controlled in the digital domain through extensive DSP, varying each setting's roll off for frequencies below 100Hz with intentionally shaped curves to counteract typical wall/corner effects at -6dB and -9dB.

In more traditional hi-fi setups, however, matching standalone amps to passive speakers in the search for musical synergy is what drives audiophiles, and for many it's an intrinsic part of what system building is all about.

Finally, despite the improved interface and subtle LED volume level display on each speaker, I'd still welcome slighter steps within the graduated volume levels for greater degrees of fine tuning, to help get it just right for every scenario.

Conclusion

With a wealth of new real-world features, including better user controls and inputs for music up to 96kHz combined with improved amplification, Dynaudio has clearly done its homework to shake off the lifestyle tag and make these speakers even more of a serious audiophile proposition. Their stronger bass response aligned to pinpoint sharp timing and a more powerful soundstage combine to bring whatever music is thrown at them to life. Thankfully Dynaudio's

characteristically smooth and well controlled sound also comes as part of the package, making them an ideal proposition for music lovers who want serious hi-fi sounds from minimal components •

Choice **OUR VERDICT** SOUND QUALITY LIKE: Ease of use: **** controls: balanced and powerful sound VALUE FOR MONEY **DISLIKE:** Volume **** needs better stepping; Hi-res 24/96 streamed BUILD QUALITY at 16/48 **** WE SAY: Well thought out updates and better FEATURES sound improves on the \star \star \star \star \star original Xeo package OVERALL

Q&ARoland Hoffmann Dynaudio product manager



AS: What lessons did you learn from the previous Xeo range that you've applied to these new models?

RH: Many Xeo owners and retailers wanted to be able to control the loudspeaker not only with the remote, but right at the speaker. They also wanted some kind of visual feedback mechanism for volume level and input. That's why we've added a new interface on top of the Xeo speaker, which includes a display as well as control buttons for power, volume and source switching. Customers also asked for more digital connectivity, which is why we've now added a digital coaxial input. And with the new Xeo Extender and Link boxes, the system can be expanded to handle music being transmitted over greater distances and by adding other audio products such as a subwoofer.

Why does the hub downsample content at 24/96 to 16/48 for streaming over wi-fi?

Our new Xeo Hub accepts rates up to 24-bit/96kHz across all of its digital inputs. But because we're sending the audio signal over wi-fi in real time and without any buffering, the data required to stream higher-resolution content would make the signal fragile and susceptible to disturbances. Secondly Xeo is designed as an easy to use multi-source, multi-room streaming system and designing a hub for higher-resolution streaming would limit this functionality.

Are there further developments planned for the range?

We're constantly striving to ensure the Xeo range meets our customers' needs. Therefore, the Xeo Hub is now ready for firmware updates, which can be done via the USB port. The addition of an Ethernet port also hints at more versatile functions in the near future, which will be available for anyone buying a Xeo 4 or Xeo 6 now.

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Dynaudio's Xeo 6 loudspeaker champions hi-fi without wires

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hit the sweet spot

Four wallet-friendly upgrades to help get the best from your system

The new TH-5B is a lightweight, ultra-modern headphone designed for extreme comfort listening and extended use. Offering a superb combination of quality sound at an affordable price, the

TH-5B headphones are great for all types of music. Semi-open type drivers delivering crystal-clear, well-defined highs and good reproduction across all frequencies, the headphones are manufactured from ultra-light materials and feature acoustic-designed diaphragms to maximise audio performance. The attached cord is complete with a stereo mini plug for use with a portable audio player. In addition, a 1.5m extension cable, complete with 6.3mm stereo adapter is supplied in the box for studio applications.

SPECIFICATIONS

- Impedance: 44ohm
- Sensitivity: 96dB/mW
- Max input level: 100mW
- Diaphragm diameter: 30mm
- Weight: 250g
- Superb all-round capability
- Available in Black

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How we test

Hi-Fi Choice employs the most rigorous test and measurement regime in the business. Here's how we do it...

Unique group tests

This month's group test is supported by rigorous listening tests, backed up with objective lab testing

HEADPHONES GROUP TEST

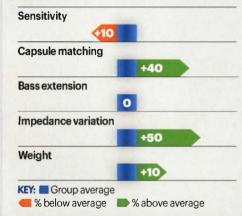
REVIEWING HEADPHONES PROPERLY

isn't easy, which is why few hi-fi magazines try. Anyone can don a pair of headphones, play some music and pronounce on their sound quality – but to back up the listening experience with empirical evidence you have to perform acoustic measurements. With headphones that requires costly specialist equipment, experience and custom-written processing software...

The most important item is an artificial ear that imitates the mechanical properties of the outer ear (pinna), so that any physical distortion caused by wearing the headphone is mimicked in the measurement. We then have to make sure every time we perform a frequency response measurement the headphone is correctly sealed to the artificial ear, or low frequencies will be lost. We also have to take into account the fact that each time we remove, replace and re-measure a headphone, its response changes because it is positioned slightly differently.

We perform multiple measurements on each capsule to generate an averaged response – and use software to analyse where in the frequency range the largest differences occur. More software then adjusts the averaged responses to produce a corrected result that better represents what you actually hear.

RESULTS EXPLAINED





SENSITIVITY

This determines how loud the music is at a given volume control setting. We measure the sound pressure level achieved on our artificial ear for an input of 1V rms at a frequency of 1kHz, averaged for the two channels.

CAPSULE MATCHING

No two headphone capsules have the same frequency response, and any disparity can result in shifts in the stereo image. Response also varies according to the placement on the ear, so we perform 10 separate measurements on each capsule and average the results to determine their disparity from 40Hz to 10kHz.

BASS EXTENSION

Headphones, like loudspeakers, differ markedly in the depth of bass that they can deliver. We derive this figure by averaging the -6dB frequency ref 200Hz of both capsules and converting this to octave extension below 100Hz.

IMPEDANCE VARIATION

Most headphones have an input impedance that varies with frequency across the audible range, which modifies the frequency response according to the source impedance of the headphone outlet. This figure represents the source impedance required to produce a 1dB change in frequency response, 20Hz-20kHz.

WEIGHT

The weight of a pair of headphones isn't the only issue that determines its comfort, but it is certainly a key factor. We weigh the complete headset, including the connecting cable with a 1/4in jack plug (which often can involve the fitment of a supplied adaptor).

THE ARTIFICIAL EAR:

This eerie-looking item is the artificial ear we use for headphone testing. Key elements of the GRAS 43AG ear and cheek simulator are fitted within a laminated MDF block, which provides the means to mount the headphones on the artificial ear as on a real head.

REFERENCE SYSTEM

SOURCE

Lenovo T530 ThinkPad Foobar audio player

HEADPHONE AMPLIFIER Chord Hugo

TEST MUSIC

EMILY BARKER AND THE RED CLAY HALO Almanac 24/88.2 FLAC



KRAFTWERK Minimum Maximum 24/88.2 FLAC



MAX RICHTER Recomposed by Max Richter 24/96 FLAC



NIRVANA Nevermind





The heart and soul of music

Precision; a new luxury loudspeaker range from Tannoy, built to deliver music as it was meant to be heard. With audiophile features such as double-magnet drivers, hand-built crossovers and mass-load cabinet tuning, Precision has music at its heart and soul. Across two stunning floorstanding models, a compact stand-mount and matching centre channel speaker, Precision delivers breath-taking detail and musical dynamics. Built around a brand new 6 inch (150 mm) version of Tannoy's world renowned Dual Concentric™ driver, the contemporary cabinets boast premium fit and finish in a choice of colours. Powerful, passionate and incredibly precise, Precision gets to the heart and soul of music like no other speaker in its class.



Grouptest

HEADPHONES £300-£500

Head music

If you are serious about your listening, upmarket headphones represent a sweet spot for sound, as **Ed Selley** discovers

IN A PERFECT world, we wouldn't need headphones for use at home. We'd all have sufficient space, understanding, deaf or absent neighbours and fellow family members would share the same musical tastes, schedules and sleep patterns as us.

Sadly, this hi-fi utopia is a pipe dream, and while for the most part we can still largely enjoy our music via speakers, many will find themselves using headphones for a chunk of listening. How significant this chunk is will influence the amount of money you are prepared to spend on your hardware.

Here, we take a look at the choices on offer between £300 and £500. This is an important category for most headphone manufacturers where designs begin to switch to being oriented for home use rather than keeping one eye on connection to portable devices. This means that

bigger drivers can be used, along with larger and (hopefully) more comfortable earpads. The majority of the models here use the open-back principle, which can aid the sense of space to a performance – at the expense of making you the most unpopular person on your commute due to the increased noise leakage that results.

Mobile 'phones

At the same time, headphones at this price point are still sufficiently sensitive so that they can be driven by a tablet or smaller headphone amp without issue. All the designs here have a 3.5mm jack connection (albeit one as an adapter) and some have travel bags. On paper at least, these are flexible designs that should offer immersive home listening with just enough portability to make them useful for occasional use on the move. How does this work in practice?



ON TEST



AKG Q701 £300 p27 Austrian manufacturer

Austra man unacturer AKG's current flagship boasts design input from producer Quincy Jones and is made to be as happy in the studio as it is in the comfort of your listening room



Audio-Technica ATH-AD900X £315 p29

Part of a five-strong model range, the ATH-AD900X partners large 53mm drivers with open-back earpads and the company's trademark floating headband



Beyerdynamic T90 £500 p31

The most expensive headphone in the test is the second most costly model from Beyerdynamic's range, which utilises a unique Tesla' driver for improved efficiency, But how will it fare?



Final Audio Design Pandora Hope IV £400 p33

An unusual design from the Japanese company that makes use of a dynamic drive and an armature in each earpad as well as perhaps the strangest namein hi-fi



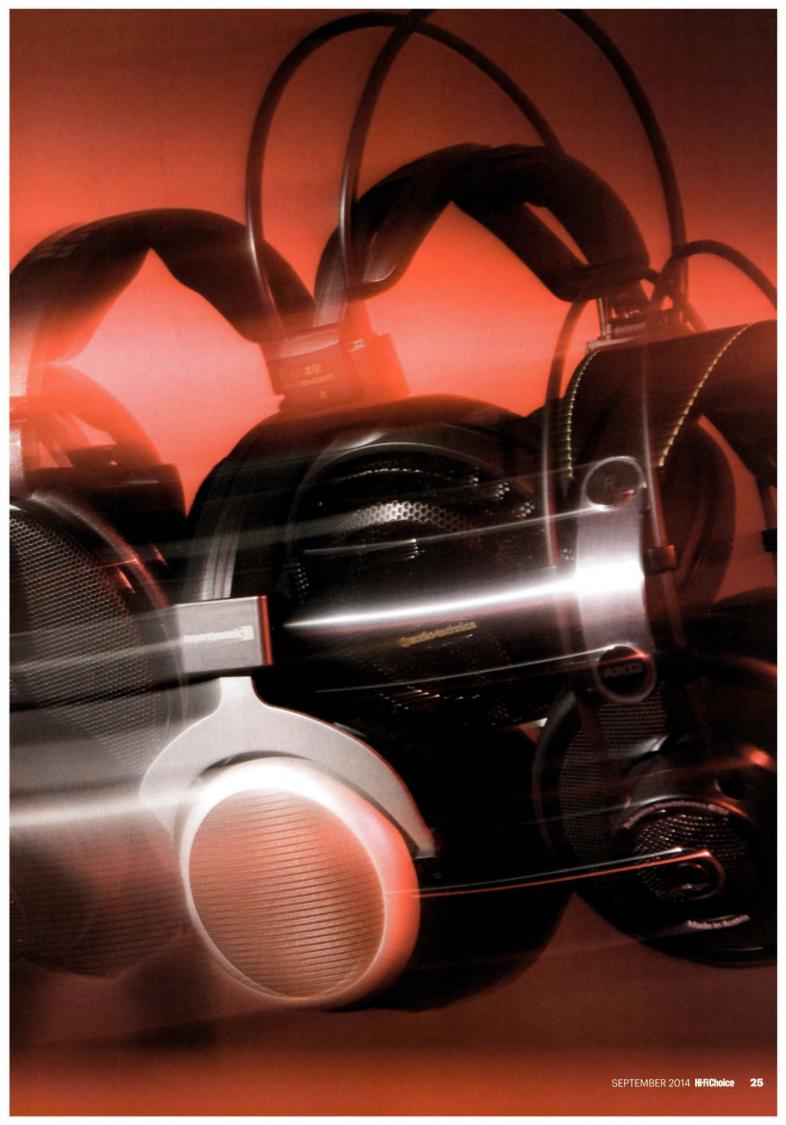
Sennheiser HD 650 £400 p35

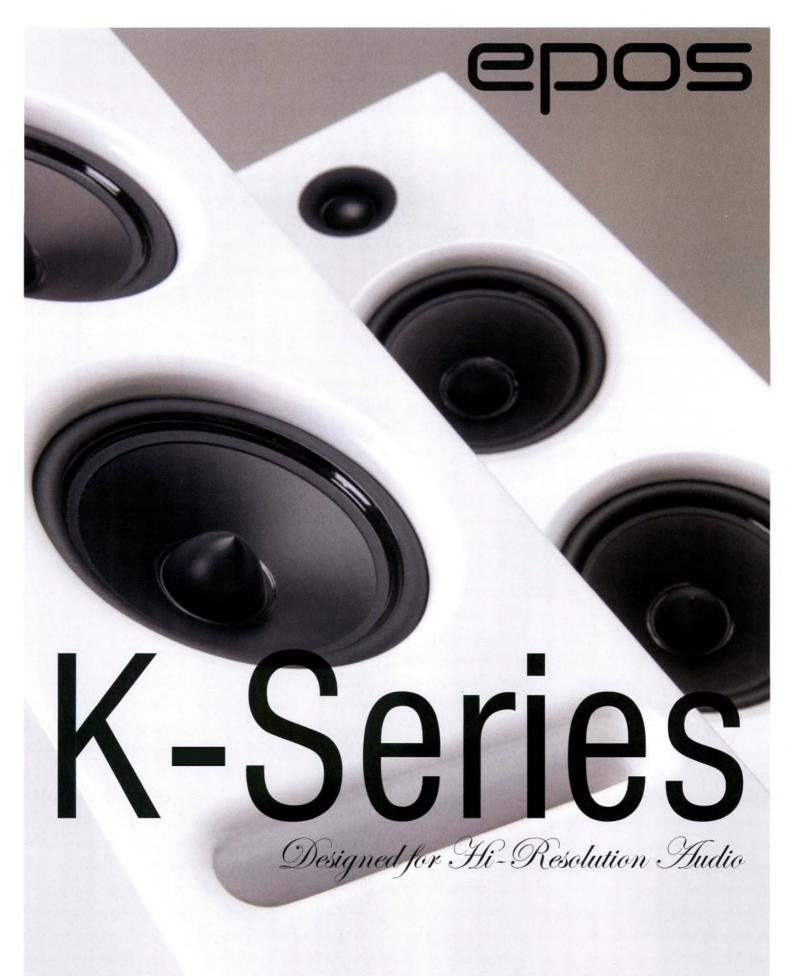
Sennheisers effort in thisprice category is the oldest model here, but with age comes experience and the HD 650 boasts a pretty impressive specification and has a loyal following



Snure SRH1840 £467 p37

Arguably more famous for its in-ear designs, Shure is now making a move into the super competitive world of headphones with the SRHI840 being its flagship open-back headphone offering







AKG **Q701£300**

The producer's producer, Quincy Jones, has a hand in this Austrian offering, but will it make the AKG sing?

DETAILS

PRODUCT AKG Q701

ORIGIN

Austria

Open-back, overear headphones

WEIGH 235g

FEATURES

• 45mm Varimotion

drivers

Metal outer
headband and
automatically
adjustable leather
inner headband
Detachable 3m
cable

DISTRIBUTOR Harman UK

TELEPHONE 01707 278113

WEBSITE eu.akg.com ne of the brands that forms the Harman Group, AKG remains proud of its Austrian roots and the Q701 is emblazoned with a little 'Made in Austria' tag on each earpad. While the links to Vienna are strong, the company's US heritage is also on display too as the Q701 boasts design input from the one and only Quincy Jones.

The O701 (the O referencing Quincy) is built around a pair of 45mm 'Varimotion' drivers, which use a diaphragm of differing thickness across the surface area. These are placed in large circular earpads. They are described as a semi-open-back design, and when the substantial cloth pads are removed from the calculations, these are some of the thinnest housings in the test. This should not be taken to mean that the AKG feels flimsy, however. The build quality is well up to the standards of the group and feels substantial without leaving the Q701 feeling too heavy, which is always a clever touch.



The Q701 comes supplied with a 3m cord, which makes home use a breeze, although I can't pretend I'm completely sold on the lurid green colour of the jacket. The styling is an acquired taste with green stitching and a slightly tacky Quincy Jones motif on the headband, but it's a comfortable enough headphone to wear for long periods of time. The earpads completely cover the ear and although the pressure exerted on the side of the head is significant, it isn't so much they dig in. The use of a second inner band made of leather with a clever automatic size adjustment to keep them in place means they are among the best in test for moving about in, although they leak as much noise as you might expect from an open-back design. which probably rules them out for travel use.

Sound quality

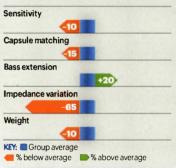
The AKGs need a fair amount of input power to hit the test level due to the low sensitivity, but present no challenge for the Chord Hugo. The performance across the test material is largely positive too. The 'phones manage to sound airy and spacious with material and this adjusts well to the context of the music, be it giving the intimacy of Emily Barker enough space to sound convincing or capturing the vastness of the arena that Kraftwerk performs in.

This space is underpinned by bass that is well defined and free of any sense of sluggishness although it isn't the deepest or most powerful on offer. It does integrate well with the other frequencies, though, and there is plenty of detail on display. As the complexity of pieces increases, the AKG loses touch with the very best in the group – the harpsichord in the Max Richter reworking of Spring is rather subdued and some of the crowd noise in Kraftwerk is hard to pick out. There is also a sense that the dense and slightly harsh Nirvana recording doesn't show the Q701 at its best. Kurt Cobain's vocals are not perfectly separated from the

ON TEST

AKG claims a sensitivity of 105dB SPL for 1V for the Q701, but we measured a little less than that: 103.1dB at 1kHz, averaged for the two capsules. This makes the AKG the lowest-sensitivity model in this group, less sensitive even than the high impedance. Sennheiser, Impedance modulus varies from 60 ohms to 92 ohms over the audible frequency range (20Hz-20kHz) and so it takes a source resistance of only 27.3 ohms to cause a 1dB alteration of frequency response. With the exception of the Final Audio Design, this is the lowest (ie worst) figure in the group. Capsule matching error was a little worse than average at ±8.1dB, 40Hz-10kHz, but bass extension was second best here at a fine 18Hz. Diffuse-field correction of the frequency response indicates a tonally neutral sound above 600Hz, but below that an excess in output amounting to about 4dB at 100Hz. KH

RESULTS AT A GLANCE



partnering instruments and the presentation is a little shallow.

The AKG does manage to get plenty right, though. With the more uptempo pieces and during more general listening it always manages to keep an energy and sense of life to the performance that makes it easy to listen to for long periods. Although it proves perfectly happy at the test level, it is worth pointing out that the Q701 starts to sound a touch hard and sibilant when pushed to higher volume levels than this. Overall though, given the solid build, competitive and falling asking price, this is a strong performance from a generally very likeable headphone • >

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY

XXXX

VALUE FOR MONEY

XXXX

BUILD QUALITY

LIKE: Lively sound; solid build; price

DISLIKE: Can sound a little strident at high levels; looks not for all

WESAY: A strong showing from one of the more affordable models, but there are some weaknesses to the performance

OVERALL

FEATURES







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Audio-Technica ATH-AD900X £315

The looks are Spartan, but is beauty more than skin deep with one of the test's more wallet-friendly models?

PRODUCT
Audio-Technica
ATH-AD900X

ORIGIN
Japan/China

Open-back, overear headphones

WEIGHT 265g

FEATURE

- 53mm drivers with CCAW voicecoil 3D Wing Support
- Fixed 3m cable

PISTRIBUTOR Audio-Technica UK

0113 2771441

audio-technica.com

etter known in hi-fi circles for its range of phono cartridges, Audio-Technica has been producing headphones for decades and has an extensive lineup. This is one of a five-strong family of open-back designs and sits in the middle of the range. Compared with the other models here, the ATH-AD900X is best described as 'functional'. The design is dominated by the large circular earpads that each mount a single 53mm driver – one of the largest in the test. These use an Audio-Technica trademark in the form of copper clad aluminium wire in the voice coils. The driver mounting is completely visible and is the only real colour on the otherwise exclusively black 'phone.

This is among the least expensive in the test, but this doesn't necessarily reflect in the overall construction. Everything feels solidly assembled without being unduly heavy or bulky and there are some useful touches to improve comfort and longevity like the point where the cable meets the



earpad being a rotating cuff to reduce stress. The 3m cord is fixed and as such is ideal for home use, but a little on the long side for moving around. The ATH-AD900X makes use of Audio-Technica's '3D wing support housing', which consists of two independently sprung pads that adjust to the head. In this instance I'm not completely convinced. The spring weighting seems a little low and this means that the headphone is mainly supported on the earpad. This being said, it is far from uncomfortable and is easy enough to wear for longer periods of time. Like the other open-back headphone designs, there is a fair amount of leakage, making it unsuitable for use out and about.

Sound quality

The Audio-Technica demonstrates better than average sensitivity and needs a little less output from the Chord Hugo to reach the test level. Having done so, it puts in a performance that is defined by some aspects that are consistent across all the test pieces. The most significant is that the Audio-Technica presents the sound very close to the ear, giving less sense of depth than the other models. This is not always a negative; it lends the Emily Barker track an intimacy that is extremely pleasant, but the larger scale of the Kraftwerk recording is not captured anything like as effectively.

This slightly shallow presentation can mean that fine details are harder to pick out from the mix and the very dense Nirvana piece is slightly disjointed with little separation between voices and instruments. This is a shame because there is a tonal. sweetness to the ATH-AD900X that makes it extremely easy to listen to and able to generate very high volume levels without sounding forced or strained. This sweetness doesn't come at the expense of tonal realism either, with vocals in particular sounding entirely believable and well defined. The performance is underpinned by bass that is detailed and well integrated

ON TEST

Audio-Technica claims a sensitivity of 100dB SPL for 1mW for the ATH-AD900X, which for its nominal impedance of 38ohms is equivalent to 114.2dB for 1V. Our measurements suggest this is conservative, our 1kHz figure being 117.8dB, making the AD900X the most sensitive model in the group bar the Final Audio Design. Measured impedance varied between 35.8ohms and 44.4ohms, 20Hz-20kHz, a smaller relative variation than the AKG's and so a higher 45.9ohms source resistance is required to change the frequency response by 1dB. Capsule matching error was worst In group at ±11.3dB, 40Hz-10kHz, suggesting that the AT's response is more dependent on ear shape. Bass extension was the poorest in the group at 39Hz and the diffuse-fieldcorrected frequency response suggests a mild upper-bass prominence and distinctly suppressed presence band. KH

RESULTS AT A GLANCE Sensitivity +5 Capsule matching -60 Bass extension -35 Impedance variation -40 Weight KEY: Group average % below average % below average % below average

with the rest of the frequency response, but doesn't necessarily demonstrate greater depth or impact that might be expected from a driver of the size used in the earpad.

As one of the least costly in this test, the ATH-AD900X is capable of some very pleasant performance traits and is able to keep the more expensive headphones on their toes. Perhaps more than any other model in this roundup, though, the Audio-Technica gives a presentation that is more obviously headphone based, and for anyone listening to larger scale pieces of music, the lack of depth in its presentation may prove a little too restrictive for some to truly enjoy •

Ni-Fi Choice

OUR VERDICT

SOUND QUALITY

A A A

VALUE FOR MONEY

A A A

BUILD QUALITY

LIKE: Tonally sweet but believable sound; reasonable sensitivity; solid build

DISLIKE: Presentation lacks depth and space; not very attractive

★★★★

WE SAY: Some likeable traits, but constrained performance may be a problem

OVERALL





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Beyerdynamic **T90**£500



Does the most expensive model in the roundup do enough to justify the asking price?

DETAILS

PRODUCT Beyerdynamic T90

ORIGIN Germany

TYPE

Open-back, overear headphones

WEIGHT 425q

FEATURE:

- 'Tesla' high magnetic field drivers
- Leather carry caseVelvet microfiber earpads

Polaraudio Ltd

TELEPHONE 01444 258258

WEBSITE europe.

beyerdynamic.com

his headphone is among the second tier of Beyerdynamic's extensive range. It is an open-back design that is built around a pair of dynamic drivers utilising a feature Beyerdynamic describes as using 'Tesla' technology. This uses a very strong magnetic current to motivate the driver, which in turn is lighter – and hopefully more responsive.

While the drivers might be lighter, the T90 itself is the heaviest model in the roundup and this weight is compacted into a fairly small space as the earpads are some of the smaller models here. Having said that, they're still large enough to comfortably enclose the ear.

The construction is generally excellent with high-quality materials used throughout and a general impression that a considerable amount of attention has been lavished on their design. The end result is a handsome and fairly understated pair of headphones and something that is comfortable to wear for extended

Departitioning

periods of time with the weight being perfectly distributed across the head.

There are some minor black marks, though. The 3m cable is captive and makes do with a standard plastic moulding where it joins the earpad and there is further visible (and, therefore, vulnerable) cable between the housing and the headband. What Beyerdynamic takes with one hand it gives with the other, however, as the T90 is supplied with an excellent carry case. This is something you might actually make use of as, although the headphone is open backed, noise leakage is lower than some of the other models here and coupled with the smaller size, makes it a viable choice for use out and about as well as at home.

Sound quality

The T90 is among one of the less sensitive headphones in the test and requires more power from the Hugo to reach the test level. Having achieved this, though, it makes a strong case for itself from the outset. The word that keeps cropping up in the listening notes is "smooth", but this is rather deceptive and does the T90 something of a disservice. The presentation is extremely well controlled, which means that there is absolutely no trace of noise or harshness to it. The result is a headphone that manages to handle pretty much everything that you can

As well as this control, it also has an exceptionally spacious presentation that allows for a completely convincing performance of even very sizeable recordings, while sounding suitably intimate with smaller ones. The way that the T90 handles the Kraftwerk piece in particular is comfortably the best in the group with a vast, detailed and completely immersive soundstage. The bass response is equally accomplished with plenty of power and authority to it. There is also a sense of excitement with the more up-tempo performances that makes this headphone a compelling listen.

ON TEST

Beverdynamic claims a sensitivity of 102dB for 1mW at 500Hz for the T90, equivalent to 108dB for 1V input across the nominal 250ohm impedance. We measured a figure a little less than this - 106.3dB, averaged for the two capsules - at 1kHz, a low figure but to be expected given the T90's high impedance. This varied from a minimum of 240ohms to a maximum of 730ohms, 20Hz-20kHz, which means that a source resistance of 45.8ohms will result in a change in frequency response of 1dB, a surprisingly low figure for a high-impedance headphone. Capsule matching error was mid-pack at ±7.0dB, but bass extension was best in group at an impressive 10Hz. The diffuse-fieldcorrected frequency response, though, suggests an element of 'boom and tizz' to the T90's tonal balance, with a broad low frequency hump of over 6dB at 100Hz and a treble peak of almost 7dB at 6kHz. KH

RESULTS AT A GLANCE Sensitivity 5 Capsule matching +5 Bass extension +60 Impedance variation -40 Weight -15 KEY: © Group average % below average % above average

None of this comes at the expense of a believable and accurate tonal presentation, though. The Max Richter piece is presented with absolute conviction and every instrument has the space it needs and a tangibly real weight and decay to the strings. This is equally apparent with the Nirvana track and it does a better job than any of the other headphones in the test at opening out dense and aggressive recordings. The Beyerdynamic isn't cheap, but the consistent ability it shows across all genres and recording qualities is a class apart, and combined with the solid build and high comfort levels, you have a winning package •

Hi-FiChoice

OUR VERDICT

SOUND QUALITY

XXXX

VALUE FOR MONEY

LIKE: Superbly enjoyable sound; solid build; high comfort

VALUE FOR MONEY

BUILD QUALITY

FEATURES

DISLIKE: Not cheap; rather heavy; slightly insensitive

WESAY: Not without some minor foibles, but this is a superbly accomplished headphone

OVERALL



MUSICAL FIDELITY

MF-100 SUPERIOR PERFORMANCE HEAD PHONES



When music matters most

VERY HIGH QUALITY • MUSICAL FIDELITY DESIGNED NEODYMIUM DRIVE UNITS

Final Audio Design Pandora Hope IV £400



Can the high-end Japanese brand come up with a performance to match the rather exotic monicker?

DETAILS

PRODUCT
Final Audio Design
Pandora Hope IV

ORIGIN Japan

Type

Closed-back, overear headphones

WEIGHT 410g

FEATURE

- Balanced Air
 Movement' design
 Hybrid dynamic driver and armature driver arrangement
 ABS Plastic
- **DISTRIBUTOR**KS Distribution

TELEPHONE 01903 768919

WEBSITE final-audio-design.

ne of the more elusive Japanese brands, Final Audio Design has come up with some unashamedly high-end equipment, but recently has focussed exclusively on headphones and earphones - many of which are still very exclusive products. The splendidly titled Pandora Hope IV is the cheaper of two over-ear designs (the other being the Pandora Hope VI) and is the only model in the test that isn't open back. Its type is a little harder to quantify as the Final is listed as a closed-back design, but one that uses something called Balanced Air Movement to improve air flow. The result is that it leaks pretty much the same levels of noise as the other models in the test, suggesting that sound is escaping from somewhere.

Internally this headphone is also a deviation from the rest of the test. A pair of 50mm drivers are used for the bass and midrange, but these are joined by a balanced armature for the treble, which is mounted in front of the main driver. This doesn't affect



the overall dimensions of the Final, which is one of the smaller designs in the group. The styling is pretty bold too. The Hope IV isn't quite as Dan Dare as the bigger Hope VI, but it is still probably the most interesting design here. It is comfortable too, with the weight being well distributed across the head and the pads exerting enough traction to keep the Final in place without digging in.

The news isn't entirely good, though. It is supplied with a 1.5m cord, which is realistically a little too short for home use, and thanks to the unique locking connectors on the headphone end, isn't something that is easily replaced.

Sound quality

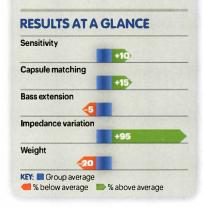
The Pandora Hope IV is comfortably the most sensitive headphone in the test and requires less power than any of the others to reach the test level. Having done so, the overall presentation is distinctive, but generally likeable. The dedicated armature for treble does make its presence felt with a well-lit and detailed top end that manages to avoid tipping over into outright brightness with most material - even with high volume levels. This is in turn underpinned with deep and usefully powerful bass that is pleasingly energetic.

The Emily Barker recording sounds pleasantly lively, but Kraftwerk is where this energy really makes itself felt and the Final has a liveliness that is consistently engaging.

The Pandora Hope IV has to give ground to the best in the group in terms of the midrange between these two frequency extremes, however. Like the rest of the performance, it is smooth and usually civilised, but there is a loss of fine detail in this area that means that it never really extracts the information from the Max Richter piece that some of the other models manage to find. This is coupled with a reduction in the sense of scale in pieces that depend on the midband being opened out and presented with a greater sense of

ON TEST

The Pandora Hope IV is a bit unusual in terms of its measurements, It has a nominal impedance of just 80hms - something you might expect of a loudspeaker, but not a headphone. One positive outcome is that the Pandora Hope has the highest sensitivity of the group at 123.1dB SPL for 1V input at 1kHz, but exploiting this will require that the source has sufficient current capability. It will also have to have very low output resistance because impedance varies from a minimum of 8.80hms to a maximum of 16.60hms - a 2:1 ratio that means a mere 2.7ohms source resistance will introduce a frequency response modification of 1dB. Capsule matching error was better than the group average, though, at ±6.0dB, and 25Hz bass extension is about par too. But the diffusefield-corrected frequency response looks very ragged, with an upper-bass peak of about 8dB. KH



space. On tracks like the Nirvana recording, this is far less important than the Final's sheer drive and energy and the Pandora makes a commendable effort at making sense of the dense and abrasive recording.

As one of the mid-priced models in the test and one of the better (in an admittedly generally unsuitable field) models for use on the move, the Final makes a commendable degree of sense and the useful sensitivity makes it an unfussy partner.

As a home headphone, the decidedly short cord combined with a slight lack of finesse ultimately deny it the top spot, but this is still more than just a classy name •

Choice **OUR VERDICT** SOUND QUALITY LIKE: Energetic performance; sensitive and comfortable **** VALUE FOR MONEY **DISLIKE:** Slightly **** recessed midrange; short cord; looks are BUILD QUALITY a matter of taste **** **WESAY:** An unusual phone that produces a likeable sound FEATURES **** OVERALL



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Sennheiser HD 650 £400

Having won more than its fair share of headphone roundups, can the old pro come up with the goods?

DETAILS

PRODUCT Sennheiser HD 650

Germany/Ireland

Open-back, overearheadphones

260g

 Handpicked pair matched drivers

 Magnets chosen to reduce intermodal distortion
• Lightweight voicecoils for improved transient response

Sennheiser UK

0203 0144 152

sennheiser.co.uk

f all the models here, the Sennheiser has been around the longest and has been something of a mainstay at this price point. The HD 650 is an open-back design

So far so good, but the chassis that Sennheiser has wrapped these drivers in is not without some design foibles that may or may not infuriate. The earpads are the largest in the test and the result is that even as a full-sized adult, I find that the pad actually rests partly on the hinge of my jaw, which is not conducive to a comfortable fit. Sennheiser then proceeds to apply an extremely high level of compression to the headband that means that the

that is built around a pair of dynamic drivers of an undisclosed size. While no exact figure has been quoted for them, Sennheiser is at pains to point out that it takes exceptional care in pair matching the drivers and performance is further boosted by optimised magnets and a specialised damping element that's been applied to the entire diaphragm.



force applied by the earpads is very high. When this is combined with padding that looks similar to the other headphones here, but doesn't offer much 'give', you have the least comfortable offering in the test.

The overall build is of a very high standard, however. Everything feels very solid despite the impressively low weight and the titanium finish is attractive. The 3m cord is detachable to reduce strain and make packing easier. This cord is the only one in the test fitted with a fixed 6.35mm jack, although a 3.5mm adapter is supplied. Given that it leaks a tremendous amount of noise through the open-back earpads, it would probably not be the most appropriate choice for use on the move.

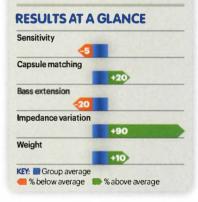
Sound quality

The HD 650 requires a reasonable amount of power to reach the test level and having done so, demonstrates a number of likeable traits interspersed with some less desirable ones. There is plenty of power and authority to the presentation and there is a pleasing amount of fine detail too. Barker's vocals are well handled and it manages to emphasise the considerable amount of different percussion used in support. There is plenty of energy to the performance too. Kraftwerk is given a potency that is tremendously entertaining and effective at capturing the flavour of the live performance.

At the same time, some of the same limitations that affect the Audio-Technica are on show here. The performance never has much sense of depth and space to it with everything presented in a shallow fashion in front of the ear, which can rob pieces that need more room to sound believable. This is partnered with a midrange that can feel rather thick and slow at some points. While this same thickness can be useful with vocals and in particular at adding a welcome touch of civility to the Nirvana recording, it leaves the orchestra of Richter sounding a little

ON TEST

Sennheiser claims a sensitivity for the HD 650 of 103dB SPL, but specifies no input II. seems that 1V may be the missing value as we measured 106.4dB sensitivity at 1kHz for this input. This is the second-lowest in the group but is explained by the HD 650's high impedance, nominally 300ohms. Over the audible frequency range we measured a minimum of 307ohms and a maximum of 433ohms, which makes the Sennheiser unusually insensitive to source resistance: it would take 183.2ohms in series to produce a 1dB change in frequency response. Capsule matching was better than the group average at ±5.9dB whereas bass extension was slightly worse than average at 31Hz. The diffuse-field-corrected frequency response indicates that the HD 650's perceived tonal balance will be on the warm side, with mildly elevated upper bass (+3dB) and a slight shortfall in presence band output. KH



leaden and lacking the wonderfully open presentation of rivals like the Beyerdynamic and Shure. It is also worth noting that while the HD 650 is civilised at the test level, it's already showing a touch of harshness during dynamic peaks and further increases to volume lead to it becoming rather hard and brittle.

The HD 650 does a great deal right - the design has clearly been thought through and the solid build combined with light weight is welcome. The limitations to comfort and the lack of absolute clarity and depth compared to rivals deny it the honours this time despite the liveliness it can bring to many types of music •

Choice

OUR VERDICT

SOUND QUALITY *** VALUE FOR MONEY BUILD QUALITY ****

LIKE: Powerful and lively sound; excellent build; light weight

DISLIKE: Not very comfortable; can sound a little thick and lacking in depth

WESAY: Well thought out, but some foibles make long-term listening less enjoyable

**** OVERALL

FEATURES







Since 1948 Ortofon have introduced nearly 100 different moving coil pick-up cartridges to the hi-fi market. Their latest models in this long and proud heritage are the Quintet Series.

All Quintet cartridges use the same ABS thermoplastic bodies and neodymium magnets, but each model in the range has its own sonic expression that reflects its status. From the well-rounded **Quintet Red**, through the smooth **Quintet Blue** and spacious yet dynamic **Quintet Bronze** up to the pure audio excellence of the **Quintet Black**, this series offers something for every discerning listener at a very attractive price.

The Quintet Series also includes a true-mono cartridge, for accurate reproduction of older mono recordings.



Shure **SRH1840**£467



Can Shure translate its enormous success in the highend earphone domain to the world of headphones?

DETAILS

PRODUCT Shure SRH1840

USA/China

Open-back, overear headphones

WEIGH 268a

FEATURES

- Pair matched drivers
- Lightweight metal chassis
- Zip bag with replacement earpads supplied

DISTRIBUTOR Shure UK

01992703058

WEBSITE shure.co.uk

his is one of the more recent arrivals in the test and marks something of a departure for Shure, which is better known as a manufacturer of high-end earphones. The SRH1840 is the flagship of the increasingly large range. The open-back design is built around a pair of 40mm neodymium drivers that, like the Sennheiser HD 650 are pair matched by hand. Indeed, the Shure and the Sennheiser have more than a little in common with each other visually and the American offering also makes use of oval earpads.

Put it on your head, though, and the differences between the two designs become rather more apparent in favour of the Shure. It might be a similar shape and 8g heavier than the HD 650, but the SRH1840 is vastly more comfortable – indeed it's one of the most comfortable headphones I've worn full stop. The weight distribution, spring loading and the resistance of the earpads combine to give the most unobtrusive and



comfortable fit of the test, providing an elegant lesson in ergonomics.

This comfort is backed up with excellent and well thought out ancillaries. It is supplied with a hard shell carry bag and replacement pads as standard and should anything unpleasant happen to those, replacements are available directly from the Shure website as is another example of the 2.1m detachable cable. The build quality is excellent too - there's nothing showy about any aspect of the headphone and I'd hesitate to call it pretty - but everything has been assembled with a view to it lasting a long time and being easy to sort out and repair if it does go wrong. As an open-back design, it leaks a lot of noise but given that Shure has the closed-back SRH1540 at the same price, there is a more suitable portable option.

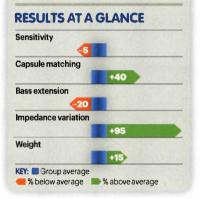
Sound quality

The Shure is not especially sensitive, but doesn't place any undue demands on the Chord Hugo to reach the test level. Once there, it demonstrates generally excellent performance. There is an impressive balance of realism and excitement. Detail retrieval is among the very finest in the test and even extremely subtle nuances can be picked out of the performance. Everything sounds convincing and well proportioned, but there is a sense of life and excitement that makes Emily Barker enjoyable rather than simply a reference exercise.

The sense of space that the Shure generates is also truly exceptional. The large scale Kraftwerk and Richter recordings are given all the space they need and when you combine this with the very high levels of comfort, you have a headphone that can really perform in a way that allows you to forget that you are wearing it. This effortless presentation is underpinned by bass that while not as seismic as the Beyerdynamic or AKG, is detailed, clear and seamlessly integrated with the upper registers. The SRH1840 is also able to be driven to high levels

ON TEST

Shure claims 96dB SPL sensitivity for 1mW input for the SRH1840, equivalent to 107.9dB for 1V across its nominal impedance of 65ohms. Our measured figure matches very closely with this, the capsule average being 108.6dB at 1kHz. This is quite a low figure but is partly explained by that impedance, which is higher than for many modern mediumimpedance headphones. We measured an impedance range of 62.0 ohms to 73.2 ohms across the audible range, which makes the Shure almost as insensitive to source resistance as the high-impedance Sennheiser: 152.4ohms in series would be needed to introduce a frequency response modification of 1dB. Capsule matching was tightest of the group at ±4.2dB, but bass extension was a little poorer than average at 32Hz. The diffuse-field-corrected frequency response was easily the flattest here, suggesting a neutral tonal balance. KH



without displaying any signs of hardening up or aggression.

The Achilles' heel appears with the Nirvana recording, hi-res or otherwise, which isn't flattered by the accuracy and detail that the SRH1840 can extract. Come As You Are is presented as a dense and confused mass of voices and instruments largely because it is. Shure hasn't completely set aside its pro audio heritage, which means the more forgiving Beyerdynamic is the better all rounder. It is hard to ignore the SRH1840's ability to disappear with some material and depending on your listening preferences, this is a must audition and a mighty fine effort •

Hi-Fi Choice

OUR VERDICT

LIKE: Accurate, detailed and extremely involving sound; excellent build

DISLIKE: Merciless with poorer recordings

WE SAY: An excellent headphone that has much to offer listeners of better quality recordings

BUILD QUALITY

FEATURES



Group test verdict

He's had his head nodding to the beat with this month's cans and now it's over to **Ed Selley** to find out which headphones get his nod of approval

NONE OF THE headphones here are free of merit, but Audio-Technica's ATH-AD900X is perhaps the most restricted. The tonality is good and it is well priced, but the shallow sound, average comfort and rather Spartan appearance count against it. The AKG Q701 and Sennheiser HD 650 are both headphones that manage to excel in some areas, but fail to deliver in others. Both are well built and capable of delivering a powerful and lively sound, but the AKG doesn't always handle more complex pieces with the assurance it needs to and also lacks a little depth. The

Sennheiser is better able to handle poorer recordings, but also sounds a little constrained. More significantly, the discomfort is a real impediment to long-term enjoyment and I'd urge you to try before you buy.

The Final Hope Pandora IV hovers on the boundary between unusual and outright weird. The strange looks, odd driver arrangement and curious measurements all require a little caution, but the end result is a very enjoyable listen. The forgiving nature with poorer recordings is also welcome. Only the slightly recessed and congested midrange and the

annoyingly short cord prevent this Japanese curiosity from climbing further up the rankings.

The Shure SRH1840 is the other reason why the Final is denied a higher placing. This is a genuinely excellent headphone and an object lesson in comfort and ergonomics. The build quality is fantastic and the quality of the ancillaries is also absolutely superb. This is then topped off with an accurate and consistently entertaining performance and only a slightly ruthless nature with less perfect material robs it of top spot.



The Beyerdynamic T90 delivers the best all-round performance. It keeps pace with the Shure in all regards, but with less perfect material manages to keep all of its excellent attributes. When you consider the build, comfort and ancillaries it's a worthy winner.













M	ake	/m	odel

Q701

Audio-Technica

Beyerdynamic

Final Audio Design

Sennheise

Shure

	A strong showing from an affordable model, but there are weaknesses	Some likeable traits, but the constrained performance is a bit of a problem	Not without some foibles, but this is a really accomplished headphone	A rather unusual headphone that produces a likeable sound	Well thought out, but some foibles make long-term listening less enjoyable	An excellent headphone that excels with bette quality recording
Overall	****	****	****	****	****	****
Features	****	****	****	****	***	***
Build	****	****	****	****	****	***
Value	****	****	****	****	***	****
Sound	****	****	****	****	****	****
Price	£300	£315	£500	£400	£400	£467
	4701	T	100	Tanada Hope IV	110 000	1

Key features

Open-back	Yes	Yes	Yes	No	Yes	Yes
Closed-back	No	No	No	Yes	No	No
Carry case	No	No	Yes	No	No	Yes
35mm adaptor	Yes	Yes	Yes	Yes	No	Yes
etachable cable	Yes	No	No	Yes	Yes	Yes

TRY WITH THESE

HEADPHONE AMP: Musical Fidelity M1 HPA P £500

The original M1 HPA was a peerless headphone amplifier with the insight and authority to work well with a range of headphones and the updated HPA P

updated HPA P should prove an equally talented partner for any of the designs here. HFC 365



PORTABLE SOURCE: Astell & Kern AK240 £2,200

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It has the power to work with the least sensitive designs here for a fine portable audio system. HFC 387



HEADPHONE AMP/DAC: Chord Hugo £1,400

The Chord was used to run the test and this amazingly talented half a hi-fi in a tiny, beautifully finished box would be a fine partner for any of these designs with enough power on tap to drive any of them to any level you see fit. HFC 386



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YAMAHA • CRX-N560D • CD / DAB / NETWORK SYSTEM

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or any Bluetooth device enabled smartphone, tablet or laptop

with renowned NAD performance, simplicity and value



B&W • ZEPPELIN AIR • WIRELESS/DOCK MUSIC SYSTEM Play music wirelessly from your iPod, iPhone or iPad. AirPlay

allows the Zeppelin Air to wirelessly connect to any PC or Mac computer running iTunes. Dock with Lightning connector



With P7, everything is designed to allow you to lose yourself in music Bass is tight, vocals are precisely defined, and there's a wonderful sense of space, balance and clarity across the whole frequency range. P7's cable comes with a remote/microphone attachment, so it works seamlessly with you iPhone



Re-Certified Model

NAD VISO HP50 HEADPHONES

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Bottle fed

Icon Audio's thumping new Stereo 845 PP integrated amplifier has got one hell of a lot of bottle, reckons **David Price**

ho remembers the early thirties? They contributed a lot to the world in which we live now. From Edward Elgar opening Abbey Road studios and the debut of what went on to become the Royal Ballet, to the issuing of The Highway Code and the pound coming off the Gold Standard, things would never be the same again. Meanwhile, in the United States, things were moving apace too – and in one little corner of RCA's factory, a new and rather remarkable thermionic valve began manufacture.

The 845 power triode started life as a radio transmitting vacuum tube; physically large and with an

impressive anode dissipation of 75W, it ran 1,250V on the anode no less. The thoriated tungsten filament – which glowed like a light bulb – was powered at 10V and 3.25A, so any transmitter that ran a large complement of them was always going to make the lights dim! The same goes for hi-fi amplifiers too, as the 845 went on to make excellent audio tubes. And now in 2014, the Icon Audio Stereo 845 PP shows how.

In a word, it's a showstopper. Whether you love, hate or simply don't care about valve amps, there's no denying the effect that one of these sitting on your sideboard has. As well as putting it under mortal

PRODUCT Icon Audio Stereo 845 PP

UK/China

TYPE Integrated amplifier

35kg DIMENSIONS (WxHxD) 440 x 240 x 400mm

FEATURES■ Quoted power

38W RMS per channel (8ohms) • Class A triode front end, push pull output

pull output • 4x 845, 2x 6SL7, 2x 6SN7, 1x GZ34 valves

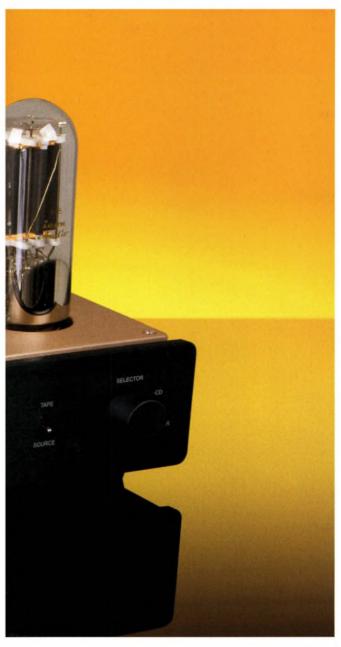
valves
• Power amplifier direct option

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strain (it weighs a whopping 35kg, and actually feels heavier), it will soon warm your room. It also has another function, which is to amplify relatively low, line-level signals up to the level that will wake up your loudspeakers – and depending on what they are, your neighbours too. This is no shy, retiring violet of a valve amp then, rather in tube terms it's the stormtrooper of the apocalypse, ready to ram its 38W (claimed, but totally believable) of power right up the back of your sofa!

To maximise its power potential, the Stereo 845 runs in push-pull mode, telling us that it is not one of the more specialist, far-out valve amplifiers. Other configurations such as single-ended give what tube aficionados would say is a sweeter, easier and more expansive sound - at the expense of vanishingly low output power, so horn-loaded loudspeakers are called for. The Stereo 845, however, is more of a valve amplifier designed to fight it out in a modern solid-state world; you won't need to change your speakers or suddenly start listening to simple acoustic music with no bass to keep it happy.



It might not be the best-looking valve amp, but it'll warm your room up

Many smaller valve amplifiers have self-biasing, using resistors to set the cathode voltage correctly, but the sheer size of the 845 valve means that four resistors dissipating about 20W of power each would be needed – making for lots of wasted power and heat. That's why Icon Audio has fitted a bias meter, which helps users to manually set the biasing, as well as warning if a valve is on the way out – something you won't know about with a self-biasing system. Seasoned valve sorts will know this is the right way to do things.

The Stereo 845 follows Icon Audio's general best practice – which means a rigid steel chassis into which good quality low distortion, tertiary wound output transformers are bolted, and these are potted to reduce noise. High quality passive components are used throughout, including Solen/SCR capacitors, with the option of Jensen copper foils. Silver-plated copper internal wiring (all hand wired, point to point) is used, along with a Japanese-sourced ALPS volume control. As well as the four Psvane 845 valves, two 6SL7 first stage valves and two 6SN7 output driver valves

are used, along with a GZ34 driver stage rectifier. Two separate 10V AC heater supplies are provided, a separate power supply for the driver circuit, which uses a valve rectifier and another choke.

The Stereo 845 is certainly built well, but then again so it should be at £6,000. Still, the finish isn't quite as good as some price rivals, both tubular and transistor. For example, the Audio Research VSi60 or 75, whose prices the Icon Audio straddles, and the Musical Fidelity AMS35i, seem swisher. The Icon Audio amp's copper top plate is lovely, and copper isn't cheap these days, but some of its black powder coated steel casing parts aren't as classy, and nor is the front panel switchgear.

It is lithe, but has a vast thump down south like the audio equivalent of a JCB

Sound quality

Valve amplifiers are normally especially sensitive to the loudspeakers they are being used with, but in the case of the Stereo 845, it seems far more sure-footed. Showing precious little fear of any loudspeakers I pair it with, from Yamaha NS1000Ms to Sonus faber Olympica IIs, it's one of the few I've reviewed over the years that sounds genuinely powerful and gutsy. But those hoping for it to be as transparent as a transistor amp shouldn't hold their breath, because it is quite coloured. So much so that you might say it stamps its sonic personality all over the music, like a giant walking over your front lawn.

This is a bold and characterful amplifier, but in a very good way.

It might not come as a total surprise to learn that the Stereo 845 is warm sounding, although in fairness it's never gloopy and syrupy, with a bass like it is walking through treacle. Instead it is fast and lithe, but still has a vast thump down south, seeming like the audio equivalent of a JCB. It's pleasingly sumptuous but never sounds overblown in a well balanced system. For example, the walking bassline on Black Uhuru's Party Next Door is a delight with my current reference Sonus faber loudspeakers doing a passable impersonation of a FA stack at Glastonbury.

Moving up to the midband, and the Stereo 845 doesn't lose much warmth, although it does dry up slightly. Everything gets a nice, rosy glow, meaning that recordings that were previously viewed as a little acerbic like The Bodines' Scar Tissue suddenly seem to calm down and chill out. There's never any sense of the sound being laser etched out right in front of you; instead you're drawn into this wide and deep soundstage, with a lot of the action going on behind the plane of the speakers. Things hang back a little, yet it is so expansive that you still feel quite immersed in the proceedings.

It's a lovely sound, no matter what sort of music you like. It gives a beautiful clarity and ease to even some of the most uneasy human voices – like Bob Dylan's for example. Highway 61 Revisited is a lot less strident than normal. There's no doubt that this is a wonderful power valve to have driving your speaker cones; it's so clean yet warm in a way that almost all no other valves are. Yes, like lesser tubes it is coloured,

CONNECTIONS



Q&ADavid Shaw Icon Audio founder



DP: Why make an amplifier using 845 valves?

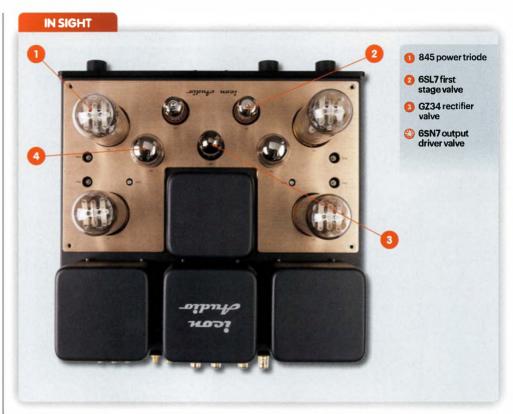
DS: It's a challenge and they make superb music! The 845 valve is in a class all of its own. It's big, reliable, relatively cheap and fairly easy to drive. Its curves are very linear and has four times the power of the 300B. Designed in 1932 in an age when function was more important than form, it belongs to a class of primitive directly heated triodes, which are not far removed from the old light bulbs! Like the RCA 2A3 and Western Electric 300B. These for various reasons, possibly due to their simplicity, all have superior sonics. Their better linearity than modern designs gives them the ability to give the same results at low and high signal levels, and coupled with a lower impedance enables a simple amplifier to give superb results.

Would you describe it as a tube amp for the transistor generation?

Well, the majority of 21st century speakers have become very inefficient and power hungry, and arguably people's expectation of sound levels have got higher. So for many, a 20W valve amplifier is just not enough. This is where the 845 fits in: it still makes an excellent audio driver valve for transmitter use, but as a true audio valve is possibly more relevant today than ever. It has sonics in the same league as the 300B, but is capable of higher power output. It's big, it gets hot and is difficult to design around due to its high power and voltage demands. It also demands both power and output transformers to be very large and of high quality. In my humble opinion it is the finest sounding audio valve available. Less mechanical and more fluid than modern designs, what's not to love?

How is it different to Icon Audio's MB 845 monoblocks?

The basic circuit is the same, but modified for lower power. I wanted to make a more refined version offering an integrated solution for driving more efficient speakers or smaller rooms, yet retaining the essential elements that set the 845 apart from more common or garden valves.





When you're comparing valve amps, there are several things to consider - what type of circuitry, what tubes are used and how well it's done. The Audio Research VSi75 (£7,500) is similar as it's powerful push-pull design, but uses KT120 tubes, and is superbly built and finished. The 845 tube has a bigger, warmer, richer and more powerful sound than the KT120, which sounds faster, feistier and thinner - more like a solid-state amp. They're worlds apart, so an audition is essential - but both are very powerful and true objects of desire. The only unequivocal thing is the superiority of the Audio Research's finish, and the slickness of its user interface.

but it's far more resolute and detailed sounding, and doesn't make the music descend into some sort of audio comfort blanket. It's got more warmth and guts than a 300B, yet a sort of KT88-like get-up-and-go; in other words it's a perfect combination!

The treble is lovely. Suddenly, cymbals played through even a top quality Class A solid-stater like the aforementioned Musical Fidelity AMS35i seem a bit steely and scratchy. Also, they don't time as well; the filigree hi-hat work on Rush's Subdivisions sounds more like it's being played on a drum machine on lesser amps, whereas the Stereo 845 seems to flatter the sound of both Neil Peart's vast drum kit and his playing. The Icon Audio has an easy sound rather like a large Harley Davidson motorcycle, it just never seems to break into a sweat. No matter how complex the music gets, it just shrugs it off and keeps playing.

Even at high volumes, it displays grace under pressure in practically any living room, although ask it to power the school disco and you'll find it loses its sophisticated demeanour pretty sharpish. Running up to fairly high levels in a largish room with medium sensitivity speakers, it sounds powerful and assured – it's just that you can't push it as far as a solid-stater. There's also something that never leaves you – that coloration. It's lovely, but if we're honest it shouldn't be there and

makes the amp less able to pick out the tonal differences between recordings and even instruments. Some solid-state purists will find the bass just slightly slurred too; it is magnificent, but it doesn't switch on and off with the speed of an LED.

Conclusion

This is a lovely thing that bestows luxury and a sense of specialness on its owner. It oozes character and its own unique charm – making a sound that virtually no other amplifier can. However, don't expect it to be the last word in openness, subtlety, speed or clarity; others do better here. Still, most Icon Audio Stereo 845 PP owners simply won't care; they'll fall in love with what it does best, which is to make some of the most sumptuous sounds around ●





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Go your own way

Vinyl junkies get lucky as **Andrew Simpson** checks out this new wheel of steel that's built on impressive credentials

aunched by Divine Audio's head honcho Tim Chorlton and Mark Groom, and with power supplies designed by Garrard guru Martin Bastin, Analogue Works is a new turntable manufacturer that brings plenty of experience to the table, which has been ploughed into the company's carefully crafted range of record players and accessories.

The One is positioned slap bang in the middle of the company's record player range, sensibly sandwiched between the Zero (£650) and Two (£1,600) models. All three decks get the same bronze/steel bearing and the Zero also packs a Rega RB202 arm within its price, but gets a

bamboo or MDF plinth and wall-wart PSU in place of the One's birch-ply plinth and standalone PSU. The cheaper Zero also comes equipped with an acetal platter instead of the more substantial damped alloy platter sported by the One and Two decks. The Two turntable builds on the One package by including Analogue Works' reference power supply, selection of upgraded isolation feet, a bunch of platter mats made from various materials and a dust cover.

Thanks to the range's deceptively simple design, all of the Two's extras can be applied to the One model as and when funds permit and they take seconds to fit, so upgrading need not require trading your deck in, or

DETAILS

Analogue Works Turntable One

ORIGIN UK

Belt drive turntable

WEIGHT

12kg

(WxHxD) 460 x 120 x 360mm

FEATURES

6.7kg damped alloy platter
 Belt driven by separate AC motor
 Separate ACII had

separate AC motor
• Separate PSU box
• Adjustable feet

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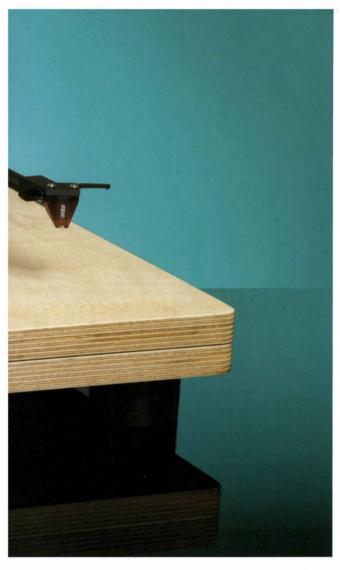
WEBSITE analogueworks. having to return it to the factory for extensive tinkering.

Closer inspection of our Turntable One reveals just how much attention to detail has gone into its design. Starting from the ground up, its three cylindrical feet are threaded into the plinth's base, allowing for easy levelling. Then there's the standalone motor, which passes through a dedicated cut-out in the deck's plinth with only 2mm clearance, forcing you to site it at precisely the right distance from the platter, to ensure the correct belt tension from the deck's twostepped pulley (for 33 and 45rpm) to the platter's periphery, aiding speed stability and minimising both wow and flutter.

Solid build

Comprised of two 18mm pieces of birch ply bonded together, the deck's plinth is superbly finished with the company's logo finely etched into its top surface (a black laminate top plinth is also available for an extra £50). The quality feel is carried over to the deck's hefty alloy platter, which is internally damped using neoprene rubber, bonded to its base. Further platter damping comes courtesy of a silicone ring around the platter's outer edge.

Coupling platter to plinth is the bearing, which employs a polished steel shaft with precision ground



nipple, spinning inside a phosphor bronze sleeve. Analogue Works offers the deck with an armboard included in the price (SME/Nottingham Analogue types cost extra), and while no arm is included in the price, AW can supply the deck with a range of arms fitted at extra charge. To finish the deck off, Analogue Works throws in one of its Gimp platter mats, which are made from a choice of materials including silicone, neoprene, nitrile, rubber, cork and foam.

Our model comes sporting a £300 Jelco SA-250ST tonearm, which despite being lesser known on these shores than the usual Rega-derived variants, is a reviewer's delight in terms of build quality and ease of use. Thanks to its removable arm lead (via a din plug at the arm's base) and the supplied armboard's simple allenheaded clamping mechanism, the arm can be raised/lowered/removed in minutes, making cartridge swaps and VIA fine-tuning a fuss-free procedure.

Setting the deck up is just as easy. Simply site the motor, place the plinth over the top, add a few drops of the supplied oil to the bearing and gently easy the platter into place. All that's left to do is fit the belt around the motor pulley, level the deck via its feet, set the arm height and plug the motor's captive lead into the standalone black alloy PSU, which has a single on/off switch.

Because Analogue Works has specified a low torque motor (notably of a similar design to Nottingham Analogue's decks), you need to give the One's platter a firm push in order to help it get up to speed, and once running it spins silently.

Sound quality

Using the £85 Ortofon 2M Red that comes pre-installed on our test model reveals the One to be a very capable music maker. In many ways this deck's sonic signature reflects its physical design, which seems to be somewhere between the high-mass vibration-killing decks usually of Germanic origin and the lower-mass non-resonant designs stemming from the likes of Rega and Pro-Ject.

Bass is well formed, deep and reassuringly controlled, while the deck projects plenty of life in the midrange without sounding too bright, and there's no sense of ringing from its well-damped platter.

With Bon Ivor's Lump Sum track from their For Emma, Forever Ago album turning circles atop the deck's foam Gimp mat, I'm presented with a dense soundstage consisting of many layers. The track's choir-like opening vocals resonate with the echo of a cavernous cathedral, as they extend from what sounds like the other side of the wall behind my speakers. This gives the music plenty of depth, and sets the scene for lead singer Justin Vernon's vocals to come to the fore with full-bodied presence, revealing just how expansive the deck's soundstage is front to back.

Despite the motor's low-torque design, the One's timing sounds spot on and treads a fine line between not hurrying the rhythm along, or having to play catch up by chasing the music down the record's grooves. Instead, the turntable's grip on the music's pace allows the Bon Ivor track to progress at its own natural tempo, without any sense of delayed overhang or notes being rushed and curtailed. Guitar strums start and stop with the precision of a Swiss watch, while the bass line's vibrancy keeps my ears pricked up and my toes a tapping.

The One's talent for bass reproduction is further highlighted with the deck digging deep into the

Voices have more air around them and the sound seems less compressed

title track from a 180g pressing of John Martyn's *Solid Air* album. The One quickly sets out its stall, revealing the intricacy of Dave Pegg's double bass work that underpins the song by gracing its melancholic notes with lots of texture, which the deck ensures can be felt as well as heard.

So the One can do bass detail, but can it go low while keeping its composure? Massive Attack's *Unfinished Sympathy* is the perfect track to help answer this question. On systems with average bass detail and/or extension I often find this



The superbly finished birch ply plinth and hefty alloy platter add to the quality feel

Q&A Tim ChorltonAnalogue Works co-owner



AS: Why have you launched this range of turntables?

TC: It's something me and AW co-owner Mark Groom have always wanted to do, however, with the 'death' of vinyl in the nineties it seemed a futile thing to try at the time. But as the market started to move back towards vinyl we both started looking at turntables and decided this is the time to give it a try.

What were your main objectives for your turntable range?

They should be easy to set up as a fitand-forget type of device. We believe that like the convenience of playing CDs and digital files, a turntable shouldn't need tweaking every time you use it to get the best from it. Alongside this it needs to be supremely musical. We are both music nuts and we wanted our turntables to shine with any type of music. They also needed to be affordable, and they had to be built in Britain. We believe we've fulfilled this criteria on all counts.

Why have you specified a low-torque motor?

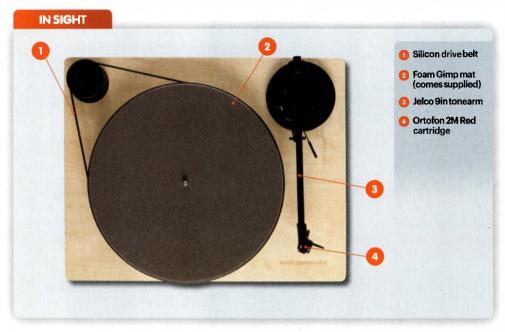
Because it has been very successfully implemented by various designers in the past and too much power in a motor can lead to noise. Our choice of motor also gave us access to an excellent PSU designer to create the best affordable sound.

Why have you favoured an alloy platter for the One, in place of your acetal type on the Zero?

We did hundreds of hours of testing during the birth of the turntable and we found that with the damping in place on the alloy platter, it gives a more pleasurable sound, hence why this comes fitted to the One and Two models. The acetal platter is still very good and cheaper to make so we offer it on the Zero.

What kind of cheese did you test as a platter mat option (as per your website)?

Leerdammer, Cheddar, Cornish Yarg and Red Leicester. We still think this could be an excellent platter mat albeit with a short shelf life.



track can sound tonally dull and deflated in the lower registers, which is then masked though a flabby sounding unnatural rumble. Not so with this machine, which lets the arm and cartridge pull out all the low-end wallop that the grooves have to offer while keeping a cool head.

While I sense that the Analogue Works deck and Jelco arm are getting the best out of the budget-priced 2M cartridge, my suspicions that this cartridge is holding the package back somewhat and that this deck and arm combo are of sufficient quality to more than justify a much more refined pick up are quickly confirmed.

With a £230 Nagaoka MP-150 installed on the Jelco arm I head back to revisit the Massive Attack and John Martyn material. Hearing both tracks via this package reveals a much more expansive soundstage, with deeper midrange and better separation. Voices have more air around them and overall the sound seems less compressed and much more open. The Nagaoka seems to really gel with the deck and arm combo, playing to their strengths as a full-bodied sounding package. In terms of price the Nagaoka is still a relatively cheap cartridge, which illustrates that you'll have some way to go up the pick up price ladder before you should worry about reaching the deck's performance ceiling.

Across both pick ups tested, treble tends to err on the side of mellow, and with curiosity getting the better of me I can't resist substituting the supplied foam Gimp mat for my Funk Achromat. Back to back comparisons of Stevie Nicks' Edge Cf Seventeen reveals the Funk variant to pull out a

shade more vocal detail, while giving the music a little more vitality, highlighting that it's worth experimenting with Analogue Works' range of Gimp mats to fine tune the deck's sonic character to your own personal preferences and system.

Conclusion

You really don't need to spend all that much time with this turntable to realise that Analogue Works has carefully considered every aspect of its design, engineering it for maximum performance while ensuring that it remains eminently user friendly. It's a perfect sonic match for the Jelco arm, which combines for an expansive and full-bodied sound that's begging for the best cartridge you can afford for long-term enjoyment.

I have a feeling we'll be seeing and hearing a lot more about this machine as word spreads. If you're in the market for a turntable upgrade, the Analogue Works deserves a place right near the top of your shortlist ●



This price point buys you access into a seriously good shortlist. At £825 minus arm/ cart, Avid's Ingenious (HFC 379) is a strippedback version of its more costly decks, which still sports a solid aluminium cross beam chassis, freestanding AC motor, tungsten/ sapphire bearing and MDF cork-topped platter, plus cost-extra armboards and clamp. Michell's £690 TecnoDec draws on its suspended GryoDec brother to offer a standalone DC motor and acrylic/vinyl platter in a simple to set up VFM package. Both are superb sounding starting points to

audition alongside

the Turntable One.



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IsoTek EV03 Premier, Hi-Fi Choice, March 2013

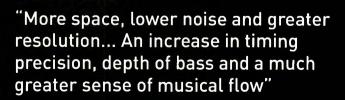
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IsoTek EV03 Polaris, Hi-Fi Choice, March 2013



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Return to the Source

The Cabasse Stream Source is a neat hub that unleashes music from networked devices. Lee Dunkley checks out its style

rench loudspeaker company Cabasse is a family-run firm of long standing that has a considerable following on its own turf, but is much less known in the UK. If you do know of the Cabasse name at all then you will be more likely to know it for its extensive range of traditional hi-fi loudspeaker designs, as well as its artful lifestyle products including the L 'Océan and La Sphère point source/coaxial driver flagship models.

The company has more recently branched out into the world of networked systems, with the introduction of three Stream products. The first Stream model to launch was the Stream 3 system, which we saw back in the October issue (HFC 376) last year, combining music streaming inside a compact and swish sub/sat speaker package.

The little device on test here is the natty looking Stream Source, which is deigned to add networked music and Bluetooth streaming capabilities to an

existing hi-fi system. The pebbleshaped 'hub' will fit unobtrusively into any system and is finished in gloss black. Unlike the two-speaker models in the Stream range, there is no gloss white finish. Bluetooth with aptX connectivity is built in to link with music from a tablet or smart phone device, as well as instant connection via close proximity NFC (Near Field Communication) to compatible devices.

At the loftier end of its capabilities the Source can accommodate music files up to 24/96 and handles the usual list of lossy and lossless MP3, WAV, WMA, AAC, AIFF, ALAC and FLAC music file formats. These are the basic requirements for any music streamer jostling for position in today's market, and both wi-fi and Ethernet capabilities provide the best of both worlds to connect with your wireless router and access music devices across your home network.

Audio output connections come in the form of stereo RCAs and optical S/PDIF connections at the back of the

DETAILS

RODUCT Stream Source

Digital music hub

0.5kg 230 x 40 x 140mm

(WxHxD)

- Ethernet and wi-fi network connection

 Bluetoeth with aptX and NFC
- compatibility

 Wolfson
 24-bit/96kHz DAC Playback support for MP3, WAV, WMA, AAC, AIFF, ALAC,

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unit. Built-in DLNA software enables music stored on any connected USB stick or hard drive to be instantly made available across the network for playback on any other networked Stream players, like the company's Stream 1 (£499) or aforementioned Stream 3 sub/sat speaker system.

Take control

Touch sensitive controls are positioned on the top surface of the unit providing source selection and volume level adjustments, as well as showing the hub's connected status indicated by the colour of the illuminated icons. A smaller pebbleshaped handheld remote control is provided, duplicating the controls found on the Source unit, but the lack of a front panel control makes it of limited use. To navigate the Stream Source's main functions you'll need to download the Cabasse Audio Control app freely available for both iOS and Android devices. It has a pleasing tabbed approach and once installed and connected to your home network provides access to music stored on connected devices. Setup is straight forward and the wizard approach to getting my iPad communicating with my networked music and controlling the Source was a very simple process following the logical step-by-step onscreen guides.

You can create playlists and even adapt your own multi-room streaming options using the Zone facility, allowing you to link wi-ficonnected Stream models around the home and pipe synchronised music to each simultaneously, name and make groups or play different music through each Stream unit. Thirdparty music streaming services from

The Cabasse Source makes hi-fi look and work smart



vTuner and Deezer are also onboard, and the app works seamlessly across all devices switching between music found on my media server or on the USB stick plugged into the back without any glitches. It's intuitive to navigate, but there doesn't appear to be any way to see the incoming bitrate for the tracks streamed from my music library or third-party streaming services, and more information on the quality of the incoming streams would be a useful feature to add to any future update.

Sound quality

From the moment I get the Cabasse Source connected to my network and randomly select a first track to play from my music library to check that everything is working as it should, I know I'm in safe hands with the audio capabilities of the little Source hub. With the unit connected to my router via Ethernet and the analogue RCA output connected to my preamplifier, I get an open and detailed sound with a 16/44 rip of Lorde's Royals. Bass is strong and powerful, filling the room with a sense of depth that demonstrates the Stream Source's considerable capability at digging out identical levels of detail as found on the original CD.

It's only in the upper mid and treble details that you hear any differences at all. Leading edges have a hint of brittleness to them, and vocals and instrument placements aren't quite as clearly defined in the mix, though these are very minor quibbles of what

is an otherwise impressive performance from the tiny box.

Play a 24/96 ALAC file of Goldfrapp's *Clay* and the Stream Source still shines, although the performance isn't quite as polished as perhaps it should be. There's a slight audible drop in resolution, and the track feels less of a whole than I'm used to. Further investigation reveals that it's actually being output at 16-bit/96kHz, which Cabasse says is necessary for reliable streaming of hi-res material over domestic wi-fi. All

A slick device that channels networked music effortlessly to your hi-fi

the elements are retained, it's just a little less three-dimensional in its presentation and I'm not able to hear quite so easily into the recording. As the bass line builds, the synths appear to be less well lit in the way it presents the image across the plane of the speakers, making it just that bit less engaging. Vocals are soft and ethereal, but there's less of a feeling that Alison Goldfrapp is stood before me in my listening room.

Wires are always considered to be best in hi-fi circles, but I also check out the performance over wi-fi, which is remarkably solid with all material streamed over my network.

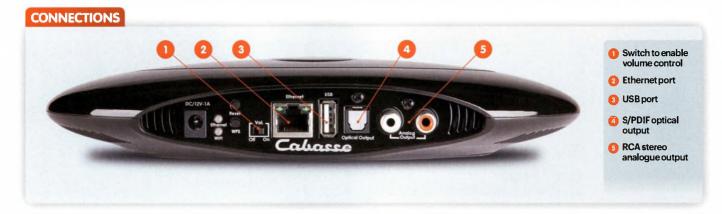
Cabasse has joined forces with fellow French company Deezer for its

streaming services app, providing access to over 30 million tracks. The app integrates well with the Stream Source and a quick flick to select Bluetooth input mode and the Stream Source selected as my connected device in the Bluetooth settings menu on a tablet or smart phone means that I'm up and streaming tunes in next to no time. Deezer's back catalogue is very respectable and I manage to dig out some yesteryear Scott Walker tunes and stream them via Bluetooth to the Cabasse, and it's hard to believe from the very respectable quality that they were recorded over 40 years ago.

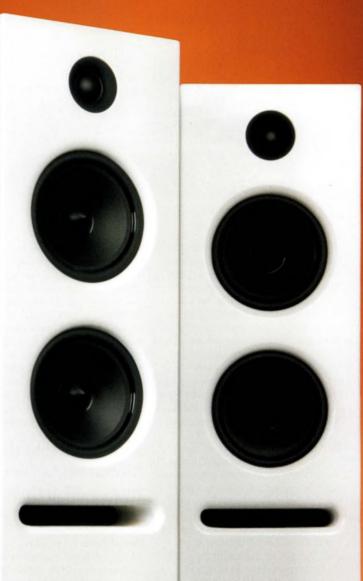
Conclusion

The Stream Source is a slick device that channels all your networked music effortlessly to your hi-fi. Its flexible, easy to get to grips with, and a streaming bargain at the price •









Playdays

With a new designer and a rather unusual approach, the K2 is an important speaker for Epos **David Price** listens in

ne day, people might look back at 2014 and say it was a significant year for loudspeakers. The new

K2 series isn't a dramatic change of trajectory for Epos, but it's certainly a clear move in a certain direction. It ushers in a brave new world of active operation for the company; these speakers aren't actually active, but they have the capability to be so built in. In a few months' time, there will be an Active-K module that will transform the K2 into something completely different...

Look at the back and you'll see it's not the prettiest. The lower part of the rear baffle is designed to unbolt, and in its place you can fit the Active-K module. Built into this is

Everything's so subtle and fluid, and not every speaker at this price gets it

a Creek Audio-designed power amplifier, complete with good quality, multi-input DAC with asynchronous USB and Bluetooth receiver. Suddenly, the active K2s have the ability to work as wireless speakers, and be driven from a range of digital sources – or even an analogue input.

As well as offering plenty of convenience, functionality and the ability to bypass large amounts of hi-fi boxes, there are sonic benefits to the Active-K version of the K2, because it replaces the lossy passive crossover with an active version. This makes it much easier to tailor the drive units to one another, and indeed the cabinet, I have never heard an active version of a loudspeaker that sounds worse than the passive, and often the sound quality benefits are profound. So buying into the K2 now means you'll have a clear and powerful upgrade path for the future. Makes you wonder why active isn't a more popular thing, doesn't it?

But where does this leave us before the Active-K pack arrives? We still get an interesting little floorstander to listen to. Designer Luke Creek says the aim of the passive version is to reduce crossover complexity, "taking Epos back to its purist roots". To wit, unlike the Elan and Epic series before it, all K series models now use first order tweeter crossovers. The speaker itself is a two-and-a-half-way design, where both mid-bass and bass woofers provide bass output: this makes for higher power handling and lower roll-off than a three-way of similar size, Luke says. It also gives correct phase integration through the crossover region.

The K2 is the smaller of the two new floorstanders, and is quite diminutive for its price. In fact it feels quite sturdy, using 15mm MDF cabinet walls with lots of internal bracing. The designer adds that, "by using removable rear panels, it has helped to reduce cabinet coloration by decoupling the area directly behind the drivers." The bass port is quite unusual, being a slotted design as opposed to a flared cylinder port tube that's often seen on rivals. It's said to make for a smoother and less turbulent flow of air.

The drive units comprise one 25mm silk dome tweeter with a "carefully designed" short-horn faceplate that's said to reduce refraction distortion, and provide an even, on-axis response, with high sensitivity. This hands over to a 156mm mid/bass driver using a polypropylene cone and a bulletshaped dust cap. This drops down to another 156mm driver that handles bass frequencies only. Epos claims a wide frequency response of 41Hz-30kHz, 150W power handling and 90dB sensitivity. The latter figure means it's quite sensitive and should match lower-powered amplifiers better than most.

Sound quality

In essence, the new Epos has a very musical sound. It's not frantic, brightly etched and in your face; rather it's quite laid back, assured and confident sounding. But whereas some speakers that exhibit these sort

DETAILS

PRODUCT Epos K2

UK/China

2.5-way bass reflex floorstanding loudspeaker

WEIGHT

DIMENSIONS (WxHxD) 185 x 875 x 250mm

FFATI IRPS

• 1x 25mm soft dome tweeter • 1x 156mm polypropylene bass mid driver • 1x 156mm polypropylene bass driver

bass driver ● Claimed power handling 150W

DISTRIBUTO

TELEPHONE 01442 260146

WEBSITE epositd.com

of traits end up sounding rather boring, the Epos certainly does not. It offers the enchanting combination of being relaxed in nature, but wonderfully engaging in action.

Even at fairly low levels, it locks into the lovely, lilting groove of Tom Tom Club's Genius Cf Love and bounces along. There's a sense that the music is unexpectedly propulsive; the K2 really has an innate musicality to it that pop, rock, reggae and jazz fans will love. Still, this bounce doesn't come at the expense of brightness, because it appears a very even-handed performer – something that really comes into its own with classical programme material. B&W's latest 683 has a far more explicit upper midband that makes the track's rhythm guitar work sound a little scratchy, for example. The Epos by contrast tones it down slightly, but the instrument in no way loses impact: instead one seems able to follow it better throughout the song.

It's this counterpoint between rhythm guitar, bass drum, bass guitar, snare and hi-hat that makes *Genius Cf Love* so sublime; everything's so subtle and fluid, and not every speaker at this price point gets it. There's also the dynamics to consider, and the K2 tracks these brilliantly; it's not an overly compressed song, so you do really get to hear some light and shade in the way the drums are played, for example, and the Epos carries this very well. Its prowess

The lower section of the baffle can be undone to fit the Active-K module



Q&A Luke CreekChief designer, Epos



DP: Why offer an active option, and how much does it cost?

LC: For it to be offered as an upgrade path, it had to be planned in the cabinet design from the outset. Once you've heard a well-designed active speaker, you will never willingly want to go back to a conventional passive system again. The huge technical and sonic advantages gained by driving a loudspeaker drive-unit directly from an amplifier, with the filter (crossover) EQ in the low-level signal input path, cannot be matched in a conventional passive system. Epos fortunately has the advantage of its association with electronics brand Creek Audio, to provide active solutions. The Active-K will be competitively priced, but that has not been set, as it's still in development.

Are the benefits cost-effective, when compared with larger passive speakers?

If you want the ultimate performance from a system, running the speakers active is *de rigeur*. It provides sonic benefits unachievable by simply upgrading to larger passive speakers and high-end amplification. Larger speakers generally provide the potential for deeper bass and higher SPL, but can't naturally provide better performance than smaller speakers in the midband or high frequencies.

How will the upgrade work?

Creek Audio is currently developing the Active-K electronics to be 'plug and play', either by consumers or dealers. As is normally the case with mains-powered electronics, it would be prudent to suggest the dealer fit the module, even though it really only needs the ability to use a screwdriver and a willingness to read the manual!

Anything else to declare?

Well, you might like to know this new loudspeaker range is dedicated to my fiancee Kristina, who I met on a night out before CES opened two years ago in a random bar in Las Vegas at 5am! We are getting married this year and are now the proud parents to a beautiful daughter named Poppy. I wonder if you can guess the next series letter I will be using?



HOW IT COMPARES

Monitor Audio's Silver 6 is a slightly more edgy and fussy sounding speaker, revealing perhaps a little more in ultimate detail. but losing some of the natural flow of themusic. Its bass is slightly tighter and taughter - like a BMW's suspension compared with a Jaguar - but the Epos is 'a lovely ride' in sonic terms and makes prolonged listening fun. It lends a real swing to things and you're never left wanting more. The Monitor Audio is better finished even than the Epos, although of course it doesn't have its rival's superbactive upgrade option.

with attack transients – the ability to catch leading edges of notes as they happen – allied to a dislike of sitting on dynamic accenting – is what makes this such a lively speaker, despite not sounding in the least bright.

In the same way you can hear the B&W's Kevlar midrange cone and the Monitor Audio's metal hybrid affair, so you can hear the Epos' polypropylene one. This gives an ever so slightly warm and soft sound compared with these rivals, and it's also rather forgiving too. Put on a bright, bracing song like Madonna's Holiday and while many price rivals will ram it down your throat, the Epos steps back a little bit. Instead, the accent is more on the lower midband and bass, rather than further up. It gives the song a little bit more body, and a silkiness that other speakers at the price lack. This blends in with a couth sounding tweeter, that matches the smoothness of the mid/bass and bass drivers. Even the tinselly drum machine hi-hats sound sophisticated.

A slick slice of BlueNote jazz courtesy of Lee Morgan's *The Sidewinder* shows what a lovely smoothie the Epos K2 is, and how it likes to get into any groove. Its skill at

contrasting the respective levels of instruments proves excellent; instead of ramming everything at you, it steps back a pace or two, so you can get a better sense of scale. Unlike some speakers at this price, there's a decent feeling of space; it has a wide soundstage left-to-right and hangs instruments a little behind the plane of the speakers. The effect is immersive, letting you get lost in its wall of sound. Still, this little floorstander doesn't quite have the depth perspective of its Monitor Audio rival in my listening room, tending to be less good at letting things fall back into the distance.

If you're going to criticise the Epos anywhere, it's got to be the bass. By the standards of its price class it's very good - but in absolute terms it doesn't quite have the ability to switch on and off like a square wave. It is a little soft and diffuse when all is said and done. When played at high levels, it loses a bit of weight and articulation, and doesn't quite capture the physicality and punch low down. I'll be intrigued to see if the active version changes this, and I strongly suspect it will. All the same, the speaker's low end never sounds less than well balanced and fluid, and is excellent at the price.

Conclusion

I've sampled numerous new £1,000 floorstanders in the past year, and standards are high. At this price point, you're expecting a combination of serious power handling, wide frequency range with extended bass and treble, lots of detail, delicacy and good soundstaging. The K2 has all of these, and more - indeed it's one of the strongest contenders at its price point, and certainly the most amiable with a smooth, even, spacious sound that makes a direct line for the music. There's nothing not to like, and the active option should be a blast. Watch this space •



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White gold

Awesome sonics and stunning design mean Monitor Audio's first amp will be more than just a head turner, says Adrian Justins

or Essex-based Monitor Audio the only way is not loudspeakers, which it can make and sell pretty much standing on its head. After dabbling in speaker docks and impressing with its W100 AirStream active desktop stereo speakers it is now entering the new world of amplification and streaming.

Sporting AirPlay rather than Bluetooth, the A100 is very much aimed at the Apple crowd with their MacBooks, iPhones and iPads crammed with AAC, AIFF and ALAC files in iTunes. That's not to say non-Apple devices are excluded from the party, PCs and DLNA sources connected to wireless routers can join in the fun if they can run iTunes (version 10 or later) and/or can be controlled by Monitor Audio's remote control app (iOS and Android).

If you have a penchant for hi-res audio you'll no doubt have mixed feelings about iOS, which maxes out at 16-bit/44.1kHz when streaming from a phone or tablet. When using AirPlay to stream from a desktop or laptop running OSX you can indulge in full-fat 24/192 ALAC lossless files. DLNA also provides a means of enjoying lossless hi-res files including 24/192 FLACs. Additionally, the A100 has Airstream Direct, which allows you to stream audio from an iOS device in the absence of a wi-fi router.

Old-school tethering is possible thanks to a front-mounted USB jack that offers music playback of iOS devices, but not Android ones. You can, however, hook up the A100 to a TV or CD deck using its digital optical input or stereo phono analogue input and can output to a powered sub.

DETAILS

Monitor Audio A100

China

Network media amplifier

WEIGHT 1.9kg

(WxHxD) 359 x 55 x 204mm

- Quoted power: 50W RMS per channel
- Sources: AirPlay (Mac, iOS, PC), USB (iOS only), DLNA network, Airstream • Lossy formats: MP3, WMA, AAC, Ogg Vorbis
- FLAC, ALAC, LPCM Optical digital input, RCA phono in. USB, screw speaker terminals,

subwoofer out **Monitor Audio**

01268 740580

monitoraudio.co.uk

Looking from above like a section of a giant Polo mint, the A100 cuts an unusual dash with its wedge shaped footprint. From the front it offers few clues as to its function. There's no display window, just a smattering of buttons and lights. There are controls for altering the volume, powering on/ off and three input buttons - AirPlay/ DLNA, optical and analogue - that glow bright white when selected.

The back panel is a lot narrower than the fascia and the sockets feel a little crammed in. This, and the fact that they're slightly recessed, means that my thickly collared analogue phono plugs only just squeeze in. Pleasingly, the speaker terminals are made from high-quality metal rather than inferior plastic. The whole unit is built like a battleship from a rigid polymer and die-cast aluminium chassis. This also acts as a heat sink to help dissipate the heat from the 50W per channel Class A/B amp.

There are five inputs if you count the USB and the fact that DLNA shares the wireless input (AirPlay sources will always override DLNA), but there are just three LED-lit source buttons and the lack of display does prove annoying at times.

The activity status of the unit is indicated by an LED light in the centre, which can glow various

colours, remaining solid or pulsing. Every time you switch the unit on it pulses blue as it spends around 20 seconds re-establishing a network connection, which is hard to stomach if you're using the A100 as part of a TV sound system and can't hear what you can see.

And with a multitude of statuses (there are six colours and numerous flashing sequences) it's fair to say you'll need the instruction manual, which of course is only available as a downloadable PDF.

Monitor Audio does at least include a quick start guide in the box, which provides instructions for making a network connection to a wireless router and implementing an over-the-air firmware upgrade. This guide is an IKEA-style job with no written instructions other than to provide a list of iOS devices that are compatible with establishing an AirPlay link. In a nutshell, you have to make a USB connection and press a required sequence of buttons (including the wi-fi sharing button on the rear) in response to the LED light's status. Frankly, it's a bit of a game, but if you're good at reading Morse code you should be fine. At least this method avoids the malarkey of dealing with passwords and URLs in a browser.

Although there's an app for the A100 it doesn't offer much in the way of controlling the basic features such as volume and source selection.

These, along with transport controls, are found on the supplied remote,

which is about the size of a large pebble. There is no form of EQ adjustment, no treble or bass control and no DSP modes.

The app is really rather uninspiring to look at it, it takes an age to re-connect with the unit every time you access it, doesn't always show all of the networked sources and crashes occasionally. Perhaps it's no surprise that Monitor Audio doesn't actually mention the existence of the app in its own instruction manual.

Sound quality

With 2x 50W output, there's enough clout on offer to drive any small-to-medium sized monitors rated between 40hms and 80hms impedance.

DLNA provides a means of enjoying 24-bit/192kHz lossless hi-res

Starting with the analogue input connected to a CD drive I am instantly enamoured by the A100's smoothness, detail and staging. The finger clicking and bass plucking at the start of Diana Krall's *My Love Is* is quite sumptuous and the vocals have a mesmerising quality that fills my listening room with ease

What strikes me is not just the amazing clarity that a class A/B amp offers, but the sense of airiness and balance throughout the dynamic range. The amp does need at least 20

minutes or so to get the sonic juices flowing properly, but once fully warmed up it purrs like a Range Rover, effortlessly bounding along and taking the roughest of tracks comfortably in its stride.

The King's Singers' version of Paul Simon's *The Boxer* is equally engaging with spine-tingling harmonies that really have to be heard to be believed.

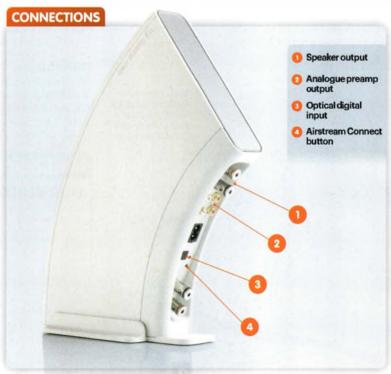
Nor is it a case of clarity over warmth and energy. The vocals at the start of Chris Jones' *Darlin' Cory* are hauntingly engaging, while the guitar strums with refinement and gusto.

Results with AirPlay are no less impressive, *Silent Shout* by The Knife proves that bass extension is particularly impressive, underpinning the mid-range and high notes of the synth to perfection. For sheer definition you can't beat a bit of *Animals* by Martin Garrix, and the A100 is bang on the money, especially with the crescendo and popping sounds that really ping out with awesome precision.

DLNA streaming of hi-res files is the cream on the cake, offering incredible scale and depth to recordings such as a 24/192 download of Mozart's *Violin Concerto No.4 in D Major*.

Conclusion

All in all, the A100 is a fairly simple proposition – wireless streaming, a couple of wired inputs and a highquality DAC and amplifier. There are no built-in third-party services such as Spotify, Deezer or internet radio, and USB playback is severely limited. But streaming from other devices is a cinch when using AirPlay. While not quite as slick or reliable, DLNA compatibility at least provides access to hi-res audio downloads and rips. There are one or two operational quirks and complexities that will keep you on your IT toes, but the rewards sonically speaking are so stupendous that it is no great difficulty to forgive the A100 its minor foibles •





Hey presto!

Magic man **Neville Roberts** swaps his tried and trusted tonearm for the Wand Plus to find out what it can conjure up

he latest rabbit to be pulled from the hat of New Zealand-based company, Design Build Listen, is the Wand Plus upgraded unipivot tonearm. Following on from the success of the Wand Classic tonearm that was launched in 2011, the Wand Plus promises a significant number of refinements and upgrades.

As with the Classic, the Plus makes use of a black carbon fibre arm tube. Although very light, the arm tube is by design much wider than the norm because rigidity increases significantly with diameter. The counterweight sits as close as possible to the pivot to reduce angular momentum and as the carbon fibre arm tube is very light, most of the mass is around the pivot.

The unipivot is made by the counterweight sitting on a vertical spindle and is held in place by gravity. Coarse adjustment of the tracking force is achieved by adding or removing balance plates to the counterweight and fine adjustment is effected by turning a small additional weight that screws in at the back. Bias adjustment is provided via a fine nylon thread with a loop at one end and hanging weights at the other.

One of the big improvements in the Wand Plus is a more elegant vertical pivot arrangement and a proper arm lift mechanism, which is absent on the Classic model. The Plus also features an arm tube clip to lock it in the parked position when not in use.

with Cardas tonearm wire as with

interconnects are terminated in Eichmann ETI phono plugs. The Cardas arm wire is taken straight to the phono plugs in a continuous length to improve sound quality, but this does make the integral interconnect leads a little fragile.

The Wand Plus 9in arm is designed around the standard Rega geometry with a tonearm pivot to spindle distance of 222mm. A 12in model is also available and an SME mount can be purchased as an optional extra. In addition to the usual array of mounting hardware and accessories, the arm is supplied with a high-quality stainless steel tool that is a combined spanner, height gauge and alignment protractor, as well as a template for drilling plinths if required.

The headshell is fashioned from the tapered end of the arm tube, giving the whole arm a fairly chunky appearance. Cueing is undertaken using the tip of the arm or via the damped arm-lift mechanism.

The Wand Plus has been designed around the Baerwald alignment system and the cartridge is set at a fixed angle. This means the arm cannot be adjusted to a different geometry, such as Löfgren or Stevenson. I have always used



Design Build Listen The Wand Plus

New Zealand Tonearm

500g

 Unipivot tonearm Carbon fibre arm tube

Design Build Listen

designbuildlisten.

Baerwald as I find this gives the best compromise across the entire record. so this is not a problem as far as I am concerned. Also thoughtfully supplied is an Ortofon stylus balance for adjustment of the tracking force.

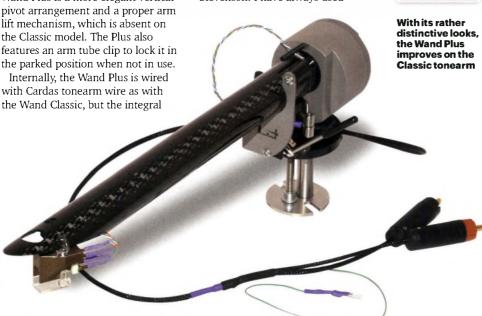
Sound quality

Once I install my Lyra Clavis DC moving coil cartridge in the arm, it is time to do some testing. At 12.5g effective mass, the Wand Plus is a mid-mass tonearm and should. therefore, work well with most moving magnet and moving coil cartridges. Using my Vinyl Essentials test record, I measure the arm and cartridge resonant frequency at a comfortable 12Hz, which is below the low audio frequencies of the recording, such as low organ notes, and above the point where harmonics can intrude into the audible spectrum. Tracking ability is 70 microns with this cartridge, which is also very satisfactory. Time now to unleash it on some music!

A favourite test record of mine is an excellent recording of Vivaldi Op. 7 by I Musici because it has a good range of solo instruments as well as a full orchestra. Violins can be tricky things to reproduce well, either sounding harsh at one extreme or too recessed at the other. The Wand Plus gets the balance just right, with a rounded performance that is sprightly, yet easy on the ears. My only negative comment is that the front-to-back sound stage is a little on the shallow side, but this is a very minor criticism. The left to right imaging is absolutely spot on and instr ment placement is rigid and does not drift if you move your head a little side to side.

Conclusion

The Wand Plus scores over the Classic in terms of features and refinement. The engineering is top class and this arm will certainly impart some magic to your recordings •







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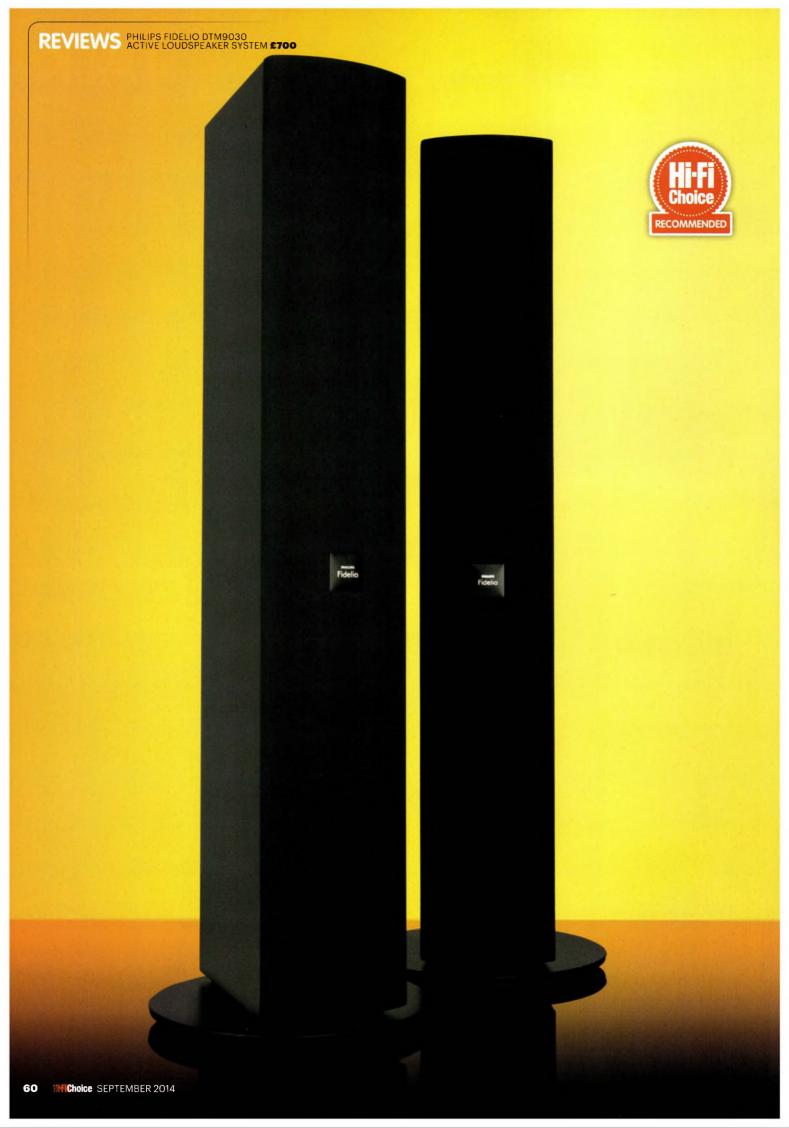
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HA1 headphone amplifier



Power tower

Philips' Fidelio active speakers combines all the source and connectivity options you're likely to need, and it's fun says **David Price**

seventies without Compact Cassette, or the eighties without Compact Disc?
Philips was one of the great innovating consumer electronics companies of the last century, easily surpassing most of its Japanese and American rivals. It may not have had the marketing nous of Apple, but it

has originated far more technology

than anyone in Cupertino ever did.

an you imagine the

But what of this century? Many would say its performance has been something of a mixed bag, but more recently there have been encouraging signs. A few years ago, it came up with its new audio brand 'Fidelio'. Since then we've had a range of audio

Bass integrates well with what is quite a well turned out tweeter

products – including some excellent, class-leading headphones – and Philips is now doing loudspeakers. Considering the vast range of functions these speakers have, and their large size, you seem to be getting a lot of speaker for the money. They're not horribly plasticky as some might fear – they're made from wood and finished with high-gloss piano lacquer and aluminium.

Two 80W Class D amplifiers supply the motive force, and these are run from an input section, which offers a variety of sources including aptX Bluetooth, CD, RDS FM tuner and coaxial and optical digital inputs. Two Lightning connectors are fitted, plus a 30-pin iPod dock, and a conventional 3.5mm analogue line input too. One speaker effectively acts as the master, and the other the slave; you need to run the supplied speaker cable from the former to the latter, and plug the former into the mains. It's a neat, easy to use package - complete with a top-mounted, slot-loading, motorised CD drive and an excellent aptX

Bluetooth implementation that works flawlessly during the review period.

Sound quality

The rear-firing bass port means these speakers aren't ideal to push up against the rear wall of your listening room, unless you need some boundary reinforcement. Sat about 30cm out into the room, and toed-in slightly, I find they give an even, balanced sound. Kicking off with Air's All I Need via aptX Bluetooth from an Apple iPad, I am surprised by the delicacy, smoothness and spaciousness of the sound. The track's lovely backing synthesiser glides are carried realistically, while the female lead vocals are smooth and don't jar. The over modulated electric organ sound doesn't grate, not something you can say about most speaker systems of this type on this track.

The built-in DAC gives a nice, fulsome sound, maybe a little richer and punchier than the Bluetooth,

1 Trapezoidal-shaped cabinets 2 Bass reflex port 3 Analogue and digital inputs 4 Binding post to drive slave speaker

DETAILS

PRODUCT
Philips Fidelio
DTM9030

ORIGIN Hong Kong

Two-way active floorstanding loudspeaker

WEIGHT 26.3kg

DIMENSION

(WxHxD) 300 x 985 x 300mm

FEATURE

•1x 25mm soft dome tweeter •2x 100mm polypropylene mid/ bass drivers •Claimed 2x 80W Class D amplifier •Built-in CD player, FM radio, iPod dock, Bluetooth with aptX

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making AC/DC's Highway to Hell a joy. This system can go loud in a medium-sized room before it starts to break up, and it doesn't fall apart at anywhere approaching high volume levels, either. Bass is reasonably extended and surprisingly tuneful, and it integrates well with what is quite a well turned out tweeter. Cymbal crashes sound far more 'hi-fi' than they do 'audio', and vocals have a decent degree of rasp and grit without descending into coarseness. Overall, this track comes across with its energy intact, making listening consummate fun.

Conclusion

Indeed, across all sources, the Fidelio speaker system proves itself to be an entertaining and enjoyable partner. You wouldn't replace your budget separates system with it, but it's certainly not a case of feeling the need to replace it with a starter separates system either. Instead, it treads a well judged path between being a truly convenient audio system, and a hi-fi system that's capable of making music. Well built (at the price), full of features and capable of filling a good sized room with sweet, smooth sound - there's plenty to like here. It won't do Philips' reputation any harm •





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• Linn LP12 Klinnik

30th August 2014

A FREE service and setup for your LP12 by trained personnel plus a chance to hear current upgrades on the latest 180 gram vinyl. For more information please see the events page on our website

REGA Service Day

20th September 2014

If you own a Rega Turntable whatever age or model,, this event is for you with factory staff visiting to help clean service and reset your Rega for optimum performance free of charge. See billyvee.co.uk/events

• Naim Factory Visit

October 2014

We are looking to arrange a tour of the Naim factory plus a listen to the wonderful Statement. Who said no such thing as a free lunch! Call us or email us to register your interest in this event

Sonos Technology Day

November 2014

There is a lot more you can do with Sonos than merely play any of your music in every room. This dedicated Sonos day will explore the possibilities, give you some great ideas prizes and special offers. See events.

MARKETPLACE

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Can a copy better the original?

Welcome to a fantastic summer of events, stunning promotions and new product launches. Attend any event and claim an extra £50 bonus off any purchase you make on the day that exceeds £950. (That's over 5% extra off) If you bring this invitation with you.

Our Event program includes two popular turntable service days but comprise more than just that. The resurgence of interest in vinyl is complimented by the latest excellent quality 180 gram vinyl pressings of well loved albums and we strongly suggest you visit one of these events and immerse yourself in the glory of analogue listening.

Back to our strap-line, Can a digital copy outperform the original? Ten years ago we would have said an emphatic NO! So what's changed. Network audio streaming. We have been banging on about it since quality streaming surpassed CD quality with the arrival of the Linn Klimax DS. Now that streaming has gone mainstream, many think that Apple has made the proverbial silk purse from the sows ear of MP3.

Not so, as many of our customers have found, the difference is huge and we are still are working relentlessly with the best equipment, formats and network components to humanize those zeros and ones. The improvements are well worth revisiting and like buses come along together so we keep the promotion offering you a £1000 to upgrade your old source running because the gap just keeps getting wider. You'll hear more improvement this year than last and the good news is that many are free software upgrades or network accessories that benefit your new purchase. Come and listen, be amazed and use your £50 to best effect.

You are welcome to claim your £50 bonus against collective purchases such as a new turntable and cartridge or one of our performance promotions, just bring this invitation with you when you visit.

Naim Power Amplifier upgrade Promotion



This promotion is an exclusive Billy Vee offer to trade-up to the latest Naim Classic power amplifier range. enabling you to: in some cases, receive back the original price paid, or more*, for your existing Naim Power amplifier when traded in against a new NAP 200, 250 or 300.until August 31st

Simply put: we will offer you the money you originally paid for your amplifier* or, pay the VAT (which ever is the greater) on your new one so you don't have to pay the 20% - we will. Sound like a deal? Call for details, email us or see current promotion on our site for more information. *T's & C's apply.

JUST ARRIVED



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Featured: OPPO BD103D

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Can be combined with the power-tine promo

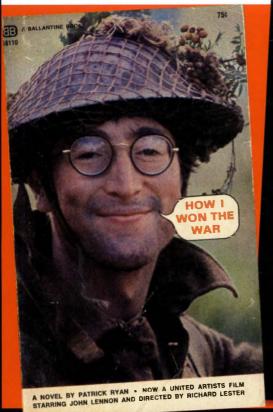
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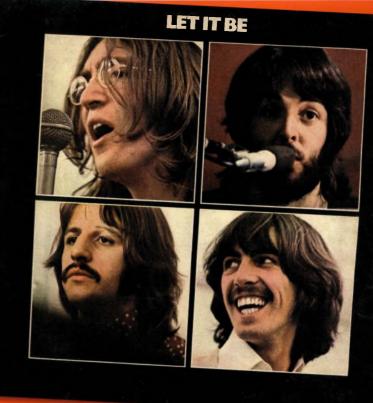
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THE BEATLES ATTHEMOVIES

Simon Berkovitch and **JT Rathbone** revisit an out-there home movie, psychedelic cartoon and documentary that saw the group implode

PARTII



ifficult third album syndrome blights many a rock group's ascension, so the cliché runs. Here we find the Fab Four

struggling with difficult third movie syndrome. Continuing our celebration of the 50th anniversary of The Beatles' seminal movie debut *A Hard Day's Night* and its remastered soundtrack, we travel deeper into the sixties, going beyond the Technicolor follow-up *Help!* and their early forays into television.

The three-picture deal that Brian Epstein signed the group to with United Artists films was initially a harmonious relationship for both parties: the first two features were critical and commercial successes. It was only when the film company implored then demanded the band fulfil their contract and deliver a third movie that difficulties arose.

With one excellent black and white full-length movie and a very good colour feature under their belts, The Beatles had little desire to get back behind the cameras again so soon. The movies box had been emphatically ticked by the band. Although *Help!* showcased a more sophisticated musical palette, it was the possibilities of studio experimentation that captured their increasingly sophisticated imagination – and not another wacky celluloid outing aimed at the teen market.

That said, The Beatles were well aware of the promotional value of well-filmed performances. In November, just a few months after the pioneering concert movie *The Beatles At Shea Stadium* (1965) was shot, they travelled first to Manchester to film both sides of their forthcoming double-A-side single *Day Tripper/We Can Work It Out* for a TV special, miming again to both sides no less

than three times each a few weeks later as part of a set of 10 promotional clips filmed at Twickenham film studios and screened by TV stations worldwide.

Although they honed their skills in this field during the next couple of years with memorable promo films for *Rain* (1966), *Penny Lane*, *Hello Goodbye* and most notably the excellent short film that accompanied *Strawberry Fields Forever* (all 1967) – not to mention their own directorial debut with the made-for-TV *Magical Mystery Tour* the same year – The Beatles didn't properly return to a film studio until early 1969.

In this second instalment of our Beatles at the Movies feature, we look at why it took them so long to honour that United Artists contract, and how it would eventually play no small part in hastening the band's demise as the seventies loomed large...



or The Beatles, 1966 was a transitional year. They recorded their seminal Revolver LP and the groundbreaking Strawberry Fields Forever 45 (both of which still regularly top fans' and critics' polls), but not much else. In fact, compared with the previous three years, they did much less of everything

The preceding two years had set a pattern of record an LP, shoot a film, tour the UK and US (and elsewhere) then record another album. But this year they started with an unprecedented three-month break before recording Revolver. Then after a brief tour of Germany and a testing week in Japan and the Philippines, they rested for another month before playing their last-ever live concerts on a 20-show tour of the States.

Only after another three-month break did they return to Abbey Road for the last six weeks of the year, beginning sessions for what would become Sgt. Fepper's Lonely Hearts Club Band. There would be no second album in 1966, no UK tour (planned winter dates were eventually cancelled) and no new film.

or less extinguished the band's passion for film

making. Although individual members retained a keen interest in the medium -Lennon taking a cameo role in Dick Lester's How I Won the War and McCartney composing music for another UK film, The Family Way (both released in 1967), for instance - the idea of another group picture had lost its appeal, much to the chagrin of United Artists, to whom they still owed one movie.

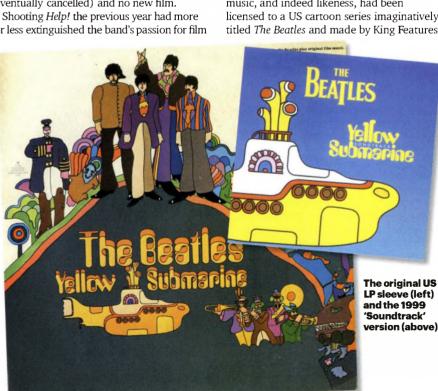
Of course, ideas and projects had been mooted – and some even made it to script stage. A protracted wrangle to obtain the screen rights to JRR Tolkien's The Lord Cf The Rings (with Lennon to play Gollum and McCartney cast as Frodo) hit the buffers, as did an earlier attempt to fashion a comedy western called A Talent For Loving around the band.

The closest contender was perhaps Shades Cf A Personality, an artier concept (with Michelangelo Antonioni – of Blow Up fame

The plot revolved around the band's liberation of Pepperland from the occupying Blue Meanies

- named as director) which was eventually reworked by celebrated playwright Joe Orton as Up Against It. His murder in August 1967 put an end to the project. More bleak news came with the death of manager Brian Epstein, who had signed The Beatles to the initial UA contract, a few weeks later. One of Epstein's last business acts had been to initiate a possible solution to the third film conundrum, however...

For the past couple of years, the group's music, and indeed likeness, had been licensed to a US cartoon series imaginatively titled The Beatles and made by King Features



EIGHT ARMS TO PLAY YOU An octet of Beatles movie-related vinyl rarities. Prices quoted are for Mint or Near Mint copies. Extracts from the album A Hard Day's Night (1964) UK EP, £40 Four classy non-soundtrack songs feature on this second UK spin-off EP. One of the HE BEATLES players of the period. Melodias De La Pelicula SOCORRO! (1965) Spanish EP, £50 A neat miniature sleeve and relative scarcity mark this four track release out from a plethora of Help!-related releases. Musketeer Gripweed & The How I Won The War (1967) UK 45, £180 An expensive rarity. This How I Won The War cash-in only features John Lennon's voice for only a few seconds. The Family Way (1967) UK Stereo LP, £120 McCartney and George Martin collaborate on some enjoyable variations on the film's two main themes. The UK stereo issue of this LP is particularly sought after. Wonderwall Music (1968) UK mono LP, £250 George Harrison composed and directed an eclectic selection of music for this odd late sixties British film. UK-only mono copies are at a premium. Yellow Submarine (1969) UK mono LP, £250 This last UK mono LP issued was actually a 'fake' mono mix 'folded down' from the stereo master. Top-quality copies now fetch up to three figure sums. The Magic Christian (1970) UK stereo LP, £50 Ringo starred, and McCartney wrote the memorable theme song for this Peter Sellers movie vehicle. Domestic copies are scarcer than their US counterparts. Let It Be/You Know My Name (Look Up The Number) (1970) THE BEATLES UK 45, £30

The group's swan song British 45, notable for it's limited

picture sleeve and bizarre B-side, originally intended for the Yellow Submarine film.



for ABC TV. Each episode used the title of a Beatles song as a jumping-off point for a light comedy plot, and now producer Al Brodax proposed a full-length feature film using their recent hit 45 *Yellow Submarine* as a springboard for a song-laden fantasy adventure, hitting cinemas in July 1968.

The group initially agreed to provide the voices for their cartoon counterparts and donate three brand new tracks. Recording concurrently with songs earmarked for *Magical Mystery Tour* (see opposite), they initially cut the hypnotic *Baby, You're A Rich Man* and jaunty singalong *All Together Now* in quick succession in May 1967, not long

There would be no second album in 1966, no UK tour and no new film

before the laborious 11-month animation process began, and a matter of weeks before *Sgt. Pepper's Lonely Hearts Club Band* was unveiled.

Such was the worldwide impact of the game-changing *Sgt. Fepper*, that the title track and Lennon's psychedelic tour de force *Lucy In The Sky With Diamonds* were also utilised for the film, along with *When I'm Sixty Four* and excerpts from *With A Little Help From My Friends* and the LP's remarkable end piece *A Day In The Life*.

The Lonely Hearts Club Band themselves became characters, and the principle plot subsequently revolved around the band's liberation of Pepperland from the occupying Blue Meanies. Of the other new recordings, *It's All Too Much*, Harrison's aptly titled heavy-psych opus, was trimmed down from its original eight minutes to a more

film-friendly three (an alternate five and a half minute edit, omitting one verse from the film, graced the eventual soundtrack LP), while his *Only A Northern Song* was actually a *Pepper* outtake from earlier in the year.

The final new track specifically recorded for *Yellow Submarine* never made it to the film. The complex, humorous and multisectioned *You Know My Name (Look Up The Number)* could not be completed in time for the deadline. Instead, Lennon's powerful *Hey Bulldog*, written quickly and recorded in just a few hours during the shooting of a promo film for the *Lady Madonna* single, was added to the slightly longer UK cut of the film late in the day.

Guest stars

Additionally, the summer of '67 bestseller *All You Need Is Love* made an appearance, as did *Nowhere Man* (the earliest recording, dating from 1965), which also spawned a character of the same name in the film, as did *Eleanor Rigby* from *Revolver*, which soundtracked one of the movie's most striking and memorable sequences.

George Martin was back on incidental duties and provided some of his most interesting film music to date, with cues such as Sea Of Holes and Fepperland Laid Waste fitting seamlessly into the animated action. And there was quite some variation in this artwork, with producer George Dunning bringing in over 200 animators from the UK and around the globe, most notably accomplished German illustrator Heinz Edelman, who along with the aforementioned Jenkins, did much to shape Yellow Submarine's fabulous overall look.

The finished film delighted the public and critics alike on its release, appearing at the tail end of the psychedelic era. It still remains enjoyable nearly 50 years on.

MAGICAL MYSTERY TOUR



The ultimate home movie

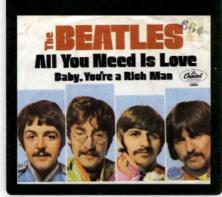
Although considered a resounding flop when first screened in 1967, The Beatles' only stab at film directing is a favourite not only with fans, but also with many connoisseurs of sixties music and culture, and its critical stock has risen sharply in the near 50 years since.

McCartney apparently dreamt up the idea of a mystery tour as the catalyst for a series of songs, skits and surreal scenarios - this psychedelic charabanc trip being a very English nod to California's notorious Merry Pranksters, customised bus riders and LSD missionaries, led by (One Flew Over the Cuckoo's Nest) author Ken Kesey.

The title track was recorded as early as April 1967, although shooting didn't begin until September. In the intervening months, the group released Sgt. Pepper, performed All You Need Is Love via satellite to millions worldwide, and lost their manager and mentor Brian Epstein.

Reeling from this professional setback and personal tragedy, they ploughed into the new project, now commissioned by BBC TV. Inexperience showed, but their sheer audacity paid off in places – notably in the remarkable I Am The Walrus sequence, perhaps the film's highlight.

This psychedelic home movie was first aired on Boxing Day in glorious black and white, however, which surely contributed to its critical panning. Time has been much kinder.



But although containing more than a dozen Beatle songs from arguably their most fertile period in the recording studio, the resultant soundtrack LP (for once the US and UK versions shared identical musical content) disappointed fans by featuring only half that number, side two being given over to George Martin's superb film score.

But there was also another, more major problem – and one that would necessitate another foray into the world of celluloid for The Beatles, as we shall see...

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Yellow Submarine had been a runaway success when released in July 1968, but its soundtrack LP had barely hit the shops before the group were back under the lights again for the shooting of what would eventually become Let It Be.

McCartney, ever eager to move on to new projects, had hit upon the idea of a live TV special in the aftermath of the prolonged and often strained sessions for 1968's double-disc set *The Beatles* AKA *The White Album*. Stressing that the group should get back to their roots and eschew the studio trickery of the previous few albums, he suggested they knuckle down and rehearse a set of new songs, eventually filming the subsequent one-off concert in an exotic location, and releasing it on record.

Apple films' Denis O'Dell would also supervise the filming of a documentary, showing the group developing this new material and capturing a *cinéma vérité* exposition of their working methods.

To this end, the band found themselves at Twickenham Film Studios in January 1969 to begin rehearsals. The atmosphere, however, was markedly different from their previous visits when they had shot promotional films for singles. The humour

and camaraderie that had buoyed them through the previous six, hectic years was now wearing pretty thin.

Despite the presence of favoured director Michael Lindsay-Hogg, who'd directed the celebrated promos for *Rain*, *Paperback Writer* and *Hey Jude*, the chilly conditions and early starts contributed to a distinct lack of bonhomie and the few clips from these sessions that made it to the final cut are mostly ragged and uninspiring.

Harrison actually quit the band a week or so into proceedings, while a pale and frankly ill-looking Lennon appeared vacant and distinctly uninterested. Only McCartney appeared to show any enthusiasm.

But the show had to go on. United Artists were demanding another 'proper' Beatles film, claiming their brief appearance in *Yellow*

The humour that had buoyed them through the previous six years was wearing pretty thin

Submarine did not constitute a third movie – and therefore their contractual obligation remained unfulfilled.

Harrison returned, the location shifted to the cosier environs of the Apple headquarters, and the TV special now became a feature film, provisionally titled *Get Back* after one of the best of the new songs.

Although the game was effectively up for the band, some of the magic returned when The Beatles, with ace keyboardist Billy Preston in tow, played live for the last time up on the roof of the Apple building on London's Savile Row. As the famous footage reveals, songs such as *I've Got A Feeling, Don't Let Me Down* and the aforementioned *Get Back* crackle with energ—and the sight of the



police breaking up proceedings adds an upbeat climax to an often melancholy and tense documentary.

The band would do better musically with their studio swansong *Abbey Road* (1969), cut six months later but released before the renamed *Let It Be*, which finally appeared in 1970 after numerous overdubs supervised by Phil Spector had virtually robbed it of the live spontaneity that had been its original intention. McCartney eventually oversaw a stripped down remix, *Let It Be... Naked*, released in 2003.

As for the movie itself, *Let It Be* has not been officially available since the early eighties and has never received a legitimate release on either DVD or Blu-ray – nor is it likely to in McCartney or Starr's lifetime, portraying, as it does, the Fab Four in a less than fabulous and harmonious light •



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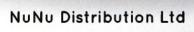
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YOUR LETTERS & QUESTIONS ANSWERED

THIS MONTH



ED SELLEY

EXPERTISE: REVIEWER
For the best part of 10 years,
Ed was developing and
supporting products from
some of the biggest names
in audio. He enjoys blogging
about his favourite tunes, too.



NEVILLE ROBER

EXPERTISE: ENGINEER
Retired NHS director,
electronics engineer and
physicist Neville is very much
into valve technology. He's
a classical music lover and
serious vinvl junkie.



ANDREW SIMPSON

EXPERTISE: REVIEWER
Andrew's been passionate
about hi-fi since he was a wee
nipper. When not obsessing
over his next upgrade, he can
be usually found under the
bonnet of his 1973 MG Midget.



DAVID PRIC

EXPERTISE: REVIEWER
DP has spent much longer
than he'd care to admit
buying and upgrading his
own hi-fi system, not to
mention reviewing thousands
of separates over the years.





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Email us at letters@hifichoice.co.uk **or writeto:** *Hi-Fi Choice* Letters, AVTech Media Ltd, Enterprise House, Enterprise Way, Edenbridge, Kent, TN8 6HF **Your letters** may be edited before publication and we cannot enter into personal correspondence

DAC's all folks

Many thanks and congratulations on your article in the July, 2014 issue on the subject of digitising LPs and cassettes, which was an excellent and very comprehensive guide to carrying out these often confusing procedures.

I have been creating and playing back digitised music from LPs and cassettes (and burning to compact disc) for some time, using a pair of the line-out sockets, plus the record sockets on my Primare 132 amplifier. I've connected these via an old **OED three-way cassette** switching unit to the line-in and line-out sockets on the rear of my Acer M3400 PC, and in addition I use the remaining two sets of line-in/ line-out sockets on the switching box to incorporate into my system a B77 Revox reel-to-reel machine, and a Sony MiniDisc recorder.

When I ordered the Acer PC about three years ago, I specified that it must have a good sound card, and the machine has a Realtek High Definition unit, which actually does give very acceptable playback.

My purpose in writing to you is twofold. Firstly, you mentioned using the free Audacity software as an option for the digitising process. Personally, I have always used Magix Audio Cleaning Lab, and have found this to be an excellent product, which among its many features automatically creates track numbers as the LP/cassette is being converted; if for any reason these should on occasion be in the wrong place, it is a simple matter to remove, add, or drag them around. Magix includes facilities for performing a range of cleaning activities, prior to using an export mode for burning to compact disc. The current release of this



I want to invest in a DAC, what would you suggest I go for?

software – Version 16, I think – is very comprehensive, but I use the earlier Version 12, as this includes a clever print program, where you can scan the LP sleeve in two halves, and drag them around to form a complete reduced size image. This can then be printed to create a front insert for a CD jewel case.

Neat and very professional in appearance! Unfortunately, Magix removed this facility from the most recent versions of its software, and as far as I can establish has no plans to include it again. A retrograde step indeed.

My second reason for writing is to say that I now wish to further enhance playback from the computer by adding a free-standing DAC unit. I don't want to go as far as the level of expenditure that purchasing an Audiolab or Arcam would involve, and I am currently looking at the Richer Sounds Cambridge DACMagic, and Audioengine products. Both seem to be well regarded, and the Audioengine box has the advantage of being powered by the USB socket on the computer, but I'm unsure which to go for. What would you advise, or do you think there are alternatives that I should also consider? I would very much appreciate your views on what you think I should purchase.

John Boyd, Nottingham

NR: Hello John, thank you for your kind comments on the article. Firstly, I must say I am very envious of your Revox B77



LETTERS

- I have a Sony TC377 for my reel-to-reel tapes and that also works well as a source for digitising music. Of course, it all depends how far down the hi-fi route you want to go and as the 'Getting Started' section said, your PC sound card may do just the job. As you have specified an up-market sound card and you obviously haven't encountered any problems with earthing, then that is great.

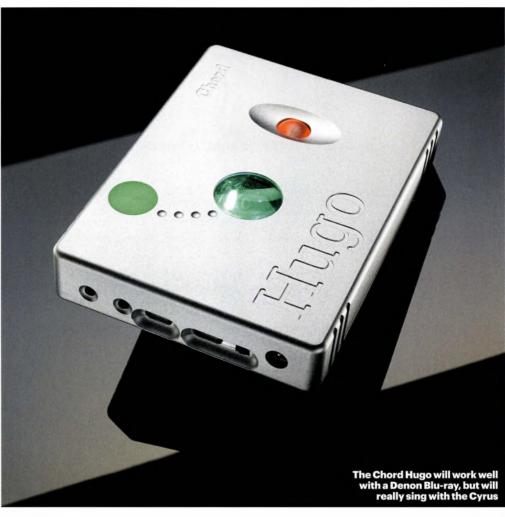
As for the software, I mentioned Audacity as it is a free 'open source' product and has a good range of facilities available, including all the audio processing you mentioned. However, you are right that a product that has a small price tag attached also comes with extra audio cleansing facilities, like the Roxio product and also the excellent Magix Audio Cleaning Lab that you use. A very useful extra feature of Roxio is the ability to automatically add title, artist and genre information to your audio files by using online databases of

Will the Chord Hugo and Cyrus CD XT Signature work in my setup?

music waveforms that can be used to identify each track and this can be used to create jewel case labels as well as generating the MP3 tags.

As far as DACs are concerned, both products are good and are definitely going to give you a real improvement in sound quality. If you are planning to use your DAC only with your Acer PC, then the USB-powered Audioengine product would be an excellent choice. However, that might be less convenient if you want to use the DAC with other sources as your PC would always have to be on to power it, in which case the Cambridge DACMagic would be also be a great choice.

If you can stretch your budget a little, you might like to consider the Fostex HP-A4 DAC/ headphone amp, which can be powered from either the USB port or from a separate power supply. The sound quality is superb and it has the benefit of a built-in headphone amplifier as well.



≥ Signature dish

My system is a 5.1 setup (including SACD) based around a Denon 2012UD Blu-ray player, Arcam AVR 600 multi-channel amplifier and ATC speakers. CDs are played via the Denon and the Arcam amplifier and the front-channel speakers (tri-wired, bi-amped ATC 40s). I still buy CDs and probably now is the time to look at my final purchase of a dedicated CD player. From your recent review of the Chord Hugo, my thinking is to look at this as a DAC to feed from my Denon, then when funds are available to purchase something like the **Cyrus CD XT Signature** Transport. Do you think my system can withstand such a CD front end?

Ian Walker

DP: I am currently using this very combination – a Cyrus CD Xt Signature transport and

Chord Hugo – and it is a brilliant pairing. The Hugo will make a surprisingly fine job of your Denon Blu-ray as a source, as it does of my £60 Sony(!), but will really sing with the Cyrus. Expect it to have a stronger bass and a more three-dimensional soundstage, and more spacious and delicate treble. The speed and detail of your ATC will really showcase the Hugo's excellent rhythmic prowess, too. The only trouble is, you might then get the upgrade bug for a really serious amplifier - come back to us for more advice if this strikes.

ES: To be completely clear, the system will be perfectly OK working with the Hugo, and of all the AV amplifiers you could be using, the Arcam is one of the most assured in stereo. I think that the Hugo represents a fine choice as a DAC - it will happily work with the Denon and provide the potential for some dabbling in computer audio as well. I suspect that with the possibility of the latter, you may find that a dedicated CD transport isn't required, but I see no reason not to try the Hugo out in your existing system.



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Stick or twist?

I am currently using an Inspire rebuilt Rega RP3 deck with original Rega arm modified by Origin Live and fitted with Rega Exact cartridge.

Would the Avid Ingenium with Project 9 Carbon Arm and say Ortofon 2M Blue or Black give me any audible upgrade on the current setup? Or should I be thinking of waiting until I can afford a Gyrodec?

Your comments would be very much appreciated.

David Heddon

AS: Hi David, in two words, yes and yes. Yes the Avid package will bring audible improvements over your Rega rig, especially in the areas of bass depth and soundstage depth, and it's a sonic match made in heaven with the Pro-Ject arm. But I'd also say yes to hanging on until you can afford a Gyrodec, as this machine will take you to the next level above the Avid. As well as being a suspended design, the latest incarnation of the Gyro has been refined over a few decades and now sports a top-quality acrylic platter (the Avid's is cork-topped MDF) refined bearing and DC motor. With the right arm (and it works with most), such as a hot-rodded Rega or one from Audio Note's new range, the Gyro will take some beating at almost any price. The point being you'll have a vinyl foundation

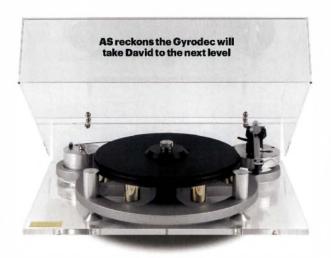
that you'll be able to build on for years to come, making it a sound investment (no pun intended). Also consider Analogue Works Turntable One, reviewed on page 46, which is superb value. Like the Avid it's a rigid design, with a standalone motor and superbly engineered platter. If you like the energy and dynamics of your Rega, the Analogue Works should also be on your shortlist.

ES: As I reviewed the Ingenium and own a Gyrodec (and an Ingenium for that matter), I hope I can be of some use here. The RP3 is a tremendous piece of equipment and the Inspire modifications extract more potential from it, but I stand by my comments that the Ingenium can deliver a level of performance that no other deck I've tested at the same price can. I would suggest that if you wanted, you could purchase a

basic Ingenium with a Rega arm cutout and re-use the RB303 from your existing turntable. This will give you more arm options going forward. And it is the 'going forward' bit that is important here. The Avid offers much more potential for upgrades and would stand other components in the system being

Should I go for the Avid Ingenium or save up for a Michell Gyrodec?

updated. It is a different sort of performance. The Avid Is accurate and extremely revealing while the Michell revels in its massive soundstage and energetic performance. Neither are likely to disappoint, but it's hard to argue with the value that the Avid offers.



HINTS & TIPS

CLEANING AND STORING SECOND-HAND RECORDS

You've just purchased a stack of records from a second-hand shop and got them home and you want to know how to clean them. After all, it is highly likely that they will need cleaning from all the dust they will have accumulated over the years. A simple wipe with a cloth or brush is not going to work and the only solution is a proper wet clean.

If you don't want to spend hundreds of pounds or more on an automatic cleaner, there are some manual record baths available that cost between £50 and £80, such as the Knosti Disco Antistat Record Cleaning Machine or the Spin Clean Record Washer System. Apart from including some special cleaning fluid, these have brushes and pads that get deep into the groove to loosen dirt into the cleaning fluid.

Once you have cleaned a record, don't be tempted to simply reinsert it in the old inner sleeve as that will likely re-contaminate it with dirt! Either replace the inner sleeve with a new polyethylene-lined paper sleeve or fit a polyethylene liner inside the existing sleeve if you don't want to discard it.

Always store your records vertically in a rack as laying them flat will encourage warping.

CLEANING UP A CASSETTE OR TAPE DECK

You've just rediscovered your collection of tapes and dug out your player from the loft, so what should you do to get it serviceable for playing again? Assuming it's working, the first thing is to clean the tape heads.

For cassette machines, you can purchase cleaning cassettes, but these dry cleaners are not going to dislodge caked-on fragments of ferric oxide very effectively. The best way to do this is to use a cotton bud dipped in some isopropyl alcohol (aka propanol or IPA), although there are some cleaning fluids available that are often based on IPA. Carefully rub the moistened tip of the cotton bud on the exposed tape heads and guides. Then clean the capstan and rubber pinch roller, rubbing gently around the circumference of both with the cotton bud. If the tape deck has had a lot of use, the pinch roller is likely to have a shiny surface on the rubber due to caked on oxide and it may require a couple of applications of the moistened cotton bud to remove it, but be careful as you don't want to risk damaging the surface.

If you have access to a tape head demagnetiser, demagnetise the head(s) according to the manufacturer's instructions and you are then ready to enjoy your tape collection again!





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Avoke Limited Tel - +44 (0)7876 246956 Email - info@avoke.co.uk Web - www.avoke.co.uk NR: It's always difficult to say that one system is an outright winner over another. What one can say is that it will sound different and whether that difference is better is down to personal taste. The Rega Exact paired with the OL-upgraded Rega arm (an RB250?) is going to be a tough act to follow if you are planning on sticking with moving magnet cartridges, and it is at home across a wide range of music. The Pro-Ject 9 Carbon, fitted with an Ortofon 2M Black, will sound great too and may arguably sound a bit more exciting if you prefer a bright sound, but whether that is better than your present setup is down to you. What I will say is that either the Avid Ingenium or the Gyro will be a step up from the RP3 - the choice is going to be down to the depth of your pocket. The fact that you say that you are thinking of waiting to afford the Gyro implies that you see yourself being able to afford one at some stage, so if you bought the Ingenium now, would you wish you had waited to get the Gyro? I did just this back in the seventies when I bought some speakers I could afford at the time, only to become dissatisfied and ended up replacing them with the ones I originally wanted later! My suggestion would be to approach the upgrade by fitting your Exact into a new deck and tonearm, then look at changing the cartridge as a next step, rather than doing it all at once.

▶ Upgrade advice

Hello. I would like to say how much I enjoy your magazine and look forward to each new issue. I'm looking for some advice about upgrading my speakers. My system is: **Linn Sondek (with Hercules** 11 Power supply, Rega RB250 Arm and a Ortofon Rhondo Red Cartridge), Sugden A21a Series 2 Pure Class A amplifier, Sugden CD21 Series 2 CD player, Rotel RT-850 AL tuner (quite old, but works a treat), Pro-Ject Phono Box SE, REL T2



subwoofer, van den Hul interconnects, QED Silver Anniversary XT bi-wire speaker cable and Tannoy DC6T SE floorstanders.

My system sounds very good. I have had the Tannoys for just over a year and they perform very well. However, I have a strong feeling that I could do better in the speaker department. I have looked online at the following: Focal Aria 926, Wharfedale Jade 5, Sonus

I'm looking for loudspeakers to partner my Sugden amplifier

faber Venere 2.5, Spendor A6-R, PMC 24 and the new PMC 26.

I am assuming that my Sugden amp would drive these speakers. I would consider standmounts, but I am not sure what to look at.

I listen mainly to rock and classical music – mainly Wagner in the latter category. I would like to hear your thoughts/opinions/ideas. Martyn J Vail

DP: Okay, your main issues here are the size of your room, and your music tastes. Sadly you don't specify the former, so if it's a large space then I would look at floorstanders, and if it's smaller you should think about stand mounters. The extra bass that floorstanders generate will overpower a small room, while this type of speaker will help the low-powered Sugden amp drive

larger rooms because it is generally more efficient. Your Sugden won't go loud with low sensitivity boxes, and this will be especially acute in a larger room.

If you're going for a standmount speaker in a smaller space, then I would be thinking seriously about KEF's LS50 (£800); it's a very crisp, open and musical speaker with superb soundstaging and a lovely musical nature - one of the best KEF speakers in a long time, in my view. However, given that you've already got floorstanders and don't seem to be having problems with them, then my feeling would be the Spendor A6R (£2,500), which will be appreciably better than your Tannoys right across the board.

Not only is it relatively easy to drive, it has a large, open and detailed sound that will make your Tannoys sound rather opaque and ponderous.

Admittedly, it will struggle to match the DC6T SEs in imaging

terms – as it is not a Dual Concentric design. The PMCs are excellent speakers, as indeed is the Sonus faber, but one is too biased towards rock and the other too classical, whereas the Spendor has a foot in both camps. The Focal 926 is a good generalist, but the A6-R is a more mature and insightful speaker in my view. As ever, try to listen to any designs before buying!

ES: The Sugden is able to drive more difficult speakers than you might expect and goes louder than people give it credit for, but I can't see this shortlist bar the Focal being a perfect match. For the cost of the speakers you list, I would certainly add Proac and Triangle to the list of possibilities as both brands are lively and energetic performers with useful sensitivity.

I would be inclined to keep looking at floorstanders as in my opinion both brands are at their best with this design.



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Set the record straight

Some music sales are tanking, others are on the up. It all depends what your poison is, says **David Price** as he searches through his record collection for money makers

hat goes up, must come down, and vice versa. In the dizzying world of technology-driven trends that is the modern music business, things don't stay the same for long. News reaches us that music download sales are dropping like a stone, and instead people are now streaming music. After all, if there's a great cosmic music library in the sky, why bother to store anything on your computer ever again?

Good point. The idea of 'collecting music' is something that belongs to a previous generation it seems, namely mine. Whereas yours truly camped patiently outside his local record shop back in the early eighties, counting the hours until the doors opened so I could buy the very latest Smiths single or Cocteau Twins EP on a slice of black plastic, nowadays it seems that modern music buying boys and girls don't hold any affection for a series of ones and noughts held in fragments on their computer hard drive.

News comes from the USA that digital album sales have dropped by a whopping 11.6 percent to 53.8 million this year, down from 60.8 million in the same period last year. The Nielsen SoundScan data also shows that sales of individual digital tracks dropped by 13 percent year on year to 593.6 million. That's still a whole lotta downloading going on, but US teens seem to want Pharrell Williams and Katy Perry neither on CD nor computer now.

I paid £3.99 for my Smiths singles, but some are selling for multiples of that

This is an historic moment, because download sales have never fallen since the advent of the iTunes online music store in 2003.

Fascinatingly, this is not the whole story. Because another group of consumers – possibly some of the aforementioned – are hankering after one particular physical format. Yes you've guessed it, sales of vinyl albums are up by a staggering 40 percent. Admittedly, that's from a pretty low base, with just 4 million albums and 3 percent of all album sales, but it's an interesting trend bucker. What's going on? Well, streaming is, that's what.

Recorded delivery

It seems that music buyers now either want instant access to streamed music or they want collectable physical products – namely vinyl. CD – whose sales from 2007 to 2011 fell off a cliff – is not regarded as a covetable physical format, obviously. So, that means that streaming services like Spotify and Beats are on the up – with 28 million last year compared to 8 million in 2010. Behind the scenes, things are moving apace to reflect this; for example Google

has just bought Songza for \$39 million and Amazon has just begun to bundle music streaming in with its Prime subscription package.

To the teenage tearaways that don't want to consume music this way, vinyl is the answer. Fascinatingly, this is now having a real effect on secondhand prices – with the tastes of a new generation of dance music lovers and indie kids now pushing up prices of nineties vinyl. Fascinatingly, the collectable stuff has traditionally been from the

fifties and sixties. But now we're seeing this happening with seventies, eighties and even specialist nineties vinyl.

I paid £3.99 for each one of my 20 or so Rough Trade Smiths singles, for example, but some discs – such as the earliest imprint of *What Difference Does it Make?* – are going for many multiples of that. And intriguingly, nineties indie and Britpop stuff is beginning to make proper money too, simply because it was the norm to buy it on CD, and you had to shop around to find the vinyl, which was normally done in a pretty limited run. It's unlikely that a dog-eared old copy of Oasis' *What's the Story, Morning Glory?* will make you a millionaire, but those with tip-top copies of Flowered Up's *Weekender* or World of Twist's *The Storm* might wish to hang on to them – you'll likely get more return on your money than if it was in a bank.

Meanwhile, sixties and seventies rock is going for silly money. We all know that a mint Beatles album is a better investment than bricks and mortar, but Jimi Hendrix records are now getting more valuable than their equivalent weight in gold, and Dylan, Led Zeppelin and Pink Floyd are all rising in price as fast as shares in online music streaming companies. Fascinatingly, my friendly local record shop reports that mint copies of classic seventies reggae albums - such as those on the Greensleeves label – are on the up, simply because almost all of them were destroyed by poor record players and heavy duty party action at the time! Suddenly, as the uncoolest record collector of my generation – one with OCD tendencies who used to inspect his stylus under a microscope almost daily - I now feel vindicated. Anyone want to swap their low mileage Rolls Royce Camarge for my pristine copy of Clint Eastwood and General Saint's Two Bad DJ? ●



DP is hoping this reggae classic holds the key to untold riches





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Viva la resolution!

With rumours that Apple plans to offer hi-res downloads and AirPlay steaming that's ripe for the audiophile arena, is iTunes finally set to come of age asks **Andrew Simpson**

hoosing the music you play can be almost as enjoyable as hearing it. For me there's no better way to spend an evening than thumbing through my LP collection in search of the right one to pop on to my player's platter. In doing so I'll often get lost along the way, stumbling across a long forgotten classic that I can't remember buying, and my eyes are as keen to study the sleeve notes as my ears are to hear what's in the grooves.

In contrast, the experience of swiping through my digital music library via the various networked devices knocking about the house is a much more prosaic ritual. All too often it's basically a means to an end, to find the album I want to play as quickly as possible.

So it's crucial that I have the right digital music library software to provide maximum playback options, format support and ease of use, while requiring the minimum of faffery and hair pulling to get it working properly. Like many audiophiles, I initially shunned iTunes for as long as possible, and instead hopelessly clung on to my ageing MiniDisc player for as long as the audio fashion police would allow. But times change, and eventually I gave in. So with a heavy heart, a few years back I bought an iPod, pointed my cursor towards iTunes and hit download.

Since Apple launched its iTunes software, it's not done a

iTunes biggest failure is its lack of quality downloads from its online store

great job of selling its virtues to those of us that care about the quality of digitally stored music. For a start, even though iTunes

has offered its own FLAC-rivalling lossless ALAC format for some time, its default import settings are usually set to MP3 levels. So unless you've done your homework and are format savvy enough to change your settings from the outset, you'll still be ripping at lossy MP3 levels. I've lost count of the amount of people I know who've imported their entire CD collection as MP3s via iTunes, only to realise further down the line that they've been sonically short changed. And the thought of re-ripping hundreds, if not thousands, of CDs again in a better format is just too mammoth and frustrating a task to contemplate.

Then there's iTunes' lack of support for FLAC, which seems like another own goal. Many hi-res music sites such as Linn Records and Naim Label have been offering ALAC files up to 24/192 for some time, which sound arguably just as good as their FLAC counterparts. But for those of us that have amassed libraries of FLACs from long before ALAC was on the scene, the iTunes library is a half open

door, and life would be far easier if it simply supported both formats.

That said iTunes does have its virtues, 17 in fact, according to Simple Audio's Martin Dalgleish's blog (bit.ly/UZ45Go). Its interface is highly intuitive, meaning you don't need an A-Level in computer

geekery to get to grips with customising its looks and settings to meet your needs. Apple's AirPlay is also a fantastically easy way to stream hi-res content wirelessly (I've managed up to 96kHz) to a plethora of AirPlayenabled DACs and streamers hitting the market.

Enabling music on the move is, of course, a big part of iTunes' appeal, and a few clicks lets you tailor your sync options to compress on the fly, so you can have CD or above quality content stored on your desktop library, which automatically down-converts to smaller MP3 type files for playback on your iPod/ iPhone, thus trading a loss of quality for an increase in each device's storage capacity.

But perhaps the software's most hidden talent is how good it is at organising your library, which is worth incorporating even if you don't use the software for playback. This is the road I've now gone down as a PC user, preferring the level of playback control JRiver's \$50 software offers (including FLAC support and guaranteed bit-perfect output) while pointing to music stored in my well organised iTunes library.

Playing catch-up

iTunes biggest failure, though, is its lack of decent quality downloads on offer from its online store, which are limited to a lowly 256kbps. Although, with the rise of hi-res music download sites and the imminent release of Neil Young's hi-res portable Pono player (the third most funded Kickstarter project ever), demand for hi-res music downloads is obvious, which may finally force Apple to up its game in terms of the quality of music it offers – which it's about to do, if the internet rumours are to be believed.

Until then, though, I'll continue to muddle along with iTunes as best I can, using JRiver and the handful or decent hi-res music sites I can access in the UK to complete the circle, while cherishing my less complicated listening time spent playing records ●



iTunes certainly has its pluses, but the absence of hi-res music in the Apple Store is short sighted



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"A level of musical enjoyment beyond what its price tag suggests. Well engineered great sounding unit that brings music to life. Superbly musical... the best at its price." Hi-Fi Choice



"Extracting both the music and emotion with utter conviction. The midrange textures were almost tangible, the treble sweet and airy, the bass deep and authoritative." Audio Video



Upgrade - the £185 PSU1 power supply steps these legends up a gear!

High output MM cartridges and low output moving coils are as different as chalk and cheese. Each needs a different type of circuit to perform at its best, so why compromise by using a 'one box does all' phono stage?



"The optional bigger power supplies managed to lift the performance, particularly the sense of scale and openness." TNT Audio



You can go your own way

When it comes to setups, hi-fi has always trodden a well-worn path, but wonders **Tim Jarman** what happens if you veer from the path and try a bit of do-it-yourself?

ike most sectors involved with electronics, the hi-fi industry likes to portray itself as progressive. "Advanced new technology" or some equivalent phrase has been the siren song of many advertising campaigns over the years, yet our equipment remains remarkably traditional.

Take for example a basic record playing system. I use this to make my point since such setups have been available for the whole of the time that domestic hi-fi has existed and so there is plenty of material to draw upon. At any time the three basic purchases would have been a turntable, an amplifier and a pair of loudspeakers. The turntable and the speakers are almost always passive devices; they typically contain nothing 'active' (such as valves or transistors) in the signal path and in essence perform only the first and the last basic tasks involved in changing mechanical movement into electricity and back again. In the beginning this made sense, but in the light of recent developments this layout no longer seems optimal.

Take the turntable for example. It makes the greatest sense to mount the phono stage in the turntable plinth so that the delicate signals from the cartridge only need pass through the minimum of wiring before they can be bolstered by electronics. Not only does this minimise noise pickup, it also removes the variable of cable capacitance,

l've constructed a prototype phono stage that fits in my turntable

which in a 'passive' turntable can contribute between a quarter and a half of the total allowable reactive load. Short cables

and fixed precision capacitors would do a much better job of loading the cartridge in a consistent manner and this is only really possible if the first stage of amplification is really close to the pickup arm. With valves this arrangement would have been impractical, placing a bulky, hot running circuit inside the confines of a turntable would be asking for trouble and that's before the problems of the attendant high and low voltage power supplies are considered. With solid state electronics it is easy, the amplifier can be made small and its power consumption minimal. Previously there may have been objections connected with providing a non-standard output signal, but now that CD players and DACs are the norm amps with multiple line-level inputs are common.

At the other end of the chain, it is hard to argue that the best place for the power amplifier isn't in the loudspeaker cabinet. Again in the days of valves this wouldn't have worked that well due to problems with microphony and

ventilation, but these aren't issues with a well designed transistor amplifier. The advantage comes when cable losses are considered: distributing electrical power at low voltages and high currents, as one in effect does when connecting regular passive loudspeakers to a typical amp, is a nuisance since the inevitable small resistances at each connection and in the cables themselves unavoidably all add up to a value that has a significant effect on overall system performance. Far better to distribute the same power at a higher voltage and a lower

current, as is done in the National Grid system that brings mains electricity to all our homes. In terms of our proposed hi-fi system, this simply means running mains power to the amplifiers in the loudspeakers and sending the driving signals at line level, where little or no degradation need occur with cable runs of 10m or less.



Tim hard at work on a prototype phono stage

Bending the rules

With gain in the turntable and in the loudspeakers our normal amplifier doesn't need to be there any more. It can be relegated to being a passive switching and volume controlling device of very simple construction, especially if it can be arranged so all the inputs will be roughly the same level and things like tone controls and analogue recording outputs are not required. The advantages of such a system would be lower noise, optimised cartridge matching, greater efficiency and greatly increased damping factor (which tends to bring tighter, faster bass). What's not to like? This equipment doesn't fit into the established order so it breaks up the traditional upgrade path, making it initially a hard sell. Also, the traditional amp is the easiest major component in the hi-fi chain to design and make, as well as being the most profitable. The manufacturers aren't going to let it go too easily!

If they won't, I will. I've constructed a prototype phono stage that fits in the base of my turntable and though it is very much a work in progress the results are encouraging. I've started checking out active loudspeakers, especially those old Philips ones with Motional Feedback. I've always had a background yearning to give a pair of these a try ●







THE CONCEPT 40 LOUDSPEAKER

Q Acoustics introduces 'Concept 40', an elegant new floorstanding loudspeaker which sets new standards of sonic performance at its price.

Award-winning pedigree

In common with the Concept 20, its award-winning little brother, the new Concept 40's unparalleled soundstage and sheer musicality is achieved by incorporating outstanding drive units into a lacquered, State-of-the-Art, 'GelcoreTM Construction', ultra-low resonance cabinet.

'Gelcore™ Construction, specially developed for acoustic enclosures, is in effect a 'cabinet within a cabinet', separated by a resonance absorbing compound. This enables the drive units to simply reproduce music, unencumbered by the level of cabinet induced distortions found in conventional designs.



"Superlative... brilliantly balanced package... excellent value"

Hi-Fi Choice Recommended, June 2014



"Surprising sonic agility and composure... a wonderfully inviting sound"

What Hi-Fi? Sound and Vision, May 2014

www.Qacoustics.com

Making a Statement

When he first heard Naim's Statement combo **Jason Kennedy** was impressed, but nothing could prepare him for how good it would sound in proper listening conditions

he Naim Statement preamp and monoblock amplifiers first appeared at the CES show in January where the combo made a very strong impression on me despite the limitations of show conditions. Since then it has put in an appearance at the Bristol show and more recently the High End show in Munich where Naim demonstrated how loud it can go when attached to a pair of Focal Grande Utopia speakers. It goes very loud, there is after all a horsepower's worth of power available from each monoblock, that's 746W in new money. But when the chance came to hear this £125,000 combo in the surroundings of KJ West One I jumped at the opportunity to hear some of my own musical choices.

For this showing the Grande Utopia III had been installed in KJ's 15m² dem room and made the place look small. I was concerned at how much they loomed over the listening position, but I needn't have worried. From the moment the NDS streamer started playing, it was obvious the bar had been raised for the state of the amplifier art. I have heard NDS enough times to think I know what it can do, but I don't, no-one who has not heard it with Statement does. The amount of detail the system presented was mind boggling, literally as if twice the information in the recording had suddenly appeared. It really felt that way and it did my head in because this

The scale was room filling and the atmosphere was totally electrifying

means that what we have been getting by increments is still only half of what's really available. The Grande

Utopia III speakers had plenty to do with this, of course, but again I have heard them on a number of occasions and was impressed but not overwhelmed. And in truth it felt as if we were sitting too close to them, especially those of us outside the sweet spot. But boy was it fun when Focal's Gerard Chrétien put on *The Ghetto* by Donny Hathaway. The scale was totally room filling and the atmosphere of this live track totally electrifying. I had the audacity to put on some ZZ Top, that was shocking in the depth of tone and texture it offered up. Modern recordings have obviously lower noise floors because there is no tape hiss to contend with so they had a presence that was truly uncanny, but the analogue originals are still hard to beat for tonal character.

How does Statement do this? I asked designer Steve Sells who is in charge of the project and he explained that one of the key technologies is the use of aluminium nitride for the substrate of the new 009 bi-polar transistor. The idea

to use this came from a program Steve saw about satellite technology where devices have to last a minimum of 15 years in space, or you get your money back. Essentially aluminium nitride transmits heat significantly faster than traditional materials, which means the device operates within its comfort zone all of the time so it's never having to work too hard. In practise this means greater speed of recovery and lower distortion. Another factor that distinguishes the NAP S1 power amplifiers from previous Naim designs is that they use

parallel output devices or transistors, Naim amps have traditionally avoided this because no two transistors are identical and differences between them introduce timing errors. But there is a limit to how much power you can produce without multiple devices, so Naim overcame this issue by using a single slice of silicon and cutting adjacent dies from it to create transistors that are inherently matched. It's space age stuff that unlike much that goes under that banner actually delivers a result that's worth the effort.



Naim's stunning Statement: better sounding than a high performance car

What's in a Naim?

Naim has paid the same attention to detail to all aspects of Statement, each amplifier is, for instance, a 3D construction rather than a few layers of circuit board. Power supplies sit underneath the audio electronics and are separated by an illuminated acrylic spacer. The inputs are also in the lower chassis of the NAC S1 preamplifier and decoupled by leaf springs from that case in an effort to stop vibration getting to the analogue boards above. Those boards are also spring decoupled and operate in balanced mode.

The one thing that you don't hear much about are the speaker cables that have been in use in every Statement dem I've been to. This is not traditional NAC A5 as is pretty much mandatory with existing Naim amps, but a prototype cable that cooks uncannily like Vertere Pulse − the cable made by former Roksan designer Touraj Moghaddam. It's not the key to the Statement sound, but it is an ingredient in a mix that delivers astonishing levels of transparency. Statement is expensive, but so is a high performance car and you know which one sounds best ●



Minitest

EASY SYSTEM UPGRADES £25-£60

Neville Roberts casts his expert eye over four upgrades that cost less than £60, but make a world of difference



Epiphany AcousticsAtratus Audiophile mains cable

PRICE: £45 for 1m WEBSITE: epiphany-acoustics.co.uk

HEAVY DUTY COPPER conductors and attention to detail feature heavily in this design. The cable is comprised of heavy gauge copper conductors with a 100 percent coverage shield. It is terminated with gold-plated connectors, ensuring a lasting and reliable connection. Epiphany notes that when it comes to mains, hi-fi is susceptible to airborne interference in the form of EMI. This cable benefits from 100 percent shielding, which not only significantly reduces the amount of interference picked up by the cable, but also the interference radiated around the back of your system by shorting to ground any interference it picks up. The end result is claimed to create a deeper and blacker background, a wider and

better defined sound stage and an improved bass performance.

The Atratus is available in a standard range of lengths and can also be made to a customisable length. It has gold-plated 13A fuses fitted inside the mains plugs.

I find this cable makes an improvement to the clarity when compared with a standard 'kettle' lead. I also notice a reduction in the noise floor, which gives rise to a sense of improved dynamics. An obvious upgrade to any system.

VERDICT

This cable is of high quality and excellent value for money. It comes highly recommended



ISOkinetik

Graphite Spike Feet

PRICE: E60 for a set of three CONTACT: 0208 2418890 WEBSITE: isokinetik.co.uk

THESE GRAPHITE feet are part of ISOkinetik's range of accessories that makes use of a new material called HDG (High Density Graphite) carbon. HDG is comprised of microscopic spheres that have a high capacity for dissipating vibrations. The shape of the feet also helps to stop any vibrations from entering the audio system by channelling those that are generated by the equipment away through the supporting base or rack.

Each foot is 40mm diameter and 20mm high and has a 4mm threaded hole to accommodate a bolt, if required (available separately). However, the feet can be fastened to the underside of the equipment with some double-sided tape or simply placed underneath the equipment with no fastening. In many instances, the original feet fitted to equipment can be left in place, with the graphite

ones placed alongside, because the originals are lifted clear of the base by the spikes.

Although the HDG is a firm and hard material, it is still graphite and will leave 'pencil' marks on some surfaces. Any marks can be removed easily with an eraser. As with most spikes, these HDG feet can also leave a tiny indent, made by the point, on the surface of a wooden support rack. For these reasons, ISOkinetik has included a set of neat little Delrin spike shoes to fit under the spikes.

Placing the feet under different pieces of audio equipment produces different levels of improvement. With the feet fitted under a CD player in place of the standard feet, I notice that the dynamics are improved and the sound is cleaner overall. Under my record deck I find enhanced clarity to performances.





There really is a vast array of upgrades available on the market, ranging from those that should clearly deliver benefits, to those that do rather seem to fall into the 'snake oil' category! Many suppliers of upgrades support their claims with detailed documents and lengthy reports on how their product works and why it is better than the competition. Although I must confess to being the sort of person who always wants to know how something works, I

only investigate this after I have decided if the upgrade does the job it's supposed to do. As far as I'm concerned, the only determining factor is what my ears tell me.

So here we take a look at four different upgrades that really deliver sonic improvements and are also very easy to carry out on your audio system. Best of all they're all available for under £60.

Russ Andrews

13A SuperFuse

PRICE: £25 CONTACT: 01539 797300 WEBSITE: russandrews.com

YOU MIGHT WONDER what is in a fuse. Well, quite a lot more than just a piece of wire that melts when heated by a high current! Yes, it is meant to be the weak link in the mains that will break the circuit in the event of a fault. However, in the case of audio equipment, it must not adversely affect the quality of the mains supply and this is where high-end fuses come in.

The whole pathway from mains to equipment is fraught with obstacles in the form of potentially noisy contacts between plugs, sockets and fuse holders. Additionally, there is the problem of noise emanating from the cables and fuses themselves. This is where the SuperFuse from Russ Andrews comes in. It is not just a replacement fuse, but more a mains plug upgrade kit, with a sachet of surface conditioner included for cleaning the mains plug pins at the same time.

SuperFuses are made using Russ Andrews' proprietary plating and fuse wire. They are then conditioned using a specially developed version of the company's unique Super Burn In process. The end caps are handpolished and treated with contact enhancer and sealed in a bag ready for fitting into a mains plug. This is simply a case of opening up the mains plug, removing the existing fuse, cleaning the mains pins and fuse contacts with the surface conditioner, fitting the SuperFuse and reassembling the plug. Don't forget to clean the IEC or whatever connector is at the other end of the cable while vou're at it!

When I fit the SuperFuse in the mains plug, I can detect a subtle improvement in overall musicality, top-end detail and openness. There is also an improvement in the sound stage – not bad for a fuse!



VERDICT

The cost may be high, but it is significantly lower than rivals and yields similar benefits



MCRU

Caig DeoxIT hi-fi maintenance kit

PRICE: £40 CONTACT: 07908 056978 WEBSITE: mcru.co.uk

INTERCONNECTS AND POWER

cables often stay in place for many years without being touched. It is therefore very easy for corrosion to build up on the surface and stay put, instead of being removed when a plug is connected and disconnected.

This kit makes use of a variety of products from the DeoxIT range from Caig Laboratories. DeoxIT D5 is the general purpose treatment for all metal contacts and is specifically designed for cleaning surface oxides from mains plugs, interconnect and speaker cable connectors, as well as from moving parts such as volume controls. Not only will the products remove surface contaminants, they also leave a microscopic layer of protection on the metal surface to prevent future oxidation.

The aerosol can is supplied with a flexible tube that fits into a small

recess built into the nozzle, thus enabling it to be directed into the intricate parts of a plug or socket. The supplied mini-spray can is also useful where space is limited, such as around the back of an equipment rack. The squeeze tube I find is perfect for applying a single drop of cleaner into a recess and then letting gravity do the rest! The specialist brush included is perfect for those hard-to-reach places, such as the inside of phono sockets and DIN connectors. It takes only a quick spray and a judicious poking with the brush to clean up the surfaces of a tarnished phono plug that was prone to noise when moved. This noise completely disappears after treatment.

As the various products can be directed onto where they are needed, only a small amount is required on each application.



A very good value kit that is simple to use, will last for many years and provides tangible results





Sci-fi choice

David Price remembers ADC's 1700, a long lost turntable from the time of quartz crystals, space exploration and *Star Wars...*

aunched in November 1979, the ADC 1700 turntable arrived blinking in the bright sunlight of a brave new technological world where computers, space exploration and science-fiction all seemed to meld into one glorious vision of the future. It was bold, brilliant and fresh – at a stroke, the beige-ness of the seventies was banished. In a world of *Star Wars*, Kraftwerk's *Computer World* and *Blake's Seven*, this new turntable looked as bang up-to-date then as the latest Apple gadget does now.

This expensive (£140) and large (470 x 382 x 153mm) machine was a quartz-locked, direct drive design. At the time the belt drive versus direct drive' war was raging hardest. Direct drive technology was getting cheaper, better and beginning to displace ever more belt drive decks. Direct drive meant that the motor was mounted right at the centre of, and around the underside of the platter, the spindle and bearing housing and the motor effectively acting as one. Whereas traditionally you had a rubber belt transferring the drive from a separate motor on belt drive decks, on a direct drive model the platter was directly attached to the motor itself.

This meant there was no need to change a belt, and that overall performance wasn't affected as the belt deteriorated. But more significantly, any rubber belt decouples the motor's torque from the platter, and is less well able to respond to minute speed variations from dynamic wow, whereas direct drive didn't suffer this. Adding a quartz crystal reference to the servo system gave the direct drive motor an

With classical music the ADC 1700 is impressively quiet and civilised

absolute speed reference on which to lock, and this made for even better speed stability, better than any belt drive system could hope for. To wit, the ultimate deck that mainstream turntable buyers around the world aspired to was a quartz-locked direct one – and so the words 'Quartz Speed Control' were duly inscribed on the ADC's plinth in clear white type like a badge of honour!

At the time of launch, Audio Dynamics Corporation was a division of British turntable company BSR Ltd, based in Warley in the West Midlands. The ADC brand itself was originally American, formed by Peter Prichard in New Milford, Connecticut in the early sixties. The company was responsible for some innovative cartridges using induced magnets. It also did some rather interesting low mass tonearms – the LMF-2 and 1 using carbon-fibre armtubes, and the AIT-1 being a cost-cut aluminium tubed variant. They ranged in price from £44 to £70, which wasn't cheap at the time.

ADC was a good brand, then – and an excellent badge for BSR to attach to its new range of mid-priced turntables. The ADC 1700 topped this new premium range of decks, with quartz-locked direct drive motor and semi-automatic operation. The ADC 1600 was the same, but lost the switchable quartz-lock, and the ADC 1500 went to belt drive, manual operation with a cheaper stainless steel tubed, S-shaped tonearm. All came with ADC cartridges bundled as standard, adding substantially to the value of the package.

All the new ADC decks sported a satin-black painted, injection moulded ABS plinth that had

damping foam squirted inside. The result, however, was a plinth that was neither as rigid or as inert as ADC claimed, even if it was better than many competitors. The deck got some very decent isolating feet, closely resembling Micro Seiki Microsorbers, although they were neither as good or as expensive. This made for a relatively cheap-to-produce but sophisticated looking plinth, which did a reasonable job of isolating the record from the outside world. In truth, you still needed to place it well away from your loudspeakers, and take the horribly resonant green tinted dustcover off for best results.

Platter of fact

The platter is a 302mm, 1kg disc of aluminium that is dynamically balanced, and features strobe indents at the bottom. ADC made a big deal of using an LED linked to the quartz lock circuit, as opposed to neon. Its sharp, square wave pulses of light were obviously something worth getting excited about! The quartz lock system itself, running at 5.8MHz, was switchable so the speed could be varied by as much as 6 percent by any budding punk rockers or disco divas of the day. The platter is topped off by a great looking, 'podule-effect' rubber mat, but it is of poor quality, and can easily be upgraded with the likes of an Origin Live Platter Mat (£40). "Only an atomic clock is more accurate", said ADC in its advertising copy - and to its credit the system still works perfectly on our sample 35 years on. The company claimed 0.03% WRMS wow and flutter, an excellent figure, with a very respectable -70dB (DIN B) of rumble.

One of the major selling points of the 1700 was its tonearm. ADC was a bit coy about what it exactly was, but suffice to say it has the same open cradle suspension, micron-polished, ball race lateral instrument bearings and lead out wires as the respected LMF series, but with a black anodised aluminium arm tube and a slightly different decoupled counterweight design. This, allied to its carbon-fibre headshell, would lead one to suspect that it is ADC's LMF-1 arm by any other name. Whatever, the arm is unexpectedly decent, notwithstanding the fact that it was purpose-designed for ADC cartridges, which by this era were relatively high compliance affairs that needed low mass arms. In 1979, 'low mass' was all the rage, but now it's harder to find high compliance cartridges.

The ADC 1700 came with a £60 XLM Mk III cartridge, with tapered aluminium cantilever and nude elliptical stylus tip that tracked between 0.75 and 1.5g. Very low tracking weights were desirable back then, because it was thought it would cause less record wear. Ironically, people began to realise that low mass cartridges mistracking slightly at 0.75g caused much more wear than standard medium to high mass ones ploughing the record groove securely at 2g! If you're serious about using an ADC arm, either separately or in the 1600 or 1700, and can't find a decent specimen of an ADC cartridge, then an Ortofon OM10 (£30) is your best bet. These date back to this era of ultra low mass and are still on sale new now.

Even with a fresh OM10, don't expect the ADC to slay modern turntables, it certainly doesn't do that. But it does have a clean, easy and smooth sound that makes listening to music an enjoyable experience. The bass has a speed and solidity that many belt drive designs of then and now lack, and the midband is decently open and detailed. Treble is smooth and crisp, and the overall effect is of a musically engaging turntable that breezes through your LPs. Considering you can pick up an ADC 1700 for under £100, that's a lot of sound per pound!

The trick is to site it right. This goes for other non-suspended subchassis decks that lack the sheer physical mass to soak up airborne or groundborne vibrations – you need to keep them away from these as much as possible, ideally on a good wall shelf. This done, you begin to reap the benefits. Direct drives always sound punchy and engaging, and the ADC is no different. Its tonearm is a little soft sounding, seemingly thinning out the

One of the main selling points of the ADC 1700 was its tonearm



THE PLASTIC AGE

The ADC 1700 was the flagship turntable from British company BSR, an organisation struggling to keep its market share having suffered a serious sales assault from Japanese manufacturers like Pioneer and Kenwood earlier on in the seventies. At the beginning of that decade, BSR and Garrard reigned supreme making relatively crude idler drive turntable chassis that were fitted into everything from music centres to portable record players. Several years later though, both companies were on the back foot, reeling from the Japanese invasion.

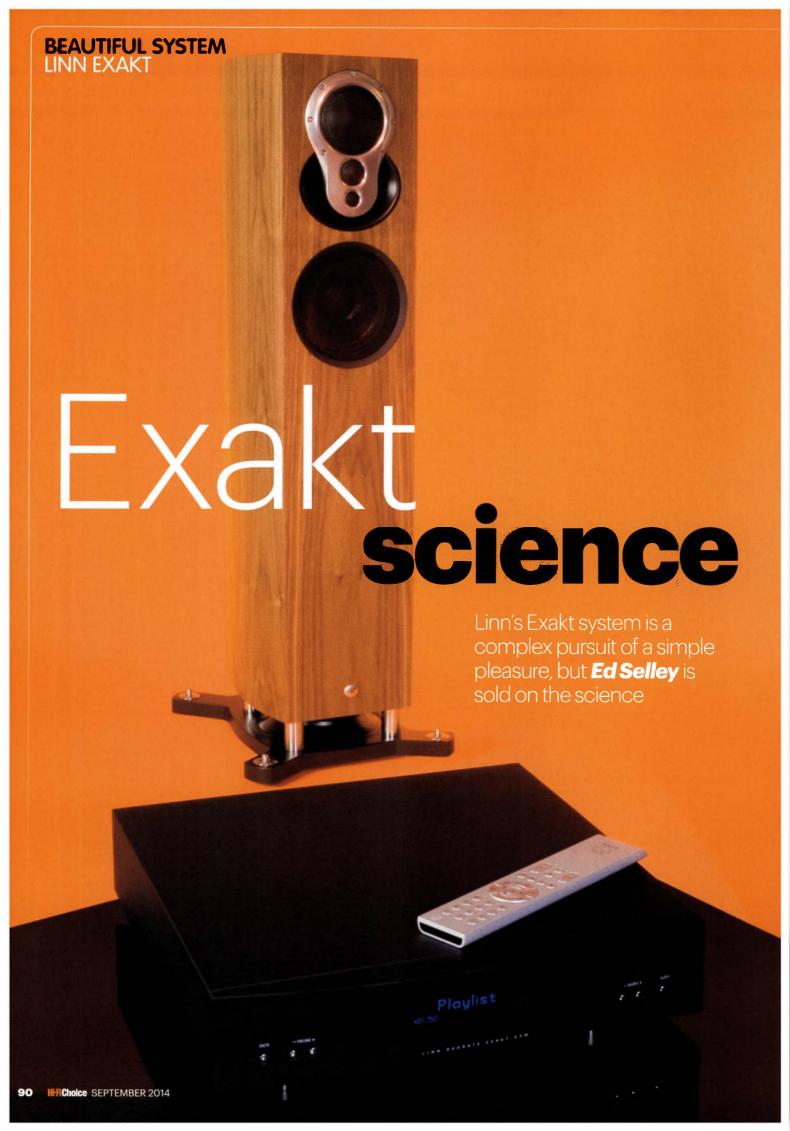
Using the ADC brand – which had considerably higher kudos than BSR – was a great idea, and the company tried hard to make a modern looking, technology-packed turntable that ticked all the marketing boxes. The 1700 had semi-automatic operation, marking it out as a non-specialist design, and direct drive with quartz lock too. The low mass arm was a feature that was regarded as de rigeur in the vinyl world. Sadly, the ADC 1500, 1600 and 1700 arrived a year or two too late. People were beginning to take a real interest in Compact Cassette as a sound source and Compact Disc was already starting to be talked about. Quite a few ADC decks were sold, but were soon forgotten and now sit unwanted on online auction sites – making them a great used bargain.

soundstage and pulling things in from far stage left and right – just what an ADC AIT-1 does when mounted separately. The upside is that the arm has a bit more subtlety and detail than you might expect from something bundled onto a semi-automatic deck.

Perfect partner

With an original ADC QLM36 cartridge fitted, complete with a new. old stock stylus, the 1700 proves a pleasant listening partner. The ADC cartridge has a little more fluidity than the Ortofon, really livening up period rock music from the likes of Nick Lowe and The Eagles. With classical music it is impressively quiet and civilised, not zero-ing in on surface noise as cheap modern turntables do. It sounds solid and stable even on crescendos, and the ADC cartridge tracks well - even if the deck and cartridge do seem to suck a bit of tonal colour and spatial scale out of the recording.

ADC's 1700 is no stellar performer, but it's an interesting little curio from a day when vinyl was done differently. Moreover, 35 years after it was launched, it is still serviceable and ridiculously cheap secondhand as well as being in surprisingly plentiful supply. If you consider that you can pick up a terrible, plasticky USB turntable for the same sort of money new, it's a no brainer if you're looking for a starter deck or you're coming back to vinyl after all these years •



BEAUTIFUL SYSTEM LINN EXAKT



eautiful System is a broad church – and let me make it clear I'd have it no other way. Sometimes we go for the physically beautiful, on other occasions, either the performance or the single mindedness of the design is of particular interest and might be considered beautiful in its application. In this case, the system you see here could stake a claim to being included on any of those grounds. It exudes a clean and handsome aesthetic, it sounds absolutely magnificent and it is the logical conclusion of a single minded pursuit of a particular design philosophy over decades of research

That philosophy is the principle of active speakers and while it has many advocates, few have been as devoted as Linn. Helped by its construction of both amps and speakers inhouse, the company has been offering the option of turning its systems active for

The Exact delivers nigh on constant pleasure with virtually no caveats

decades. Up until recently, the process by which the system went active was to introduce the speaker crossover between the pre and power amp – that is to say in the analogue domain. This offers benefits over a conventional speaker, but Linn has now taken the process a stage further.

The result of this is Exakt, an active system that operates almost exclusively in the digital domain.

This comprises an Exakt head unit – a variation on Linn's highly regarded DS streamers – and Exakt speakers, which again take an existing Linn speaker and modify it to work on the

SYSTEM £25,500

LINN EXAKT DSM

The DSM is a development of the DS streamer and acts as a digital preamp collating digital and analogue sources as well as acting as a 24/192-capable UPnPstreamer

LINN EXAKT AKUBARIK

The Akubarik takes the source signal with any EQ adjustment from the DSM via five separate channels of amplification to the drive units including an opposed isobaric pair of 8in drivers



Exakt pattern. The two units communicate via CAT5 cable and the signal the speaker receives is still in the digital domain. This is divided among the drive units without any loss, phase distortion or interference.

Bonus beats

Were this all Exakt did, this would be an impressive step forward. It is what Linn's brainchild does additionally that makes it rather special. First up, the system can calculate and allow for the fractional variation in driver performance between individual speakers ensuring a stereo pair is just that. With the system able to adjust all aspects of the speaker's performance it can also be used to compensate for the position of the speaker if you choose to move it away from the optimum point in the room. If the practicalities of life preclude you from having the speakers stood in free space, Exakt can ensure that they still sound like they are.

Having the Linn on display shouldn't be too unwelcome a task, though. This system is the new Akurate Exakt, which comes in at a lower (albeit still substantial) price than the flagship Klimax system. Dare I say it? I prefer the aesthetics of the smaller system. The electronics might not come wrapped in the machined casework

of the flagships, but there is an understated elegance to the clean lines of the Akurate DSM that I've always liked. The Akubarik speaker that partners the system is equally pleasing – large without being bulky and exuding a certain purposefulness from touches like the hefty plinth and trademark '3K array' that handles high frequencies and midrange. This is rounded off by the metal housing for the Exakt electronics

Make no mistake, the convenience of the Akurate is compelling

that runs up the rear of the speaker like an exoskeleton.

That beefy plinth is an indicator that the Akubarik houses an even more established Linn tradition. The lower section of the cabinet is home to a pair of opposed 8in drivers in classic isobaric arrangement. By using this arrangement and placing the drivers vertically, the Akubarik promises to hit hard and go deeper than you might reasonably expect a speaker of these dimensions to do while also delivering on the promise of isobaric bass.

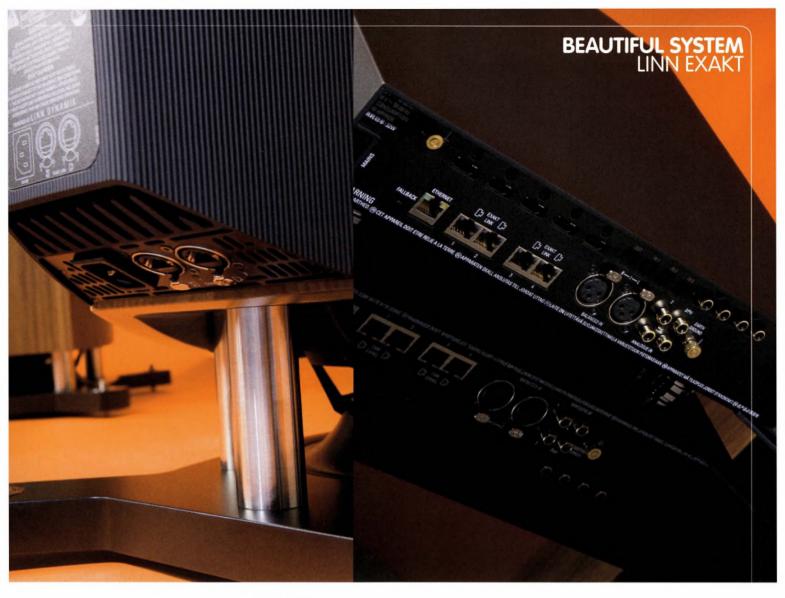
Above far left:
The '3K Array'
of the Akubarik
gives peerless
upper register
performance
Centre: The
Akurate DSM
builds on the
potential of the
DS and uses the
same excellent
interface
Above far right:

Above far right: The Exakt communicates via 'Exakt link' which uses CAT5 cabling

A clever and especially welcome part of the system is that the streaming front end of the DSM is not the only source available. The back panel is packed with a wide variety of inputs plenty of which are digital as you might expect, but also incorporate analogue connections including one that can be configured as a phono stage, which means that Exakt is still happy to accept vinyl and any other sources you have to hand. It also meant that when I went to listen to the system at experienced Linn wranglers, The Sound Gallery in High Wycombe, there was an example of an LP12 connected to the system to play with too. Beautiful Systems is a tough gig, but someone has to do it.

Dress to impress

When I'm confronted with any system that uses tech that's dramatically different from the norms of hi-fi, I have a small existential moment where I wonder if I am listening to the technology in question or the performance of the piece that it is producing. Be under no illusions that Exakt is very sophisticated indeed – I sat through a technical presentation at Linn last year that produced that weird hot feeling behind my eyes when I know I'm out of my depth –



but the end result is totally unobtrusive. Browse your music using the lovely Kinsky app, choose your poison and prepare to be impressed.

And you will be impressed, mark my words. Across the various drivers in each speaker, the Akurate disposes of 600W per side. While it can go very loud indeed, the main by-product of this oomph is a sense of effortlessness that lends everything you play on the Linn a scale and refinement that some larger and more expensive systems can struggle to produce. Fever Ray's If I Had A Heart is a massive, brooding wall of electronica with Karin Dreijer Andersson's vocals suspended beautifully in front. The effect is at once arresting, but at the same time completely convincing.

Sounding off

This is perhaps the cleverest part of a very clever system. All the technology involved in the Linn is completely and utterly subservient to the task of producing a believable sound. This means that regardless of whether you ask it to produce the paired-back simplicity of Regina Spektor's *Consequence Cf Sounds* or the vastness of Fink with the Royal Concertgebouw Orchestra, the Linn simply gives you the recording, perfectly proportioned, tonally perfect and beautifully



TELEPHONE: 0500 888909 WEBSITE: linn.co.uk arranged. You can – if you are the tweaking sort – manually fiddle about with the frequency response in room, but for me at least, that would waste time you could be listening to music.

The other Linn technology at play – the isobaric drivers – also contribute to the performance. The Akubarik goes impressively low for a speaker of relatively sane dimensions, but there is so much more to it than that. There is a nigh on complete absence of

To label it as a highly evolved lifestyle system is to do it an enormous disservice

overhang or any sense of sluggishness. The bass note is instantly ready at the moment it is needed before vanishing to nothingness the instant it isn't. There is a sense of controlled power that has you easing the volume levels upwards during extended listening sessions until you realise you have just passed the point considered anti-social about an hour previously, but because these towers of power seem totally unfazed you won't notice – at least that's the line you'll pursue when trying to avoid your first ASBO.

What Linn has built in the Exakt system is recognisably part of its ethos, but at the same time a step forward to something new and exciting too. Make no mistake, the convenience aspects of the Akurate are compelling.

Compact and bijou

While not exactly small, it is a good deal more compact than most similarly priced rivals. It is unfussy about placement and using it is an exercise in simplicity thanks to well thought out and beautifully integrated controls. To simply label it as a highly evolved lifestyle system is to do it an enormous disservice. however. The Linn is capable of taking almost any music and playing it at pretty much any level you choose and captivating completely while it does so. The long recognised masochistic streak in this industry suggests that the Exakt would probably earn more respect had Linn made it bulkier, more complex and less accessible to appease the notion that nothing good can ever be had easily, but it is to Linn's eternal credit that it hasn't done that. This is a system that delivers nigh on constant pleasure with virtually no caveats, conditions or compromises. If that isn't beautiful, I'm not sure what is ●



Simon Berkovitch backtracks to 1967 to sample the joys of a label that brought us prime cuts by The Who and Jimi Hendrix

t's instant kudos to a record label whose debut 45 is one as exhilarating and radical as The Jimi Hendrix Experience's Purple Haze, one of the greatest-ever singles. Track Records certainly set out its stall in fine style, and despite a relatively meagre roster, quality was prioritised over quantity during its peak.

One of the first British independent record labels, pre-empting post-punk's boom by over a decade, Track was formed in 1966 by The Who's managers: Kit Lambert and Chris Stamp. Originally conceived as a vehicle for Pete Townshend's

chart-topping, pop art mods, then attempting to extricate themselves from Decca and Brunswick contracts, Track was distributed by Polydor – a German label that hoped to branch out from the easy listening that largely constituted its output.

Expansion began early as Lambert and Stamp leapt at the chance of signing Jimi Hendrix, but Track was not quite up and running. So, Hendrix's debut $45 - H\epsilon y$ Joe – crept out on Polydor, giving the sonic earthquake of Purple Haze the distinction of being Track's first single.

Between 1967 and 1969, Track released three extraordinary

Hendrix albums (Are You Experienced?; Axis: Bold As Love and Electric Ladyland), a clutch of releases from The Who at the peak of the group's sixties pop powers (the I Can See For Miles 45; The Who Sell Out LP) and the beginning of their metamorphosis into rock legends (Tommy) and a massive global hit single from The Crazy World of Arthur Brown (Fire).

Although the label made success with credible artists look easy, business wasn't exactly Track's strong point. A lawsuit landed concerning a contract that Hendrix had signed in 1965, placing a dramatic drain on finances. This may well have

prompted a deluge of reissue albums on the label in the early seventies – the Backtrack series – in an attempt to turn the financial tide.

Polydor subsequently took over Hendrix's catalogue, and issues with regards to royalties saw the label lose the golden goose – The Who – in the midseventies. With just Golden Earring left as a crowd puller, the game looked as though it was up for Track, but it limped on until the late seventies, dipping its toes in punky waters with a Heartbreakers album (*L.A.M.F*) and, ahem, a Shakin' Stevens LP, before finally calling it a day in 1978.

Jimi Hendrix

The ultimate guitarist recorded a breathtaking run of records for the label

he previous year's debut 45 $H\epsilon y$ Joe was good, but little could have prepared listeners for the space-age ramalama of Purple Haze psychedelicising the airwaves of 1967. Jimi Hendrix had exploded on the scene, and the guitarist's creative juices were well and truly flowing.

Look at the evidence: three fantastic albums on Track, one of them a double, between 1967 and 1968 alone. Things certainly moved fast back then: it's hard to believe that by the towering achievement of 1970's Voodoo Chile (Slight Return) single, Hendrix had traded in his Fender Stratocaster for a harp.

The first vehicle for the guitarist's extraordinary talents was The Jimi Hendrix Experience: a power trio comprising the main man, bassist Noel Redding and ferocious drummer Mitch Mitchell. Track not only scored hit singles with this line up, some of the sixties' finest –

including *Purple Haze*, *The Wind Cries Mary* and *Burning of the Midnight Lamp*, all compiled on *Smash Hits* (1968) – but also three legendary, critically acclaimed LPs – *Are You Experienced?*, *Axis: Bold as Love* (both 1967) and the ambitious, even more accomplished *Electric Ladyland* (1968).

Three fantastic albums between 1967 and 1968

Hendrix's final album for Track, a live album recorded at the Fillmore East, New York, saw the guitarist team up with Billy Cox (bass) and Buddy Miles (drums) – referred to as the Band of Gypsys, from which the album took its name.

After this release, Hendrix was not only off the Track roster (and on to the Polydor label) but, sadly, he also departed from this mortal coil, too.

Smash Hits gathered some of Hendrix's best tunes together



The Who

If Track's aim was to fuel the creativity of Pete Townshend, it worked

The band that asked *Who Are You?* could just as well turn that question on themselves, as there are two incarnations of The Who during the time they recorded for Track Records: The Who as pop group and The Who as rock band – with a fair bit of blurring around the edges towards the end of the decade.

I Can See For Miles saw the group taking mod pop into more adventurous territory, turning in a hard-edged classic with a stinging guitar solo and a very 1967-vintage title. The record that followed, The Who Sell Out, is an early example of the concept album; a bogus pirate radio broadcast in which great psych songs such as Armenia City In The Sky and Relax nestle alongside comedy jingles.

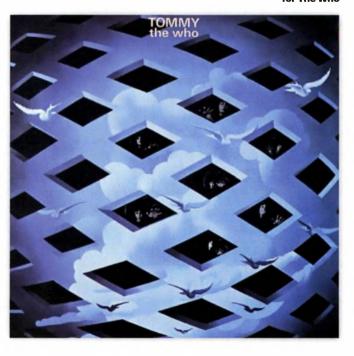
The compilation *Direct Hits*, the group's first, followed in 1968, but for many fans of the group's rock incarnation, the real work begins in 1969 with

the release of *Tommy* – widely regarded as the first rock opera. Home to timeless rock anthems such as *Pinball Wizard* and *I'm Free*, as well as more soulful tracks such as *See Me, Feel Me, Tommy* was the sound of Townshend's ensemble liberating themselves from the shackles of the sixties.

Odds & Sods was the last record for the label

Gloriously loud *Live at Leeds* (1970), housed in a memorable 'bootleg' homage sleeve followed, *Who's Next* (1971) and *Quadrophenia* (1973) are among The Who's most well-regarded seventies albums, all recorded for Track, with ragbag archival compilation album *Odds & Sods* (1974) being the last recorded for the label before cutting loose for Polydor.

Tommy marked the beginning of a rockier sound for The Who



The Crazy World of Arthur Brown

The god of hellfire brings you... the missing link between psych and prog

uch more than a one hit wonder, The Crazy World of Arthur Brown's sole album for Track is something of a lost psych LP, sadly overshadowed by the success of million-selling transatlantic hit Fire. This 1967 number one single is instantly recognisable, but the music locked in the grooves of its parent album is a much more shadowy affair.

In many respects, showman extraordinaire Arthur Brown was way ahead of the curve. His onstage antics and appearance - face paint and burning, petrol-soaked colander on head, no less simultaneously bring glam rock, Alice Cooper and Peter Gabriel-era Genesis to mind.

Produced by Pete Townshend and Track co-founder Kit Lambert, The Crazy World of Arthur Brown was the only album released by the band, containing a side-long suite about the horrors of hell. The

other side of the LP contains more accessible fare, including memorable James Brown and Screamin' Jay Hawkins covers alongside original material.

Straddling the divide between sixties psychedelia and progressive rock, it's a lost sixties gem that really deserves to be rediscovered.



SHOPPING LIST

Here are eight further vinyl gems from the Track back catalogue to add to your bulging shopping basket



The Parliaments (I Wanna) Testify A classic from George Clinton's soul group that was about to mutate into Funkadelic and Parliament.



Fairport Convention If I Had a Ribbon Bow A very early pop single from Fairport, whose debut album crept out on Polydor.



Thunderclap Newman Something In The Air This Pete Townshendproduced single hit the top spot for three weeks.



Marsha Hunt Woman Child Some belting covers of Traffic Dylan and Dr John. among others, from the original Hair musical star.



Pete Townshend Who Came First The Who leader's first solo LP for Track. The 1972 cut includes demos from his aborted concept album Lifehouse



Marc Bolan The Beginning Of Doves The Bopping Elf's folky, hippie, pre-T-Rex songs are compiled on this charming



Keith Moon Two Sid**e**s Of The Moon And both of them are terrible. Hear The Beach Boys massacred on The Who drummer's criminal release.



One Track Mind The last throw of the dice for the label with a helping of sloppy post-New York Dolls

John's Children

Punk before punk, these mod terrorists included a future glam superstar

nlike The Who, these striking white-clad mods were incredibly unsuccessful in their lifetime, despite courting controversy at every turn indulging in on-stage fights, instrument trashing, riot provocation, semi-naked press shots and a devil-may-care attitude to technical ability in an age of technical virtuosity. John's Children were truly punk before punk.

The few singles the group released in their lifetime. including the ones recorded for Track, have become highly sought after by record collectors. Desdemona (1967) was written by and featured a pre-T-Rex Marc Bolan. Go Go Girl (a version of Bolan's Mustang Ford, subsequently recorded by Tyranosaurus Rex) and A Midsummer Night's Scene (both 1967) are further walletdraining 45s: the latter was withdrawn and only 50 copies

are known to exist. Indeed, a copy of this mega-rare 7in single auctioned for thousands of pounds around a decade ago.

Thankfully, the A Strange Affair compilation is a much more cost-effective way to sample the joys of John's Children.







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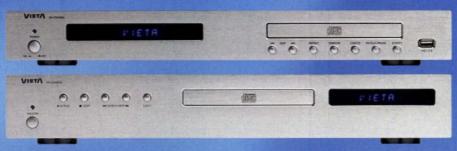
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Active Monitors ONE VO-BS30







NEIL YOUNG ONCE opined that when you find yourself in the middle of the road it's time to head for the ditch, a contrarian philosophy that has filled his unpredictable career with a mass of contradictions. But even by his own ornery standards, Young's latest album is perplexing. A long-time critic of the sound quality of CDs and MP3s, he's finally about to launch his much-hyped Pono device, a revolutionary ultra-high resolution 24-bit/192kHz music player, which he claims will deliver studio-fidelity audio, the clarity of which we've never heard from a digital system before.

And characteristically he chooses this futuristic moment in time to record an album live to one-track mono in a vintage 1947 Voice-O-Graph booth, the size of a telephone box. Describing the album as "an historic art project", he uses the Voice-O-Graph as a time machine to transport him back to a 'simpler' pre-stereo era, when such

booths were used to cut sentimental 35 cent vinyl messages that could be shipped to loved ones far away. An 18 year old Elvis Presley used such a booth to record *My Happin*ess for his mother and Young throws himself so enthusiastically into the conceptual weirdness of his nostalgic trip that the 11 songs on *A Letter Home* are interspersed with a brace of corny messages to his mother in the afterlife. Who needs Pono?

The contradictions do not end there. If Young had chosen to record a bunch of old blues songs from the Folkways archive of pre-war field recordings, you could argue that he was recreating the authentically 'primitive' sound of the era. But instead, he's chosen to record a selection of old favourite folk songs by the likes of Bob Dylan, Phil Ochs, Gordon Lightfoot, Tim Hardin and Bert Jansch – in other words, it's a sixties playlist, that's been recorded in the sort of crackling lo-fi quality

that would have sounded anachronistic back in

the forties. Side one finds him squeezed into his booth with guitar and harmonica, his shaky voice wavering out the words to Girl From The North Country, Early Morning Rain and Patsy Cline's Crazy as the Voice-O-Graph's antiquated equipment struggles to maintain a constant recording speed. By side two, he's opened the booth's door and dragged a piano over to the Voice-O-Graph for rickety versions of Reason To Believe, Willie Nelson's On The Road Again and the Everly Brothers' I Wonder If I Care As Much. The hiss-pop-and-cracklesaturated results are maddening - as you can imagine - although at the same time oddly timeless and endearing. More no-fi than lo-fi, you can't help thinking Neil Young is just about the only artist in the world who could get away with anything quite so outlandishly perverse. **NW**

Jack White Lazaretto $\star\star\star\star\star$

Third Man/XL

WHITE'S SECOND SOLO album since disbanding the White Stripes seethes with discontent over a different kind of break-up - his acrimonious divorce from his second wife. Karen Elson. Anger and anguish suit him and fears that as a 38 year-old father-of-two he might have started to mellow are swiftly dispelled. From the savage intensity of the opener Three Women Blues, to the dyspeptic closer Want And Able, there's plenty of sly wit to burnish the anger, but absolutely no growing old gracefully here.

The results are as ferocious as ever, all snarling riffs and howling vocals

White always valued spontaneity - he recorded Elephant, which included the triumphant Seven Man Army, in three days. He spent 18 months on Lazaretto and edited the tracks on computer, something he's never done before. The results are as ferocious as ever, all snarling riffs and howling vocals but denser and more claustrophobic, not least on the tumultuous title track, a screeching tour de force of electronics, guitar and wild fiddle. NW

MUSICREVIEWS



Deep Purple In Concert '72



Rhino



1000 Forms Of Fear



Monkey Puzzle Records

IN MARCH 1972, Deep Purple were about to release Machine Head, an album that would define them and become a heavy metal landmark. Hot, hungry and in their pomp, they marked its release with a live concert for Radio One's Sounds of The Seventies. It was the optimum moment to capture the on stage chemistry of the band's classic Gillan/Blackmore/Lord/Glover/Paice lineup, and the show featured the first live outings for classics including Smoke On The Water and Highway Star. Recorded on eight track, the sound quality is of surprisingly high quality while the performance itself is stellar. NW

SHE MAY HAVE written massive hits for Rhianna and Beyonce, but Sia occasionally finds time to write and record her own albums. Her latest is a rich concoction of classic pop, modern R'n'B, indie quirkiness and rock bombast, all carried by her distinctive vocal range. The soaring Chandelier wouldn't sound out of place being sung by someone like Katy Perry, but Sia's impassioned voice brings out an extra dimension of hurt to what could have been a straightforward power anthem. This is an album packed with pop hooks and up-to-the-minute production from an extremely talented songsmith. DO



Tender Games

Tender Games



Suol

TENDER GAMES IS the new project by German electronica producers Marlon Hoffstadt and HRRSN, head of Berlin-based Well Done! imprint. Unlike much of the dark and doomy techno coming out of their hometown, this duo maintain a good ear for a solid pop hook and a love of old-school soulful vibes. The result is a superb collection of dancefloor fillers and chillout choons that runs the gamut from evening warm-up, through some hard partying to the blissed-out come-down, all within 70 minutes. The main highlight is Lost, a gorgeous neo-soul confection that marries a slick, seventies retro beat to a Prince-style falsetto vocal courtesy of HRRSN. DO



Do you agree with our reviewers? Decide for yourself and listen to some of this month's tunes at www.hifichoice.co.uk

AUDIOFILE VINYL

Specials Specials 180g vinyl



2 Tone



HAVING RELEASED SINGLES including Gangsters as the Special AKA, the Coventry band shortended their name for this 1979 debut released on leader Jerry

Dammers' (recently revived) 2 Tone label. The band went round the country with Madness, the Selecter and others on the 2 Tone tour and created the short-lived, but thrilling ska revival of the early eighties. Specials captured their rebelliousness and political consciousness in its rawest form, neither the material nor the

recording is polished, but that makes the message all the stronger. Produced by Elvis Costello it produced the hit Too Much Too Young, which sounds particularly fine on this release. It's interesting to note how many of the better songs on the album are reworkings of Jamaican ska originals, including Monkey Man, Too Hot, A Message To You Rudy and You're Wondering Now, even two 'originals' owe an awful lot to Prince Buster. But the punk-infected style and upbeat vibe of the Specials is very much their own and was critical to their success and, listening to it now, seems well earned. Trivia tip for this one is that Chrissie Hynde provided backing vocals on Nite Klub. JK

HIGH RESOLUTION DOWNLOADS Laura Mvula with Metropole

ALAC/FLAC 16/44

Orkest Sing To **HOT PICK** The Moon

B&W Society of Sound

A MEETING BETWEEN the Mercury Prize nominee and the hippest orchestra on the planet seems like a match made in heaven and indeed, so it is. Electronics, chamber strings and multi-tracked vocals have been replaced by beautiful arrangements that enhance rather than reimagine the originals, which always sounded like they were conceived with an orchestra in mind. A superb interpretation of an already wonderful album, DO



ALAC/FLAC 24/192

Linn Records

JONES' CLASSIC SECOND album gets the hi-res treatment and more than rises to the occasion. This is the one where she expanded on the easy grooving vibe of her Come Away With Me debut to bring more elements of light and shade to a winning formula. It sounds similar, mainly due to her sultry, low-slung voice, but closer inspection reveals the soulful heart of In The Morning and something close to a hoedown stomp in Creepin' In. DO



Mahler in all his glory on Blu-ray Audio

Sibelius

Lemminkainen Legends; The Wood Nymph, Lahti Symphony orchestra Osmo Vanska

BIS

OSMO VANSKA RECORDED these four Lemminkainen legends back in 1999, and included some alternative earlier versions to the familiar score. Unusually for BIS, the sound was somewhat boxy and recessed - almost as though the orchestra was playing in a subterranean grotto. The present performance has much better sound, and (played as a stereo SACD) is absolutely state of the art in terms of wide dynamic range and extended frequency response. For once, the term 'awesome' isn't hyperbole - just pray your amp and speakers don't bottom out. The sound is also notable for its unforced naturalness and effortless clarity. JH

Mahler

Symphony No 2 'Resurrection' Soloists, chorus, Vienna Philharmonic, Zubin Mehta



Blu-ray Audio Disc

THIS IMPRESSIVE PERFORMANCE of Mahler 2 was originally released on 2 LPs in 1975. It's been out on CD several times - most recently as a single 81 minute disc in Decca's Legendary Performances series, with 24/96 remastering. Now re-released on Blu Ray Audio, it definitely sounds more open and natural than the CD, with less tonal hardening in the big climaxes. Although the orchestral sound remains less vivid than the deliciously OTT Solti/ LSO set, the chorus expands better at the end of the work, and instrumental balances seem more realistic and natural. This disc makes one curious about how other analogue recordings might sound on Blu-ray Audio. JH

BLU-RAY DVD



Gentle Giant

The Power And The Glory

Blu-ray/CS

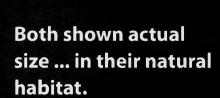
ALUCARD RECORDS

HOT PICK



This cornucopia of a release features 24/96 stereo mixes, with and without vocals.

the original '74 mix also in 24/96 and a Steven Wilson DTS 5.1 master audio version. The accompanying visuals consist of graphics and lyrics that are a little crude next to music that sounds open and fresh on the remixed stereo track. The 8 tracks plus bonuses reveal a talented and imaginative band at the height of its powers, they play an amalgam of rock, folk and even chamber styles that knit together in a surprisingly cohesive manner. JK



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It's time to ditch the wires and start enjoying your music via Bluetooth...

t's a brave new audio world we're now living in, where mobile phones and tablets are just as likely to provide music as turntables or CD players. Best of all, this magic all happens with no cables in sight and no need for a wi-fi network of any kind, as Bluetooth is used to transmit music from your PC or portable device to a suitably equipped DAC that's plugged into your hi-fi.

Wireless DACs are becoming increasingly common and two of the best that we've seen recently have come from the good folk at Arcam. We talk, of course, of the rBlink and miniBlink Bluetooth DACs.

Priced at £90, the miniBlink is small, cute and portable, meaning you can take it with you wherever you go. Best of all, it's as easy as 1, 2, 3 to use. Simply turn your portable device's Bluetooth on, press the miniBlink's only button to pair the two, plug it into your hi-fi and you're ready to rock and roll. Sporting a Burr-Brown PCM5102 24-bit DAC, it left David Price suitably impressed when he reviewed it in last month's issue: "The miniBlink shows you that aptX can be great with a lively, musical detailed and just plain fun sound".

Like the miniBlink, the £160 rBlink was also a Recommended badge winner when it was reviewed back in HFC 373. However, the rBlink is designed for those that want their Bluetooth DAC fixed as part of their permanent setup, rather than carrying it around in their pocket. With a stylish finish that matches Arcam's other rSeries devices, the sturdy black chassis is hewn from brushed aluminium and boasts a digital output for DAC upgrades. Setup is as easy as the miniBlink and under the hood the same Burr-Brown DAC is working its magic. Whether streaming music from his MacBook

or iPhone 4, Lee Dunkley was suitably impressed by the rBlink's performance, noting: "It reveals improved bass timing and an openness and space that makes music extremely engaging".

Both of these superb micro-DACs employ the latest Bluetooth technology from CSR and Arcam called Blue Core 7. This offers lower noise and distortion levels than previous versions. Arcam has further improved performance by adding a serious audiophile digital to analogue converter and analogue stages based on its 40 years of experience. Go to www.arcam.co.uk for

We have three Arcam rBlink DACs worth £160 each, plus four Arcam miniBlink DACs worth £90 each to give away. All you have to do is answer the simple multiple choice question opposite and stick your answer in the post. Good luck!

rSeries



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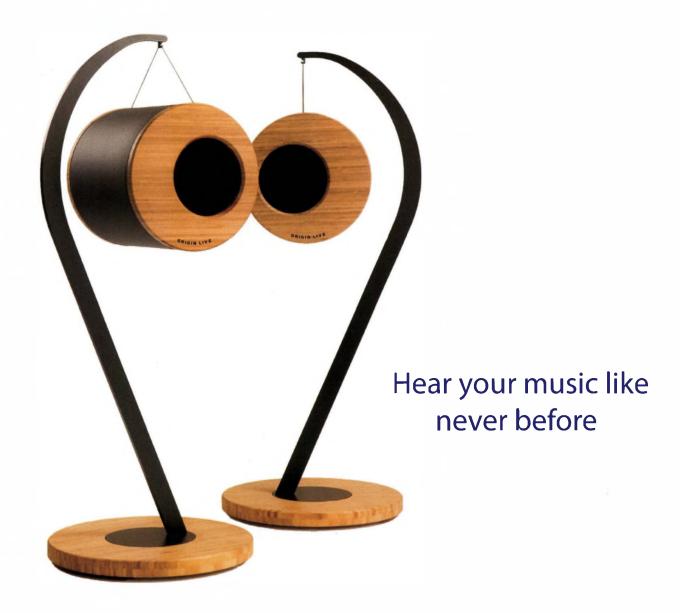
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IsoTek

IS THERE ANY audiophile who still doubts that power cables make a difference? Even the simple expedient of polishing the pins of a standard mains plug with Brasso will yield an improvement to your system's sound, so the full cable assembly is bound to have a real effect. Logically then, different materials used in them will give differing results, and that's why we're seeing a number of quite expensive, fancy designs now coming out. Isotek's new EVO3

Optimum is one such product, and replaces the company's previous GII. It's not an inexpensive cable, so it goes without saying that readers with mid-to-high-end systems should be thinking about investing such a sum on a product like this; budget systems can be improved by diverting funds elsewhere.

Silver service

It's a silver-plated copper design, using Ohno Continuous Cast (OCC) copper conductors of higher purity than conventional OFC copper. Three 3.0mm² conductors each have a square shaped configuration of 40 strands, claimed to increase electrical conductivity. Each one gets Teflon FEP dielectric (insulation), and is then twisted to aid RFI and EMI rejection. This is then surrounded by cotton damping to reduce microphony and then everything is double shielded by Mylar wrap and an OFC copper braid, which is given a tough, heat-resistant PVC outer jacket. IsoTek's own audiophile-grade 24-carat gold-plated connectors terminate it; there's a choice of C7, C15 and C19 IEC varieties. It's fair to say that the quality of finish is excellent even at the price, and the cable has a sense of ruggedness way beyond many such products I've reviewed in the past - it looks like this one at least is here to stay!

Given that Hampshire-based IsoTek has made a name for itself making a wide range of well designed and effective mains power conditioners, it's no surprise that the EVO3 Optimum turns in an



extremely impressive performance even considering its lofty retail price. The improvement it makes over a standard power cable - the sort of kettle lead supplied with your average CD player or amplifier – is profound and should leave no one in any doubt about the importance of getting your mains power in as good condition as possible. Cue up even a relatively lo-fi track like Dub Pistols' Bad Card, a brilliant bit of dubstep that sounds like it's been recorded in a bathroom with 8-bit samplers, and the difference is palpable. Where the song previously sounded scratchy, coarse and somewhat disjointed, the IsoTek brings smoothness, space and a sense of unforced ease that's so profound you begin to wonder if someone has switched your silver disc spinner without telling you. The track becomes tonally fuller, but the bass is tighter and more tuneful. The midband opens up in depth and breadth, only to reveal a lot of fine detail - in this case the scratches from the sampled vinyl record but oddly it's no harsher. Quite the reverse in fact, and this goes for the treble too, which gets sweeter and more spacious.

Running the IsoTek up against similarly priced power cables narrows the gap considerably, but not completely. Indeed, the EVO3 Optimum has a wonderful

combination of natural musical flow to it, and a delicate, open midband that lets the flavour of the recording flood out. For example, a classic piece of eighties pop like the beautiful Thomas Dolby-produced Appetite by Prefab Sprout is rendered sublimely. You can really hear all the different layered synthesisers, even through the wash of sound that is the chorus, and singer Paddy MacAloon's vocals have a lovely, easy quality about them. Indeed, this power cable makes it easier to discern the plaintive feel of the lyrics than other such wires I've tried. Its finesse and insight are normally something you'd expect from the likes of my reference Furutech Powerflux cable, which costs £1,870 for 1.8m. So the IsoTek may be expensive, but still punches well above its price point.

The mains man

An excellent mains cable then, but for higher resolution systems only. Sure, you'll get a nice boost from plugging it into an Audiolab or a Cambridge Audio, but you would do better by spending £600 buying the next model up the range. Those running a well balanced, higher end system will get serious sonic gains, even if they're already using fairly expensive mains cabling. As such, this is well worth auditioning. **DP**

DETAILS £595 2m 07789 307619 soundfowndations. OLIR VERDICT

Alpha Design Labs

ADL-EH008 in-ear phones

A SUB-BRAND OF Japanese company Furutech, Alpha Design Labs originally started to sell entry-level products (most Furutech kit is reassuringly expensive), while maintaining decent quality. But ADL is now creeping upmarket, making ever nicer and more luxurious products from portable DACs and headphone amplifiers to headphones and now in-ear phones such as these. The ADL-EH008 is the company's flagship product in this latter category, and it shows.

Build quality is superlative, better than expected even at this price. There really is nothing to criticise, as it's up there with more familiar brands costing upwards of twice or three times the money. The product certainly confers a sense of discreet luxury, using excellent materials while eschewing the flashy packaging that some Japanese products suffer from. They come in a small zip-up travel case, carefully suspended in dense black foam rubber; although I suspect most will end up coiled around someone's iPhone 5S before too long! Being an in-ear design they have flexible rubber earpieces (in XS, S and M sizes) supplied - these are easy to fit and should work well in most lugholes. A 1.3m connecting cord with 24k gold-plated stereo 3.5mm plug comes as standard.

Ace of bass

ADL says the phones use a special Dual Dynamic Driver, which has been cryogenically treated. Interestingly it comprises an 8mm mid/bass driver that sits behind a 5.6mm titanium film tweeter in a special chamber tuned to give the right amount of bass. These are then set into the inner and outer housings, the former being made from special ABS resin and the latter from light but rigid carbon-fibre. Diamond-cut aluminium end caps add just the right amount of visual interest while avoiding the bling of rivals that seem more interested in 'style' than sound.

The phones are very easy to wear, not least because they're so light at



just 15g. Other vital statistics include a claimed 20Hz to 20kHz frequency response and a claimed sensitivity of 100dB (±3dB) SPL (130mW input at 1kHz) and rated impedance of 19ohms - this means they should sound even and go reasonably loud with the puny headphone output sections that most smartphones and portables now have. And so it proves whether driven by a high-quality headphone amplifier or an old MiniDisc portable, the EH-008 go loud. Construction is excellent, even down to the rubberised signal cable that's refreshingly unmicrophonic.

Alpha Design Labs' house sound is a most amenable one. Whether it's the portable DAC you're testing or the latest phones, there's a crisp performance majoring on detail and rhythmic drive, but with subtlety too. There's definitely the sense that this is a neutral sounding set of in-ear phones. Whether you're listening to The Beatles' White Album or the Dub Pistols' version of The Specials' Gangsters, this little in-ear phone lets you hear it unimpeded in its full glory.

The sound of in-ear phones can vary enormously, depending on the sort of fit they achieve in the ear. In my case they go in as well as any Etymotic and nor do they fall to pieces after extended use. Bass is strong but not overblown, giving agile handling of leading edges of notes; for example

Bassheads' Is There Anybody Out There sounds very finely balanced, fast and engaging – and this extends up to the midband, which is wonderfully clean and open. I really like the way they handle complex pieces of music, failing to fall apart when multiple strands of the mix kick in. This is a highly detailed design that doesn't sound analytical; rather it pieces everything together in a musically coherent way that leaves you wanting more.

Treble without a cause

Treble is a joy; the cymbal work on Going For The One from the classic Yes album of the same name has a lovely metallic sheen to it, as does the squelchy synthesiser work, dripping with harmonics. Even on this dense, tonally rather forward track, this in-ear phone doesn't grate or descend into hardness. It's interesting because you'd never put it down as an overly warm or sumptuous sound, yet it resolutely refuses to sound hard or thin. Rhythmically it stays composed, and proves particularly good at tracking dynamics; no compression is heard. Spatially, the EH-008 does a great job too - as much as you can tell from headphones. Overall then, this is another impressive product from a brand that's fast making a name for itself here. **DP**

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OUR VERDICT



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Taga distribution block and Silver Jaya mains filter that plugs into a spare socket

ISOkinetik

Rosewood Silver Melody headshell

ROSEWOOD MEETS

MAGNESIUM in this top-of-therange headshell upgrade for the ISOkinetik Silver Melody 750 tonearm. However, it's equally suitable for any tonearm that features a detachable SME-style 0.5in connector headshell. It is manufactured for ISOkinetik by Japanese firm Jelco. This is probably why it looks similar to the Koetsu Rosewood Headshell - which sells for a much higher price - as Jelco has supplied arms to Koetsu as well as many other well-known brands. However, ISOkinetik has included some of its own requirements into the Silver Melody headshell.

This is a really beautifully made product and clearly high quality components have been used in the construction. It marries the lightweight rigid strength of magnesium with the warm tonality

of rosewood. A useful feature is the clamping arrangement at the neck to allow for easy adjustment of the cartridge azimuth alignment (ensuring that the stylus is perpendicular to the record when the cartridge is viewed from the front). The headshell also makes use of ISOkinetik's high purity silver wire for the cartridge connections. The finger lift is made from copper with gold plating to give it a really exotic look.

Go with the flow

Swapping repeatedly between the standard headshell and the rosewood headshell on a Silver Melody 750 tonearm seems to add an extra dimension to the sound – in particular with reality and presence. The bass is super-tight and rounded and the sound has all the brilliance and control you could hope for. The music simply flows from the cartridge

into the phono stage with nothing standing in its path.

A 1963 recording of Laurindo Almeida and the Bossa Nova All Stars *Ole Bossa Nova!* exemplifies the improvements offered by the rosewood model over the standard one in terms of clarity and the sense that the performers are present in your listening room.

This is a fantastic upgrade that is well worth the money – heartily recommended! **NR**







KLEI

Copper Harmony RCA plug



AUDIOPHILES WILL BE familiar with the Eichmann Bullet RCA plug with its single-point earth return contact. Now Keith Louis Eichmann, the man behind the original, has launched KLE Innovations to develop some new designs and projects.

The original phono plug was designed over 60 years ago by The Radio Corporation of America (RCA) and has become the standard connector in the audio and video industry, more by default than it being the best choice for its intended use. This led Eichman to undertake a project to redesign this important connector to improve conductivity, enhance signal integrity and generally provide a superior connection.

The first in the range of these new connectors is the Copper Harmony RCA phono plug. The signal and earth pins are silver plated over pure copper and >101 percent IACS (a

relative measure of conductivity by the International Annealed Copper Standard) for enhanced electron flow. The internal connections to these pins are now much standard productions.

pins are now much stronger and are shaped like a tag to facilitate the soldering of small, large and multiple wire configurations. Furthermore, these internal connections have been arranged to maximise the distance from each other and have an anti-shorting shield to ensure that capacitive, inductive and EMF effects are minimised. The head assembly structure has been redesigned to allow an easy snap-like connection to a standard phono socket. Finally, the housing assembly, which is made from a high melting point thermoplastic polymer, uses two grub



cable in place. I can confirm that the internal tags are very easy to solder to and I really like the twin grub screw cable clamp. A very minor niggle is that there is no suitable Allen key supplied (unlike with some competitors' products), but I have one in my tool box so it's not a major concern.

These connectors are an excellent fit into the phono sockets of my amplifier and make an instant perfect connection. This product is really well made and excellent value for money. **NR**



KorgDS-DAC-100 1-Bit USB DAC

PERHAPS BETTER KNOWN for

manufacturing DJ equipment and musical instruments, Korg has recently started launching a number of hi-fi products. The DS-DAC-100 is a USB-only DAC and is the big brother of the portable DS-DAC-100m USB headphone DAC (HFC 387). Although principally designed to drive a pair of high-quality headphones, it has a pair of RCA phono outputs and a pair of balanced XLR outputs. It is a beautifully made unit measuring 207 x 60 x 160mm (WxHxD). It has a striking appearance that is both elegant and stylish perched on top of three spiked feet for support, and comes with matching spike shoes to protect surfaces from damage.

In addition to standard PCM, the Korg DS-DAC-100 supports 1-Bit DSD native playback from a PC or Mac. An audio driver for both Windows and Mac operating systems (downloadable from the Korg website) is required in order to support this mode and the higher sampling rates of audio.

A neat row of LEDs on the front panel indicates the incoming audio sampling rate – the last two LEDs show DSD inputs of 2.8 or 5.6MHz respectively. In the centre of the panel is a good quality rotary control for adjusting the volume of the headphone output.

Gateway to DSD

Korg's DS-DAC series uses similar technologies gained from its experience with DSD recording, and its first DSD DAC was released in Japan in 2012. When used with Korg's AudioGate playback and format conversion software, music is routed directly to the DAC-100 and completely bypasses the computer hardware. The AudioGate software allows for DSD playback, which is a particularly good feature. The software can even convert PCM files up to 24-bit/192kHz to DSD on the fly, using the processing power of your PC to do the work. The AudioGate software is different from other proprietary playback software in that it undertakes much of the





digital-to-analogue processing itself, rather than using the hardware. Although the audio quality in conventional USB DACs is better than using the built-in DAC of the computer as it is more sophisticated, the processing is nevertheless done within the DAC hardware and so the audio quality cannot be controlled. Since Korg's AudioGate software performs the processing that is

If you're looking for a DAC that can play DSD files this should be high on your list

inherent in digital-to-analogue conversion, all of the audio quality can be controlled. By using the computer's power instead of depending on external hardware, the processing can be performed in an ideal and precise manner, which Korg says results in superior audio fidelity. The DAC-100 supports single-bit DSD at 2.8MHz or 5.6MHz and PCM 16 or 24bit from 44.1 to 192kHz. By developing both the hardware and the application, Korg considers that it is able to ensure comprehensive audio quality, even on up-converted file formats.

The AudioGate user interface is easy to use and has a wealth of

information displayed about the audio file being played. Starting off with CD-quality 16-bit/44.1kHz files, I find the performances very enjoyable but not particularly exceptional. However, with the AudioGate software playing higher-resolution FLAC files, the dynamic range is excellent. In particular, with a recording of a Vivaldi Cantata on the album Vivaldi L'Amore Per Elvira by La Serenissima at 24-bit/88.2kHz, the soprano is musical and effortless during the crescendos.

Making a difference

I next play one of my 24-bit/192kHz recordings – Beethoven *Piano Concertos 3, 4 & 5* by the Scottish Chamber Orchestra – and here the higher resolution files clearly make themselves known. The piano, which is always a difficult instrument to record and sound consistently convincing throughout the dynamics of a full-blown concerto, is reproduced with a sparkling clarity and presence that is as good as I've heard.

All in all, the sound quality delivered by the Korg impresses, especially when playing higherresolution files. If you're looking for a DAC that can play DSD files, then the Korg DS-DAC-100 should be high on your audition list. **NR**









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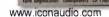
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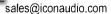


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Chord Company

Epic Twin speaker cable

THIS LOUDSPEAKER CABLE is

a high-performance shielded wire with many of the characteristics of the more expensive Chord Signature. These cables are fitted with a free-floating screening to significantly reduce external interference from reaching the signal conductors. If you consider that quiet passages of music will only be tiny signals, it can be appreciated that this can be an important consideration.

The conductors are two 12 AWG, 19-strand silver-plated oxygen-free copper in a twisted pair configuration. They are insulated in PTFE that Chord considers to be essential to achieving the most neutral tonal characteristic from silver-plated conductors. Each conductor's insulation is coloured to indicate polarity – white with a red stripe is positive and white is

negative. These twisted conductors are then surrounded by PVC to support the dual-layer, high-density braid and overlapped foil shielding. This is then finished off in an external jacket of translucent brown PVC and printed to indicate the directionality. The diameter of the cable is 11mm.

Go bananas

Apart from being supplied unterminated, the cable can be fitted with Chord 24 karat gold-plated banana plugs, direct gold-plated copper spade connectors or BFA Camcon connectors. When supplied with connectors, the colour-coded heatshrink is also printed to show the signal direction.

As with any cable, it requires a minimum of 100 hours to run in before it will perform at its best and my review samples (which are fitted with banana plugs) are run in for this



time. As a result, I am rewarded with a sound from my system that feels open and effortless. In particular, vocals seem to have more detail and all the nuances of expression (including the odd intake of breath) are very evident. Bass is really well controlled and tight, while timing is excellent. To sum up these cables in one word, they are 'musical'. In short, they are quite simply a superb sounding set of speaker cables. **NR**



JAYS

a-JAYS Five in-earphones

SWEDISH BRAND JAYS makes a range of in-earphones designed specifically for listening to music on portable devices. Its a-JAYS Five model comes in three different versions where the in-line remote control is specifically tailored to give full control of iOS, Android or Windows-based smartphones or tablet devices. No matter which operating system you opt for, each a-JAYS Five is priced the same.

The Five in-earphones are presented in a very neat carton that includes a pleasingly comprehensive multilanguage instruction booklet detailing brand ethos and useful info on how to get the most from your earphones. You also get a natty storage case with a built-in cable tidy, a cable clip and five pairs of different-sized silicone earpieces. The packaging has been very well thought through and is superbly presented, and what's more

there's not a hint of cheap plastic packaging anywhere.

The earpiece drivers are fitted inside what the maker calls a 'precision tuned aluminium housing', and covered in flexible thermoplastic to make it more durable. The flat tangle-free cable has an L-shaped 3.5mm connector to plug into portable devices, and is indeed very flat and seemingly tangle free. But it is very mircophonic, and disturbances and knocks as the cable brushes against clothing on your body for example, are transmitted straight to the earpieces. Which is not ideal if you want to wear them while jogging around the park.

Bass heads

They give a claimed frequency range of 18Hz to 23kHz, and there's no question that it is well extended at the lower end of the spectrum. Bass



performance is focused to give plenty of energy and bounce to pop tracks, and Ellie Goulding's Anything Could Happen bounces along encouragingly. It's an entertaining delivery, but shows that the Five is tuned for the energy end of the frequency range, and vocals and mid frequencies seem to disappear into the mix and lack sparkle.

The Five has a silky sound but lacks openness and detail to be successful with a mix of music. A neat package geared for bass aficionados. **LD**



ONKK

ISOO four-shelf system support

THIS IS THE brainchild of Paul Beckett, designer and maker of extremely expensive – and arrestingly beautiful – clocks (see paulbeckett.com). One of life's true eccentrics, this young horologist has just completed a stunning installation for Heston Blumenthal's latest restaurant in London. Oh, and he's a passionate audiophile, too.

With hundred thousand pound timepieces being delicate devices, you'd expect the ISOO to be a well designed product and so it proves, showing both originality and audiophile best practice. It assuredly does not look like traditional hi-fi furniture; our review sample's white satin finish seems more at home in Habitat than an audio specialist. It certainly goes down well with the other half.

It is purposed to separate ground-borne vibration from loudspeakers, from sensitive source components and amplifiers, as well as sinking any internal resonances from the equipment itself. Paul says the idea is for the rack structure to provide a direct path to sink vibration to the floor, while the individual subtables damp it en route to the components. He believes deploying these two strategies in tandem is what gives the ISOO an edge at this price.

The rack is an assemblage of platforms, and you can buy as many as you like to suit your equipment. Each one acts as a cell and forms a path for resonance grounding via a knife-edge at the base and a V block at the top. The upright is damped by a large Acetal washer that, "lowers the frequency of the oscillating nature of vibration below that which can be detrimental", says Becket. An Acetal cam system on each leg locks the platforms laterally together.

Me myshelf and I

Each platform cell has an inner and an outer shelf. The inner shelf is mounted on four Acetal outriggers bolted into the outer shelf that has Acetal cones that seat into Sorbothane-lined cups, which are compressed by the cone. This



compression is key, because it varies the density of the rubber as the cone contacts it; for example at the tip it's heavily compressed, but as wider parts of the cone contact it further along they are less so. This gives the wide spectrum damping needed to isolate the system through the whole audio range, says Paul.

The 25mm MDF platforms are just large enough to accommodate standard hi-fi separates, while the hardwood uprights are available in custom heights to accommodate any scale of equipment and come in a choice of wenge or oak, although bespoke orders are available. Paul says that the woods sound subtly different, so customers can buy to aesthetic or sonic taste. The densest timber, wenge, is said to give the crispest and most transparent sound while less dense hardwoods are better at taming bright systems with their warmer balance. The basic package comes with four shelves (and subtables); spacing is individually specified. There's a no-cost option of a top-table (not shown) if you don't want the top cell configured to accept another level. Construction quality is high, and the racks come in a choice of soft white or satin black.

Given its cute, curvy styling, some traditional audiophile types may fear the ISOO is all show and no go. After all, it's not all shiny metal and big,

tough spikes, is it? However, sonically this could not have been further from the truth – indeed it proves one of the best sounding system supports I've heard at or anywhere near the price.

Supporting a Cyrus CD Xt
Signature transport, Chord Hugo
DAC and Exposure 3010 S2
amplifier, the difference is manifest
over my already excellent reference
supports. The ISOO improves on
both Quadraspire and Audiophile
Furniture systems, with a deeper
and wider soundstage, and bouncier,
more animated bass. Treble
smoothes out slightly, the midband
opens up, and those small
microdynamics that make music so
engaging are better rendered.

Rack and roll

Indeed, the ISOO brings a welcome sense of ease to the music yet sounds more powerful and impactful too. Tonally, there's a cleaning up of the upper bass and a sweetening of the midband, making every type of music sound purer and more expressive. In short, this is a cracking sounding equipment rack that's well able to hold its own against the best of the rest. It's expensive, but still cheaper than its direct rivals and gives nothing away in sonics. An impressive debut for the brand, and we hear there's more to come. **DP**



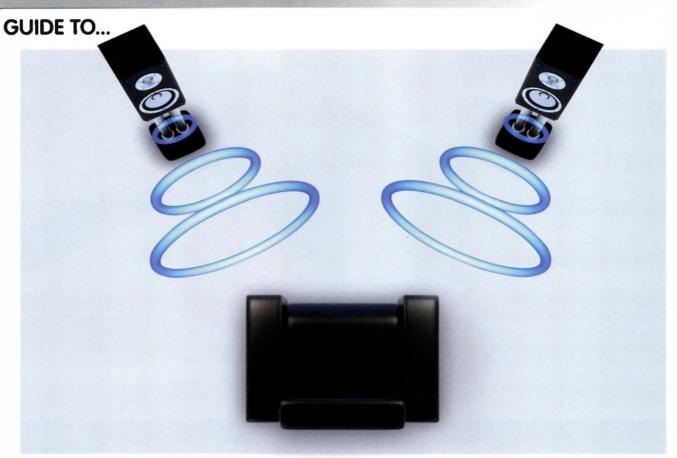


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Tuning your listening room

The size, shape and construction of your room can have a big influence on the sound of your hi-fi. Here's how to get the best from it

hen you have spent a lot of your hard-earned cash on your hi-fi system and paid careful attention to your mains supply, interconnect cables and loudspeakers, it is easy to overlook the last link in the audio chain terminating at your ears – the listening room!

There are, of course, many myths circulating concerning what you should do to your room to make it suitable for listening to your hi-fi. Some people say that you should aim to create what is essentially an anechoic chamber, ie a room where all sound reflections are completely absorbed by the surfaces. This does not address other issues like reverberations, rattles and other unwanted sounds. Indeed, we have also seen it written that you should consider enlarging your room as stretching the length of the walls and increasing the available space will lessen the effects of both reflections

and reverberations. Clearly not a practical solution! Nor is it generally domestically acceptable to fix egg boxes to your ceiling, so that's not going to be a good idea either for diffusing resonances. What's more, they don't even do a good job of that!

Given that very few of us are likely to have a listening area the size of the Royal Albert Hall, we will limit discussions to cover issues that we consider to be both practical and suitable for the home environment. However, before we start to discuss solutions, let's first see what problems you are likely to encounter at home.

Music and movement

Let's first assume that, the signal flowing to your loudspeakers is about as perfect as possible and what you are trying to do is hear the music precisely the way that the recording engineer intended. Your loudspeakers now convert this perfect electrical signal into movements of air and this is where all the fun starts.

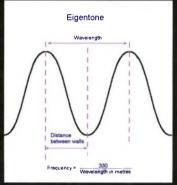
Sound waves are longitudinal waves, the result of the compression and rarefaction of air that occurs in the same direction as the direction of travel of the sound wave. The wave travels at a speed of 330m/s in air at normal temperature and pressure. This speed is an important parameter as this determines what room dimensions are likely to cause problems. The sound wave itself is transmitted by molecules of air vibrating at the audio frequencies that range from about 20Hz to 20kHz. It is, therefore, no surprise that these vibrations, apart from reaching your ears directly, can be reflected around the room and reach your ears a split second later, causing all sorts of undesirable effects. Furthermore, the vibrations can cause sympathetic rattles from the most unlikely of places. For example, listening to a splendid recording of

EIGENTONES

One of the main issues to address in any room are the natural peaks and troughs in sound caused by the room's Eigentones or

The main frequencies amplified in rooms are those that have a wavelength that is twice that of the distance between the parallel surfaces of the walls, ceiling and floor. In a rectangular room, there are three main Eigentones, corresponding to the room's width, height and depth.

If you take a typical room with a floor-to-ceiling dimension of 2.4m and assume the speed of sound of 330m/s, the Eigentone of this is just under 70Hz, and a room of 5m in length will have an Eigentone at 33Hz.
These are very much in the bass region so
you can see why it is such an important



factor. This, and all the sub-harmonics will cause nasty peaks in the bass response if untamed by other factors.

If the Eigentones are causing problems, a well-designed bass trap can be the answer. Also, changing your listening position and speaker positions can help. If you are hearing a boomy bass, for example, try moving your chair forward or backwards a few tens of centimetres. You will be amazed at the difference!

Saint-Saëns' Organ Symphony No. 3 we found that the sustained organ notes in the first movement produced a weird howling in sympathy in our listening room. Eventually we located the cause - the notes around 16Hz (we know, we measured them!) were causing sympathetic vibrations of the sash windows, even though the windows clamps had been tightened. The cure was simple - a few pieces of folded paper were wedged at strategic points in the side tracks of the windows and all was well.

Shake rattle and roll

So that brings us nicely to our first tip - check your room for rattles. Play some music that contains a good range of bass notes at a moderate level and walk around your room, listening for anything untoward. You may well be surprised by the culprits - a plate on a table, a picture on a wall or a scurrilous plant pot have all been known to jive noisily along to the music, in our experience.

Now that you've battened down the hatches, as it were, it is time to look

at other issues. All rooms have naturally occurring resonances called room modes, standing waves or Eigentones. These Eigentones are one of the main causes of acoustic distortion below the fundamental frequency of the Eigentone and result in peaks and troughs in the frequency response. These can be as much as 20dB or more - but more about these later.

Some of these negative effects can be mitigated by good loudspeaker design. For example, these unwanted room resonances store energy and decay slowly compared to nearby frequencies causing audible problems such as 'one note bass' and 'boominess'. One of the many parameters involved in loudspeaker design (called Thiele-Small parameters, after Neville Thiele

Some manufacturers recommend a specific distance for speaker separation

and Richard Small from their work in the sixties and seventies) is the 'O' factor. This is the name of the 'goodness' or 'magnification' factor by which resonance is magnified or attenuated by the loudspeaker. If the damping is too great, the system Q is low and a dead and thick sound will be the result. If there is not enough damping to control the Q resonance sufficiently, the sound will be boomy. A good loudspeaker will take the domestic environment into account and often have a Q factor of about 0.6 - 0.8. Obviously, some loudspeakers are better than others at

this. Fans of transmission line speakers will know that the design is very good not only for controlling the loudspeaker's bass driver natural resonant frequency, but also for reinforcing frequency response below that resonant frequency and in a controlled manner so the room doesn't get too excited. So tip number two choose your loudspeaker to suit your listening environment, if you can. If your supplier can offer a home trial, take full advantage of it.

OK - so you've already got your loudspeakers, but correct positioning of them is also extremely important. If you position the speakers too close to a wall, it will

One of GIK Acoutstic's free-standing acoustic panels





Q&A Glenn Kuras

President, GIK Acoustics

HFC: Are there any simple tests you can do to identify trouble spots?

GK: There are two ways I would recommend. As we all know, rooms have mostly low-end problems and corners are the best way to deal with them. We have a pink noise file on our website (download at: gikacoustics. com/pink noise.mp3) to test each corner to find which have the most bass problems. You play the file through your speakers and use a SPL meter to walk around the room to test each speaker. As you find areas that have the greatest build up you can place bass trapping there.

The other way to test the room is to use a program like Room EQ Wizard. This is more complicated, but will show you frequency response, decay times and so on. There is a video tutorial on our website: gikacoustics. co.uk/room-eq-wizard-tutorial/

Are there rules on where to place bass traps for maximum effect?

We always recommend trapping in all wall-to-wall corners, behind the speakers, and also corners in the back of the room. We've found that people often overlook the wall-tofloor and wall-to-ceiling corners, so we have a helpful article about all available corners: gikacoustics.co.uk/ mounting-bass-traps-corners/.

What is the first thing to address when setting up your room?

The first thing is your listening spot. Whenever possible, we recommend facing the short wall in the room and sitting 38 percent from the front wall or 38 percent from the back wall. Your speakers should be equal distance from the side walls and you should try to avoid having openings on one side of your speakers and a closed area on the other. Symmetry from where you're sitting to the front wall is vital.

GUIDE TO...

tend to reinforce the bass at particular frequencies - not a good thing! Obviously, having them too far away from the wall is impractical, but try to aim for at least 30cm as a starting point. Also, ensure that the distances of the speakers from the back walls and the side walls are different. If they are the same, the inevitable reflections from the back walls will tend to either reinforce or cancel the reflections from the sides, creating another potential source of peaks and troughs in frequency response. Another issue is the apparent soundstage depth. Increasing the distance from the speaker to the wall behind will increase depth, but this can have a detrimental effect on instrument focus. A trial and error approach will help determine the best positioning for your combination of room and loudspeakers.

Pay attention to your manufacturer's recommendations regarding which

Aim to have your ears at a similar height above the floor as your tweeters

speaker should be on the left and which on the right. Many designs place the tweeter off to one side in the cabinet and the speakers are often arranged so that each tweeter is on the outside edge for best image placement.

Toe-in the line

Another factor is what is termed 'toe-in' or how much the speakers are angled towards the listener. This is linked to the distance the speakers are set apart and some manufacturers recommend a specific distance for speaker separation. Use this as a starting point if your room size permits - increasing the distance between the speakers will widen the soundstage until, at some point, the centre image becomes more vague. Decreasing the separation will narrow the stage and increase centre focus. Aim for an even spread of instruments across the soundstage.

Just as important as speaker positioning, you need to be equidistant from both loudspeakers aiming to form an isosceles triangle with them. You may find that moving your position forwards or backwards will increase or decrease a particular bass response due to sound reflections and standing waves. Again, the best position will be determined by experimentation. Finally, as a general rule, aim to have your ears at a similar height above the floor as your tweeters.

Now, having got you and your speakers in the correct position, what can you do about room resonances?

A room's Eigentones are standing waves that occur between parallel surfaces as a result of the room's dimensions. These and other room resonances can be alleviated by careful positioning of furniture, like sofas and chairs. What you are trying to do is to avoid large areas of reflecting surfaces if at all possible.

Another approach that can be quite effective is to use acoustic panels from a reputable manufacturer. Such items are known as bass traps and, when used correctly, can be extremely effective at taming the most excitable of rooms and stop them from humming along to the music!

If your hi-fi is situated in the same room as your speakers, the sound can be fed back into the audio chain from your speakers. This is most obvious with record decks and it is important that these, along with your other items of audio equipment, are sited on isolation plinths to minimise this effect.

On reflection

Accurate image placement within the sound stage is compromised by reflected sounds. Direct sound from your loudspeakers is the first to arrive as it is the shortest path to your ears and, fortunately, your brain tends to use this to form a view about the positioning of an instrument. The Haas effect, also called the precedence effect, is a psychoacoustic effect described in 1949 by Helmut Haas. This states that when a sound is heard i both ears but arrives at different times, the brain localises it based upon the first arriving sound. This holds true if the subsequent (often reflected) sound



ACOUSTIC TREATMENT MYTHS

As with many things in life, there are a lot of myths and 'cure-alls' out there that promise to fix all of your listening room ills. Here is a list of acoustic treatments that don't really cut the sonic mustard.



The origin of this myth comes from the similarity between the shape of the underside of an egg box and the pyramids and wedges that are affixed to walls of recording studios and anechoic chambers. This leads many people to think that their

unused egg cartons would work in a similar fashion. In reality, they don't. The actual shapes and the material that they are made from are hugely important (for example, with the right choice of material, an anechoic chamber can be made to work for electromagnetic wave Sadly, as an acoustic treatment, egg boxes will only absorb sounds and they do that rather badly too!

Hanging rugs on the wall
All that a heavy wall covering will do is potentially tame highfrequency ringing and this will only be an issue if you plan to use
a fully tiled bathroom as your listening area. In any case, vacuumcleaning it will be a nightmare!

There are many companies that offer acoustic foam absorbers and the like. Although foam does address some aspects of a room's acoustics, it does tend to be at the upper frequencies only and given that most people's problems will be to do with bass resonances, it's not going to be a great deal of help.

Installing and filling bookshelves
There is a view that a well-stocked bookshelf or bookcase will sort out room-induced nasties without looking out of place. In fact, the best they can do is absorb sounds generally, but they don't really address the problem frequencies. You would do far better to use proper proprietary bass trans proprietary bass traps.

As with tuning an instrument, room tuning helps your hi-fi setupsing

arrives within 40 milliseconds of the first, even if the second sound is louder than the first. However, sound arriving later does tend to blur the image and, therefore, reflected sound should be minimised where possible. Here again, furniture and acoustic panels strategically placed can help with this - this is always a case of trial and error.

It is important to remember that room tuning is not an exact science as there are so many factors that have an effect. Of course, your listening room is likely to be one used for other purposes, such as a family or sitting room and, therefore, any changes you make to a room layout must also be domestically acceptable. The important thing to remember is that experimentation and a little common sense are the keys to success. Even an apparently small change in the speaker or listener positioning can have a huge effect and may even save you money if you are thinking of replacing your speakers to counteract a deficiency that is actually caused by your listening environment. Happy tweaking!

NEXT MONTH: Guide to iTunes. How to get high-quality audio playback from Apple's music software.

MWA-RC Magnetic Wave Absorbers



"Dynamics in the music seem to be more refined with the Magnetic Wave Absorbers fitted and the music flows more smoothly. This is an excellent value accessory for your hi-fi system"

HI-FI Choice, October 2013



These simple yet effective products from Oyaide in Japan have been designed to add further improvements to the equipment and cabling in your system.

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POWER supply for Class A amplifiers, self contained, suits John Linsley Hood's or any low power Class A amplifier, £279. Pair of used SEAS 10in drivers, £99: **0207 499 8729.**

MARANTZ CD17KI

Signature – CD player, black, excellent condition (no marks), remote, manual, original box. Digital/analogue out. Internal volume control. £325: 0207 4998729or email: SiLoPeRi@gmail. com(Hornchurch).

AMITY HPA4X headphone amp with L&R volume controls (cost £350) £140. Two pairs of SoundStream 99.99% pure copper speaker cable terminated, 7ft pairs, never used, half price at £25 a pair. Will post: 0177246 8116 (Leyland, Lancashire).



EPOS M5 speakers. Stunning cherry finish, boxed, never used, free stands £195: 07747 390307 (Wiltshire). **LEAK** 2075 speakers, excellent condition, no scratchers, can demo. Collection only due to size and weight £650:

01472885413oremail: bilton1234@virginmedia. com(Grimsby).

ROKSAN Kandy K2 integrated amplifier, in black, 17 months old, perfect and as new and boxed. £595. Would prefer demo and collection to posting: 01132188797 (Leeds).

SPENDOR S3/5R² black speakers £400. REL T3 Sub, black £200. Linn Pekin tuner, black £150. All unmarked and perfect working order: **01952 728773 (Shropshire).**

STAX SR-007 reference system, ie: SR-007 electrostatic earspeaker with matching SRM-00711 direct coupled dual triode vacuum tuber energiser. Original owner, absolutely new £2,200 ono: 01505346791 (Renfrewshire).

ATACAMA Eris Eco 5.0 rack, brand new, unused. Silver with dark oak shelves



WANTED Chord Signature speaker cable, 4-5m or over: **01475529216 oremail: Lporsche997@aol.com.**

(bamboo) £300. Base 225mm, mid and top 175mm. Collection only: **079388 35982 (Middlesex).**

ARTEXPRESSION

loudspeakers. Black finish; virtually new condition.
Superb sound! Complete with matching stands, boxes and paperwork. Will demonstrate. £950: 07736339194or email: j.boswell@rbht.nhs.

uk (Bromley).

SONUS FABER Concertino speakers with Sonus faber Piano Black fluted stands in excellent condition, with original boxes, £695. Musical Fidelity X-Dac v3 £250. Pair 3m bespoke Silver High Breed Quintessence speaker cabled, banana termination, £95: 02476 6791650r

email: davidhirst244@ o2.co.uk(Coventry).

MA1 one metre pair stereo interconnects, rave internet reviews £35: **01243528010** (WestSussex).

ART Stiletto speakers (pair), slim floorstanders in maple finish, wonderful sound and in excellent condition with original packaging, grilles etc.

£475 ono: **01925572936** oremail: whites**96**@ virginmedia.com (Cheshire).

Q ACOUSTICS 2050i speakers for sale, white gloss finish, immaculate condition, £400. Buyer to collect: **07940 659384** (Brighton).

ORTOFON MCA10 battery-operated preamp, excellent condition comes with new batteries. 1x Ortofon MC10 Super cartridge, boxed, plays well, but may need a re-tip (no way of checking), £50 including postage. 1x BTE passive preamp, 3inputs, American Walnut, excellent condition, very little use, £50 including postage: 01382 644815 (Dundee).

NAIM Nait 5i integrated amp in excellent condition original box, still under warranty receipt provided, £499: 07967122765.

YAMAHA YSP 2200 sound bar and subwoofer, all cables and leads and instructions, only 18 months old (RRP £750) £390: 01294 822562 (North Ayrshire).

VPI Scout 2/JMW 9T/Linn Klyde. £1,750 ono:

02084649044.

GALE 401 speakers with chrome ends, fully reconditioned, original paperwork and boxes, first reasonable offer secures. Sadly they must go:

O1825722936 or email: spartridge37@btinternet. com(Sussex).

MICHELL Gyro SE with Origin Live Rega RB600, Goldring 1642. Mint condition



REGA Apollo 35th Anniversary Limited Edition in black (VGC, light use) £375. Rega Mira 3 integrated amplifier in silver (Best Buy, *Hi-fi Choice*, Class B, Stereophile, immaculate with a great phono stage – less than a week's use, bought in 2012) £300. Both boxed with remotes. Focal Profile 908 standmount speakers in Classic finish with matching Focal S908 stands (Best Buy, *Hi-fi Choice*) £395: **07920101740 oremail: SiLoPeRi@gmail.com (Hornchurch)**.

EUYING TIPS BUYING SECOND-HAND can be a great way to pick up a bargain. A formerly expensive second-hand component might well prove a better long-term bet than a brand-new product if the price is right. **DO SOME RESEARCH** on which brands have a good service back up, so if something does go wrong, you can get it fixed. Unless you purchase from a dealer, you're unlikely to get any warranty, so it's up to you to ensure the fitness of any gear that you buy. **USUALLY** speakers should be less prone to breakdown than amps, and amps should be more reliable than CD players. But any abused component could be trouble – have a proper demo and judge the seller as well as the goods!



AUDIO RESEARCH CD5. Mint. £3,500. Plus complete high-end system for sale: **07899721899 or email:** yatestherapy@googlemail.com(London)

£875. Audiolab 8000 Q (British) £280. Audiolab 3000P £180. Acoustic Energy AE1 Classics £575. All mint condition: **01484 427426** (West Yorkshire).

ARCAM irDAC £195, mint condition and boxed:

02392453382 (Havant).

WANTED Technics DVD stereo system SC-DV-150 or later version. Good condition essential. Quadrophonic amplifier also desired: Sansui QRX 9000 or 999 or Pioneer equivalent: 01985213952 (Wiltshire).

ATACAMA Equinox hi-fi rack in piano black with glass shelves. Five shelves and not four in mint condition (RRP £430) £150: **07905348812** (Watford).

WANTED Quad 50E mono amplifier, must be in good working order:

07946522644 (Sheffield).

REGA Brio amplifier. Two years old, moderate usage £300. Monitor Audio BX5 Floorstanders, two years old, perfect condition £250:

07908945608 (Batters ea).

ATC integrated SIA2150 mint condition, superb sound, just £1,250: **01225706783** (Wiltshire).

AKG VQ701 Quincy Jones Signature Line Headphones in white, one and a half years old, mint condition, boxed (£340 new)£170:**07905348812** (Watford).

AERIAL ACOUSTICS

10T speakers in Rosewood (£8,000 new), asking £2,200. Lexicon processor DC2 (£4,000) VGC £950:

0152614055 (Fleet, Hants).

NORDOST Red Dawn RCA interconnects. Superbly transparent sound, mint condition, were £300 will take £100: 01484 427426 (West Yorkshire).

WANTED four track tape deck or recorder for up to 7in spools: **01535661278** (West Yorks).

PINKTRIANGLE LPT Rega £300. Musical Fidelity E100 Electa amp, E600 CD, E50 tuner £550. Linn Index speakers £70. Sony Sports Walkman £25: **01708457691** (Ess ex)

CHORD Signature links x4, brand new, unused (cost £90) £60. Chord cobra Plus sub lead, 10m (cost £147) + 3m (cost £70) £100 for both + p&p. Russ Andrews RGB Scart (cost £200) £60: 01772 812992 (PrestonLancs).

STAX SR-007Omega Reference system (ie SR-007 electrostatic earspeaker with matching SRM-00711 direct coupled dual triode vacuum tube energiser), original owner, absolutely new£2,200: 01505346791 (Renfrewshire).

ARCAM CD37/SACD player (black) £699. Roksan Kandy K2 integrated amplifier (silver) £550 and K2 CD player (silver) £550. Both only months old with latest remote control RMX-111. Denon TU1800 DAB/FM tuner (silver) £175. All items in immaculate condition with original boxes: 02380738935 oremail: golf3385@hotmail.co.uk.

EAR 509, Mk 2. Pair of mono valve amps, 100W per channel. Very good condition, late eighties, little

use. Can demo. Buyer to pay postage or collect, £2,000:

07527 567829 or email: abaird2011@btinternet.com(Berkshire).

MUSICAL FIDELITY A1

integrated amp (2008), A1CD both in excellent condition and boxed. £1,000 for both ono. Will split: **07791529128**.

QUAD 99 System consisting of amp, preamp, CD and tuner in original boxes, mint condition, complete with leads and remote control. Prefer buyer collects. £800 ono: 0208 8576346 or email: pp.marder31@ntlworld.com(Bromley).

NAKAMICHI DR-3 cassette deck (only 6 tapes ever played/rec) including 10x TDK SA90-2xTDK MA90 blank tapes unopened and 2x 1m pairs of QED silver spiral interconnects(for play/rec). Includes original box and manual, £165: 01202515474 oremail:johnlangley17@ talktalk.net.

MARANTZ Champagne PM 7200 KI amplifier in mint fully working order. C/W KI certificate, manual, remote and packing carton, £300: 07505920373 (Warington).

CHORD Indigo Plus Digital 2M RCA-to-RCA £300 and 3M of same £350, excellent condition can demo.
Upgraded to tuned array:
02380470107 or email:
lesliestubbs@tiscali.co.uk.

PMC GB1 compact floorstanding loudspeakers, immaculate cherry veneer, in original boxes, £450:

01403255153 oremail: richermail@aol.com (West Suss ex).

REGA Elicit R amplifier, 6 months old, as new condition. Complete with original packaging and receipts. £1,200: 07933 109234 (Leic est er).

MUSICAL FIDELITY

V-DAC MkII £80, X-Cans MkI £40. Headphones: Grado SR80 £40, Sennheiser HD580 (minor cosmetic issues) £35. Townshend Seismic Sink platform black £95:

O7931571915 or email: tjjohnston@atlas.co.uk (London).

CHORD Anthem 2 RCA interconnects, 1 metre, boxed, 2 pairs (£300 per pair). Chord Epic Twin speaker cable, 3 metres (£350). All as new, £150 per pair. Linn Ikemi CD player, immaculate (£2,200), £550. Buyer collects:

07870159725 or email: johnsidebottom@hotmail.co.uk(Som erset).

PROAC Speakers Response D1 for sale. Cherry finish with black grilles. As new £850. Buyer to collect: O1628 626085 or email: dandlpotter@indosmail. com (Maid enhead).

KIMBER Select 9033 number set with super burn in £250. Kimber Orchid digital XLR 1/2m £130. Kimber HD19 HDMI cable 0.75m £50. Isotek Sigmas mains conditioner £800:

O1772 314151 or email: Jamesmckendrick@ btinternet.com (Lancashire).

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CYRUS Pre VS2 Preamp, PXX-R Power supply and DAC X, Silver, original Boxes. VGC 4/5 years old. Will ship by post if required. £650, will split if required: **01946862815 or email:** paul.derrington@outlook.com(Cumbria).

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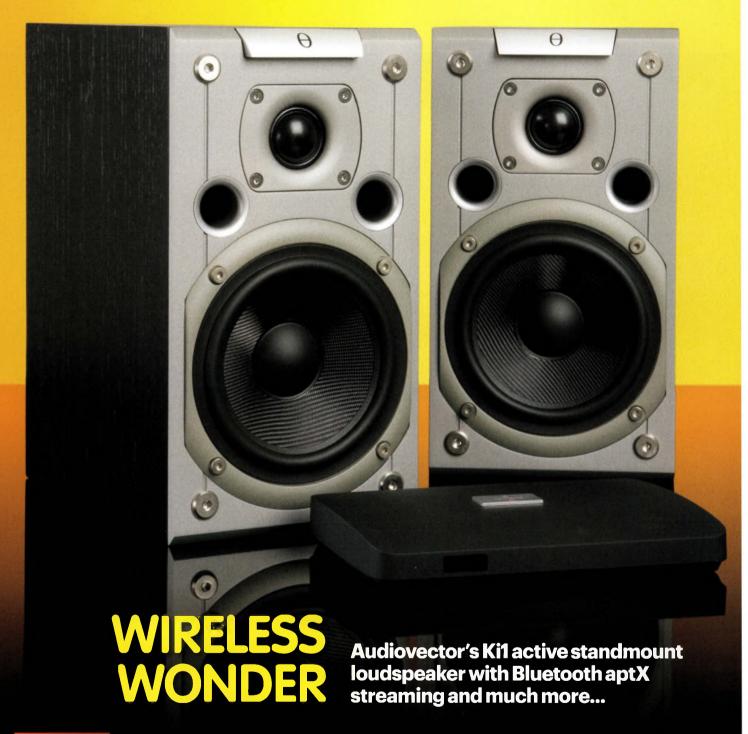
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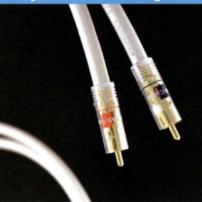
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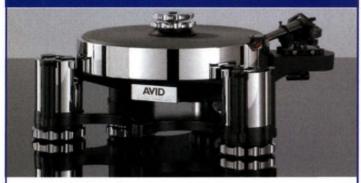
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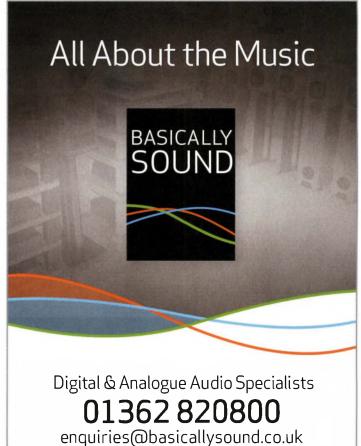
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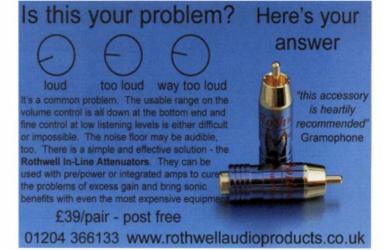


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WE HEAR...

THERE'S AN EMBARRASSMENT OF RICHES AS far as mid-price floorstanding speakers go. The new Epos K2 tested in this issue only adds to a wide variety of choice in a hotly contested sector. Our spies tell us a new K3 is currently being worked on, using the same 2.5-way configuration as the K2, but with bigger 162mm drive units. "Production will begin soon, and they hope to have them out in time for the beginning of the session", says our man in the know!

MIYAJIMA-LAB IS ONE OF JAPAN'S BEST kept secrets. Beyond the land of the rising sun's electronics giants lie a number of specialist manufacturers that British audiophiles rarely get to hear about. Founded back in 1980, Miyajima-Laboratory makes a beautiful output-transformerless power valve power amp and matching preamplifier, as well as a range of excellent handmade moving coil cartridges, which have won international plaudits. Now, the cartridges are on sale in the UK via Timestep Distribution, although lack of CE approval means that the electronics aren't coming over with them.

THE AUDIO SHOW EAST IS COMING TO Ipswich, running from 29th to 30th August at the Trinity Events Centre. Hi-Fi retailer Signals is sponsoring the event, which will see a whole host of new launches and key product demos from Arcam, Chord Electronics, Kudos, Naim, PMC, Rega, Sennheiser and Roksan. Entrance and parking are free. Go to: signals.uk.com/show for more details and pre-registration.

THROUGH THE PAST, SMARTLY...



HI-FI CHOICE ISSUE 62 SEPTEMBER 1988

Take a look at the news pages backin 1998 and you'd be forgiven for thinking that the future of music playback might revolve around some sort of futuristic portable device - if you can imagine

such a thing. Aiwa released four personal stereos, bringing its range of portable cassette players to 18. The Japanese manufacturer claimed a 10 percent share of the market and with "boogie boxes" ranging from £60 to £90, appeared to have something for everyone. Sharp, meanwhile, was causing ripples of excitement with its "trendy" rubber material stereo, which we curiously reported as being "obviously targeted at a specific market area". The JC-K15 included innovative features such as a bass boost system, anti-rolling mechanism and Dolby noise reduction. Finally, Sony was hoping that its Video Walkman would hit stores in early 1989. Weighing 1.1kg and 3in thick, it promised a tantalising view of the future... In the music world, Yazz was at number one with

The Only Way Is Up, keeping someone called Kylie Minogue off the top. Whatever happened to her?



HI-FI CHOICE ISSUE 146 SEPTEMBER 1995

The second cassette deck roundup of 1995 appeared to be an apt point to consider what lie ahead for the (then) future. Pioneer was in the process of launching

a "domestically priced"
CD recorder alongside its
96kHz-sampling DAT system in the shape of the amazingly sexy" D-C88 portable, which at £2,000 "opens up the opportunity for home and semi-pro users to make live recordings of true audiophile quality". Meanwhile, Sony continued to fine tune MiniDisc technology. The latest success for the format was the release of a "high-tech jingle player for radio broadcasts", but as our reporter sagely concluded "If MD became a widely adopted computer data storage medium it might stand a greater chance of success with the general public". Finally, Philips was "lumbering" on with its Digital Compact Cassette (DCC) format, which was described as "withering on the vine"

The singles charts were dominated by atrocities from Simply Red and Wet Wet Wet (Fairground and Somewhere Somehow respectively) and something called DVD and ebay launched...



DESERT ISLAND DISCS

This month Tim Chorlton Analogue Works co-founder picks four of his all-time favourite long players...



MUDHONEY UPERFUZZ BIGMUFF Mudhoney did not invent grunge, but this was the first album where all the ingredients came together. This album reminds me of my

days at university



FAITH NO MORE I passed my driving test in 1988 and L wore out four tapes of this album on my Mum's car stereo! It was an expensive summer, but worth every penny.



PRIMUS SAILING THE SEAS OF CHEESE Les Claypool is the go-to man for mucho bass backed up by the similarly talented Larry Lalonde on guitar and Herb on drums.



FIREHOSE FLYIN' THE FLANNEL I worked and travelled around the US in the early nineties. These guys were the most memorable band I saw and this album led me to them.



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Scorpio 25 plus+

The 25plus+ Features

- 1. In the woofer chamber a highstrength, open-cell Ceramic foam with a pore proportion of more than 85% replaces the previous damping material = more control, more precision and more deep bass
- 2. Optimised frequency dependent damping in the midrange driver chamber = higher resolution, better spatial imaging and increased homogeneity
- 3. Revised crossovers with selective measures against micro-vibrations = much higher resolution, better spatial imaging and increased homogeneity
- 4. New internal wiring, integrated in the refined adjustment = improved tonal balance
- 5. Terminal with plus+ signature

price from £5100



"No loss of fine detail"

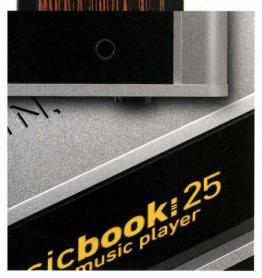


Avantera plus+

It's really the minute details that make the task a challenge. In attempting to improve a recognised first-class product, AUDIO PHYSIC looks at all the elements that come together in a loudspeaker. Thus AUDIO PHYSIC managed to develop loudspeakers that do not display a cosy (wooden) cabinet sound and, conversely, as a result, once again brought the performance of the drivers and crossover technology to the fore. This laid the groundwork for the worldwide unique HHC midrange driver and tweeter that are already successfully deployed in AVANTERA and other AUDIO PHYSIC loudspeakers.



price from £13700





LINDEMANN. musicbook: 25 network music player & CD Drive £3890 Streaming & beyond listen. relax. enjoy.

The musicbook 25 is a network music player that perfectly handles not only high-definition music playback on a home network, but CD playback as well. All functions—even on the CD player—can be remotely controlled using an app (iOS and Android).



audioemotion

www.audioemotion.co.uk tel: 01333 425999

Vena Compact Digital Amplifier





Quad celebrates 77 years of audio innovation with the launch of Vena: a compact integrated amplifier sporting a wide range of digital and analogue inputs, plus superior-quality wireless streaming over Bluetooth with aptX support. D/A conversion is handled by the same high-performance 24-bit/192kHz chipset used in the company's acclaimed Platinum CD players and, as one expects of Quad, the Class AB power amp section is of the highest quality. With a range of finish options to suit any setting. Vena is an exceptionally neat solution for superb sound from any source: from smartphones, tablets, PCs and Macs to traditional hi-fi separates.



