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INTRODUCTION





PSB Imagine T loudspeakers



Bob Dylan The Official Bootleg Series



EDITOR'S CHOICE: Awarded to those products that are judged to deliver outstanding performance

RECOMMENDED: GROUP TEST Products that we feel meet a high standard of performance we feel meet a high standard of performance wink this badg



As the nights begin to draw in and we recognise the end of what has been a welcome yet somewhat surprisingly sunny summertime for Britain, our thoughts turn from trimming the lawn and generally keeping the garden in shape, to cosying up in front of the fire and settling down to listen to our

treasured music on our much-loved systems.

The summer months aren't typically a great time for the hi-fi industry, with potential purchasers looking towards financing a two-week family holiday or buying garden furniture rather than a new integrated amplifier to boost their hi-fi system – speaking of which there are six very fine mid-priced integrated amplifier models in our *Group Test* this month, starting on page 24.

Autumn is a much better time for the hi-fi industry and traditionally triggers the start of the hi-fi show season. And what better way to kick start the coming rush of events than The Hi-Fi Show – a speciality high-end event brought to you by our sister title *Hi-Fi News & Record Review* and, of course, *Hi-Fi Choice* – running from Friday 25th to Saturday 26th October 2013 within two conference centres in the grounds of the Beaumont Estate in Old Windsor, Berkshire. For more info about ticket sales for this inaugural event see page 14 or visit our website at www.hifichoice.co.uk and follow the show link.

Finally, the first of the *Hi-Fi Choice* Writing Competition entries appears on page 66. Congratulations to the first writer to impress our judging panel and make the shortlist. We've been amazed by the great entries and images showing us your systems and will continue to share our favourites over the coming months.

Lee Dunkley Editor



HADLOW HOUSE, 9 HIGH STREET, GREEN STREET



hifichoice.co.uk Issue No. 377 November 2013

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GROUP TEST







Audiofile: Tivoli Audio Music System+



Music reviews: The Beach Boys

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"There is always the sense that you might be about to punch a hole in the fabric of spacetime"

Bose SoundLink Mini Bluetooth speaker 105

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Never miss an issue - turn to p20 for our latest subs offer



Design for life

Tivoli Audio introduces its new all-in-one Music System+ with CD player, DAB tuner and wireless Bluetooth connectivity

PRICE: £699 AVAILABLE: NOW CONTACT: 0800 0470487 WEB: TIVOLIAUDIO.COUK

Tivoli Audio

Measuring just 36 x 14 x 22cm and housed in a hand-crafted wooden cabinet, the Music System+ combines timeless design with future-proof technology

MUSIC SYSTEM+ TIVOLI AUDIO



WE ALL WANT great sound from music systems around the home, but space practicalities, looks and price are often set against us when it comes to achieving our goal. Tivoli Audio may well have the answer with the introduction of a new compact audio system to its Music System series. Measuring just 36 x 14 x 22cm (wxhxd) and housed in a handcrafted wooden cabinet, the Music System + combines timeless design with future-proof technology, the company claims.

The stereo Music System+ incorporates a CD player with a slot-loading mechanism (compatible with CD-R/CD-RW discs and MP3 and WMA formats), FM/DAB/DAB+ radio tuner, and a digital clock radio with snooze and sleep timers and two independent alarms. There's no mention of power output from the built-in amplifier driving the front-facing stereo speakers, but bass output is aided by two rear-facing bass ports as well as a downwardfiring subwoofer that is level adjustable via a control at the rear of the unit. SpacePhase technology is included, and "produces an expansive soundstage that envelops the listener in sound", claims Tivoli

A headphone jack on the front panel and aux input around the back provide connectivity to external sources, while Bluetooth technology using A2DP aims to bring the Music System+ up to date for anyone looking to connect to Bluetooth music devices like a smartphone or tablet.

Supplied with a remote control, the Music System + is available in walnut/beige (shown left), black ash/ silver and cherry/metallic taupe. It's available now costing £699.

COMMENT

TAPE THAT AND PARTY

The hi-fi industry is one of the few where enthusiasts still have a passion for the past. Take home cinema fans for example, though some still maintain that Laser Disc was always superior to DVD, you won't find the same level of enthusiasm for the now defunct format as you will in the hi-fi world for, say vinyl. Turntables are still widely available and records remain easy to purchase. If you want to buy a movie on Laser Disc it'll have to be one that was released before 2002 and you'll need to get a secondhand player to watch it on.

Vinyl remains popular and has enjoyed a more widespread renaissance of late (among the general public) thanks to events like Record Store Day. This annual event sees artists release specially produced (often rare) pressings of their music and special events held in record stores the world over.

As CD starts to become eclipsed by digital downloads, it's difficult to believe that it'll be looked back on with the same misty-eyed enthusiasm. But aren't we forgetting something, what about the humble cassette?

Although there are clearly people that have a soft spot for tapes, they are not nearly as popular as vinyl, which is strange. The cassette was an incredibly flexible format that arguably sounded as good as vinyl (check out this month's *Retro* feature on page 88 if you don't believe us) and was used by pretty much everyone at some stage to put together their own playlist (they were called mix-tapes back then).

The good news is that the cassette is enjoying a resurgence. Numerous record labels including the likes of Warp, Domino, 4AD, Witchita Recordings and Bella Union to name but a few still release albums on cassette, and more and more artists are making their music available in this old-school format. Better still, the first ever International Cassette Store Day will have taken place by the time you read these words. It'll feature a series of special events in music stores across the world and numerous special limited-release tapes from a wide variety of artists. Time to dust down your tape deck and stick 7 September in the diary for next year. CASSETTESTOREDAY.COM



Onyx is object of desire

Harman Kardon adds wireless mobile audio speaker system to its range



PRICE: £430 AVAILABLE: OCTOBER CONTACT: 01707 278113 WEB: UK.HARMANKARDON.COM

NAMED AS THE best European Mobile Audio System 2013-2014 by EISA, the Harman Kardon Onyx was on display for the first time at September's IFA show in Berlin. The wireless speaker system packs features in the company's new Objects of Desire range, and offers great sound technology in a sophisticated, sculptural enclosure with a distinctive shape, an elegant finish and luxurious appointments, including real leather and a stainless-steel handle giving the Onyx a luxury feel, says the maker. It can receive music wirelessly from a smartphone, tablet or PC via DLNA, AirPlay or Bluetooth. There are no physical buttons, but touch the strip on top of the unit and it talks to an app (iOS and Android) for control. It has four speaker drivers - two per channel - plus two passive radiators mounted on either side. Battery life is claimed to be around five hours for wireless and eight hours for wired connectivity. USB and 3.5mm wired inputs are also provided. It's available in black and white finishes.

IN BRIEF

STONE BRINGS WI-FI TO DOCKS



Dolry has announced the introduction of two HiFi Stone devices to the UK, claiming to bring Airplay and DNLA wi-fi connectivity to 30-pin docking stations. C4 Electronics is the Swedish designer and maker of the HBX100 and HBX101 adaptors that connect to the old-style 30-pin Apple connector found on many docking stations. They offer music streaming directly to your speaker system by setting up a wi-fi network supporting AirPlay and DLNA up to a claimed range of 30m. The maker says: "All iOS devices such as the iPhone, iPad and MacBook see the Dolry as an AirPlay unit and you can also connect it to your existing home wi-fi network." The HBX100 costs €85 and the HBX101 with internet radio access €90. They come in black or white. DOLRY.COM

Sony's new hi-res line-up

PRICE: £499-£1,999 AVAILABLE: MID-OCTOBER CONTACT: 0845 6000124 WEB: SONY.CO.UK

Sony has announced six new high-resolution audio products aimed at faithfully reproducing each nuance of today's finest reference-quality recordings, says the electronics giant. The new line-up includes two HDD audio players, a USB DAC amplifier, an integrated stereo amplifier and two standmount loudspeaker models.

The HAP-ZIES is the flagship HDD Audio Player, costing £1,999, with a 1TB hard drive for music files that can be transferred – wirelessly or via a cable connection – from your PC or Mac using the HAP Music Transfer application. The matching TA-A1ES integrated stereo amplifier, also costing £1,999, offers a claimed 80W per channel power output and is built with audiophilegrade components and a highly rigid chassis to cut electromechanical vibration, Sony claims.

The HAP-S1 compact HDD audio player system (unit shown below) is a one-box integrated alternative to the flagship HAP-Z1ES/TA-A1ES separates and combines a 500GB HDD player with a 40W per channel output amplifier. It costs £799.

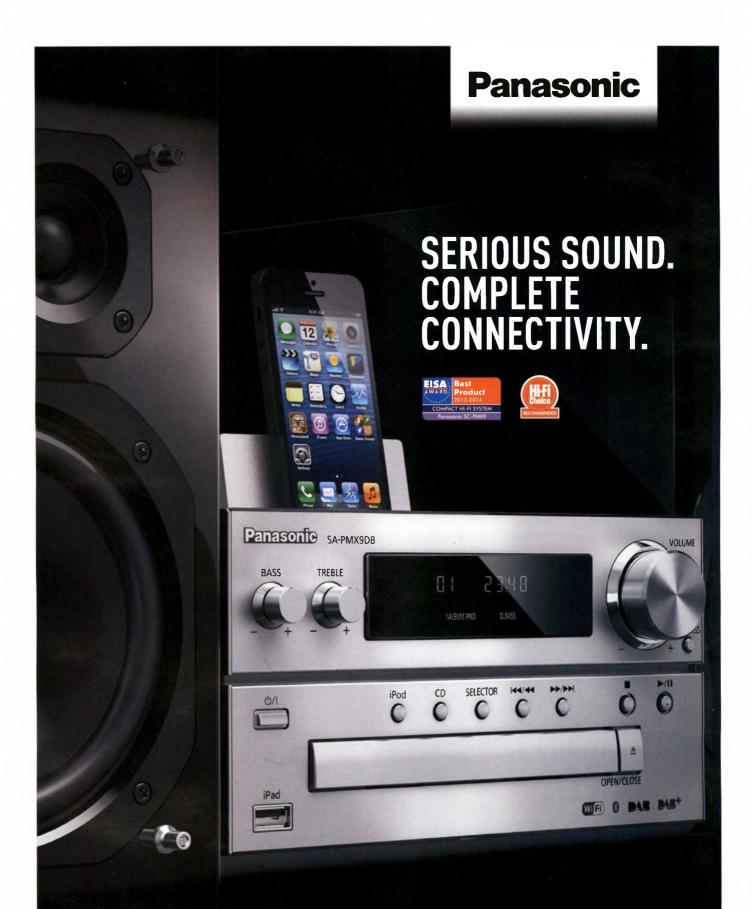
The UDA-1 USB DAC amplifier, costing £499, is geared for desktop streaming of computer audio and will be available from mid-October.

Two speaker models featuring a newly developed double super tweeter are set to join the ranks. The SS-HA1 will cost £500 when it goes on sale in November, and SS-HA3 pricing will be confirmed when it's launched later.









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www.panasonic.co.uk

rSeries DAC swap

LL LL LL The new DAC in the rSeries is a replacement that stems from the brand's high-end superDAC

PRICE: £400 AVAILABLE: NOW CONTACT: 01223 203200 WEB: ARCAM.CO.UK

JOINING ARCAM'S POPULAR rSeries range is the new irDAC, costing £400. It replaces the rDAC and has been inspired by the Cambridge-based maker's high-end FMJ D33 superDAC and brings greater flexibility over many of its competitors at the price, Arcam claims.

Housed in cast-aluminium casework, the new irDAC may resemble the rDAC, but Arcam says that is where the similarities end. "The new irDAC is a substantial step up in performance over its predecessor utilising a Burr Brown 1796 DAC and eight separately regulated power supplies to ensure class-leading performance ... " it continues.

The irDAC is so called because it offers infra-red remote control capability. As well a whole new internal design layout and components optimised for performance, the irDAC boasts six digital inputs, including asynchronous USB 2.0, coaxial and optical S/PDIF, plus an iDevice port with optimised sound for Apple products. 24/192 playback is available on the USB input and the iDevice port can charge iPods, iPhones and iPads.

ARCAMIDAC

As with other rSeries devices, the irDAC can be powered by its FMJ A19 integrated amplifier (see Group Test p27), offering improved performance, the company claims.

IN BRIEF

MAXELL MOVES **TO EARPHONES**

Maxell has announced the launch of its M-Mark collection of in-ear headphones. Many will remember the brand for its memorable cassette tape advertising campaigns that ran throughout the eighties, but the Maxell brand is getting back into hi-fi with what it claims are two new premium in-ear headphones.

The MXH-DD600 features dual dynamic drivers, while the MXH-DBA700 boasts a hybrid design that pairs a balanced armature with a dynamic driver. Both designs have a rigid aluminium body offering reduced resonance of unwanted frequencies, says the maker. Priced at £80 and £100 respectively, both models hit the shops in November. UK.MAXELL.EU/EN/



Teufel Audio Definion 5

PRICE: £2,500 AVAILABLE: NOW Contact: 00800 20030040 WEB: TEUFELAUDIO.CO.UK

In an overcrowded speaker market it's difficult to stand out, but Berlin-based loudspeaker company Teufel Audio claims that its new Definion 5 floorstander "incorporates many exceptional features that set it apart from mainstream loudspeakers

The patented coaxial tweeter/ midrange driver utilises a 22mm fabric dome tweeter with a 105mm aluminium HexaCone Kevlar flat sandwich membrane midrange set in the same unit. The 3x 130mm aluminium and paper fibre sandwich membrane triple bass driver system was especially devised for the Definion 5's cabinet along with a crossover that optimises the sealed-box design, say the maker. The tapered cabinet claims to minimise standing waves within the enclosure and is filled with virgin wool for increased bass performance, it says. It's available now in either black or white finishes. Delivery charges may apply



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"This level of performance, convenience and style makes for an award winning product." Jeff Dorgay. Tone Audio Magazine, January 2013

HI-FI WORD

"Oozes quality in both construction and sound" Paul Rigby, Hi Fi World, March 2013

1.11

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Fanthorpes, Hepworth Arcade, Silver St, Hull, East Riding of Yorkshire HU1 1JU Tel:01482 223096

O'Brien Hi-fi, 60 Durham Road, West Wimbledon, London Tel: 020 8946 1528

Progressive Audio, 2 Maryland Court, Rainham, Kent, Tel: 01634 389004

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AUDIOFILE



ATC's drive time

Two new speaker models herald a stylish step for brand

PRICE: £810-£1,200 AVAILABLE: NOW CONTACT: 01285 760561 WEB: ATCLOUDSPEAKERS.CO.UK

ATC HAS ANNOUNCED the arrival of a range of closed-box speakers featuring a new tweeter design, updated mid/bass driver and crossover housed in curved, laminated cabinets. The third-generation SCM7 and second-generation SCM11 standmounting loudspeakers are the first from the Hi-Fi Passive Series and employ ATC's all-new 25mm soft dome tweeter. Sharing technology with the company's soft-domed mid-range drive unit, the new tweeter employs a unique dual-suspension system claiming improved performance at high power output levels, a flat on-axis frequency response and resonance-free operation. The new tweeter design is partnered with a 125mm mid/bass driver on the SCM7 and a 150mm mid/bass driver on the SCM11. Both models are available now in black ash and cherry finishes.

Sony's high-res Walkman

PRICE: £249 AVAILABLE: OCTOBER CONTACT: 0845 6000124 WEB: SONY.CO.UK



Sony chose the recent IFA show held in Berlin to launch its first Walkman music player equipped to play high-resolution 24/192 audio files. Powered by Android 4.1, the NWZ-F886 is a 32GB portable music and video player. It comes pre-installed with apps and connects wirelessly to download more apps from Google Play. It has a slim, compact design featuring three side-mounted buttons and a 10.2cm LCD touchscreen. It even boasts a Triluminos display for mobile, which claims incredibly vivid and life-like colours.

The F886 is packed with audio technologies from Sony, including the latest S-Master FX digital amplifier that claims to reduce distortion and noise at all frequency ranges – from ground-shaking lows to delicate highs – and is optimised for high-resolution audio. Non hi-res material is also catered for via DSEE (Digital Sound Enhancement Engine) HX technology, claiming to restore high-range sound lost in the compression process, while Clear Audio+ ensures crisp, realistic sound and great clarity. Digital noise cancelling is also built-in and can be applied to whatever headphones you're listening on.

With Near Field Communication (NFC) built-in, you can wirelessly connect the F886 to a suitably equipped audio device, and if your devices aren't NFC-enabled, there's always Bluetooth.

Battery life claims are around 35 hours for playback of MP3 tracks, but playback time is reduced to 26 hours with high-resolution audio material. The NWZ-F886 is available from October.

IN BRIEF

BAYAN BOOK -OPEN TO PLAY!

Bayan Audio's Soundbook is a portable wireless speaker with an integrated FM radio and built-in microphone for conference calling. The cover doubles as a stand as well as powering the speaker system on as it's opened. Bluetooth 4.0 and apt-X technology make the Soundbook compatible with smartphones and tablets etc, and NFC auto-pairing is also featured for easy one-touch connectivity to NFC music sources. It gives a claimed 10 hours of battery life and is available in two colour options - silver/turquoise or charcoal/burnt orange. The speaker is available now for £150. **BAYANAUDIO.COM**



DOLRY OFFER

Dolry is offering HFC readers a 10% discount on its HiFi Stones (see page 8). Simply enter the promo code "HIFICHOICE10" when buying online.
 DOLRY.COM

CORRECTIONS

In the September 2013 issue of HFC, a review was published of the Blue Horizon Spike Shoes. Instead of the product being attributed to its manufacturer, Blue Horizon, the headline and contact details incorrectly suggest that it is produced by Mains Cables R Us. The correct contact details are 01276 501392, bluehorizonideas.com

In the October 2013 issue of HFC, a review was published of the IsoTek Ultimate System Set-Up Disc. Instead of the product being attributed to its manufacturer, IsoTek, the headline and contact details incorrectly suggest that this is a product produced by Mark Grant Cables. The correct contact details are 01276 501392, isoteksystems.com

AUDIOFILE

Hi-Fi Show preview

Rub shoulders with the cognoscenti of high-end audio



THE CLOCK IS ticking and there is now less than a month before the UK's only high-end audio show opens its doors to a legion of hi-fi enthusiasts. Featuring the cream of international hi-fi in a series of exclusive presentations, listening demos and Q&As it's a one-off event that's not to be missed.

And how's this for a flavour of what you can expect to see during the two-day event? Absolute Sounds, the UK's leading importer of the world's finest audio equipment, will be showing off a *smorgasbord* of class-leading products in not one, but three of The Hi-Fi Show's demonstration suites. Highlights include Constellation Audio's Virgo II preamplifier and Performance Series integrated amplifier, Dan D'Agostino showing its Momentum Preamplifier, Devialet's stunning 170 amplifier/DAC, EAT's E-glo phono preamplifier, Magico's amazing S1 and S5 loudspeakers, the Air Force One turntable from TechDAS and Wilson Audio's Duette II loudspeakers, to name but a few...

Highlights to look out for

Audio Research, one of America's premier manufacturers of precision hi-fi equipment is just one of many exciting exhibitors worth hunting down. Visitors to the show will be able to experience the Reference Phono 10 – the new flagship phono preamp from the doyen of valve-based audio technology – plus the brilliant VSI75 integrated amplifier – stunning design and sumptubus sound.

Also flying over from the US, legendary high-end brand Krell will be making its first stab at high-resolution, wireless audio without compromise as it presents its first ever network streaming device. Visitors to Krell's suite will be able to experience the stunning new Connect first hand.

Closer to home Italy's Sonus faber will be displaying some rather special speakers Handcrafted in the historic town of Vicenza, the new Olympica range is the perfect marriage of form and function. Two models will be present at the show - the standmount Olympica I and floorstanding Olympica II - each encased in beautifully finished wood veneers with exquisite detailing in leather and other fine materials. Truly, it's impossible to fully grasp the beauty of these speakers until you see - and hear - them up close for the first time





BOOK YOUR TICKETS NOW!

Don't miss out on the hi-fi event of the year, tickets are now on sale for the UK's premier high-end audio gathering - The Hi-Fi Show at the Beaumont Estate, Old Windsor on Friday 25th and Saturday 26th October 2013.

We have a fixed visitor allocation for this event and, once fully booked, sadly, no tickets will be available on the day, so you'll need to get cracking to ensure that you don't miss out. Tickets cost £20, or £15 for subscribers. Please call 02476 322234 now to avoid disappointment and see hifinews.co.uk/show for more details. We look forward to seeing you there!

DIGITAL DEMOS

The Sandringham Suites will be hosting a series of enthralling workshops by Audioquest, which will be demonstrating computer-sourced audio over both networked and alternative media player/USB DAC-based systems. Visitors to the suites will not only be able to compare the sound of different network and USB cables, but they'll also get expert advice on how to choose the best cables for their own home system.

The Hi-Fi Network will also be using PC as a source as it unveils a system for the first time in the UK that includes the new Norma Revo DS-1 disc player/USB DAC. Norma amplification will drive the outstanding Elac FS 407 and BS 403, while cables will be supplied by Venture and we're told a diverse range of music is promised, so pop along and hear it for yourself. There will, of course, be one or two familiar faces from both HFC and our sister mag Hi-Fi News on hand to give advice. See the website for more. HIFINEWS.CO.UK/SHOW

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DETAILS

PRODUCT Cambridge Audio Aero 2

UK/China TYPE Standmount loudspeaker WEIGHT 6.8kg

DIMENSIONS (WxHxD) 203 x 70 x 311mm

Ix 46mm BMR treble/mid driver
Ix 165mm paper bass driver
Quoted power handling: 25-120W
Quoted sensitivity: 90dB/1W/1m
Quoted frequency response: 40Hz-22kHz (+/- 3dB)

Cambridge Audio WEBSITE cambridgeaudio. com

Cambridge Audio

Cambridge Audio



Aero dynamics

Here's a brand new small standmount speaker with a difference; something that's not apparent from just looking at it, says **David Price**





n the bread and butter world of budget boxes, points of difference between loudspeakers are small, yet - by marketing necessity - often overstated. Respective models can be stylistically quite varied, but in engineering terms all too similar. Points of divergence are really down to fine details, ways of finessing what is ostensibly the same drive unit and cabinet lineup to give what the designers want. True, you might get an interesting baffle here or an unusual cone material there, but the fact remains that in the vast majority of loudspeakers we buy, a mid/bass driver will take care of the sound from about 50Hz upwards to 2kHz or so, when a crossover will bring in

a dome tweeter that goes up to 20kHz or beyond. That's why the new Aero 2 is so interesting – because it doesn't do this!

Look above the woofer to the upper drive unit. Where you'd normally see

There's no sense of coarseness from the BMR as it spreads out around the room

a small dome tweeter - made either from plastic, metal or fabric - there is a Balanced Mode Radiator fitted. The BMR design came from NXT technology developed in the nineties, which was all about producing flat panels that make music. Various NXT panels have appeared on loudspeakers - the Mission X-Space being an interesting example from the mists of time – but the BMR spin-off has recently grown legs, thanks to the design's very broad dispersion and bandwidth capabilities. Basically, for a given size, the driver can throw out a wider range of sound across larger parts of a room than conventional cones or domes. They've proved their efficacy in all sorts of applications, from soundbars to in-car installations - so why not put one in a small standmount speaker?

The Aero does just this – running a 46mm BMR with a conventional 165mm paper cone bass unit. Notice that I didn't say 'mid/bass' here; if it was any other loudspeaker at this price point, I would have done precisely this. But the Aero doesn't have a mid/bass driver, because the midrange is taken care of by the BMR. Here's the clever bit – by opting for a BMR the designer can use one single drive unit for all frequencies from 250Hz upwards, with the bass driver handling everything below. Contrast that to a conventional speaker, where the larger driver runs from 50Hz or so to 2kHz, and then the tweeter takes over. The difference is, of course, that the crossover frequency on the Aero is way lower than any conventional speaker using a dome tweeter – which means that it is far further away from the ultra-critical midband, where the ear can hear any change of phase or spike or dip in response far more clearly than it can higher up or lower down.

The genius of the Aero then - the reason it is like no other budget loudspeaker - is that it sidesteps the problem of putting the crossover where the ear is most sensitive. The result is that you get a bass driver optimised for being a bass driver, and a BMR that gives you a wide expanse of sound from upper bass to high treble - without any crossover in the way where the ear can hear it most. Oh. and there's more – because the BMR creates a lot of its sound from surface vibration (like an exciter on an NXT panel) as well as traditional in-out pistonic motion, it diffuses around the room better and doesn't have such a pronounced sweet spot. Clever stuff, eh?



IN-DEPTH CAMBRIDGE AUDIO AERO 2 STANDMOUNT LOUDSPEAKER £350



ON TEST

A sensitivity of 90dB is claimed for the Aero 2, but our measured figure of 85.9dB on pink noise indicates that this is substantially optimistic. Nominal impedance is quoted as "8ohms compatible", but the modulus drops to a minimum of 3.4ohms at 138Hz, making a 4ohm nominal figure more appropriate. Impedance phase angle is also quite large at low frequencies, so the EPDR (equivalent peak dissipation resistance) falls to 1.6ohms at 98Hz and 1.9ohms at 171Hz, making the Aero 2 quite a challenging amplifier load overall, although at higher frequencies the Balanced Mode Radiator (BMR) driver is beingnly resistive. Frequency response, measured on the BMR

The Aero's drivers are, of course, bespoke; the BMR is the very latest fourth-generation unit - which designer Dominic Baker says is newer than the BMRs in any other commercially available loudspeaker currently on sale, some of which are still running first-gen designs. It is British designed and bespoke manufactured in China, at Cambridge Audio's facility. The bass driver is too, and uses paper for its cone material because the designer thinks it's still one of the stiffest materials relative to weight around - and a light, but strong cone is just what's wanted to give accurate air moving ability.

In direct contrast to all the clever stuff that's going on, the cabinets themselves are pretty anodynelooking budget boxes, although they're heavier and better built than they look. The designer believes that using fancy swoopy sides – so beloved by many rivals – is more about styling than sonics, and says that it can actually create problems, too. That's why the Aero gets a well-damped MDF box with a single largish reflex port on the front baffle; there's a choice of axis, was flat to within ± 2.5 dB and ± 2.8 dB respectively for the review pair, 200Hz-20kHz – an excellent result for a passive speaker.

Pair matching over the same frequency range was less good at ±1.6dB, but below 15kHz the disparity reduced to less than ±1.0dB. Diffraction-corrected near-field measurement recorded a bass extension of 57Hz for -6dB ref 200Hz - fair for a speaker of this size - but showed the upper bass to have a peak of about 4dB at 100Hz. The cumulative spectral decay waterfall was clean, with fast initial energy decay across the spectrum and well-suppressed resonances. **IKH**

black or dark walnut finishes. No biwiring option is offered – again Dominic Baker believes the cost/ benefit ratio of biwiring your system isn't as good as throwing the same amount of upgrade cash at better quality cable, rather than more of the same.

Sound quality

The second you set ears on the Aero 2s, you realise you're listening to something radically different from its rivals. This little loudspeaker has in some ways an amazing sound, offering the sort of dispersion and evenness across the midband and treble you'd normally only get from an electrostatic. It's an eerie feeling of the music gelling together in an organic way, rather than being forced out of two differing size toothpaste tubes – and it's lovely.

For example, play some smooth, classic funk in the shape of Chic's *Freak Out*, and what you'd normally expect from a speaker at this price is an edgy sort of 'boom tizz' sound, with the bass guitar thumping, the cymbals crashing and those female vocals honking out at you. Try this on the Aeros, however, and you get



Aero 2 is Q Acoustics Concept 20, which sports a very robust, well-damped cabinet that's a good bit smaller than the Aero, plus a 25mm polyester dome tweeter and a 125mm mid/bass driver. crossing over at 2.9kHz. The result is a lovely sounding speaker with a smooth. musical sound - in many ways similar to the Aero - but it isn't as seamless across the midband, and doesn't have the clarity at higher levels. This is likely down to the Aero's larger 165mm bass driver and the fact it needs to do less work as it crosses over so much lower. The Aero compresses the music less at high volumes, and drives larger rooms with ease.

a far more even, balanced and subtle performance, completely devoid of the sound of loudspeaker drive units struggling to keep abreast of events. The midband and treble are so smooth that you can listen right into the mix, while the bass bounces around with energy and ease, beautifully integrated with the rest of the action. Many people – this reviewer included – love this sort of thing, as it is totally unexpected from a pair of £350 speakers; indeed in some ways it is closer to the svelte performance you'd expect from a big

These speakers have plenty in reserve when the music reaches a crescendo

2.5-way design of a high-end floorstanding speaker. It is couth, balanced and effortlessly musical; devoid of pain or grain.

However, those used to the spectacle of kicking, crashing and banging budget boxes will be disappointed – they'll accuse the Aero of being too polite, of not having enough bite. And they'll say it is 'boring' because it doesn't 'kick ass'. Listen carefully, however, and it does - as the 6in driver in the Aero shifts a good deal more air than most 4in-equipped rivals like the Q Acoustics Concept 20. It shows itself better able to withstand the rigours of powerful modern music such as Kanye West's Say You Will. Even in a medium to largish listening room, you can really feel the electronic percussion hit home. There's a fine sense of solidity, plus the ability to go louder with less compression apparent. The thing is, though, that there's no big, lumpy peak around 100Hz that gives so many small standmounts an apparently big, bassy showroom sound (along with the one-note bass to match). Instead, the Aero 2's low end is smooth and devoid of trickery.

The quality of the treble is excellent; Genesis's *Robbery, Assault and Battery* has some lovely hi-hat and ride cymbal work and the Aero 2 shows how smooth and delicate it can be; there's no sense of grain or coarseness from the BMR, and it spreads out around the room beautifully. However, sometimes a little extra bite would be nice; it's almost as if the unit is over smooth and it almost doesn't seem right on a budget speaker whose first job is to entertain. It's an odd remark to make

IN-DEPTH



BMR TECH

coil drive units act pistonically at low frequencies, with the diaphragm moving as a rigid whole. As frequency increases, two undesirable things happen: the acoustical output becomes confined to a progressively narrower forward angle - an effect known as 'beaming' and flexure in the diaphragm results in resonances rather dramatically termed 'breakup', although no physical damage occurs. The Balanced Mode Radiator (BMR) is a cleverly elaborated form of moving-coil driver, which overcomes these problems using a flat diaphragm with carefully placed annular masses. The end result is a drive unit with an unusually wide passband - from 250Hz to well over 20kHz in the Aero 2 with considerably less beaming and more well controlled resonances.

perhaps, but certainly with subtle high-quality front ends this speaker can almost sound that little bit too refined with thumping rock music.

It's a different matter with classical. of course, where the Aero soars. It delivers a large-scale sound on the Berlin Philharmonic's rendition of Beethoven's Pastoral Symphony, with an accurately rendered orchestra floating in space. Violins are amazing to behold, as they're right where normal two-way speakers crossover, yet with these little boxes you get a wonderfully balanced and phasecoherent sense; they hang in the recorded acoustic with total assuredness, and sound raw and realistic yet never grate. Lower down, cellos grumble menacingly, yet these speakers seem to have plenty in reserve when the music reaches a crescendo; I've heard many pricier designs sit on transients and compress things much more. Overall, you get a refined and natural sound completely unexpected at this price.

Conclusion

Just in case you hadn't noticed then. I love the new Cambridge Audio Aero 2s; they're an exotic little loudspeaker that's simply not built in quite the same way as its rivals - and for good reason. The result is an extremely open and seamless sound at the price, one that shares more with a high-end electrostatic than a cheapo box speaker, in some respects. Still, such sophistication will not be for everyone - some might find them a little lacking in 'bite'; such people are well served with many other designs! Go and hear the Aero 2 if you can then, and don't be put off by the staid looks, because the nature of its engineering is precisely the reverse •



Q&A

Dominic Baker Audio Systems Business Director, Audio Partnership PLC



DP: What can a BMR do that a standard dome tweeter can't? DB: It covers a far wider range of frequencies - a typical dome tweeter will span 2kHz-20kHz - the BMR used in the Aero 2 covers 250Hz to 20kHz, that's four octaves more. Secondly it has very wide and even dispersion across this entire operating range.

What can a BMR do that a standard mid/bass driver can't?

Dispersion again! A standard mid/ bass driver's dispersion will narrow as the wavelength of sound approaches its dimensions. For example, a 6.5in driver's dimensions correspond to the wavelength of sound at 2kHz, so as we approach this frequency the dispersion narrows.

How does your BMR differ to others?

Cambridge Audio develops BMRs with Dr Graham Bank, inventor of BMR. The BMRs we use are developed for our specific needs and to our specification, so we have refined and improved the design over nearly four years. The current generation of BMR that we are using in Aero has twice as much excursion as the original design, improving power handling and allowing us to cover a wider range of bass frequencies. It is also far more linear in the higher frequencies with an exceptionally flat, smooth and well extended response.

What type of crossover is used?

There's a single capacitor feeding the BMR, which combined with its mechanical roll off gives a 4th order acoustic alignment. The bass drivers have a 2nd order electrical low pass, again giving a 4th order acoustic alignment. High acoustic roll-off rates reduce the amount of overlap between the drivers, which has several advantages including improving power handling and reducing distortion. We use the driver's response in combination with the crossover to achieve these high order acoustic alignments, but with the minimum number of components in the signal path - there are only three in an Aero 2!

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Atratus RCA Interconnects in the September issue (375), we have managed to secure a limited number from Epiphany Acoustics. We love the design, build and performance that's suited to a wide range of genres. The heavy gauge copper conductors with their dual shield construction are terminated with gold-plated RCA plugs and they achieve an open, natural and extended sound. What more could you ask of a interconnect?

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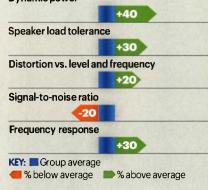
This month's group test is supported by rigorous listening tests, backed up with objective lab testing

INTEGRATED AMPLIFIER GROUP TEST

BEFORE ANY LISTENING took place, all the amplifiers had the chance to run in for three days to ensure that they all had some hours under their belt. For the main listening test, all six amplifiers were level matched with a pink noise test tone that was output while the voltage on the speaker terminals was measured by a multimeter. This allowed for the most accurate levelling possible.

A Cambridge Audio Stream Magic 6 connected via Chord Chorus RCA interconnect was used as the source equipment to replay the lossless and high-res FLAC. It operated in conventional line-level mode and was wired into a LAN network. Any digital inputs were additionally

RESULTS AT A GLANCE Dynamic power



checked after the analogue testing with the same streamer connected digitally. A Lenovo ThinkPad was used for testing the USB inputs.

All the amplifiers were auditioned with the PMC fact.8s that feature in this month's Beautiful System (starting on page 90) connected via Chord Epic speaker cable. Why such an expensive pair of speakers compared with the price of the amplifiers? The PMC's present an easy electrical load, well within the capability of the amplifiers to handle, but are also extremely revealing of the differences between them. The amplifiers were also partnered with a pair of Neat Iota's for some parts of the listening test on each amplifier.

DYNAMIC POWER

In addition to measuring the amplifier's continuous power output, we also check on its delivery under dynamic, musiclike conditions up to 1% distortion

SPEAKER LOAD TOLERANCE

Not simply a measure of how much power is available into a standard 80hm load, but how the amplifier's output behaves into progressively lower and more difficult loads.

DISTORTION VS LEVEL AND FREQUENCY

This bar value represents a measure of distortion and its consistency across both the whole audio band and the amplifier's entire dynamic range.

SIGNAL-TO-NOISE RATIO

This is a direct representation of the amplifier's A-weighted Signal-to-Noise (S/N) ratio at 1W output into an idealised 80hm load

FREQUENCY RESPONSE

We measure the 'flatness' of the response from a subsonic 5Hz to an ultrasonic 100kHz, but we also determine how well it handles different speaker loads.

> and In-depth Reviews are subject to exhaustive lab testing by Paul Miller using the OC Suite Functional Testing Station (left) Paul has tested more hi-fi equipment than any reviewer in the world, so you know you're in safe

> hands. We don't publish pages of graphs, but we do understand the importance of transparency. So, readers may view full QC Suite test reports for our key reviews by clicking on the red download button on our website. www.hifichoice.co.uk

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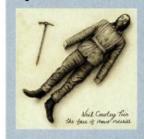
Cambridge Audio Stream Magic 6 PMC fact.8/Neat lota Chord Chorus RCA/Chord Epic speak er cable

TEST MUSIC

MUSE The2ndLaw, High-res FLAC



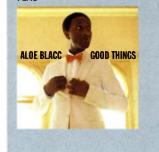
NEIL COWLEY TRIO The Face of Mount Molehill High-res FLAC



SCRATCH MASSIVE Communion High-res FLAC



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INTEGRATED AMPS £600-£800

Amped up

The integrated amplifier market has seen a number of new arrivals of late. **Ed Selley** compares six mid-priced models

THE VARIETY OF formats that

people are using as their source equipment to play music shows no signs of resolving itself just at the moment. We currently have plenty of DACs and streamers vying for the top spot, while the CD player battles on – fighting a valiant rear-guard action

- and vinyl continues to lure in new initiates in surprisingly increasing numbers. Against this volatility, the integrated amplifier market has been a lot calmer. Although some digital sources are showing ambitions towards input control as they adopt many of the features of a preamplifier, for a great many of us, a hi-fi system will be built around an integrated amplifier that receives your sources and sends the amplified signal on to your speakers.

As befits a relatively stable category, the choice of integrated amplifiers costing between £600 and £800 is impressively substantial and includes offerings from a few brands who only a few years ago appeared to have given up on two-channel models in pursuit of multichannel. All of the models you see here should have sufficient power to work with speakers at a roughly similar price

The choice of integrated amps between **£600** and **£800** is substantial

point and all of them offer such niceties as a remote control for the lazier among us and a headphone socket for those personal listening spells. They also all boast a general level of build and finish that is a step up over more entry-level offerings.

After these points of consistency though, things start to get more varied for our sextet. The features on offer are bewildering and only one of the designs here is a straight, line-only amplifier with no additional input features. Of the other five, three are fitted with digital inputs and four of them have phono stages as standard – one of which even offers the required gain for turntables fitted with a moving coil cartridge.

Feature count

All these bells and whistles count for very little if the amplifier itself doesn't sound any good, and that's why, as ever, there's no substitute for listening to them in carefully controlled conditions. All six are being judged on their ability with a standard line-level signal with their extra features being taken into account once the dust has settled. Is simplicity the way forward for a world-class amplifier or can you build an all-star performer and keep the extra features on? Turn over to find out.

ON TEST

Arcam FMJA19

£650 p27 The newest amplifier in the Arcam two-channel line up offers a sensible 50W per channel, five line inputs and an MM phono stage, but it can also power members of the Arcam r family via an internal PSU.

Creek Evolution 50A

£700 p29 Creek's latest integrated is a compact affar with 55W on tap, four inputs including an MM phono and the option to be fitted with a bespoke tuner module to turn it into a receiver

NAD

C 356BEE DAC £700 p31 Available as both a standard line-level integrated for £600 or as seen here with a clever DAC module

fitted the NAD has an

impressive 80W and

no less than eight

inputs including

two tape bops



Pioneer A-70 £800 p33

The Poneer is the flagship stereo amp from the company and comfortably the largest amp here with a claimed 90W of Class D amplification, digital inputs and a MM/MC phono stage as standard.

Rotel

RA-12 £600 p35 The Rotel is the least

expensive amp in the test, but this hasn't stopped it being fitted with digital inputs, a phono stage and iPod and Bluetooth capability all making use of its 60W of on-board power



The Teacis among the most costly yet it's the most costly yet it's the most minimalist of the amps in the test, with six line inputs and no phono stage or digital nputs, but the 85W output is hefty enough and the casework feels very substantial.

SERIES



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ROKSAN

INTEGRATED AMPLIFIERS GROUPTEST



Arcam **FMJ A19 <u>£650</u>**

It may be small, but this is a well thought-out design that boasts a number of very clever features

PRODUCT Arcam FMJ A19

ORIGIN UK Integrated amplifier 8.5kg (WxHxD) 432 x 85 x 275mm ATLIRES Quoted power
output: 50W RMS perchannel into 8ohms • Available finishes: black • Line inputs: 5 RCA • Digital inputs: no, but there's an option to connect rSeries units RIBUTOR Arcam 01223 203200 arcam.co.uk

he A19 is the smallest amplifier in the Arcam FMJ range and is also one of the less expensive amps in the test. Despite this, you get a fair amount for your £650. This design comes with five analogue inputs and a MM phono stage. Interestingly, for those of you with six input sources and no turntable, the phono stage can be bypassed and turned into an additional line input. The remote is small and not the most substantial device, but is well laid out.

On the rear panel, the Arcam is fitted with a power socket that will allow you to connect a member of the 'r' family to the A19 without the need for an extra socket. This means that although it has no digital or Bluetooth connections, you can use an rBlink or an rPac (which offer these features) to add this functionality and still stay within the test budget. Unlike the digital inputs fitted to the other amps, doing so will cost you one of the existing analogue line inputs.

Around the front, it is business as usual for an FMJ product with the reasonably well-finished black casework livened up a little with a silver volume knob and the green on black display that shows the input and volume level currently selected. The Arcam doesn't feel as substantial as some of the designs here, but it would be churlish to call it flimsy. The display looks a little old fashioned compared to the Creek's OLED, but it is easy to read at a distance and can be switched off for those that find it's green glow too intrusive.

Sound quality

From the outset, the Arcam shows some characteristics that are in keeping with the brand, but also some that aren't shared with its predecessors and are largely positive. Although it is the least powerful amp, it shows no signs of strain at the level selected for the test and with Muse's Madness, manages to sound rich and vibrant with a very impressive sense of scale and weight to vocals and instruments. This is even more apparent with the Neil Cowley Trio, where the A19 shows a real ability with the piano, conveying the size and weight of the instrument very effectively. The smoothness is unmistakably Arcam, but the top-end sparkle it has and the very open and airy performance that results is a welcome evolution

It is slightly less happy in terms of bass, however. With both the Muse piece and the heavyweight *Pleine Lune* from Scratch Massive's *Communion*, the A19 doesn't find quite the same detail and separation to very low notes that the best in test manage. The bass it produces is substantial, but slightly monotonal, stealing a little excitement and engagement from the performance. This slight lack of life is shown most clearly with Aloe Blacc's *I Need a Dollar* where the Arcam excels with Blacc's vocals, but doesn't have quite

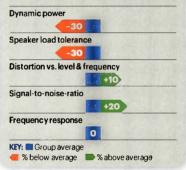


ON TEST

Rated by Arcam at just 50W, the A19 gets closer to 2x64W and 2x10OW into 8/40hm with 75W, 135W and 180W available under dynamic conditions into 8, 4 and 20hm, but it's still no 'powerhouse'. Distortion is very low at 0.0009-0.0015% from 1W to 50W through bass and midrange, increasing to 0.016% at high frequencies. The A19's A-wtd S/N ratio is also very wide indeed – a full 92dB (re. 0dBW), second only to the NAD.

Wide S/N ratios can open an amp to noise from upstream components, but Arcam has engineered a relatively steep high treble rolloff to reduce the impact of ultrasonic noise from SACD, in particular, amounting to -0.4dB/20kHz down to -11.7dB/100kHz into 8ohm. The output impedance is a moderate 0.07ohm, increasing to 0.145ohm at 20kHz, so this system response should remain consistent. Stereo separation is good to 75dB through bass and midrange. **PM**

RESULTS AT A GLANCE



the same head nodding get up and go that some of the other amps can generate. There is a sense that its presentation is slightly gentle and in being forgiving across most material, it is on occasions slightly soft.

This should not detract too much from an amplifier that is well thought out, impressively flexible – in terms of setup given the bolt-on options – and is capable of a very rich and engrossing musical performance that should win it many friends. The slight lack of low-end control and the somewhat matter of fact presentation with more aggressive material does mean that there are better all rounders in the test, though \bullet



BUILDQUALITY

FEATURES

OVERALL

DISLIKE: Slight lack of bass control and excitement **WE SAY:** Considerable

all round ability, but it's bettered in some areas by the competition

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6





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Creek Evolution 50A £700



The Creek gives away one or two features to the competition, but sonically it is top of the tree

DETAILS

PRODUCT Creek Evolution 50A UK/China Integrated amplifier 7.5kg SIONS (WxHxD) 430 x 60 x 280mm • Quoted power output: 55W RMS perchannelinto 8ohms • Available finishes: black/silver • Line inputs: 3 RCA/1 XLR inputs Digital inputs: no, but optional module BUTOR **Creek Audio** 01442260146

WEBSITE creekaudio.com reek has been a strong contender in this price segment for years now and the Evolution 50A is its latest offering to contest the category. In terms of specifications, nothing leaps off the page as being especially radical, but the 50A has been through extensive and thorough development that has involved switching the design over to a software-controlled and menu-driven system while ensuring that the power amp is able to deal with real-world loads effectively.

To this end, the 50A makes use of a claimed 200W transformer and Creek's trademark series of low impedance output capacitors to work as a single unit. The feature list is fairly conservative, but there are some interesting options including a complete tuner module that can be fitted to turn the Evo 50A into a stereo receiver. If fitted, the software automatically recognises the module and adds it as an input. The Creek is also the only amp here with an XLR input and another one of the standard inputs is an MM phono stage that given the company's heritage in standalone designs - ought to be pretty good. A digital model is apparently also in the works.

Aesthetics are a personal thing, but for me the Creek is the best-looking amp here by some margin. The styling is clean and modern and the OLED display makes the others in the test look cheap. Build is excellent too, with the engraved lettering on the front panel looking especially elegant. All the controls feel solid and slick and the menu-driven system is intuitive to use. The only real criticism is that the remote doesn't feel as special as the rest of the amp, but once again it is clear and logically laid out.

Sound quality

The Creek doesn't take very long to show that it is more than a pretty face. The Evolution 50A is better than any other amp here at balancing control and smoothness with the drive and attack needed to make music convincing and enjoyable. This means that through the impeccable high-resolution quality of the Muse and Neil Cowley Trio pieces, the Creek is rich, detailed and extremely spacious with voices in particular having a very tangible realism to them. The treatment of the piano is also extremely enjoyable and the weight and impact to the struck keys is right up with the best in the group.

When you ask the Creek to handle the more aggressive and upbeat Scratch Massive and Aloe Blacc tracks with their slightly more aggressive style, it rises to the occasion superbly. There is a liveliness and accuracy to the way that it handles these faster songs that draws you in and leaves you enjoying the music at an emotional level rather than examining it at a critical one.

Against this raw ability, only a slight lack of absolute bass depth counts against the Creek and the detail and definition that the bass it does



ON TEST

Although Creek rates its Evolution 50A more conservatively than the older Evolution 2 at 55W/80hm, its till delivers 2x64W/80hm and 2x100W/40hm with momentary increases to 85W, 155W, 245W and 295W into 8, 4, 2 and 10hm loads under dynamic conditions. The output impedance is -0.040hm from 20Hz-20kHz so the amp/speaker system response, with its gentle treble roll-off of just -0.2dB/ 20kHz to -3.8dB/100kHz, will not vary significantly with speaker impedance.

In a fully balanced system the A-wtd S/N ratio amounts to 89dB (re. OdBW), with hum and noise just -80dBV (0.1mV). Up until clipping, the 50A's distortion is very consistent from 0.003% at 1W to 0.002% at 50W through bass and midrange, with an increase at high frequencies to 0.035% at 20kHz/10W. The digitally governed volume yields a tight ±0.01dB channel balance while stereo separation is>60dB 20Hz-20kHz. **PM**

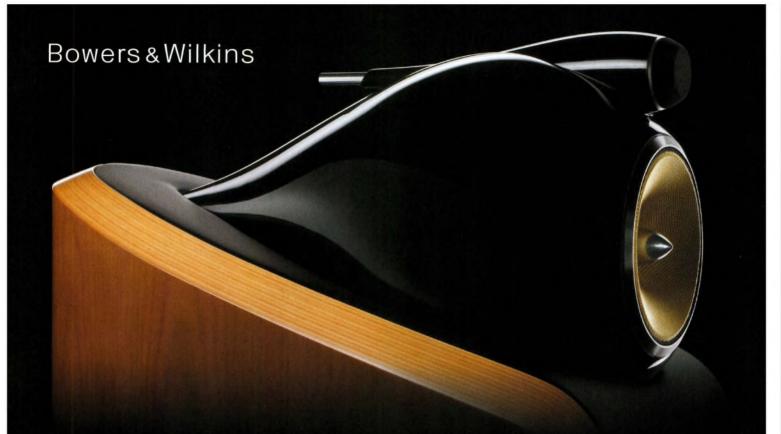
RESULTS AT A GLANCE



produce is sufficiently compelling to ensure that you never really feel that it is lacking in this area, suggesting that the 50A has been set up for supreme control rather than out and out bass depth.

The Evolution 50A is a class act. The design and build make it feel special before you even turn it on and the performance once you stop admiring it is also genuinely impressive. The feature count might be slightly down on some of the amps here (although it is far from minimalist), and it isn't the most subterranean performer, but in the areas that matter this is a very convincing amplifier indeed •





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INTEGRATED AMPLIFIERS GROUPTEST



NAD **C 356BEE DAC <u>£700</u>**



The unique modular design concept of this integrated ensures that this is an amplifier for all seasons

DETAILS

NADC 356BEE DAC ORIGIN Canada/China Integrated amplifier EIGHI 9.5kg ISIONS (WxHxD) 435 x 130 x 337mm ATI Quoted power
output: 80W RMS perchannelinto 8ohms • Available finishes: black/silver • Line inputs: 8 RCA inputs Digital inputs: **USB**/optical DISTRIBUTOR

Sevenoaks Sound and Vision TELEPHONE 01732 459555 WEBSITE nadelectronics.com erhaps more than any other brand in this test, NAD is all about affordable integrated amplifiers that deliver top-notch performance for sensible outlay, dating all the way back to the 3020. While the company has been exploring some of the more exciting ends of the price spectrum with some recent designs, it hasn't forgotten its roots and the C 356BEE DAC is a lot of amp for the money.

The versatile design with eight line-level inputs is available as a standard amp for £600, but this one comes fitted with a digital input board as part of NAD's Modular Design Concept (MDC). Testing the digital inputs falls outside the strict remit of the review, but a quick trial run of the asynchronous USB input suggests that this is the best performing digital input of any in the test and makes the amp a bit of a bargain for anyone with a computer as a source. A phono stage is also available, although NAD isn't heartless enough to make you choose between the two as you can still use one of its external phono stages as well as the digital module.

The NAD is not the most beautiful amp, finished in the customary field grey, but it does feel well assembled and well thought out. The controls are logical and easy to use with small LEDs to show source and speaker selection and aside from the slightly fiddly tone controls, it is pleasant enough to interact with. The remote is a little fussy, but does feature backlighting that's handy for anyone who does their listening in low light.

Sound quality

The NAD shows some distinctive traits from the off with the test material and most of them are likeable. Even after very careful level matching on all six amps, the C 356BEE DAC sounds bigger than the other offerings. The vocals in the Muse recording and the piano in the Neil Cowley piece take on a slightly larger than life quality and the soundstage seems to extend a little further outside the speaker than the other amps. This means that some of the delicacy of the Neil Cowley piece is lost and some of the higher notes have a fractional harshness, but this is comparatively minor.

With the more aggressive and uptempo parts of the test material, the news is still largely positive. The NAD has a usefully civilising influence on the Scratch Massive track, but doesn't over smooth it or lose the drive and attack that it needs to remain convincing.

Similarly Aloe Blacc's vocals are given the same slightly larger than life treatment, but this time the results are more satisfying. The area that holds the NAD back with the faster pieces is the bass, which is deep and powerful, but does find itself lacking some of the fine detail that the best in



ON TEST

If there's one thing you can almost guarantee from any NAD amplifier then that is oodles of dynamic power. So while the C 356BEE already betters its 2x80W specification at 2x15W/8ohm, under dynamic, music-like conditions it'll deliver a whopping 190W, 335W and 540W (16.4A) into 8, 4 and 2ohm loads. This is why NAD's C 356BEE sounds louder than its contemporaries here even if its maximum current rating is still less than Rotel's astonishingly load-tolerant RA-12.

Distortion increases with power (0.0003% to 0.01% over an 80W range), and particularly with decreasing load (0.005% at 60W/80hm to 0.03% at 60W/40hm), but the nature of the distortion itself is relatively benign. Finally, the A-wtd S/N ratio is very wide at 95.6dB and the response powerfully extended into the high treble (-1dB/100KHz) so there's no attenuation of ultrasonic noise from SACD, for example. **PM**

RESULTS AT A GLANCE



test can manage with the same material. There is plenty of impact, but the impression is slightly monotonal rather than that of multiple notes. If you have a slightly lean-sounding system though, the weight of the NAD is likely to be helpful in alleviating this.

The C 356BEE DAC is an impressive proposition for the asking price – especially if you can make use of that USB input and there is a lot to like about the powerful and lively sound that it produces. The slightly oversized presentation and somewhat exuberant bass has to be taken into account and needs careful partnering to get the best out of it \bullet



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Pioneer **A-70 £800**



The heavyweight of the group, this integrated sets out to do everything and, by and large, does so very well

DETAILS

PRODUCT Pioneer A-70 ORIGIN Japan/Malaysia Integrated amplifier WEIGHT 17.1kg IONS (WxHxD) 435 x 141 x 361mm • Quoted power output: 65W RMS perchannelinto 80hms • Available finishes: black/silver • Line inputs: 4 RCA inputs Digital inputs; USB/coaxial DISTRIBUTOR **Pioneer GB** 0208 8363500 WEBSITE

pioneer.eu/uk

his is the flagship of Pioneer's current stereo output and is the biggest and heaviest amplifier here. Not content with the most metalwork, the A-70 also has the most comprehensive spec. As well as the four RCA line inputs, it has a pair of digital inputs (one of which is an asynchronous USB) and a phono stage that supports moving coil cartridges as well as moving magnet. The only feature not available is a pair of XLR connections - although as none of the Pioneer source equipment in the same range is so partnered, this is not too surprising. Internally, the A-70 is the only amplifier here to make use of a Class D output stage, claimed to produce 65W of output into 80hms that is available over two switchable speaker inputs.

The result is a physically imposing amp, but one that is attractively and cleanly styled. Much of the extra weight is a result of the chassis design, which features a completely separate chassis plate to combat vibration. Only the slight lack of resistance in the volume control and the slightly lightweight secondary controls spoil the effect, but nothing feels flimsy. The remote is bespoke and attractive to look at, but does suffer from having many buttons that are all the same size arranged fairly close together, which means that it isn't the easiest to navigate unless you are looking directly at it.

Sound quality

The A-70 doesn't sound as big and powerful as it looks, but still manages a performance that is extremely likeable, with a well-defined and believable soundstage. It is a smooth performer that doesn't sacrifice detail in doing so. The Muse vocals are well represented with plenty of texture and space to them and the reproduction of the Neil Cowley Trio piano is potentially the best in the group with a genuinely impressive size and weight to the instrument along with a total lack of harshness or aggression with higher notes.

This civility continues with the Scratch Massive piece and the Pioneer softens the rawness that can be present without losing the fine detail. With both this and Aloe Blacc, however, its tendency towards smoothness and control results in a piece that lacks some of the life and excitement that the Creek brings to the party and while the performance is extremely technically competent, it doesn't have quite the same emotional engagement that the best in the test manages to have with the same material. The A-70 also never tips over into becoming matter of fact or showing up the shortcomings in recordings, but this seems to come at the expense of a little excitement. This being said, the scale that the Pioneer amp can generate is very good indeed and the bass response is both deep and possessed of the same

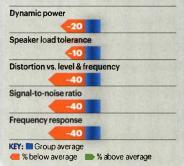


ON TEST

The only Class D amplifier in our test consumes 25W when idle but just 17OW at its rated 2x65W/80hm power output. While this is an efficiency of 76%, the optimum -85% is only achieved at maximum output which, in this case, is rather closer to 2x80W/80hm and 2x135W/40hm. Unlike some other Class D amps, the A-70 offers a higher output under dynamic conditions - 100W, 190W and 320W into 8, 4 and 20hm (<1% THD).

Distortion increases from 0.0007-0.02% from 1W to 65W through bass and midrange but, because of the inductive output filter required by almost all Class D amps, it's much higher at high (20kHz) frequencies. The response of this Class D amp is also influenced by speaker loading but is 'tuned' to yield a slight treble lift of +0.5dB/20kHz and +1.3dB/35kHz into 8ohm but offer a gently rolled-off treble (-1.2dB/20kHz) into lower 4ohm loads. **PM**

RESULTS AT A GLANCE



impressive detail as the rest of the frequency spectrum.

Whether this refinement and smoothness is the right thing for you is going to come down to the rest of your system and your musical preferences. The Pioneer has an impressive ability to keep even the roughest of recorded material sounding listenable, but equally when some recordings ask for a bit more excitement, it can be a little reluctant to truly deliver the goods. Many people will like how the A-70 goes about its business, though, and the very impressive feature set and substantial build are likely to help it win a lot of people over •



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INTEGRATED AMPLIFIERS GROUPTEST



Rotel **RA-12 <u>£600</u>**

The price tag might be the most wallet-friendly, but that doesn't mean the feature count has been cut back

DETAILS

PRODUCT Rotel RA-12 ORIGIN Japan/China TYPE Integrated amplifier WEIGHT 8.02kg DIMENSIONS (WxHxD) 430 x 92 x 342mm FEATURES • Quoted power output: 60W RMS per channel into 80hms • Available finishes: black/silver • Line inputs: 4 RCA inputs • Digitalinp ts: 2 coaxial, 2 optical DISTRIBUTOR Bowers & Wilkins TELEPHONE 01903 221700 WEBSITE rotel.com/uk

otel has been a long standing competitor at this price point but historically, its amps were never the most feature-laden models going. But no more, as the RA-12 is possessed of a fair few bells and whistles. As well as four line-level inputs, it has four digital inputs (although none of these is a USB DAC connection) making use of a Wolfson DAC and a moving magnet phono stage. The front port is Apple device-compatible, as well as being able to read compressed files on USB sticks the RA-12 comes supplied with a Bluetooth dongle for streaming off a computer - albeit at lower quality than a USB connection would manage. In terms of day-to-day use, this is the most convenient amp.

There is a substantial amount of functionality for what is the most affordable amplifier in the test. The RA-12 claims a power output of 60W into a single pair of sturdy speaker terminals, which suggests it's in the middle of the Group Test in power terms but is actually a much more capable performer in real-life terms (see On Test above). The build is perfectly solid as well, although it is somewhat fussy cosmetically and the display that is used to show input and volume lacks the legibility of the Arcam or the attractiveness of the Creek offerings. There are some operational niggles, too. The RA-12 seems to switch on at a default volume and the volume travel doesn't feel very positive. The remote control

is logical, easy to use and well laid out, however.

Sound quality

The Rotel's suitability will depend to a great extent on your listening preferences. The Muse and Neil Cowley Trio recordings are smooth, controlled and reasonably detailed with pleasant width and definition to the soundstage. There is a slightly sweet quality to the midrange that lends voices and instruments a pleasing richness. The Neil Cowley Trio sound big and confident with excellent treatment of the leading piano and excellent decay to the cymbals. The RA-12 manages to generate an impressive soundstage with plenty of space around the performers and a useful perception of front-to-back depth.

With the less perfect Scratch Massive track, it is not as happy. The live performance sounds a little forced and there are traces of harshness in the upper registers that sound like it is calling on more of its available power than the rest of the amps. The Aloe Blacc recording also shows some of the same stridency. There is a reasonable liveliness to it, though, and it sounds upbeat and agile with these faster recordings. It manages to do this while generating reasonable - if not the best in the group – bass levels and there is a useful depth and detail to the low end. The slightly strained quality never fully goes away, however, and

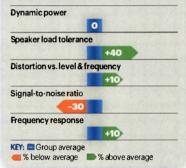


ON TEST

While Rotel's conservative 60W/8ohm rating might suggest the RA-12 offers a middling power performance, its richly-biased Class A/8 output stage is actually the most capable of the bunch with a 'real-life' 2x90W/8ohm and 2x145W/4ohm putting it in the top tier. Furthermore, with a massive 23A maximum current at its disposal, it's also the most tolerant of the toughest speaker loads.

Distortion is held to a consistent 0.005% over a 1-60W range through the midrange although there's a bigger increase to 0.02% at higher frequencies (10W/20kHz). The response of both channels is very flat indeed, the mild -0.25dB/20Hz bass roll-off contrasting with the hugely extended -0.1dB/100kHz top-end range. While this will let through any ultrasonic noise from digital sources, the slightly below-average 82dB A-wtd S/N ratio may actually help ameliorate any sonic 'roughness'. **PM**

RESULTS AT A GLANCE



the Rotel isn't as easy to listen to long term as some of the others here.

The RA-12 is very capable in many ways and represents an awful lot of amplifier for the money. For anyone who has music that tends to lean towards the more civilised end, it is capable of a detailed and engrossing performance and the extensive functionality should make it a very flexible part of any system.

The strain and slight harshness that it shows with less immaculate recordings and the slightly fussy aesthetics and controls are less appealing, however, and some of the more expensive amps in the test offer superior all-round ability •

OUR VERDICT



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INTEGRATED AMPLIFIERS GROUPTEST



Teac **AI-1000 <u>€800</u>**

Teac is back and this integrated offers a minimalist design that has more than its fair share of charms

DETAILS

PRODUCT Teac AI-1000 ORIGIN Japan/China TYPE Integrated amplifier WEIGHT 10kg DIMENSIONS (WxHxD) 435 x 116 x 403mm FEATURES • Quoted power output: 85W RMS per channel into 80hms • Available finishes: black/silver • Line inputs: 6 RCA inputs • Digital inputs: n/a DISTRIBUTOR Onkyo UK TELEP-IONE +49(0)8142420811

WEBSITE teac-audio.eu/en

eac has re-entered the two-channel market at this price point after some time away and the AI-1000 is the smallest of three integrated stereo amps in a new range with matching SACD players. Small is a relative term and other than the burly Pioneer, this is the largest amp here. It is also the simplest of all the models in terms of the specification. In a field of designs with digital inputs and phono stages. this is the only one to be fitted with just line inputs. As the most expensive amp (along with the more lavishly specified Pioneer), this is a bold move and hints at a different philosophy.

Internally, the AI-1000 shows where some of the money has gone. The 85W claimed power output design is a beautifully assembled amp inside and out - with only the smaller Creek matching it for the quality of fit and finish. Touches like the high-quality WBT speaker terminals and substantial casework mean that the Teac looks the part and the controls the volume knob especially – all feel well weighted and impressively engineered. Although, the lack of digital input might put some people off, the AI-1000 feels worth the price. The remote is well laid out, attractive and easy to use.

Sound quality

The Teac very quickly shows some attributes that place it right up at the top of the test, but then also reveals some infuriating areas of performance that count against it. With Muse in particular, the AI-1000 is a fine balance of drive, detail and control. The sound is big without tipping over into being overblown and the detail and tonal accuracy is also extremely compelling. It is able to match the NAD offering for sheer scale, but partners this performance with a bass response that is deeper and more detailed than most of the other amps here. The assurance it possesses with the Neil Cowley Trio is also very impressive, although the piano takes on a slightly harder-edged quality than it does with some of the other amplifiers tested.

This scale and detail runs into some problems with Scratch Massive, as it is less sumptuously produced than the first two pieces. The scale and confidence that the Teac displayed before remains, but the hard-edged quality that showed in some parts of the Cowley recording are more apparent in these less pristine circumstances and it can be ruthless with some parts of the usually benign Aloe Blacc recording too, with a stridency to the backing piano that isn't really apparent with other amps in the test. It isn't entirely fair to call this 'warts and all' because the Creek in particular is able to match the AI-1000 at its best and is entirely more forgiving of the other pieces. A more minor criticism, but one still worth flagging up is that it rather lacks the excitement and life that some of other integrated designs can

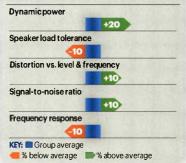


ON TEST

One of the very important reasons why we independently test all our Group Test components is that the manufacturer's specifications are not always comparable. Teac's Al-1000, for example, might seem a lusty contender at its rated 85/120W 8/40hm but in practice, while beating it's own spec at 103W/155W, it's no more powerful than Rotel's '60W' RA-12 and evenless speaker load tolerant with its maximum current capped-out at 14A.

Yetthe AI-1000 is still perfectly capable and offers a wide 89.5dB A-wtd S/N ratio (re. OdBW), a moderate 0.05ohm output impedance, sensibly band-limited response (-0.4dB/20kHz to -4dB/100kHz) and distortion that varies from a low of 0.004% at 1kHz to 0.02% at 20kHz. Stereo separation is a little weak at HF (43dB/20kHz), but at least the reduced +34dB gain is better suited to modern, high-output digital sources. **PM**

RESULTS AT A GLANCE



bring to their performances and doesn't prove quite as engaging as other amps on test here.

In many ways, the Teac is a strong proposition and for well-recorded material it has a scale and control that is among the best in the group. The slightly merciless quality it shows with less benign material isn't quite so appealing, though, and the AI-1000 would need thoughtful system matching to be a true all rounder in the manner of some of the other amps in the test. When you also take into account the fairly high price and limited features, the AI-1000 is outpaced by some of the other amplifiers on test here •

Choice **OUR VERDICT** SOUNDQUALITY LIKE: Superb build; **** confident and bold sound with good VALUE FOR MONEY recordings **** DISLIKE: Less happy with ordinary material; BUILDQUALITY limited spec **** WE SAY: Capable of excellent presentation, FEATURES but performance is $\star\star\star\star$ rather inconsistent OVERALL

Group test verdict

The verdicts are all in and checked and it's down to **EdSelley** to reveal the final results of this month's impressive integrated amplifiers test...

ALL SIX AMPS have some very worthwhile features, but in terms of all-round ability there are winners and losers. The Rotel RA-12 is amazingly well equipped for the asking price, which is the lowest in the group. The slightly strained performance with some material and the indifferent ergonomics do count against it somewhat. The Teac AI-1000, on the other hand, is beautifully assembled and with the right music is capable of excellent performance, but it lacks consistency and the limited functionality are issues to take into account.

The Arcam FMJ A19 is a more capable all-rounder and one that is offered at a very agreeable price. The soft bass and safe presentation deny it a top three place, but there are many situations where its amenable ability with most music might be ideal for some listeners. The NAD C 356BEE DAC does steal into the upper half. This is a powerful and lively sounding amplifier with bundles of inputs that as tested also happens to have a very capable USB input, making it a bit of a bargain for anyone looking for an amp to use as a computer audio system.

The Pioneer A-70 has the competition on the ropes in terms of features, though. The combination of digital inputs, the most sophisticated phono stage in the test and the promise of the most horsepower would be irrelevant if the A-70 didn't sound good, but it is a very tonally sweet and detailed amplifier that can approach a wide variety of musical styles with confidence and do justice to all of them. When you consider the excellent build quality as well, you have an amplifier that very nearly takes the top spot.



No other amp here can match the Evolution 50A for the balance of detail, scale and sheer enjoyment it brings to music. Considering the build, good looks and useful features, you have not only a winner, but possibly the best integrated amplifier under £1,000.



A strong value amp

matching to get the

that needs careful

best results

A very capable amp

functionality and a

that offers a lot of

controlled sound

Key features

Line inputs	5 RCA	3 RCA/1 XLR	8 RCA/1 USB/optical	4 RCA/1 USB/optical	4 RCA/1 USB/coaxial	4 RCA
Headphone out	3.5mm	6.3mm	6.3mm	6.3mm	3.5mm	6.3mm
2 speakers out	Yes	No	Yes	Yes	Yes	No
Remote control	Yes	Yes	Yes	Yes	Yes	Yes
Phono stage	ММ	MM	MM	MM/MC	ММ	No

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STREAMER:

Cambridge Audio Stream Magic 6 £700 The Cambridge proved a very happy musical partner with the Creek and the flexibility of UPnP and digital inputs in one box would makefor a very capable system indeed and the Cambridge even comes with a set of XLR connections for the Creek to use.

Considerable all-

bettered in some

areas by its rivals

round ability, but it's



CD PLAYER: Rega Apollo R **2548** If you have no interest in

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amp that delivers

superb sonics



streaming, the Rega would be a very happy partner for the Creek as it excels in the same areas - a musical and engaging performance across a wide variety of musical styles with excellent build and aesthetics.

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price lacking the all-

round ability of rivals

at a competitive



Capable of excellent

presentation, but

rather inconsistent

performance is

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SEVENOa<S



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Longdog Audio VDt1



Top dog

Longdog Audio's VDt1 is a minimalist high-end DAC with a difference, says **David Price**, but is it the mutt's nuts?

hese days, £3,500 gives you a choice of a good range of feature-laden DACs and digital preamps. Kitted out with fancy displays, multifarious features and often with streaming functionality too, they seem to have more inputs than you'd see in a recording studio desk. And then there's Longdog's VDt1, which is the diametrical opposite. The objective of this stripped-down, minimalist machine is - in the words of designer Nick Gorham - to be a digital convertor that "plays PCM as well as it can".

It also gives Direct Stream Digital playback, too – DSD 64 only, 128 isn't supported. And so, at the Longdog's heart is a Japanese-sourced and uncommon Asahi Kasei AK4396 DAC chip, chosen because in Nick's view it was the best sounding around for his intended application. It does the digital filtering internally, with no additional output filtering after the analogue stage, other than that provided by the output transformers.

Unusually, the analogue board sports two JAN Philips 5687 triode valves and because they are robust and have very close matching between them. They are very long life tubes and to aid longevity there's an automatic standby feature, which powers off the output stage after a period of non-use. The system shuts down the heater supply and HT for the valves if it sees digital silence for more than five minutes and turns the normally blue power LED to a flashing red colour; the DAC circuit is powered up all the time unless the mains power is turned off at the back.

Three regulated power supplies are provided, for the digital board main supply, output stage valve heater supply and valve-regulated high

DETAILS

PRODUCT Longdog Audio VDt1 ORIGIN UK TYPE Digital-to-analogue convertor WEIGHT 8kg DIMENSIONS (WxHXD) 450 x 240 x 120mm FEATURES • 16 to 24-bit, 44.1kHzto 192kHz PCM; DSD 64

playback • Asahi Kasei AK4396 DAC chip • Tube output stage with 2x Philips 5687s • Galvanically isolated inputs DISTRIBUTOR Mains Cables R Us TELEPHONE 07908 056978 WEBSITE

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voltage supply using high voltage MOSFETs and EF86 pentode. The low noise HT supply ensures a low analogue noise floor, Longdog says, and the DAC itself is fed by two ultra low noise voltage regulators. The I2S and DSD inputs are isolated from the receiver to avoid noise transfer between stages. The digital board has four stages of pre-regulation using low-noise regulators, nine of which are mounted beside the driven device. The custom board design provides isolated ground paths between stages, and a toroidal transformer completes the picture.

Real effort has been taken to minimise the transmission of noise; both from outside and that which is generated inside. High-quality socketry is apparent on the back panel, and the digital inputs are galvanically isolated with pulse transformers – a great boon considering the rubbish that can come down a USB lead from a computer. The S/PDIF receiver is supplied by three separate ultra low noise voltage regulators, the designer says, and Tellurium Q Graphite USB cable is used inside. Mechanical noise is reduced by the solid casework that's supported by RDC cone feet, and the casing and base is all aluminium to avoid the generation of earth current loops in the metalwork, both from external fields and internally.



This DAC is well made: the manufacturer has obviously taken great care to produce a finely finished product both inside and out. The front panel knob selects between three inputs (two coaxial and one USB) and there's a bank of handy LEDs to indicate power, error condition, DSD and HS Coax (which lights when the coaxial input sees 88.2kHz sample rates or higher). I would have liked to have seen an additional way of displaying that 176.4kHz or higher has been achieved too - and make this apply to the USB input, just to make life that little bit more certain. As any computer audiophile knows, one

CONNECTIONS

LONGDOG AUDIO VDTI CHOICE EXOTICA

cannot always be completely sure what you've actually got going out of your computer! Still, it works well as it is and doesn't have a cluttered fascia, which is no bad thing. A choice of black or silver front panels is offered, although the case remains black whichever variant you specify.

The Longdog will work at the usual 16-bit/44.1kHz to 24-bit/192kHz resolution; it will accept 32-bit signals, but won't process them. The USB 2 interface requires no drivers for Linux and Mac users, while there's a simple driver installation procedure for Windows devotees. It supports DSD over USB, 64-bit DSD and has automatic switching between PCM and DSD. Either of its two coaxial digital input sockets can be repurposed as Toslink or AES XLR inputs to special order, or the RCA audio outputs changed for XLRs. With my MacBook Pro, the Longdog hooks up with no messing, and works seamlessly with my Audirvana Plus hi-res software player; I also use an Audiolab 8200CD CD player for optical disc transport purposes.

Sound quality

The stripped

down. minimalist

Lonadoa proves

that less is more

This is a warm, expansive performer that will delight analogue addicts, thanks to its particularly natural tonal balance. Instead of a rather lean, analytical, matter-of-fact sound that you often get from digital-to-analogue convertors, the Longdog gives a smooth and sweet - if not quite sumptuous - performance that makes extended listening a pleasure. For example, take Simple Minds' Someone, Somewhere, In Summertime. As well as being assaulted by a grumbling bass line that's as loud as a forced realignment of the earth's tectonic plates, you're assailed by a metronomic, thumping snare and hi-hat sound that feels positively electric. It fizzes with energy, and then the kick drum comes in loud

enough to remind you that your windows are made from breakable glass. It's a massive, gutsy sort of sound that makes even dCS' superb high-end Debussy DAC look rather over-polite. And the great thing is that it's not just big and punchy in a hi-fi sort of way, it's actually very naturally musically satisfying, too.

Staying with 16-bit CD as a source, and The Jam's classic *Down In a Tube Station at Midnight* thunders out.

Unlike so many DACs it doesn't stand in the way of the musical event

Although packed with amphetaminefuelled anger, it's a pretty thin and reedy-sounding recording and can underwhelm, especially on CD, but this DAC isn't having that. Instead, it serves up an engrossing sound that gets me hooked. It perfectly catches the expressive, plaintive tones of Paul Weller's vocals, and drives home every last ounce of the song's powerful emotion. Unlike so many DACs it simply doesn't stand in the way of the musical event. Indeed, the VDt1 proves wonderfully subtle, yet involving in its presentation; vocals hover ethereally in a wide soundstage, against a backdrop of a powerful bass guitar, pushing the song along.

So rather than treading the well worn, respectable path of trying to cover all the bases, it goes steaming into the recording to see what it can pull back out with breathtaking energy. Digital geeks will know what I'm talking about when I say that it reminds me of the old Philips TD1541-equipped eighties CD players, which seemed to make every piece of music you played on them sound dramatic – epic, even. The



Q&A Nick Gorham Designer Longdog Audio



DP: How have you reduced noise inside the DAC?

NG: I've used galvanic isolation. The S/PDIF inputs are isolated by pulse transformers from the rest of the DAC circuit, so any earth current from the source is prevented from entering and potentially causing disruption, noise and jitter. The USB input is not directly isolated, but the USB interface itself is isolated by the addition of a high-speed isolator. The analogue output of the DAC is again isolated, to avoid the potential to set up ground loops between the DAC and the equipment it is driving. In this case the isolation is provided by the nickel core output transformers in the DAC. Also within the DAC itself, a isolator is used between the receiver section and the DAC section.

Why did you choose to use tubes in the output stage?

In my view they offer the best solution to taking the signal directly from the DAC output and presenting it to the following equipment. The output stage presents a very high impedance load to the DAC output, and could be considered as a 1.5W push pull tube power amplifier. Unlike most tube output stages used in DAC designs, this stage is not intended to add its own character to the sound. the fully balanced transformercoupled design would be familiar to any engineer used to working on sixties' studio tube equipment. In terms of measurement, the output stage produces similar numbers to conventional op-amp based output stages, so nothing is lost, but the clarity and lack of higher order distortion products means that the goal of offering the best of both worlds is attained.

HOW IT COMPARES

Costing £4.100 with

AES/EBU, RCA, BNC

USB - the Astin Trew

competitor. And with

output stage - in this

you can use the solid-

similar in concept. It is

based around two Burr

Brown PCM1794 DAC

chips running in dual

mono configuration, so

there's a different chip

at its heart. The Astin

Trew sounds superb,

but is a fractionally

brighter and lighter

the latter is fat and

overly rich, but it is a

little deeper and more

three dimensional. Both

are very fine machines.

terms of the end result.

and not dissimilar in

sounding device than

the Longdog. Not that

state one - it is quite

case it is switchable and

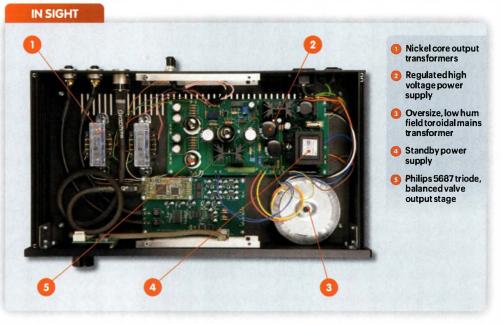
a high-quality tube

and optical inputs - plus

Concord 1 is the closest

Why have DSD on a DAC?

Simply choice. Some material is available as PCM and some as DSD, there are no additional parts required in the signal chain to offer the option, so it seemed obvious to offer the feature. Now that streaming is the source of choice for many, and USB offers the option of encoding DSD within a standard 24-bit packet it'll be interesting to see what listeners pick.



VDt1, of course, has more refinement and depth than such players, but still goes about the job of making music in much the same sort of fashion.

Feed it some hi-res music via its USB input and it really begins to shine. Art of Noise's Moments in Love at 24/88.2 is just superb, the DAC capturing the synthesised rhythm backing beautifully, giving a very realistic sense of texture. At the same time, those big synth stabs sound powerful and menacing, and backing vocals creamily smooth. The Longdog sets up a spacious soundstage, one that hangs back well, but projects powerfully into the room, too. Everything seems to syncopate so convincingly; sparse electronic music such as this relies on the rhythmic interplay between instruments for effect, and in this case it proves the DAC's fine timing. For me, the ability to combine believable tonality with fine timing isn't universal in a DAC of any price, let alone this, so the VDt1 is in good company.

Firing up some high-powered thrash metal courtesy of Metallica's Enter Sandman at 24/96, shows that it can rock out with the best of them. This is a true large-stage production, one with all the faders set to eleven, and the Longdog shows this in no uncertain terms. Bass is deep and powerful in a way that few similarly priced designs are. In absolute terms it's a fraction on the warm side, with a slight extra weight in the upper bass, but it lacks the instantaneous start-stop of the very highest-end solid-state DACs. Midband is very detailed and drops back surprisingly far, giving an enjoyable immersive sort of feel, and the treble is sweet

and smooth – again some will bemoan a slight lack of bite, while others will love it. The same goes for a DSD file of Alex de Grassi's *The Water Garden*, which has a lovely lilting sound. Again, a naturally open, smooth and enthusiastic nature shines through, and it serves up a highly involved rendition of the music, with lots of detail and focus.

Conclusion

Here's an interesting new DAC that can hold its head high even among considerably more expensive types in terms of pure sonics. It isn't quite as swish looking as some price rivals, because much of the budget has gone towards getting it to sound superb and it's been money well spent. If you're looking for a minimalist, high-performance digital convertor, then the Longdog VDt1 illustrates how less can be more! If you take your digital and/or computer audio seriously, but aren't too concerned about a vast range of features, it's an essential audition •





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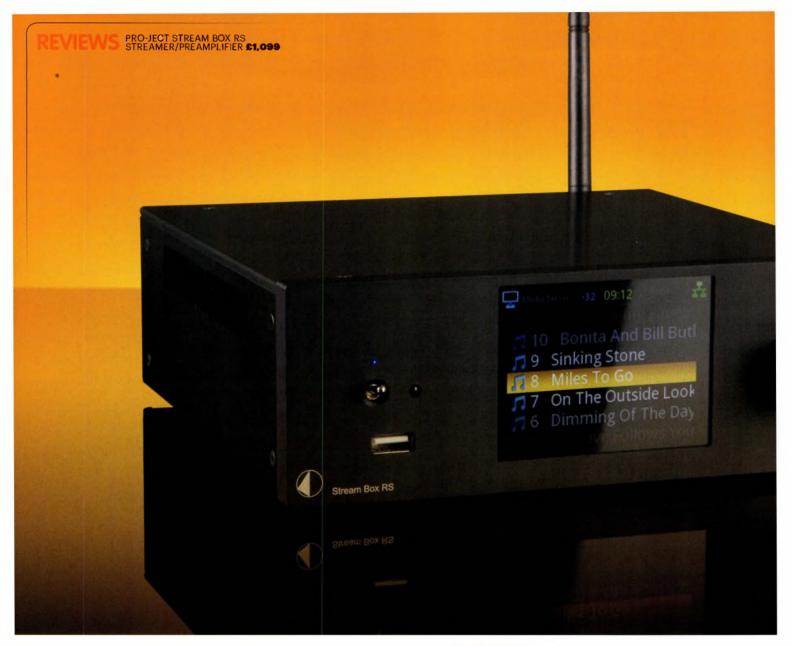
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Go your own way

What happens when a turntable manufacturer makes a streamer? **Ed Selley** finds out that the result is rather unusual

esigners at Pro-Ject must be putting in some serious overtime of late as the range of products the company has released in the last few months has been prodigious. Some of the most impressive new arrivals have been the RS series. These flagship members of the 'Box' range of electronics have proved impressive with some innovative features.

The latest offering in the RS range pitches into an area that is rather less

of a Pro-Ject comfort zone. The Stream Box RS is (as the name suggests) a UPnP media streamer offering 24/192kHz-capability over both wired and wireless connections as well as internet radio. So far so normal, but then the Pro-Ject starts to deviate from the norm somewhat. The fitting of a pair of digital inputs is to be expected on streamers, but finding an analogue input is more unusual – only Naim and Musical Fidelity have been ploughing this

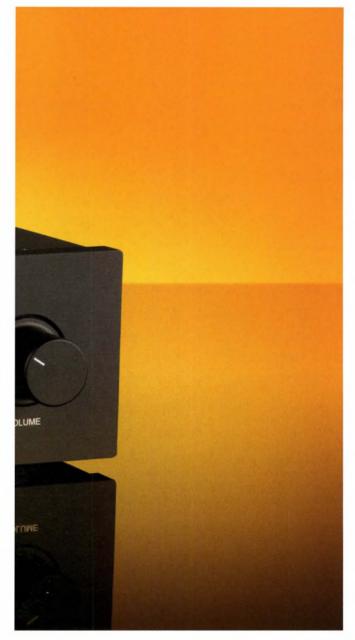
DETAILS

PRODUC **Pro-Ject Stream** Box RS ORIGIN Austria/Czech Republic Streamer/ preamplifier 3.25kg IONS (WxHxD) 206 x 72 x 200mm • MP3, FLAC (up to 24-bit/192kHz, AIFF, AAC, ALAC, LPCM, OggVorbis1.0 vTuner 1x digital coaxial, 1x digital optical, 2x USB 2.0 (Type A) • Wi-fi and Ethernet networking **Henley Designs** 01235 511166 WEBSITE henleydesigns.co.uk particular furrow and even then, the Pro-Ject has ideas of its own.

The inputs can be collated and output at line level and you have the welcome choice between RCA and XLR connections, but the Stream Box can be converted to a preamp at the press of a button on the rear panel. This brings the volume control on the front panel into the circuit and means operation is more like a conventional preamp than the button-based volume control of the Musical Fidelity CLiC for example. The Pro-Ject idiosyncrasy doesn't end there...

Nestled in the back of the Stream Box RS is a pair of 6922 valves that are arranged to give the Pro-Ject a dual mono valve output. Valve outputs in CD players are nothing new - they've been around for over 20 years, but fitting them to streamers is highly unexpected. When you combine the preamp into the mix, you have a product that is effectively unique and offering something a bit different to the rest of the streaming pack. This is also especially pertinent given that the RS range has a power amp present and ready to go, and the resulting combination is a highly

PRO-JECT STREAM BOX RS REVIEWS



compact and potentially fascinating coming together – especially as the power amp is fitted with an additional pair of small valves in the signal path, which is going to have a further effect on the overall sound.

Around the front, the Pro-Ject is dominated by a large colour display that is the trademark of streaming products developed in cooperation with fellow Austrian company Stream Unlimited. This is still one of the

Substantial build and a generally excellent display make the Stream Box RS stand out

better displays out there and means that the Stream Box has no other front panel controls beyond an on/off switch. This puts a great deal of onus on the supplied remote control and Pro-Ject-developed app, and here the news is mixed. The remote is effective enough, but it's small and somewhat lightweight. It works relatively well, though. The app is free to download, is effective and well produced, but at the moment it's only sized for the iPhone rather than the more capable iPad. The good news is that Pro-Ject has developed an Android version for those with iDevice-phobia.

Build quality standards meets with the rest of the RS range and the Stream Box feels both solid and substantial. The thick front plate and damped casework with solid connections are in keeping with what you might expect at the price.

Setup proves simple enough, but the method of inputting network passwords by scrolling up and down a long list of characters is a bit of an ordeal and the speed that it renders information from the central NAS drive is not as quick as the Naim ND5XS and Cambridge Audio Stream Magic 6, which are permanent residents and access the same drive over the same network. Once the library has been rendered, accessing different tracks is quick and stable.

Sound quality

Given that the internals of the Stream Box RS are somewhat different to what you might expect to find in a network streamer, I expect the performance to be subtly different, but the way that the RS goes about making music is in many ways as unique as the specification. The first and indeed overriding impression is that the Pro-Ject has a presentation that is very different to many competing products and not necessarily in a bad way, either.

Give the Pro-Ject something well recorded, but fundamentally mellow like Ali Farke Toure and Ry Cooder's Talking Timbuktu and the Pro-Ject is as smooth, unforced and relaxing as a cold pint of Guinness. Many pieces of modern digital manage to sound free of the slight sharpness and sterility that can leave digital sounding slightly fatiguing in some instances. The Pro-Ject takes this idea and runs with it. The presentation is absolutely free of any form of aggression or harshness and there is a sense of warmth to the way that it makes music that is unusual, but not entirely

It performs in a way that is sufficiently different to any of the competition

unwelcome. The plucked strings of Toure's guitar have a full-bodied and surprisingly weighty tone to them that lends each listen a richness that is rather beguiling.

This relaxing way of going about making music can be slightly deceptive. The Pro-Ject can generally extract a surprising amount of detail from music, but the overall presentation never forces this information to the fore. The Pro-Ject tends to push quite a bit of the information available towards the centre of the soundstage and then let it happen. This can mean that very large renditions can sound slightly constrained – although not unduly so - but smaller pieces have a very pleasing intimacy and a sense of effortlessness that is hard not to like. Switch to something more aggressive and the Stream Box maintains this unflappable smoothness. This does mean that the sheer bite and attack of the high-res FLAC of Scratch Massive's live



Q&A Heinz Lichtenegger Pro-Ject CEO



ES: Did Pro-Ject decide from the outset to use a valve output in the Stream Box RS?

HL: The idea of the whole RS line is to make tube output or input stages with fully balanced designs for a very reasonable price.

Do you feel that many units will make use of the preamp functionality or be sold as line level devices?

A Stream Box RS as the preamp partnered with the Amp Box RS is the perfect starting point for a very good, low-cost, high-end system. On the Stream Box RS we have included analogue inputs as well as several digital inputs and a motor-driven volume potentiometer that is controllable by the app. To make the unit perfect as a preamp and to be able to connect the amp direct, we have a balanced tube output stage and true analogue volume control.

Will there be a dedicated iPad version of the control app?

Yes, we are planning an iPad version. For us it was more important to develop an Android app and then the iPad app.

COMPARES

The Pro-Ject shares

the Musical Fidelity

CLiC and is also an

analogue preamp,

are very different in

presentation terms.

The Musical Fidelity

has a clean and open

presentation that can

be slightly unforgiving

with poor material, but

sublime with high res.

The warmer and softer

Pro-Ject is much more

physical volume control

forgiving and the

is nicer to use. The

Musical Fidelity hits

back with a nicer app

and greater choice of

compact, well-built and

easy to use and thanks

cheese performance,

you're probably going

if you don't like one

to like the other.

to their chalk and

inputs. Both are

but the two boxes

some components with

With an expanding range of streamers and such an extensive range of turntables, is Pro-Ject finishing with CD?

We will expand the range with more streamers but not above the RS, and we have plans to make a model that we can retail lower then \notin 500, but still with 24/192 resolution capability.

We definitely will not finish with CD. Pro-Ject is a niche player – even though our turntables are popular and sold in more the 5,000 shops worldwide. CD will also become a niche product and many mass market brands will go out of the CD player market, which gives us room. Customers will still want a goodsounding, simple to use, not too expensive CD player and that's just what Pro-Ject is all about!



Communion is lost, but equally the Pro-Ject maintains a degree of civility that this very raw performance can sometimes benefit from. The timing and pace of the Stream Box is never as pinpoint as more upfront rival machines can manage, but equally it can't be described as wayward.

This warmth doesn't seem to be something that can be laid solely at the door of the valves in the circuit. Plenty of CD players with valve outputs are altogether more forward and capable of more aggression than the Pro-Ject and it seems that the entire setup of the Stream Box RS is responsible for the way it sounds. The flipside of this very forgiving setup is that although the Pro-Ject is capable of high-res playback, the overriding presentation never really changes.

The excellent 24/88.2kHz recording of Elliot Sharpe and Terraplane's *Sky Road Songs* doesn't have the same space and exceptional dynamics that the Naim can bring to the party. By the same token, the presentation with internet radio is consistently good and the Stream Box RS is very forgiving of low bit-rate stations.

Switching the RS to the preamp function – into the fixed input of the Cambridge Audio 851A – doesn't have a significant effect on the overall performance. The volume control is reasonably linear (although the adjustment via remote is decidedly sluggish) and there is little sense of attenuation at low levels, which is always useful.

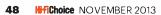
The analogue input reveals an overall output that is broadly transparent (again suggesting that the valves are not the main cause of the execution of the RS), but the digital inputs are a little bit clearer and more forward than the UPnP section of the RS, and points to some of its character originating from there.

Conclusion

The Stream Box RS is a product that performs in a way that is sufficiently different from any of the competition to be a device that needs to be considered carefully before purchase. The smooth, relaxed and controlled way that it brings civility to even the most wayward bits of music (and by extension, have a calming influence on bright systems) is frequently a very welcome and pleasing thing.

The preamp functionality is also well implemented and extremely useful. If you are looking for a more forthright and detailed digital source – and you are hoping to really see the benefit of high-resolution files – the Pro-Ject is slightly less convincing. In the right system though, this supremely built and nicely thought out little box of tricks has plenty to commend it ●





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Canadian rockies

The Imagine T floorstanders are the latest models to arrive from PSB on UK shores. **Malcolm Steward** gets the scoop...

he Imagine T is an elegant, slim, floor-standing, three-way design, that stands about a metre tall. Most importantly, though, the review pair are coated in high-gloss white lacquer finish, which is bang on trend and currently my most preferred finish for loudspeakers, especially floorstanders. This is the second of the PSB Imagine range – it is the next model down from the flagship T2 – and is being released now in the UK, but has been available for some time in the USA and Canada.

The presentation is wholly engaging and makes you want to listen further

Compound-curved on every vertical face, and outstanding sonic performance makes this speaker (and the Imagine Series in general) a real class leader, says its maker. I do not know about class leading, but it certainly is way out in front in the appearance stakes and ought to appeal to a wide variety of home makers. The driver array consists of a 25mm titanium dome tweeter and a pair of 133mm clay/ceramic reinforced polypropylene cone woofers covering the frequency range below the tweeter – both housed within their own discrete internal enclosures, which are individually ported. The upper unit extends from the bass up to 1.8kHz, where a 24dB/ octave Linkwitz-Riley network rolls it off to the tweeter. The lower unit also extends from the bass, but rolls off at about 800Hz, to avoid the interference with its partner that would result from having their outputs overlap in the midrange. The overall sensitivity is quoted as 88dB anechoic and 90dB in-room, and so

should present a loudspeaker that ought to be easy to drive and control even with a modest amplifier.

A cloth grille cover is supplied with the speakers, but I elect to use them without it, and a rubber plug bungs one of the two rear-facing ports. Users can insert this in either of the available ports. I plug the lower port and find that this gives powerful, but agile bass along with a wellarticulated midrange on the powerful Keith Jarret Paris/London – Testament 2008 piano concert recording.

The speakers are robustly constructed and should inspire confidence in purchasers. The finishing and attention to detail in their construction – items such as the The gloss white finish is bang on trend, but more traditional finishes are also available

DETAILS

PSB Imagine T

Canada/China

Floorstanding,

(WxHxD) 214 x 936 x 325mm

 Quoted power handling: 200W
 Quoted frequency response: 38Hz -23kHz (+/- 3dB)

• 25mm titanium dome tweeter • 2x 133mm clay/

ceramic mid/bas

Sevenoaks Sound

psbspeakers.com

driver

and Vision

01732740944

three-way loudspeaker

16.6ka



neat, efficient 4mm bi-wire/bi-amp terminals come to mind, here as well as the arrangement for attaching spikes or floor-protector pads – is very impressive indeed.

The specifications for these speakers include the expected black gloss, black ash or dark cherry, and walnut wood veneer as the available finishes, but as I noted earlier, the review pair came in a high-gloss white and are all the more attractive for it. This finish certainly seems to be justifiably gaining in popularity these days.

For the listening test I drive the Imagines with my Naim 250 power amplifiers and Chord Company Signature cables as well as with a Supernait/HiCap combination. The speakers are none too fussy to set up and respond well to free space placement and being toed-in by a modest 15° or so that seems ideal for focusing the soundstage and taking some of the perceived hardness out of the treble.

Sound quality

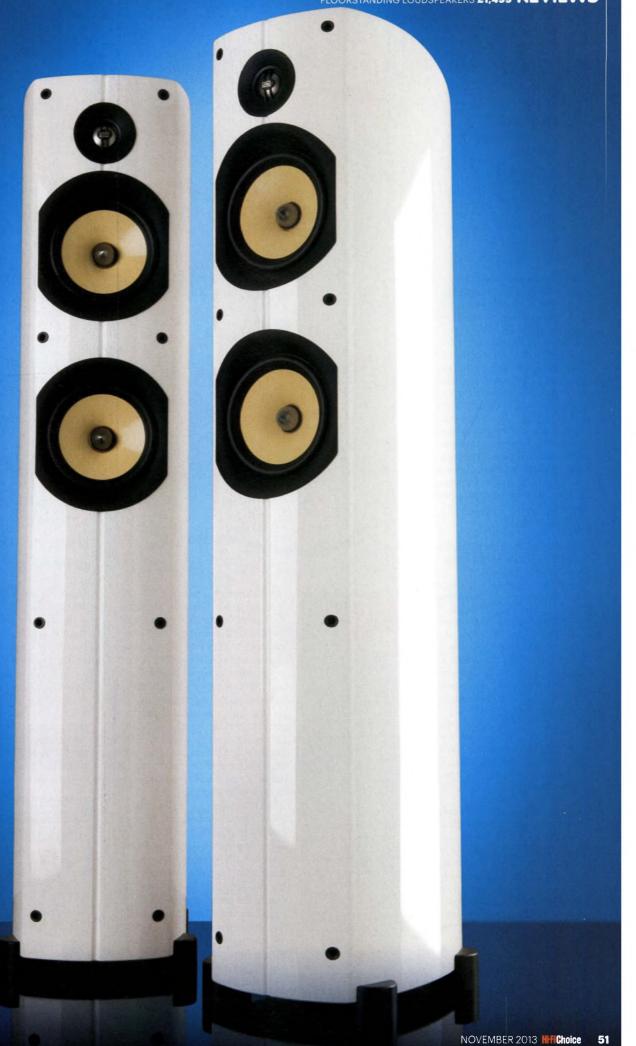
Paul Barton, the designer, stated: "With T. I incorporated our latest design know how into a taller cabinet, for deeper bass, a larger soundstage and increased power handling." I think he was successful in all of these respects judging by the performance of the speaker on the end of my system combination. The Imagine Ts have a fruity, quite rich bass response and a vivid, enthusiastic high frequency band that may come from being voiced for the American market. They steer clear of being criticised for having a boom and tizz response by a small, albeit discernible margin, but they are certainly lively and deliver plenty of energy at the far ends of the audio frequency spectrum.

They also produce often quite vivid, well-dimensioned sound stages filled with credible images of performers and their instruments. They create a realistic image with excellent scale of the Utah Symphony Orchestra playing the challenging Amériques by the avant-garde composer Edgard Varèse, bringing out a wealth of detail from the band, in particular the smaller percussion instruments and the brass section. There is a rewarding sense of scale that delivers a fine, threedimensional sound stage with a convincing feeling of acoustic space and genuine air around the instruments in the orchestra.

The Imagine creates a similar sense of space and depth on much smaller-scale music, for example, that of the acoustic roots power-trio Vivid Curve playing on their magnificent

PSB SPEAKERS IMAGINE T REVIEWS





REVIEWS PSB SPEAKERS IMAGINE T FLOORSTANDING LOUDSPEAKERS **£1,499**

Q&A

Paul Barton Founder and chief designer PSB Speakers



MS: Was the Imagine series specifically voiced 'vividly' to appeal to American ears?

RS: No, hopefully they will appeal to ears all around the world! Three decades of research, much of it undertaken at the Canadian National Research Council by luminaries such as Floyd E Toole, have shown that listeners with experience and good hearing show a remarkable amount of agreement in their assessment of loudspeakers. If you can design a loudspeaker that appeals to a wide range of experienced listeners at the development stage, then the production speaker should be equally well received globally. This premise underlines all PSB loudspeaker development.

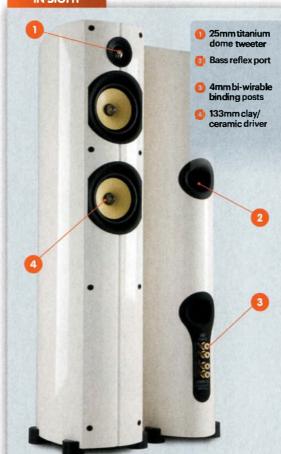
What is the idea behind the clay ceramic-filled polypropylene woofer cone material?

Polypropylene on its own is a good substrate for woofer cone design, but we wanted to improve the performance at the driver's transition from pure pistonic to multimodal behaviour. The addition of the clay ceramic compound delivers a much smoother transition through this break up region and allows a more simplified and straighter path crossover. The net result is a smoother sound and greater musical articulation than can be achieved with a pure polypropylene cone. The clay ceramic compound is also what gives the Imagine series' drivers their unique colour.

Is there any amplifier that makes a perfect partner to the Imagine T?

The Imagine T is a 40hm speaker so it is ideally suited to an amplifier with a good power supply and the ability to deliver plenty of driving current. NAD, PSB's partner brand, is well known for the robustness of its amplifiers' power supplies, going right back to the days of the original 3020 integrated. Today's NAD amplifier line-up is more potent than ever, with the C 356BEE integrated or the new cutting-edge D 7050 Direct Digital Network amplifier making ideal partners for the Imagine T.

IN SIGHT



HOW IT COMPARES

The Imagine Thas a voicing that has a tendency to emphasise the frequency extremes. Careful positioning can help ameliorate this, with judicious toe-in taking a little of the sting out of the HF response and cautious room positioning with respect to boundaries and port-bunging helping to reduce undue low frequency reinforcemen The Neat Motive SX1s are slightly more costly floorstanders, but have a balance and voicing of even more expensive models. They provide depth and bass power. but exhibit greate control than the PSBs. They are also much ter-sounding at the top of the range yet are just as detailed.

Live At Edgefield recording. The speaker seems to excel at portraying the didgeridoo and the wonderful harmonic structure that Jeff Cooper manages to persuade the instrument to produce. The full-bodied, powerful presentation is not wholly consistent until the speaker has had the chance to warm up thoroughly as the acoustic guitar does not always project from the sound stage with the same vitality as it can do on other loudspeakers. Importantly though, once the speaker has fully run-in, the performance displays vigour and is rhythmically engaging.

The PSB seems to relish small instrumental combos and does a grand job of portraying Bill Frisell's Pipe Down from his East, West album. It is particularly successful recreating the startling dynamics of the drum kit, which rockets forward from the rear of the sound stage. Frisell's guitar dynamics are equally assertive and blessed with acute leading-edge information. The speaker presents his unique tone and dynamic contrasts capably, and the guitar sounds colourful, faithfully vibrant and attacking. All in all, the presentation is involving and wholly engaging - it

makes the music fun and ensures that you want to listen further.

So the PSB fares well with classical. jazz, and roots music. But how does it cope with more contemporary fare? The simple answer is that it heartily enjoys music with so much as a sniff of a leading edge - be it acoustic, electric or any other genre. It rocks capably and assuredly with artists as diverse as Rodrigo y Gabriela, James McMurtry, Jeff Beck, Robert Plant and Alison Krauss, and Robbie Robertson. The titanium HF unit seems to emphasise the attack of snare drum beats and also improves the timing of bass guitar quite noticeably. The PSB sails gracefully through Rodrigo y Gabriela's Take 5 from the Re-Foc album, relishing the attack of their acoustic guitars and their percussive playing. The speaker also handles the more subtle challenge of Robert Plant and Alison Krauss' vocal harmonies on Please Read The Letter on the 24/96 rip of Raising Sand, rendering their voices like those of angels in the pub on pay day.

The finishing and attention to detail in their construction is very impressive

In short, the PSB Imagine T is well worth seeking out to audition if you are looking for a £1,499 floorstander that will perform satisfactorily with most types of music – even left-field stuff such as Varèse and didgeridoototing power trios. Its only drawback is that its characteristic sound seems voiced more for vivid tastes and you will doubtless find some music with which it sounds unsubtle, even a little obvious and uncouth at times. A careful set-up can tame this to some extent and I am sure that many will en joy its vivacious sound ●





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Bundle of joy

David Price welcomes Clearaudio's sleek new Performance DC turntable package into the world. Does it live up to its name?

his new Clearaudio Performance DC straddles two worlds; it's a high end package that bundles three of the respected German vinyl specialist's products – which you're quite at liberty to buy separately – into one. It starts with what is by any standards a beautifully finished aluminium plinth, inside which is a sandwich of more aluminium and highly compressed wood fibre. The idea is that by having different materials, the resonant frequency isn't centred around one particular point, which then colours the sound. The result is a substantial deck, but one that's compact and cleanly styled. Indeed, I think it looks fabulous, and reminds me very much of classic Braun products from the sixties penned by the 'meister of minimalism' himself, Dieter Rams.

Still, this deck is more than just a pretty plinth; it sports a high-quality DC motor built into the chassis,

DETAILS

PRODUCT Clearaudio Performance DC ORIGIN Germany TYPE Turntable/arm/ cartridge WEIGHT 11.5kg DIMENSIONS (WxHxD) 420 x 330 x 130mm Econtrace

 Aluminium/wood fibre sandwich plinth • Ceramic magnetic main bearing • Dc turntable motor • Carbon-fibre weave tonearm • High output MM cartridge bundled DISTRIBUTOR Sound Fowndations TELEPHONE 01276 501 392 WEBSITE soundfowndations. similar to that used in Clearaudio's higher-end decks. It drives the inner platter by a short, taut, flat profile belt - no Michell-style circumferential round-section 'cords' here! This system gives a nice tight grip on the rotation of the platter, and makes for a relatively fast switch-on. A series of illuminated press buttons select the speed, and at start up there's little of the histrionics that some belt drives display when trying to spool up to the correct speed - it is a smooth and painless affair. The platter itself is a 40mm-thick black Polyoxymethylene design, which looks and feels quite like a big slice of vinyl; it's not resonant to the touch and is decently massy without putting the motor's life expectancy at risk. This sits on Clearaudio's patented ceramic magnetic bearing (CMB), which by using a magnetic field to effectively float the bearing on air, reduces friction, wear and noise by avoiding any point of load, the company claims. Certainly the deck platter runs very smoothly.

The Performance DC package comes as standard with the new Clearaudio Clarify 9in tonearm (available

CLEARAUDIO PERFORMANCE DC REVIEWS



separately for £950), which uses a silver-coloured woven carbon-fibre arm tube. It's tipped off at one end with an aluminium headshell, while at the other there's a rather neat counterweight that lets you dial in tracking force very accurately. However, I do find the overhang of the arm behind the bearing housing a little longer than normal, and I'm not sure if this is desirable, at least from an aesthetic point of view.

The arm also sports a magnetic bearing, which is claimed to eliminate bearing noise entirely. It is fully adjustable, with vertical tracking angle, azimuth, (magnetically applied) anti-skating as cartridge downforce. It's a nice enough thing to look at, setup and use, although still feels fiddly compared to – say – an SME 309. The protruding arm cable looks ugly, but then again I did like the centre detent right above the pivot point into which a Clearaudio alignment protractor can be slotted, to give really swift one-spot positioning of the cartridge in the headshell. Again, it's not as neat as an SME, but it's better than a Rega for example.

Clearaudio's beautifully built Clarify tonearm is available separately

for£950

Last but not least in the box is Clearaudio's Virtuoso v2 MM cartridge (£650 separately). This is interesting because it is that most rare of beasts in the analogue jungle, a high-end moving magnet. Endowed with a resonance-optimised ebony body, it sports an aluminium cantilever working with matched coils and high-efficiency magnets. It gives an output voltage of 3.6mV (claimed), which is pretty healthy, and tracks best at around 2.2g. The cartridge itself is a relatively light

It's a million miles away from the shrill squawking of some cheaper turntables

6g, and it's beautifully finished as you might expect at its price. Overall then, the entire package is nice to use, beautifully finished and befits its $\pounds 2,495$ asking price. So far so good, but how does it sound?

Sound quality

There's nothing quite like a nicely setup, well-integrated turntable whose deck, tonearm and cartridge all work together properly - and the Performance DC shows why. It gives a wide open window on the music, that's smooth, clean and detailed with just a bit of that lovely vinyl warmth that vinylistas love so much. It has a wonderfully quiet bearing that cuts rumble down to vanishingly low levels, yet digs out large amounts of detail from any record you care to play. And the matching arm and cartridge work with it, rather than - as is so often the case - against it, to extract a fantastic sound from the old black plastic.

If you spend a lot of time with digital, you'll find this Clearaudio deck a rich sounding device - cue up a classic slice of eighties electronic pop like Jon and Vangelis's I Hear You Now, and the Performance sets up a wide, secure soundstage that drops back nicely. Inside this, instruments are carried delicately, letting you hear the wonderfully fat sound of those early analogue synths. The sequenced bassline is strong and deep - perhaps not quite as tight as some rival combinations - and carries a tune well. It's an expansive, ethereal sort of sound, which is precisely how this recording is.

Smoother than a squashed fruit health drink, the deck pulls you into the mix, and delights by throwing out little bits of low-level detail that you'd just never get from a cheaper turntable. Jon Anderson's distinct vocals are beautifully and sensitively carried, giving a wonderfully contemplative feel, which captures the mood of the song perfectly. Although the deck is well able to mine lots of low-level information, you're never aware of it so doing, which means it doesn't sound analytical at all. Rather, the song lilts on and on, holding steady as the music draws to a crescendo; it's a stable-sounding platform alright.

The same sort of feel comes out of Nick Lowe's *So It Goes*, despite it being a lively new wave romp with bags of energy and bite. The Performance DC puts everything in its right place, hangs the vocals back from the mix skilfully, and doesn't bunch the left-to-right imaging together too much. But as well as being a spacious performer, it's also a captivating one – it's able to carry a tune well and serve up the song's rhythmic content adeptly.



REVIEWS CLEARAUDIO PERFORMANCE DC TURNTABLE PACKAGE £2,495

Q&A David Denyer Cleargudio PR



DP: Why did Clearaudio use a 'sandwich' style plinth for the deck? DD: The aluminium and highly compressed wood fibre sandwich construction very effectively lowers resonances within the plinth leading to a neutral, low coloration performance. It's an important part of the design.

Why was a DC motor chosen?

All the new generation Clearaudio turntables use these because they generate very little noise, have high torque and can be finely controlled for excellent speed accuracy. In our opinion, they bring a marked improvement in sonics.

What benefits does the magnetic main bearing confer?

Clearaudio's patented Ceramic Magnetic Bearing provides extremely low friction and noise and is virtually wear-free. The ceramic shaft is polished to a much finer quality of surface than we could achieve with steel, and so contributes to the extremely low levels of friction and noise. By having a friction-free bearing the turntable system will perform optimally for a very long time and it generates almost no noise of its own so enabling the finest details within the music signal to be heard.

HOW IT COMPARES

Michell's GyroDec SE

(£549) and Audio

a larger, more

(£1,409) with Tecnoarm

Technica AT-OC9 ML3

(£499) is a direct price

rival to the Clearaudio

Performance DC. It has

expansive sound, with

and a wonderfully

bottom. Its bass is

superior tonal accuracy

smooth feel from top to

fractionally tighter and

tauter too, but the Gyro

is far more fussy to set-

suspension. Those who

prefer the compactness

and ease of use of the

audition Rega's new

RP8, which is bundled

tonearm and Aphera

cartridge at £2,198. It

characteristically dry,

tight musical sound.

Clearaudio could

with the RB808

should have a

up and keep in tune,

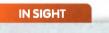
thanks to its sprung

And why is a magnetic bearing used on the arm?

Conventional bearings are very difficult to set up correctly. If they are too tight there is friction, which will seriously degrade the sound as well as damage both the cartridge and your records. If they are too loose there is play, which will also potentially cause damage or bearing 'chatter' causing a very unpleasant metallic coloration to the sound. The magnetic bearing effectively floats the arm in air, the only contact being a tie-wire, which both holds the arm down and provides an elegant way to apply bias (anti-skating).

What benefits does the carbon fibre armtube bring?

It's both light and very rigid. It brings improved clarity to the sound over aluminium or similar materials.





Great as all this sounds, there is a slight flattening of the dynamics of the recording; there's a little less dynamic 'light and shade' than non-packaged deck combinations such as the Michell GyroDec SE/ Tecnoarm/Audio Technica OC9, which pinpoint the accenting of the music more assiduously. Rather than going for absolute transparency, the Clearaudio's firts priority is to make a nice noise that you can enjoy.

It's able to carry a tune and serve up the song's rhythmic content adeptly

Drop the stylus on Herbie Mann's great live rendition of Summertime, and the deck soon gets you into a great jazz groove. Once again, you bask in the sweet, refined sound and the lovely tonality - this is a million miles away from the shrill squawking that some cheaper turntables are (unintentionally) capable of. The flute sounds beautiful, the arm and cartridge tracking securely and the deck letting the music's flavour ooze out. It's a treat to hear, but in absolute terms, that big double bass sound is just a little softer and rounder than it could be, and this gives the track a richness that's a treat to experience, if not quite accurate. Again, some other rivals do it in a more neutral way, even if the end result isn't actually nicer to hear. That's the essence of this package then, it gives you a sound that's as smooth as Baileys' Irish Cream and just as intoxicating it's the sort of turntable that takes you into another world, miles from the fussiness of digital.

Conclusion

Surely one of the finest turntable packages at or near its price point, the Performance DC is an illustrious way to play your prized black plastic. It brings a strong, smooth and round sort of sound to analogue recordings - which is precisely what lovers of the format crave. If you can be bothered to buy a separate tonearm and cartridge from different manufacturers, and go to the trouble of hearing them altogether, then you'll likely find permutations offering a crisper and more 'accurate' sound – but they won't necessarily be any the more enjoyable for it. And that's the essence of this Clearaudio package, it's fast food done to gourmet standards, with an in-between price. Build quality is superb, styling is lovely in a modern, understated way and the sound is excellent. Factor in simple set-up, and what's not to love? •







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Mission statement

The SX2 is the top standmounter from Mission's new range of flagship speakers. **David Price** listens in

untingdon-based, Mission is a company whose provenance stretches back to 1977, where the very first Henry Azima-designed 770 loudspeaker rolled off the production line. It quickly gained a reputation for design excellence, and soon widened its product range to include the 700, which was the company's first 'small' speaker. Jump forward 15 years and the whole world was in love with its small boxes – with products such as the 760 showing just how good the breed could sound.

An unassailably enjoyable sound that makes all types of music great fun

At the time, Mission also did a more upmarket small speaker called the 780, which looked an awful lot like the 760, but was made much better. Selling for around £350, it was one of my favourite 'affordable high end' standmounters of the nineties - and lo and behold the SX2 seems to be its spiritual heir. Here we have Mission's new flagship range - there are seven models in total, with two standmounts, three floorstanders and two centre speakers. They range from £700 to £2,300 per pair, and the SX2s tested here are the company's best bookshelf' design.

In a nicely circuitous way, one of the strongest rivals to that early eighties Mission 700 was Heybrook's HB1, designed by a certain Mr Peter Comeau. Now, it is this very man who heads the Mission design team. For the new SX range, he has overseen the development of a brand new metal/fibre composite cone material. This uses a mixture of pulp and aramid particles bonded to a precision-formed alloy 'voice plate', and is said to have just the right amount of rigidity and self-damping to stop unwanted resonances and cone breakup. The SX2 sports a 160mm version of this unit.

The front baffle is diecast aluminium, and the SX MC driver's cast aluminium shell is securely affixed to this, alongside the company's new 25mm SX TD treble unit. This sports a titanium dome fitted with a surrounding phasecorrecting plate – this isn't in itself anything novel. But it's the execution that counts, and Mission has paid special attention to all the details, with it securely housed in an C DETAILS PRODUCT Mission SX2 ORIGIN UK/China TYPE Standmount loudspeaker WEIGHT 10kg DIMENSIONS (WXHXD) 231 x 381 x 365mm FEATURES • 25mm titanium dome tweeter • 160mm metal/ fibre cone mid/bass driver • Quoted impedance 6-80hms • Quoted frequency response 58Hz-40kHz DISTRIBLITOR IAG Group Ltd TELEPHONE O1480 447700

WEBSITE mission.co.uk

The cabinet comes in a choice of finishes



elastomer chamber to isolate it from low-frequency vibration. This is mated to a specially developed crossover, which was refined over hundreds of hours of listening. The SX2s are not difficult loudspeakers to set up; they have well behaved, sensibly sized cabinets and

behaved, sensibly sized cabinets and sit on stands happily about 35cm from the rear wall; I toed them in slightly. The quoted sensitivity of 85dB/1W/1m isn't great, so these aren't the sort of speakers that will knock your parrot of its perch with just a few watts. Rather, expect to have a decent transistor amplifier of around 50W RMS per channel minimum; I use a Creek Destiny 2, which proves an ideal partner.

Sound quality

'Quintessentially Mission' is how you'd best describe the sound of the SX2. Not surprising perhaps, as this brand more than most has been able to develop a signature sound over the years and keep to it. This means that, just as the 780 did some 20 years back, the SX2 sounds lively, fast and expressive, yet slightly warm and full bodied. That trademark upper bass bloom is still there - every small Mission I've heard has this - and it subtly boosts the bass guitar on rock and soul tracks to give a slightly fuller-bodied sound. 4hero's Give In shows this perfectly, the SX2s mixing a fulsome bottom end with a lovely crisp midband and treble.

There have been plenty of speakers with titanium dome tweeters, and many sound pretty gruesome up top. Not a bit of it with the SX2; it still has the trademark crispness of a metal dome - it never sounds muffled like some fabric domes can - but there's none of the toothache-inducing shrillness from hi-hats or high-range female vocals. The result is that these speakers sound really rather lovely; treble is nicely carried, fast and distinct, but doesn't grate; midband is clean and detailed with fine image projection and a wide soundstage; and bass is warm, but tuneful.

Scritti Politti's *Perfect Way* shows the Missions in their element. They love dynamic, fast-moving music. Despite that slight upper bass warmth, they punch out a sound that many floorstanders would be proud of, and carry the rhythm beautifully. Easy and effortless yet fast and fun, they make the track a joy to listen to. The track's digital synthesisers can descend into harshness at high volumes, but the Missions resolutely refuse to do so, remaining couth and showing just how beautifully integrated they are.



REVIEWS MISSION 5X2 STANDMOUNT LOUDSPEAKER #700

Q&A

Peter Comeau Director of acoustic design, Mission



DP: Whychoose a mix of pulp and aramid for the mid/bass cones? PC: The exact mix of fibres in our cone formulations is, of course, a Mission secret! But the reason we use these specific formulations is to control the behaviour of the cone and give it a smoother response through the midrange. What we look for when making the specific mix is a natural vocal performance with the warmth that pulp cones are famous for. Then we add rigidity at low frequencies with a twin cone construction, utilising the aluminium front cone. and achieve an excellent transfer of energy from the motor system.

Why was a titanium dome chosen – didn't these go out of fashion with the Filofax?

Maybe, but then you could say the same about fabric domes and pulp cones, yet a lot of modern designs use them very successfully! Again we chose this particular titanium alloy because of its sonically detailed, smooth and precise HF presentation, then fronted it with a unique phase compensator that extracted the ultimate performance.

Was the use of a metal front baffle a no-brainer, too?

HOW IT COMPARES

The SX2 sits at a slightly

unusual price, between

many manufacturers

ranges - for example

Gold GX50 for £950

and the Silver RX2 for

£550. Against these the

SX2 has a bigger, more

cannot match the GX's

superb treble detail and

physical sound, but

spaciousness or the

precise-sounding RX.

There's also strong

Boston Acoustics' fine

M25 (£580), which has

nature that's probably

the closest to the SX2

is, the M25 is smaller

that you'll find. Trouble

and it can't go as louid or

image as expansively as

the Mission. It's a better

space, but the Mission

medium-sized rooms.

speaker in a smaller

works great with

competition from

a warm, expansive

Monitor Audio has the

It's a good way to add mass and strength to the front baffle. The baffle board of a speaker is its weakest panel, because it has big holes for the drivers cut into it. Yet it should be the strongest because it has to resist the forces impacting on it from the bass unit. A diecast aluminium baffle is a good way to achieve that strength while still keeping to the traditional furniture of a hand-veneered cabinet. Inside, bracing is used to break up the cabinet panels into irregular areas and so control resonance, as well as improve the overall rigidity.

How would you describe the sound you set out to get?

Mission speakers have always been characterised by their ability to pull out the detail of the musical performance and deliver it in an exciting and emotional way. That's the best way to reveal the true message of the music.



Indeed, that's a real strength of these speakers; they present a cohesive whole and you're never aware that you're listening to 'a woofer and a tweeter'. The drive units gel really well – not just in terms of the crossover point, but in phase too, so everything seems to arrive at you in time, singing from the same hymn sheet. This makes for a wide-open soundstage and total confidence when placing stereo images, as a Linn CD recording of Mozart's Symphony No.29 shows. The Scottish Chamber Orchestra is beautifully carried, these speakers imparting its power and size in its entirety.

In absolute terms, you can criticise the SX2 for its lack of deep bass. It's only a compact standmounter and the slightly generous upper bass flatters to deceive, giving the impression that they go down a little lower than they really do. Also, the same can be said at the opposite end of the frequency spectrum. For example, Stanley Clarke's Where is the Love? shows the SX2s to be a little lacking in atmosphere right at the top of the frequency spectrum. Still, you'd never call the Mission dull, it's just that some others do a bit better. Nor is the SX2 the most forensic around; it doesn't eke out every last detail from the mix as well as some.

Squeeze's Pulling Mussels From A Shell is a recording only its mother could love; seemingly recorded under an old railway arch at rush hour, it will never join Norah Jones or Dire Straits in that long list of 'ultimate hi-fi show test tracks'. But it is meat and drink for this speaker. The Missions sound warm and smooth with lots of power from the bass guitar and backing organ, while guitars crunch nicely and vocals sound plaintive yet passionate – just as they should. Indeed, the Missions show their great ability to cut to the musical chase and lead you away from other distractions such as poor recording quality. The result is a sound that's as satisfying as it is slick.

Conclusion

In my book, the definition of a great mid-price loudspeaker is one that gets you closer to the music than the budget boxes, but doesn't trip over its own toes while doing so. So many speakers suffer from having a reach that exceeds their grasp - they fall to pieces trying to do too much – yet the Mission SX2 is precisely the reverse. It gives an unassailably enjoyable yet composed sound that makes all types of music fun. It is a little limited at the frequency extremes and subtly compressed and lacking in midband detail, but this is excusable at the price. Indeed, this new Mission is such good fun that you can switch from far more expensive boxes yet still enjoy the great sense of occasion the SX2 brings to music. So, go hear 'em if you can!





CRITERION TCD LOUDSPEAKER The audiophile standard



<image>

The new CRITERION series is in many ways a culmination of our 30 years experience designing loudspeakers, developing many unique techniques and technologies along the way. Designed to offer an extremely clean yet powerful bass response, we have created a long transmission line double low bass system, which not only produces a deep response but also reproduces the subtle notes just as well.

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Avoke Limited Tel - +44 (0)7876 246956 Email - info@avoke.co.uk Web - www.avoke.co.uk FEATURE ELECTRIC RECORDING COMPANY

Electric dreams

Pete Hutchison is a man with a plan. His Electric Recording Company is set to shake up the vinyl reissue world, says **David Price**

hink audiophile vinyl is overpriced? Fed up with paying £40 for the latest, umpteenth reprint of *Kind of Blue*? Then think on this – the Electric Recording Company's first Bach *Sonata* LP re-releases cost £300 each, and it has just put out a Mozart boxset for a cool £2,495!

Any rational reading of this would lead you to believe that the driving force behind the company, Pete Hutchison, is one stylus short of the full cantilever – and Pete himself has used the word "madness" when describing the brief for his project. But the more you get to know him, the more you understand how he's on a mission to make classic music more affordable. Not something you'd instantly surmise from those price tags, admittedly.

The releases that Electric Recording Company has chosen to put out aren't mere reissues of old albums, they're painstakingly restored recreations of seminal, ultra-rare performances that have long been the province of ultra wealthy collectors. Original imprints of his Bach *Sonatas* go for upwards of £5,000 on eBay. Pete's aim is to make his products look, smell, feel and sound exactly like the originals.

Obscure alternatives

This has been made possible by his amazing attention to detail, absolute passion for and knowledge of music, plus a vital injection of cash from his other business – Peacefrog, an indie record label that boasts acts such as José González and Little Dragon. This may be his 'day job', but Pete's as passionate a vinyl fan as it's possible to find, and that's saying something. "I got into collecting from an early age," he tells me, "and grew up just listening to classical music. When my dad died his record collection got split up between myself and my two brothers. He bought most of the vinyl when we lived in New York in the sixties. I think what I found with classical, jazz, whatever, was that I'd buy a repress, but then I'd meet a friend and he'd have an earlier pressing and I'd notice the difference in sound. From a late fifties or sixties BlueNote or classical record pressed in the UK, to say a reissue done in the seventies through transistor equipment, it wouldn't sound the same."

Pete finally got into collecting British classical pressings, which he found very expensive compared to everything else. "At the time, with having the pop label, I had a distribution deal with EMI, so I had a few contacts there, and thought 'what about if I remastered these using the original equipment', get a list together of all my favourite rare classical albums? Problem is, I didn't have the original equipment. So I went on a search for it, I rang around Abbey Road, places like that, and rang people in America and nobody had it. I finally found some equipment and began restoring it."

The result is amazing. His studio sports a massive ex-Abbey Road EMI open reel machine to play the master tapes, and this has been fully returned to its original condition. There's an ex-EMI solid-state early seventies mixing desk that came from Nigeria; Pete believes it was the one used to record Wings' *Band on the Run*. Also present is a Danish-made Lyrec tape console with tube amplification, and a matching vinyl cutting lathe, circa 1965. Again, these have been restored, the cost running into six digits. "These we believe, are the only machines in the world capable of producing an all-valve stereo cut", says Pete, pointing out that the company's first stereo release (out now) will be the first all-valve stereo cut in almost half a century. Finally, there's a Neumann VMS70 cutting lathe, for that authentic seventies' solid-state sound.

Being something of an obsessive, the quietly spoken Mr Hutchison was never going to slap a dog-eared old sleeve in the scanner and pay a Photoshop pilot to 'tart it up'. "I looked at how they made record sleeves in the fifties, and that was using letterpress. Everything would be typed out, and they'd have these huge metal bores, and each letter is a brass letter and they'd print it – it was a hugely time-consuming nightmare. So recreating that was one side of it, then there was getting the card to match! The photographs were rescanned, but on the Bach disc I tracked down the original photographer's son, who still had the stills."

No compromise

The exercise was a long and frustrating one for Pete, but he had to get the sleeves right. The result is a record sleeve that looks as good – and as authentic – as the vinyl inside it sounds.

These re-releases are beautiful things to behold, alright. But it's when you play the records themselves that the magic really comes out – the sound is sublime, with a wonderfully natural, gentle feel that

ELECTRIC RECORDING COMPANY FEATURE



A superbly fettled Garrard 301/Linn Ittok/Denon DL103 is the studio reference turntable

nevertheless captures the full power of the original performance. And all this without sounding the slightest bit 'audiophile' in their nature! This prompts Pete to expound on the rights and wrongs of remastering. "I did all this for myself, to have a mint copy of the original, that wasn't the original, that I'd be happy with. In quite a selfish way, I wanted to see if it was possible to recreate something that had the sound, and that was a beautiful artefact, and takes you back when you listen to it. But the business side of it, that wasn't taken into account, and restoring the equipment, that was the expensive thing."

It's at this point that our discussion gets a bit philosophical. There's something of a tension between 'audiophiles' and recording engineers, and it's seems to be writ large in Pete's world. "Whereas the studio people, by definition, have been sceptical about the audiophile world and not wanting to get involved, I'm in both camps. Studio people think if you can't measure it, it's not there - you're always battling against this stuff. I think you've got to experiment. But the Lyrec cost £12,000 in the mid-fifties, which is the



cost of a good house, and was built very well, and the design is exceptional. So I'd be reticent to modify it, I don't want this to become an audiophile project, it needs to be about the music. The fact that it has become an audiophile-type project has happened almost by accident."

I put it to Pete that he's in something of a strange position; most studio engineers regard him as a bit bonkers thanks to his

Heavyweight vinyl can sound better, but it only works on certain machines

audiophile tendencies, yet his primary motivation is not actually 'audiophile' as such - rather, it's purist. "I don't want to 'sex the music up', but nor do I want it to lose its mojo! If I hear Hendrix, I want to feel like I'm in a grotty studio someplace, not that I'm part of some corporate listening experience, so that was the thing with these records – I wanted them to feel like they still sounded like the originals."

Even though he remasters vinyl, he's rather dismissive of this so-called black art. He prefers a more 'hands off' approach, resisting the temptation to interfere with the original master tapes. "You know in the old days, Abbey Road didn't really add any equalisation - it was frowned upon on classical, and even on things like The Beatles, they didn't really add EQ and processing. It was only in the eighties that mastering became this kind of 'art form' with a 'mastering guru'. In the old days it was more of a kind of 'brown coat, here-we-go' transfer job."

As well as committing the cardinal sin of putting recordings that were originally mastered via tube equipment through solid-state lathes, Pete laments that vinyl reissuers seem to be beset with engineers who come and say: "Ooh, that's a bit honky, I'll add a bit of bass to smooth that off, add a bit of this". Although it might sound 'better',

THE VINYL REISSUE ISSUE

Why do so many vinyl reissues disappoint? It's something that Pete has thought long and hard about, and he's of the opinion that one key problem is the tapes themselves that the new vinyl is cut from. "The original LP at its time of release will have been taken from the first-generation tape, and they would have done copies and sent the copies out for foreign versions of the record. And if they didn't do that then the first set of stampers would have been from the original country of recording and they would have sent four or five others and sent them out to different countries, so the original release done in the country of origin will sound best."

There's also another key factor, which is the type of cutting lathes used. Pete, having tried a few, is clear how different they sound – and how this can influence the finished product. "In fact, I have acquired and am installing in the next few months an American valve system, which is a Scully with Westrex and the Westrex cutter heads have a much more punchy sound than, say, a German Neumann or Danish Ortofon. So when you hear a van Gelder Blue Note they are cut on that system I am putting in, and it's a very different sound to others." he says.



Unlike many vinyl reissues, Pete's come from the original mastertape

Pete reckons this isn't right if your goal is to retain the original sound. "So when I do the old records, I don't want some genius in here, putting his oar in... You know, I find everything I hear on the reissue market sounds contemporary, a contemporary version of a classic record. To me the music comes first, not the production."

Press to play

We listen to Pete's two-and-a-half grand boxset through his Garrard 301 turntable, Linn Ittok tonearm and Denon DL103 cartridge running into the mixing desk, and I point out how different it is to your average 'audiophile' repress. Bach's Unaccompanied Violin Sonata has a very narrow bandwidth, with not much up top or down below that's of any real consequence, yet still it sounds wonderfully engaging and open, I tell him. "Exactly, you do feel close to the musician. It doesn't sound like a contemporary record. I don't think audiophile people should really buy this. It's quite honky!"

Pete has a strong preference for tubes over transistors, but above this he's a stickler for the right equipment being used for the right period music. "I think the things to avoid if you have got a late fifties/early sixties tape, putting it through transistor equipment, into say a Studer, you won't be hearing the same

FEATURE ELECTRIC RECORDING COMPANY

as you got in the original pressing, it will give you a different sound.

I put it to him that valves also have their own problems as well, and he retorts: "I think later valve technology isn't as good as the early valves, so when I hear some early stuff it's very fast, very dynamic. But the seventies and eighties valves have a sort of warm woolliness, which I think people associate as 'the valve sound', but I don't think it is!"

So what of the vinyl itself? Pete reckons "That whole thing of the weight of the vinyl is a bit of a myth. Heavyweight vinyl can sound better, but it only works on certain machines, I found, because I started A-B'ing different test pressings and I found on some of the heavier vinyl it's a bit rolled-off. In terms of speed, 45RPM tends to be a bit cleaner, but it changes the bass. You might not quite get as much of a gutsy bass - it might be a bit more defined, but it loses a bit of charm."

As far as the pressing process is concerned, Pete confesses to be going through "a bit of a learning curve". He's pressed in four different factories (in Germany, Holland, the US and UK), and they're all very different. "You've got the processing stage when you get a lacquer, then you make the metalwork.

It all started when I thought "what about if I remastered these using the original equipment?"

Different people make the metalwork, and different factories make different metalwork. There's the various chemicals used, temperatures etc, expertise in different factories; then there's the stamper and the vinyl compound; that changes on a daily basis, and it's different in different countries, different suppliers. Then you've got the pressing machines themselves and how

Mozart à Daris they're working on a daily basis whether there's enough heat going into the system, you might get something that's called 'non fill', which is where you get a bit of non-cyclical surface noise if the heat isn't up as it should be. So there's all these variables and within that there's the finished product!"

Pete adds that, "I don't evaluate the pressing on just the surface noise. I might personally prefer a pressing that I find engaging, dynamic, if it moves me emotionally, that has a little bit more noise thana flatter, quieter pressing. You can make the pressings quieter by polishing the lacquer, but when you polish, you roll off high frequencies; so there's all these different variables. I'm actually having this problem right now with the Beethoven, because I've got two pressings and I like both of them."

Run out groove

Pete Hutchison is passionate about his Electric Recording Company project, in a touchingly loving and sincere way. Despite charging large amounts of money for each release, the quality is absolutely superlative. This is just as it should be, he thinks, because he's yet to hear any other format that comes close sonically. "I like the older vinyl for its sound, but I am disappointed with newer vinyl, because generally if it is analogue it's done through Pro Tools and then it's

Mozart's Complete Parisian Compositions are a steal at £2,495

ON THE DECK

The Electric Recording Company has four titles out, to date. Firstly, there are three limited-edition repressings of sought-after Bach Unaccompanied Violin Sonatas (Volumes 1 to 3), played by the Hungarian violinist Johanna Martzy. These have been on sale for nearly a year and cost £300 each-far cheaper than the originals sell for. Then there's Mozart's Complete Parisian Compositions (1763 and 1778), directed by Fernand Oubradous, on seven LPs. Also limited to 300 copies it sells for a cool LPs. Also limited to 300 copies, it sells for a cool £2,495. Coming soon is a re-release of the 1965 Beethoven Violin Concerto, with Leonid Kogan. This is one of the most sought after classical records around, with original copies going for upwards of \$10,000; The Electric Recording Company's reissue should cost £300.

Sonically, all the current releases are superb, although 'perfectionist' audiophiles looking for atthough perfectionist audiophiles tooking for immaculate, shiny black silences will be disappointed. Move beyond the fact that the recording doesn't come close to modern hi-res digital in superficial hi-fi terms, and you soon find yourself immersed in one of the most breathtaking musical experiences. With the Bach Sonatas, for example, you get the eerie sense of the violinists being there in the room, playing for you. The music is so natural, so effortless, so fluid and fluent that all considerations of noise and bandwidth fall away, and you fast become engrossed. While there's a lovely textural quality to the sound of the violins - it is rich with harmonics - it's the emotion of the music that takes you away. The same goes for all the Electric Recording Company releases, they take you to a state of blissed contemplation, as the music melts its way into your very soul. More than just another shiny new re-release, then!

mastered from CD or computer; the vinyl's cut from a computer. I'd still buy it over a Compact Disc because of the jacket and I'll play it on my turntable; I haven't got any digital player at home. But I am disappointed that contemporary artists aren't recording pure analogue. Then they should be coming in and mastering off tape straight to disc!"

He likens an analogue waveform to a smooth sine wave, whereas digital is, "Like a photograph of that waveform that is made up of numbers. And it can only go up to a fixed amount of detail. It's like any scan when you blow it up, you see all the pixels, so when you play it on a big system you hear all the problems and you don't get the details, the nuance, the textures, the real sound of the instruments." Pete proclaims that, "Vinyl's a better format", but adds that, "If people who argue against that are happy with that, then that's great. You know, they should stick with it." "Let them eat Pot Noodles!", I say jokingly. And Pete adds, "Exactly. You know they tried to get rid of it, but I don't think there's any alternative." •

Pete acquired this ex-Abbey Road solid-state mixing desk from Nigeria!



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WRITINGCOMPETITION

Reader review

We've read your reviews and drawn up our shortlist, now take a look at one of the entries that impressed our judging panel

Competition details Back in the July issue we launched a unique competition giving you the chance to do what we do - write about hi-fi. We asked you to put together 1,000 words about your favourite system and why it means so much to you. The lucky winners will get the chance to write for *HFC* in a future issue...





Rebel with a cause

How Cadence's flagship design broke many hi-fi rules, but delivered a new benchmark for recorded music

adence is not a hi-fi brand that many people will be that familiar with. I'll try my best to redress this injustice as I believe these speakers are not only some of the finest that I've ever heard, but they do their job by breaking many of the long established hi-fi rules of what 'good' is supposed to sound like.

The Arca is the flagship model for this Indian company, standing over a metre tall with their substantial front baffle made of most of a cherry tree, it's easy to see the pride taken in this design. They have a heft that makes you feel you have most of a church organ rather than a pair of speakers. At 70kg each they don't invite continual repositioning, but once in



place their in-built spikes ensure that isolation can be maximised. With four screw-adjustable spikes they take a little setting up. Half a turn too much on any corner and a tiny rocking action can spoil the image. Four is arguably a poor number in hi-fi and I've successfully experimented with a single aftermarket rear spike taking over duties from the rear pair.

Arca means 'brilliant one' in Sanskrit, but also stands for Absolute Response Corrected Alignment. This acronym starts to allude to how these hybrid electrostatic speakers set out to contradict much of the received wisdom about speaker design.

So what is it about the Arca that makes this design quite so heretical?

WRITINGCOMPETITION

Rule 1: Hybrids have disjointed bass... until now

If you think hybrid electrostatics generally suffer from a disjointed frequency response caused by crude crossovers, you need to hear these. The 10in reflex loaded mid/bass driver is supremely integrated with the electrostatic panel. Cadence claims that frequency response is highly uniform. Something I'd love to test given the right equipment, but it's a claim I can believe. In poor hybrids the physics of lumbering bass can seem to arrive way after lightning fast panel vibrations. Not here - as with comedy, timing is everything. The curved electrostatic panel is set back on the speaker body, the mid/bass driver is gently angled on the solid cherry wood baffle and the bass port is the closest sound source. Taken together these sonic ingredients gel in an utterly convincing way that causes these substantial speakers to simply vanish as a sound source.

Rule 2: Electrostatic panels need to be big... until now

Another departure from electrostatic norms is the relatively small panel in relation to the more traditional Kevlar cone drivers. If you're familiar with hybrid designs such as Martin Logans, you'll appreciate that the powered panel is a substantial part of the air-moving equation with any loaded drivers gently topping up bass weight. Cadence approached the same challenge, but came to a different conclusion of where to balance its frequency delivery. The Arca electrostatic panel measures only 50cm x 20cm and is arranged within a curved alloy enclosure. As such, it must essentially be performing the task of a relatively wide response tweeter. Something it is supremely well suited to do.

Rule 3: A 'point source' is desirable... until now

Given the highly directional nature of high-frequency energy, the curved panel on the top of these speakers has the effect of spreading the treble and significantly widening the traditional sweet spot associated with dome tweeters and legendary 'point source' panels like Quads. As such, I have less of a sweet spot and more of a sweet room. Sure, the soundstage and bass integration works best in one plane and at certain room harmonics, but the margin of error before this becomes too unrealistic is far wider than almost any other set up I've heard.

Rule 4: Electrostatics are a hard load for amps... until now

At 91dB sensitivity they're a remarkably easy load, and particularly well suited to valve amplification. Indeed for many years my sole amplification was a pair of Audion Golden Knight monoblocks that muscled these speakers with a mere seven single-ended watts. As many have now realised there are watts and there are WATTS, maybe distinguished mostly be current and impedance matching.

Taken together these individual departures from the received wisdom of hybrid speaker design add up to a very refreshing whole.

Cadence's rule-breaking approach was further reinforced by the marketing statement that accompanied the speaker's launch: "We gave up designing a loudspeaker and we designed a musical instrument instead."

So how does this 'instrument' sound?

The immediate impression is one of strength at the extremes. Treble energy feels highly extended and hyper revealing, yet without any of the fatiguing 'grain' that's associated with more clinical speakers.

Cadence's Arcas

have the heft

of "most of a

church organ"

The Arcas are focused on giving you a fluid and honest reproduction

At the other end of the spectrum, bass is equally extended, firm, realistic and agile giving you a very physical connection with your music that never seems to overtake the balance that the recording engineer originally intended.

Too often bass reproduction can sound like 'hi-fi' rather than the lower registers of musical instruments and voices. Liquid and transparent mid tones are the icing on the cake, completing the even frequency response the designers set out to achieve. It's possible that mid tones are especially supported through my valve amplification, but there is a natural strength there already.

The Arcas are simply even-handed, focusing on giving you a fluid and honest reproduction of the recorded sound all the way from the highest frequencies that bristle the hairs on our arms, through to deep bass intended for the solar plexus. Soundstaging is stable, very wide and

ABOUT CHRIS

Chris says he discovered the joys of hi-fi "through Huddersfield HiFi over 20 years ago" and that his system is made up of "a rare pair of Cadence Arca hybrid electrostatic speakers, rarer still Transcription Audio 211 valve amps and a modified Shanling CD-T100 player". He reveals he's an "unashamed triode and CD fan and loves well set-up vinyl." He says he's watching the world of hi-res downloads with great interest, but notes that he's "wary of any emperors with no clothes!". His favoured listening depends very much upon his mood, but he lists Ben Harper, Ben Folds, Stevie Wonder, Justy Springfield, Natalie Merchant, Vic Chesnutt and Pink Floyd among his favourite artists, adding "I'm a big fan of stripped-out and acoustic music".

impressively tall, but maybe not as deep as some and the curved electrostatic panels create a forgiving listening experience with many listeners enjoying a realistic sonic image without compromise.

At first glance this rebel may appear to be a muscle-bound bouncer with attitude problems when it comes to following rules, but in reality it's a gentle giant that simply stands to one side, opens the door and lets the music flow •

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ED SELLEY EXPERTSE: 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 ROBERTS EXPERTISE: ENGINEER Retired NHS director,

electronics engineer and physicist, Neville is very much into valve technology. He's a classical music lover and serious vinyl junkie.



TIM JARMAN EXPERTISE: ENGINEER Electronics boffin Tim drives a 1959 Beetle and maintains the best B&O resource on the internet. When he's not rebuilding faulty review kit, he enjoys scouring audiojumbles.



DAVID PRICE

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.



RICHARD BLACK

EXPERTISE: ENGINEER A successful musician and recording engineer, Richard certainly knows a thing or two about hi-fi – he should do, he's been writing about it for over two decades.

Email us at letters@hifichoice.co.uk **or write to:** Hi-Fi Choice Letters, AVTech Media Ltd, Hadlow House, 9 High Street, Green Street Green, Orpington, Kent, BR6 6BG **Your letters** may be edited before publication and we cannot enter into personal correspondence

Mid-life crisis

I recently bought a turntable as part of my midlife crisis so that I could get my old records out from the loft and I'm thoroughly enjoying them. I read your review of cartridges with interest as I consider myself firmly in the "affordable turntable... consider designs from £150 to replace them" camp.

However, a couple of things have changed since my old record playing days. For one, records are now referred to as vinyl and for another, I can afford to replace my stylus before it self destructs. Can you offer any useful advice on when the nonpurist should consider changing a stylus/cartridge. *George Muir*

DP: Firstly, if you ever get the sense that your current stylus is getting a little tired or scratchy - especially towards the end of an LP side – then it's time to invest in a new one. Often though, it's a wiser use of funds to go the whole hog and buy a new cartridge; it's certainly a good time to consider the possibility. You don't say which deck and/or cartridge you have, but if you're thinking of spending more than £150 then the Goldring G1042 (£250) is just about the best moving magnet. It has a clean and smooth sound thanks to its very high quality stylus, and a nice warm tonality that delivers a sweet, musical sound. It's only when you spend another £250

on a good mid-price moving coil that you'll get an appreciable improvement in detail, finesse and musical insight. Good luck!

NR: Hello George – a very good question! If you ask five different people how often you should replace a stylus, you'll get five completely different answers! It does, of course, depend on how good your arm/cartridge setup is and especially on whether a correct tracking force is applied. For the latter, a good-quality stylus balance or digital stylus force gauge is certainly a worthwhile investment, rather than relying on any calibration marks on the tonearm. However, I count on a diamond stylus lasting from between 1,800-

When should the non-purist consider buying a new stylus?

3,000 sides, or 600-1000 playing hours (assuming 20 minutes per side). I actually have a little chart by my record deck to keep a note of the number of sides I have played (yes, I know that's sad!). There are some people who will inspect your cartridge and stylus for a modest charge, such as The Expert Stylus Company, PO Box 3, Ashtead, Surrey. KT21 2QD, telephone: 01372 276604. Apart from giving you an estimate of how worn the stylus is (nearly new, half worn, etc) they will also be able to

advise you on the condition of the cantilever and suspension.

T*J*: The life of a stylus depends in the main on how clean you keep your records. Grit in the grooves quickly grinds the profile of the diamond away and makes it useless. Therefore, a decent record cleaning cloth or a carbon fibre brush is a good investment. A worn stylus will not track properly at the manufacturer's recommended level of downforce, giving a 'harsh' sound especially towards the centre of the record. It is wise to replace it at this point to prevent damage to your records. Another thing that can happen as the stylus assembly ages is that the flexible suspension parts harden, which also causes tracking problems along with indifferent bass performance. There is no need to replace the cartridge in most cases since all the parts that wear are part of the stylus assembly, where the

latter is a replaceable part. Sometimes you can opt to fit a higher specification stylus and effectively upgrade the whole cartridge for minimal cost, since the bodies are often the same. This is the case with the Ortofon 2M series and some Nagoka models for example.

RB: The 'traditional' advice was always about 1,000 hours of playing time. Alternatively, just wait until the sound has deteriorated (notwithstanding careful stylus cleaning) and change the stylus then. I don't recommend the latter, though as changes usually happen slowly and almost imperceptibly. The 1,000-hour rule isn't a bad one, though stylus life does vary quite a lot: a good one in a lighttracking cartridge can last 10 times that. And forget microscopes, as even the best optical microscope won't show anything more subtle than gross chipping on a stylus.



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Oppo-tunities

I live in the Republic of Ireland and stores that sell anything other than budget equipment are few and far between.

I recently splashed out on an Oppo 105, mainly based on various magazine reviews. It seemed that it would be a significant step up for Blu-ray, but also (more importantly to me) in the quality of music playback. I now need to upgrade my other components to use the **Blu-ray player to its** optimum capability.

I am specifically interested in getting a dedicated music amp to match the Oppo sonically. I would greatly appreciate hearing recommendations you may have for me.

My budget is in the €2,500 bracket, but might be stretched further if you have a really strong recommendation. I need to be able to source the equipment online. Ger O'Carroll

DP: Hi Ger – the good news is that you've got plenty of choice at the price you specify, and there are some very strong contenders. Indeed, having recently reviewed a number of integrated amplifiers at that price, I'd suggest the Exposure 3010S2 and the Creek Destiny 2. Both cost around £1,500 and both are about the best-sounding transistor amplifiers at or near the price, in my view.

The Exposure is just a little bigger and punchier sounding than the Creek, but by the same token the Creek is a teensy bit more liquid and beguiling. I'd suggest that this latter amp might be better (by a whisker) with the Oppo and I can vouch that it makes a very sweet sound because I've tried it.

Your next issue is the speakers, but I suggest you come back to us about these when you've got your amp, and you have views on how it sounds in your room with your existing ones.

DP believes a synergy issue might be the problem with Paul's Pro-Ject RPM9.1X

Record breaker

I wonder if you can help me. My system is as follows: Pro-Ject RPM9.1X turntable, Funk Firm Acromat. Dynavector DV20x2, van den Hul The Isis Cable, Astin Trew AT8000 phono amp, van den Hul The Bay C5 (phono amp to amp), Prima Luna Prologue Two amp, Icon Audio CD X1 (David Shaw Sig version), JRiver Media Centre, Halide Bridge S/PDIF Convertor, Chord Chameleon Silver Plus cable, Chord Carnival Silver Plus speaker cable and Spendor A6 Speakers.

I have recently upgraded to the above speakers, CD Player and amplifier, with the help of your magazine, but unfortunately I am now finding the digital sources sound far superior to the analogue source, even in CD quality, let alone hi-res material running through the PC to my digital input on the CD player. I have many LPs and I wish to have at least the same quality as my digital sources.

I have owned a lot of turntables and am confident it is set up right. I have tried to tweak tracking force, VTA, azimuth etc, but to no avail.

What would I need to upgrade to – maybe a Michell Orbe would be a good idea?

I am also looking to upgrade the headphone amplifier and I will require something with two outputs so that my wife can listen at the same time, ideally we'd like to be able to adjust our volume levels separately. Paul Ginestri

DP: Right, in a sense you have a synergy issue here. The Pro-Ject is a good - if not great turntable and shouldn't be that far behind a really good CD player. Your Prima Luna amp is a real smoothie, as are your new Spendor speakers, and this is conspiring with your warm Dynavector cartridge to make vinyl sound a bit too soporific. So before you upgrade to an Orbe (which will make a massive difference), try an Audio-Technica AT-0C9MLIII (£500) MC cartridge in lieu of the Dynavector. It will pep things up and make vinyl punch harder. If you get no joy, it's time to go for an Orbe/Tecnoarm, plus the aforementioned Audio-Technica.

RB: That's a decent turntable setup. It's worth trying another cartridge in case yours is simply knackered, but otherwise consider the possibility that, like a lot of us, you've got so used to the sound of digital that the flaws of analogue just seem that much less bearable. As for headphone amps, if you and

another want to listen on different headphones it's likely you'll need two headphone amps as almost none (bar a few pro models) have separate volume controls for each output. Slee, Creek and Lehmann all make very decent examples.

Destiny's child

I read with interest the integrated group test in the July issue, particularly the description of the Creek Destiny 2. I'm looking to downsize from a pre/power combination. Whatever integrated I end up with will be paired with Focal 1007 BE standmounts on dedicated Focal stands (Analysis Plus interconnects and cables, Jolida JD-100A CD player).

Reading the group test, the Destiny 2 seemed quite a nice compliment to the Focals, thinking that its "sumptuous tonality" and wide sound-staging would work well. However, I remember that in your March 2012 group test, you had a more negative view of the same amp, ranking it last and describing it as "dry sounding" and "a little cool and emotionally detached".

I've read both group tests carefully together with Tim Jarman's interesting March 2012 article on speaker/amp matching, but am still flummoxed. Am I missing something? Perhaps the difference reflects differences in associated gear? Can you help? Specifically, do you think I'd do better with something different from the Destiny 2? John McVicker

DP: Hi John – a perceptive question; you're quite right to point out the disparity between the two group tests. I was also

Creek's Destiny 2 gets a big thumbs up from Ed and David



LETTERS

flummoxed by the performance of the Creek on the first group test, as I had recently reviewed it and loved it. Suddenly, there I was listening in a blind group test of amps, none of which sounded anything like I remembered the Creek! Needless to say, Mike Creek was also disappointed. So he duly tested it when it got back to the factory, and found that the amp was running slightly out of spec; it wasn't enough to show up on

What's the best way to spend £2,750 on a new turntable?

the HFC Lab Tests, but it was enough to stop it sounding quite right. The second Group Test had a correctly calibrated sample of the Destiny 2, and the result was that it was back sounding really nice - as I'd always known it could. I am pretty sure that the Destiny 2 would be ideal for your new, downsized system, as it gives a very smooth sound that's about as creamy as you'll get from any solid-state amplifier I have heard. That said, in no way is it bland – quite the reverse, as it makes music in a most seductive way considering its price. The Exposure 3010S2 is similar, but slightly punchier at the expense of a little of the Creek's easy, natural rhythmic flow.

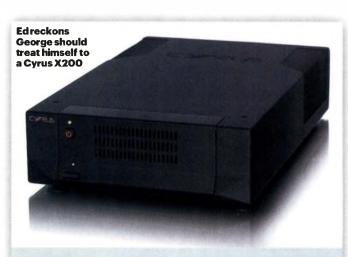
ES:Group Tests are prone to exacerbating the traits of an amplifier based on the most prominent characteristics in the test. In a test where many of the amps are warm and lush, something that isn't can come across as slightly dry – and this is before we take into account different partnering equipment. Strictly on a personal level, the Destiny series has been excellent in my experience and would be a strong place to start looking.

Swap shop

I have a Linn Sondek LP12 that I purchased secondhand 20 years ago. Having just upgraded my CD7Q to an 8SE2, it is clear that this offers better clarity and is no less musical. I am, therefore, considering upgrading. I have received quotes and was about to proceed. However my son has put in a bid for the Linn, which would give me a budget of around £2,750. What would be the optimum way to spend this on a turntable, arm, cartridge and if necessary phono stage, and would this give me better sound? I have considered the Gyro SE and Funk Firm LFT and will listen to alternatives, but I would appreciate your advice. Dr John Hurley

DP: This is a veritable hornet's nest, as there's a lot of choice and the different models available appeal to the widely varying tastes of audiophiles! The Linn LP12 is a somewhat warm and smooth-sounding device. The downside is that the soundstaging is a bit narrow and the deck isn't terribly tonally neutral. It's a little warmer and more 'samey' than the Michell GyroDec. This is particularly good at the things the Linn does badly, having a wonderfully





An ear for detail

My system comprises of a Rega Saturn CD player, Cyrus Vs2 preamp, Cyrus Smart power amps x2 set to mono, Epos ES 30 speakers tri-wired with van damme OFC 4m cable (bass separate and mid and treble together) and the interconnects are a mixture of both Chord and Atlas cables.

The speakers are 6 feet apart firing towards a sofa around 7 feet away in a typical through lounge (wooden floors). They are away from the room corners and about 18in away from the rear wall. I have found this the best position after much experimentation.

My musical tastes are varied to say the least – I'm currently going through a classical phase, but also enjoy reggae, jazz, rock (Neil Young is the heaviest I go), disco, soul, folk and a little pop.

I have lots of bass, but really need more control, sometimes the kick drum in some of my favourite pieces comes over too loosely and uncontrolled symbols can occasionally be very crashy. I am happy, though, with the detail of most of my music. I would like your advice in where to go from here and to narrow down my auditioning. I was thinking my power amps could be a problem I used to have an Exposure Super XX, which was more controlled, but did not have the detail I have now. I re-read your review of the Exposure 3010 and was wondering if this would give me the detail I still want, but give me enough quality to control the speakers. I am also thinking of buying a separate DAC to help the Rega and with a view to start ripping my CD collection of over a thousand discs.

My budget is up to £3k new or used for something that would really make a difference. Any suggestions you can make would be greatly appreciated.

George Hodge

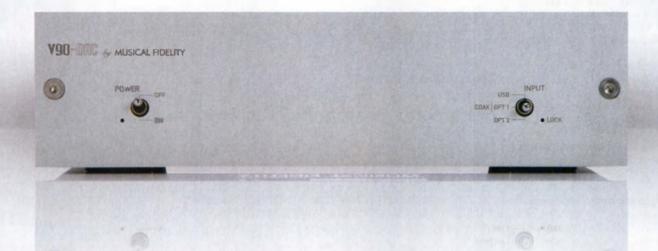
RB: You're spoiled for choice with amps, but three makes I'm always happy to recommend are Arcam, Cambridge Audio (I haven't heard the 851A, but its predecessors excelled in the control department) and Creek. Bear in mind that Creek and Epos have been under one roof for several years so synergy is to be expected!

ES: Bit of a leftfield suggestion, but I found that placing a pair of Aurelex Sub dudes under my Neat Momentums had a huge effect on their performance. At roughly £120 for a pair, you'd have a huge amount of money left over if it did work to spend on music and snacks. If you were looking at a power amplifier though, I have seen the excellent Cyrus X200 for the £3k budget and these would be a big step forward without changing the form factor.

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LETTERS

wide soundstage and a beautifully natural tonality that gives all the colours of the rainbow. The downside is that it is less musically involving, despite having a tauter bass and crisper, more extended treble.

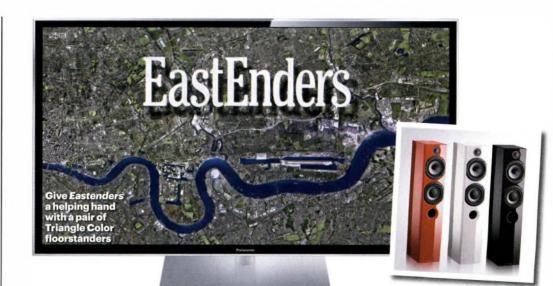
The Avid Diva II is tighter and more 'crisp' sounding than both; its bass is firmer if a little less well extended than the Gyro's, and its midband is finely etched and dynamic, although it's not as 'charming' to listen to as either of the aforementioned.

Origin Live's latest Aurora pulls back the other way markedly, and you could say it offers a bit of all the aforementioned decks in a friendly package, with none of their sonic eccentricities. It's a very well rounded, smooth, open and natural sounding deck – the main criticism being it's not as well finished as the others; the Michell for example having a beautiful feel to it that some decks at twice the price lack.

As ever John, I'd suggest you find a good dealer and try to audition as many against one another as you can – with the same arm and cartridge, of course. When you've decided on the basic sound you like, you then need to repeat the process with tonearms and cartridges – which underlines how esoteric a pursuit the analogue vinyl LP is these days! Good luck.

RB: Don't overlook Pro-Ject's wide range of models. With your budget, you could go for the RPM 10.1 plus a tasty cartridge from Ortofon – its moving coil designs are probably better than moving magnet and shouldn't be a problem for your LPs.

ES: There are so many places you could take an LP12 in update terms that I'd be tempted to hang on to it and see if any of the ideas from Funk Firm, Vivid or the host of other people offering plug-in bits could make your LP12 into a 21st century deck. If the Funk Firm package had been in existence when I was looking for the deck I use now, I might not own a Gyrodec.



Letter of the month

Sound and vision

I recently took the plunge and bought a new super-slim 42in Panasonic plasma TV. The picture looks great, but the sound is disappointing and I am considering routing TV sound through my hi-fi system. My current hi-fi setup is a pair of JBL TLX 7G is peakers that don't really fit with the sleek dimensions of my new TV screen. They are driven by a Denon PMA-350 II amp and connected to a Rotel RCD 970BX CD player and a Pioneer turntable.

I fancy replacing the JBLs with something a little more elegant to match the TV's styling and to better fit into what has become rather a tight space since the move up in TV screen size. I am reluctant to sacrifice the bass performance and stereo imaging that I have enjoyed so much from the JBLs, and feel a front-ported floorstander would possibly best fit my needs.

My musical tastes vary, but regular favourites include tracks by Osibisa and Santana. Ideally I would be looking for a speaker that can handle a range of musical styles, but that can still produce a decent amount of natural bass energy even at lower volume levels. Can you suggest any models within a budget of around £500 to £1,000 that would fit my needs?

David Nutt, Buckingham

ES: They don't have the levels of distribution in the UK that they once did, but if you could find a pair of Triangle Color Floorstanders, you'd have a sensibly sized, handsome, front-ported speaker that sounds consistently good across a wide range of material.

7*J*: The trouble with really slim loudspeakers is that they will suffer from the same design limitations as are imposed on those in the television, which as you have observed are usually pretty dreadful in modern sets. My old Beovision LX TV has proper loudspeaker enclosures supported on rubber blocks to isolate them from the rest of what's going on in there within the outer casework, but we won't see the like of sets like that again while a key TV sales point remains the distance between the front of the screen and the back of the cabinet.

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OPINION

Pick and mix

They may have claimed that home taping would be the death of music, but mix master Lee Dunkley really appreciated the importance of a good mix tape

ome music formats simply refuse to die. The hi-fi world has seen vinyl flat line and go from a forgotten format stashed away in the lofts of many households, to its surprise resurgence,

thanks to interest from audiences discovering the format for the first time as well as original vinyl fans keen to relive the magic and dust off their old turntables and record collections. This has resulted in a healthy increase in vinyl sales and the return of a handful of independent record stores on our streets (check out our special record store feature in next month's issue).

I'll be honest, cassette tape is one format that I really didn't see making a comeback, but we've just had the first International Cassette Store Day (see Audiofile Comment on page 7) celebrating an underground passion for the format and a hint at a revival with numerous tape-only album releases. Despite my reservations about this triggering an avalanche of new interest in the format, I was actually a massive fan of cassettes back in the day. In fact, in many respects I had a greater fondness for tape than for vinyl, such was its flexibility that opened up new ways of listening and obtaining music for playback on multiple devices.

The humble cassette pretty much revolutionised my relationship with the music I listened to. Its versatility

Anyone that has ever compiled a mix - on the move on tape will agree that it is an art form

opened up new ways to enjoy music a single speaker portable cassette recorder or on a Sony Walkman (the

world's first personal stereo), changing the way I listened forever. The eighties was the boom time for cassette, and no longer did waiting at the bus stop have to be a dull experience - everyday was wonderful thanks to the tunes I could now feed my ears with and simply walking down the street became an exhilarating feeling.

Introduced by Philips in Europe in 1963, the compact cassette opened up a whole new world with greater access to music than ever before. Although plenty of pre-recorded albums were available on cassette tape, the thing that made it so attractive to me, and many others, was its ability to record and re-record. If you owned a cassette recorder with a built-in radio this was the perfect way to obtain new music for your collection and simply edit out any of the talkie bits by hovering over the pause button ready to strike it with a hawk-like speed and precision. This was a great way to expand my music collection and many Sunday evenings were spent listening to the BBC's top 40 countdown show on the radio, recording my favourite tracks and editing out any of the show host. I developed quite a technique in editing out the talkie bits, even if I do say so myself. It gave an intimate knowledge of the workings of my recorder to the extent that I knew exactly by how much to rewind the cassette to make sure I erased every last bit of talking, but didn't end the track too abruptly. It was a skill that became so honed that I was even able to utilise the small gap between the playback and erase heads so that there was the tiniest crossfade between the end of one track and the start of another. I kid you not!

It was these 'skills' and ability to consider what tracks worked well together - sometimes waiting until the next week's countdown for a track to be played again so that it would fit better with the last track I recorded - that naturally lead on to making my own mix tapes.

Mix and match

Long before the concept of the iTunes playlist had even been thought of, there was the mix tape. Anyone that has ever compiled a mix tape will agree that it is indeed an art form - spending hours arranging tracks in a particular order to create a pace that moves effortlessly from one track to another. They are a personal soundtrack to whatever particular mood or message I felt at the time. Many were often a work in progress, with a mix tape born out of several tracks that worked well together and then shelved until the right next track came along to continue with the compilation.

There was often something romantic about the process of compiling a mix tape that transcended the poor sound quality of the cassette tape recordings themselves, although I do recall choosing costly chrome type cassettes over the more affordable ferric versions, so sound quality was clearly always a bit of any issue for me. In the nineties I even owned a cassette deck featuring the less popular, but superior Dolby S noise reduction circuitry that is now gathering dust in my loft. Could it be time to dust it off and fall in love with the format all over again? I really do hope so!

Lee cut his teeth as a mix master on a cassette recorder much like this one



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It's showtime!

Forget the football season getting into full swing, we're entering a new season of hi-fi shows, **David Price** attends a 'micro' hi-fi show and has a mighty fine time, too



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s we enter the "season of mists and mellow fruitfulness" (that's autumn, to those who haven't yet encountered the great John Keats), there's one thing that you can be sure of – it's from the increased The UKE (the UKE)

showtime – from the inaugural The Hi-Fi Show in the UK in October, to Rocky Mountain in the States, and even CES in Las Vegas in the new year.

But hang on, wait a minute – while the cat's away, the mice will play! The summer season sometimes sees some interesting little micro shows; these aren't anything like the aforementioned major diary moments, rather they're little local events with a small number of people invited. Often run by more enterprising dealers and/or distributors, they make a nice prelude to the bigger, bolder events happening later in the year.

Once such example is Hi-Fi Fest, a new two-day micro show run by the energetic Mains Cables R Us man, David Brook. Although no country mansion, his sizeable suburban Huddersfield house proved just large enough to host some 50 guests over the course of two days, running three compact listening rooms over the duration, packed with interesting and sometimes quirky kit. It literally was 'open house', with a fridge stocked with Fosters and Newcastle Brown, pizzas and cups of tea on the go, and a relaxed and convivial atmosphere.

This show was like a bunch of friends taking over someone's house

David had invited regular customers and friends, who turned up to help deplete his food and drink stocks, while enjoying an

interesting few hours playing with, and/or listening to a wide range of products – from ultra-expensive superfi to hand-made-on-the-kitchen-table prototypes.

IsoTek was in full force in the main room – with the hard-grafting Keith Martin and team demonstrating the flagship EVO 3 Genesis and Super Titan power management systems. I've been to countless IsoTek dems over the years at hi-fi shows, but few were as impressive as this. Show goers brought their own CDs (often nipping outside to grab them from their car CD changers!), and heard the improvement for themselves.

Interestingly, the Primare i22 amp that was on dem, with its matching CD player and Amphion speakers, didn't sound very good – which is just as I remember hearing it in my own home system. But when run through IsoTek regenerative mains power supplies, the sound was transformed in a profound way. I could suddenly hear inky-black silences between the notes, and the soundstage switched from '2D' to '3D' mode, as if a button on the remote control had been pressed. I've heard IsoTek kit work well before, but this was the clearest case for its efficacy I've heard.

Elsewhere, Dominic and Natalie Harper were demonstrating their superb plinths and moving coil

cartridges. Their company, Northwest Analogue, had a beautiful slate-plinthed Garrard 401 turntable, running a specially converted to 12in SME 3009S2 tonearm, with a prototype of Dominic's new high-end moving coil cartridge. This fed a fine-sounding LongDog phono stage, his own tube amps and Snell speakers; the sound was gorgeous. He also demmed some cartridges he had rebuilt, including a classic Orfoton SPU, which sounded lovely in an olde-worlde sort of way. The massive Cumbrian slate 'double size' 401 plinth was a veritable work of art.

Dominic has spent many years rebuilding moving coil cartridges and gave me an insight into his thoughts on their respective strengths and weaknesses. He is well respected, with several famous names asking him to hand-build their own premium brand products – although he told me he prefers to stick to doing all his own work.

Show and tell

Sound Fowndations' Chris Green installed a Clearaudio Master Innovation turntable in the main IsoTek room, which was wowing visitors of both digital and analogue persuasions, but he'd also got Canor into the third dem room. Here we were able to listen to the TP106VR+, a n excellent integrated valve amplifier, which gave a consummately smooth yet musical sound driving a pair of as-yet-unlaunched loudspeakers from 'A N Other' manufacturer! Feeding it was a heavily modified Technics SL1200, complete with SME309 tonearm, special platter and Isonoe feet. Visitors were allowed to change cartridges to their preferred weapon of choice; they soon settled down with an Ortofon Kontrapunkt b, after a brief dalliance with a 2M Red. The system sounded fantastic.

This show was more like a bunch of friends taking over someone's house for the weekend, in order to play with lots of big boys' toys. A fine time was had by all – here's hoping we see many more micro shows in years to come •



Just one of the many treats that was on display at this low-key micro show

79

Apprentice MM Phono stage

SP2 floor standing Speakers - gloss

> MC3 reference Phono stage



Apprentice TT

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Buffalo solder

Everyone knows the importance of decent interconnects, but as **Malcolm Steward** points out, the way they are produced can affect how they perform

n a moment of rash tidiness and to provide some much-needed organisation in my system I have changed the termination of my primary loudspeaker cables from soldered Naim 4mm right-angle fit plugs to more regular gold-plated types, after testing screw-fit types, which I always suspected might prove their equal, but they failed to do so. The reason for that suspicion goes back years to when I worked in telecommunications, where soft-soldered joints were frequently viewed with mistrust. One function of solder is to keep corrosive air away from the connection between a tag and the wire: this arrangement functions well provided the physical joint between the two is robust and there is a consistent electrical joint from the outset. There is never any point in relying upon soft solder to provide a secure electrical or mechanical connection: such joints will inevitably go 'dry', which results in intermittent, high resistance or no connection. That can sometimes be a problem with banana plugs, but I have found that well soldered plugs still tend to sound better than the screw-fix or compression-fit types, so I am now switching to the Chord Company's superior, custom-made, soldered types.

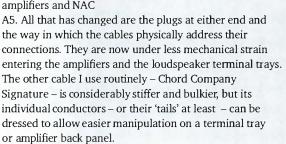
I have used various types of 4mm banana plugs because they require the conductors to be forced into a slot in the conductor pin before the joint is soldered: this provides a

I find re-terminated cables offer much greater insight into the music

sturdy physical connection in the first instance – provided one is using a conductor of an appropriate diameter. However,

the plastic-clad Naim plugs are not suited to every connection arrangement. My Neat Ultimatum XL10s represent a case in point, especially when there are two sets of cables entering each loudspeaker as in my bi-amplified setup. The likelihood of short circuiting a pair of Naim NAP250s with a bare plug that has come adrift - I always removed the plastic casings from my Naim plugs and used them 'naked' - was not an outcome I wanted. Not for the sake of the price of a few new banana plugs, some heat-shrink tubing and, ultimately, a professional re-termination job, which the technical director at the Chord Company proposed. There are many good reasons for you to have this job done professionally. There is much more to soldering correctly than meets the eye: most of the people who I have watched attempt it - including some hi-fi shop employees - get it pitifully wrong. Guys, the plugs really should not fall off the cables before the customer has left the shop!

I am delighted with the outcome of Chord's efforts with my cables. As expected, the presentation of music through my system has not altered dramatically. After all, I am still using the same fundamental configuration of NAP250 power amplifiers and NAC



Ch ch ch changes

The changes in presentation that one can experience with an alteration of terminations are rarely dramatic. They are typically subtle, but nonetheless worthwhile and significant. I find that my re-terminated cables offer greater insight into the music, especially in terms of timing and phrasing, which are vital elements in my listening enjoyment. Playing that previously appeared imprecise or unclear is rendered far more explicitly. Fans of high-endephemera will also appreciate the additional clarity in instrumental and vocal image placement. In every respect there is something to be gained for all listeners - those who love music as well as those who merely relish the sounds it makes. Most noticeable, however, is a genuine increase in my involvement with the music. I often find it impossible to drag myself away from favourite albums, such as Lou Reed's flawed masterpiece Live: Take No Prisoners, with which the revamped cables reveal even more of the dark fabric that Reed and his band concoct. The revised cables provide an additional level of transparency that puts the listener in closer contact with the performance and makes what the musicians are playing more relevant. The new terminations effectively highlight those 'touched by the hand of God' moments on several songs, and, thus, definitely represent money wisely invested •

Getting your interconnects soldered properly can make a world

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Home Alone?

With the recent revelations about internet privacy, it turns out Big Brother is both watching and listening to what we do and, says **Tim Jarman** this can't be seen as a good thing

verybody likes company, but it's still nice when the family go out and leave me on my own in the evening every once in a while. Before the door is even closed I find myself thinking

about which records, cassettes and CDs I will listen to in these few golden hours, when that space around me is mine alone and there is no one else about to annoy or disturb. Sometimes, it is this very privacy that makes music thrilling, knowing that it is just me and the imagined performer (or performers) sharing a specific magical moment. No-one else knows – or do they?

An expectation of privacy, like a job for life with a decent pension at the end of it, is fast becoming a feature of life that belongs to the 20th century. Even though every intelligent person is aware at some level that the internet is a highly monitored, highly scrutinised system where those in charge have access to everything that goes on, up until recently to say so was to put oneself at risk of being a conspiracy theorist or a member of the 'tin-foil hat' brigade. However, after the recent revelations in *The Guardian* by Edward Snowden detailing exactly how internet use by individuals is routinely intercepted and logged, there can be doubt; what was once a conspiracy theory is now a documented fact.

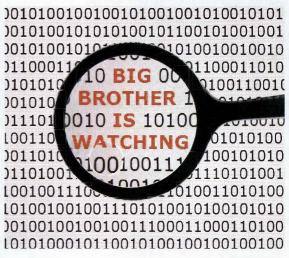
What has this to do with hi-fi? The rise of internet-

Does music sound as good with an uninvited guest watching over you?

connected computing devices in audio has been the big story of the last few years, with new levels of operational

convenience being the major draw. This, combined with a move towards centralised remote storage (the cloud), so that music files can be shared between any number of appliances with minimum difficulty points towards a future where the domestic audio installation is simply a 'terminal' of a larger machine, as opposed to the completely self-contained unit that it once was. The supporters of this topology paint a picture of a gleaming future where any music you want is available with no more effort than it takes to generate a whim, but as must now be clear this will come at a cost: the loss of another part of one's private space. How do you feel about the possibility of your listening choices being observed, scrutinised and stored away, perhaps forever?

Music is a very personal thing – you can't tell much about someone from a single musical preference, or ten, or even a hundred, but if every single one was logged then someone can really begin to build up a picture. Your moods, your highs and your lows, the good times and the bad can all be inferred once there)1100011 is enough data to work through. Are you safe if you stick to buying CDs then? Not necessarily. A major internet retailer recently announced that it would make available to its customers free MP3 versions of



any CD that they had purchased from its site within the last ten or so years. Of course, MP3s are of little use to the serious audiophile, but the underlying question still has to be "why was it keeping all that data for so long?" Data storage costs money and in a competitive field like retail costs are cut to the bone, yet the logic of this situation reveals that there clearly is value in retaining an individual's purchasing history for a decade or more. Think of what you've bought in the last ten years, then multiply that by the size of the population that buy music, even if only occasionally. That's a lot of data, but what else will it be used for? There is no way of telling, but a good maxim for the present age would seem to be "if the service is free, then you are the product".

Those were the days my friends

Things used to be different, but you'll get no argument from me if you say that it used to be a pain going to the record shop. Trudging out in the rain and paying to park miles away only to find that the thing you wanted wasn't there anyway. Forking out £12 to £15 for a CD wasn't that funny either, yet the creepy alternative, which has all but replaced this ritual seems to be even worse. Cultural and artistic choices should be a personal thing, private by default and shared only with the individual's specific consent. Soon, this statement may seem as dated and as quaint as a description of a trip to the record shop, a golden memory of an otherwise forgotten age. Is any of this really important? That's a matter of personal priorities, but consider this: does music sound as good with an uninvited guest constantly looking over your shoulder? No, it does not •

Does Big Brother approve of what you're listening to, and should you care?



Minitest

STYLUS CLEANERS £5-£36

So just how many ways are there to clean a stylus? **Neville Roberts** looks at four different solutions to the problem

Mains Cables R Us

Stylus Cleaning Putty PRICE: E5 CONTACT: 07908 056978 WEBSITE: mains-cables-r-us.co.uk

ONE OF THE best ways of removing dirt from a stylus is to use something that the dust and dirt will adhere to, in preference to the stylus. This turquoise-coloured putty is essentially similar to a product used by jewellers to clean watch parts and diamonds. It is completely non-corrosive and there are no fluids to damage the bond between diamond and cantilever.

My preferred method is to carefully lower the stylus tip into a piece of the putty and then lift it off again. The dirt stays on the putty and when it gets too dirty, you simply trim the surface with a razor blade to expose a fresh area. I also find that inserting a toothpick into the side of the putty helps to hold it steady during use. The putty can be conveniently stored in a small plastic sealable pot or bag to keep it fresh and, stored in this way, it should last for many years.

The cleaning putty really does an excellent job and, following use, inspection of the stylus tip with a magnifying glass reveals a perfectly clean and pristine diamond at the end of my cantilever. I tend to clean my stylus after every four sides of playing, but obviously it will depend on just how dirty your records are to start with.

VERDICT

Simple to use and excellent at doing the job, the putty will last for many years and is ultimately the best value





Vinyl Passion Dust Buster

PRICE: £19 CONTACT: 01623 844478 WEBSITE: the-missing-link.net

THIS CLEANER USES a specially formulated polymer into which the stylus is lowered. On lifting the stylus back out, any dust is removed. The maker claims that the Dust Buster will increase the life of your stylus by up to 1,000 hours and that it took some three years to develop the oil polymer hybrid used in the Dust Buster, which involves a specially developed UV bonding process.

The Dust Buster is supplied in a small pot fitted with a screw lid and it can be kept conveniently on the side of the turntable so that it is always available and ready for use. To test the cleaner, I play a few records without using any form of cleaning device to ensure a nice fluff ball has accumulated on the stylus. I then place the pot of Dust Buster on the platter and gently lower the stylus tip into the gel using the arm cuing lever.



As soon as it is sitting on the surface of the gel, I then lift it clear. Careful inspection with a stylus microscope reveals that the stylus looks pristine once again, showing that the cleaner has indeed done exactly what it says it will.

Obviously, after a few dozen cleans, the surface of the Dust Buster itself will get covered with dust and dirt. However, all you need to do is to wash the Dust Buster under the tap, allow it to dry in the air and then replace the lid on the container. This will keep it as good as new.

The manufacturer states that the Dust Buster has a service life of 12 months before the cleaning properties slowly start to decline.

VERDICT

* * * *

This cleaner should effectively double the life of your stylus as well as reducing wear and tear on your records in the process

MINITEST



There are plenty of stylus cleaning products available to keep it in top condition. There are brushes made from carbon fibre, 'sandpaper' strips that utilise an abrasive that is softer than diamond, ultrasonic pads that you rest the stylus in, numerous liquid cleaners that can be used in conjunction with the brushes and there are tubs of sticky goo into which you lower the stylus tip to clean it!

However, after a prolonged period of use, some cleaning products can cause damage to the bonding of the diamond to the cantilever. An incorrect cleaning method can have a negative effect on the cantilever and suspension mechanism. Stylus cleaning should always be performed by either lowering the stylus into the cleaning product, or by gently brushing the tip from the rear of the cartridge to the front – never front to back.

Onzow Zerodust Stylus Cleaner

PRICE: £36 CONTACT: 01733 350878 WEBSITE: analogueseduction.net

THE ZERODUST USES a specially developed ultra-soft polymer 'bubble' that envelopes the stylus tip when it is placed on the surface of the cleaner. The polymer is said to be softer than a baby's skin and 15 times more elastic! The lid of the container that holds the polymer incorporates a magnifying glass that can be used to inspect the stylus after cleaning.

To clean your stylus, simply lower it onto the surface of the polymer using your arm cuing lever, then quickly lift the lever and you're done! The manufacturer states that this unique device will last a lifetime and can extend the life of your cartridge. When the surface of the polymer becomes dirty it should be washed in warm water containing a small amount of a neutral detergent. When clean, the polymer is rinsed and left to dry. Once dry, it should then regain its adhesive properties and be as good as new and ready to be used all over again.

When I try the Zerodust on my stylus, I find that it does indeed remove all the accumulated dust and deposits with a single use. The surface of the polymer does feel quite tacky to the touch, but unlike an adhesive it leaves no residue whatsoever. This tackiness disappears when the polymer gets wet and then returns when it dries out, so cleaning the dirt off with water is very effective.

This cleaner works well in practice and comes with a magnifier and a lifetime promise, but is a good bit more expensive than the rest.

VERDICT

This costly but unique cleaner works well and comes with a magnifier, and – in theory at least – should never need replacing





Russ Andrews TipTonic Stylus Cleaner

PRICE: £10 CONTACT: 01539 797300 WEBSITE: russandrews.com

THIS STYLUS CLEANER includes a special application brush. Apart from removing the little ball of fluff that can accumulate around the tip after playing a single side of an LP it also removes hard, baked-on deposits that can accrue over a period of time.

Although it may sound strange to refer to some deposits as baked-on, it is considered by many that a stylus tip can get quite hot due to friction during playing – some say as high as 160°C – so a cleaner that can gently remove this deposit is very desirable.

To clean the stylus tip, a few drops of the cleaning fluid are applied to the bristles of the brush. The brush is then gently drawn from the rear of the cantilever to the front, taking care to only apply gentle pressure at all times. The stylus assembly, including the cantilever and its support mechanism, should not be stressed at any time. This process will need repeating four or five times unless the stylus is heavily soiled, in which case further applications may be required. Finally, the instructions recommend drying the brush with a kitchen towel or tissue and then, to remove any excess fluid from the stylus, it should be gently brushed again from back to front once or twice.

This sort of cleaning isn't something you would wish to do after every play as it is quite fiddly. However, it does do a very thorough job, which was evident after inspecting a nice clean stylus under a microscope.

VERDICT

A high-quality wet cleaner that can also remove any of the baked-on deposits that tend to accumulate over time



van den Hul

Pamper your ears



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BLIND-LISTENING GROUPTEST

Van den Hul The Wave/ CS-122 Hybrid £310



From Holland comes this long-established cable specialist, with an impressive pairing

rom a company that has

DETAILS

PRODUCT Cable loom ORIGIN Netherlands TYPE Interconnect/ speaker cable

FEATURES • Interconnect: silver-plated copper with Hulliflex jacket • Speaker cable: silver-plated copper and carbon hybrid speaker cable speaker cable with Hulliflex jacket • Prices: interconnect £130/1m, speaker cable £20 per metre unterminated DISTREAUTOR Flamingo Audio

VEBSITE vandenhul.com

made itself a great name for the fine moving coil cartridges it makes, comes a vast range of interconnects and speaker cables. The Wave is towards the more affordable end of this, and is another silver-plated, copper cable featuring a "massive" 0.9mm central conductor of oxygen-free copper. A specially foamed dielectric insulation material is said to minimise high frequency signal attenuation. The outer and inner layer are made of the same material as the central conductor, which is described as a 'triple shield" that is said to aid interference suppression. As with all van den Hul cables, it is covered in the company's own 'Hulliflex' cable jacket, which is claimed to be both environmentally friendly and contain no halogens.

The CS-122 Hybrid is an updated version of one of vdH's classic speaker cables, and sports two conductors made of 147 strands of 0.16mm diameter, high-purity, matched-crystal oxygen-free copper with a very dense pure-silver coating, alongside a carbon saturated layer that is said to

improve the sound. The cable jacket is also made of Hulliflex and is described as "a very attractive matt cream colour". During the debrief one of our panelists counters: "it looks like something you see in a hospital"!

Sound quality

From the opening bars of the Beethoven piece, it is obvious that what we are dealing with here is special. For the first time in the test. the sound hangs back from the speakers and dissolves into the room, rather than appearing to come from two points in space - which is what happens to a greater or lesser extent with the other looms. Indeed, the transparency of these cables is superb, but it isn't transparency at the expense of musicality, as the vdH loom also has a wonderfully mellifluous quality to it that sees the music ebbing and flowing in a seductive and arresting manner. The Paul Simon track is proof

The Paul Simon track is proof positive of the way these cables are able to let the singer's real intentions flood out – every vocal inflection is carried beautifully, giving a mesmeric quality to the music. Sure, all the detail is there, but the bigger picture isn't lost in the process of rendering it.

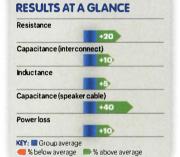
The first track is startlingly different to most of the other cable looms, in the way the decay on the voice seems to hang on, rather than 'falling off a cliff' with most of the others. The vocals are expressive and dynamic, and this is set over a backing that suddenly takes on an urgent, snappy quality to it – when previously the musicians seem to just be going through the motions. It is amazing how the same beats sound so different, as if they've been set free. Soundstage width isn't as good as

Soundstage width isn't as good as some here though; this is where the

ON TEST

In common with the Atlas Asymmetric interconnect, vdH's The Wave is also a 75ohm coaxial type and so lends itself to both 'analogue' and 'digital' (S/PDIF) duties. This common geometry is reflected in the similarly low inductance and capacitance of the two interconnects although vdH's greater conductor area lends it a very slightly lower 45mohm/m loop resistance.

VdH's partnering CS-122 speaker cable, now in 'Hybrid' guise with mixed metal and carbon conductors is a very different beast from the original CS-122 that I tested for *Hi-Fi* Choice over 21 years ago. The spaced, figureof-eight geometry means the 1.0µm/m series inductance is unchanged, but the improved dielectric means capacitance is half what it was at just 17pF/m. Resistance has also been cut by a factor of nearly 3x at 11.4mohm/m, further improving the achievable amp/speaker damping factor. **PM**



vdH falls slightly short; it isn't constrained or shut in, just not quite as expansive as – say – the Tellurium Q. That said, depth perspective is brilliant, "The first cable I'm hearing with front-to-back dimensionality," says one panelist. Tonally it is pretty even – maybe just a touch on the dark and velvety side, but certainly not as sepia-tinged as the Tellurium Q.

The overall effect is of an absolutely stellar cable combination and one that's an essential audition for anyone that's in the market for such a thing. The great thing is that it's not really all that characterful, it's just very unobtrusive and lets the music's true flavour come flooding out •

Hi-Fi Choice



RETRO



Tim Jarman remembers a time when the cassette deck was the way to listen to and record music, and few came better than the Goodmans SCD100

epending on when you first took an interest in audio, Goodmans was either a well-respected manufacturer of loudspeakers that served the middle of the hi-fi market, or a catalogue shop brand attached to an indifferent range of lo-fi midi systems, portables and TVs. In its first life, Goodmans concentrated on loudspeakers but every now and then made a foray into other parts of the hi-fi chain, most notably during the early seventies hi-fi boom when a tie-in with the British Radio Corporation (latterly Thorn Consumer Electronics) lead to the Module 80, Module 90 and Module One-Ten receivers, available either with or without a built-in Garrard or Lenco turntable. TCE marketed the same units under its Ultra and HMV brand names and made a virtue of the presence of Goodmans drive units in the matching loudspeakers. To complete the system, Goodmans added a cassette deck, but since the production of such items was outside the abilities of the British hi-fi industry it was forced to go abroad, not the cassette's natural home of

Holland, but to where it had been embraced most enthusiastically in terms of mass production – Japan. The company it selected was a recent entrant to the field, but would soon become very well known, Nakamichi.

Three for all

Nakamichi had in 1973 introduced a pair of three-headed cassette decks, the 700 and the 1000. Three-head cassette decks were then a novel item, the only other mainstream model available being the Sony TC-177SD, so the two Nakamichis generated a lot of interest. They were praised for their performance, although a review in the first issue of Hi-Fi Choice found the 700 to be rather inconsistent. As well as the three-head exotics, Nakamichi also developed a much simpler single capstan, two-headed model, which in 1975 was offered as an OEM item to manufacturers like Goodmans, although it would later join the Nakamichi range as the 500 Dual Tracer. The Nakamichi 550 Dual Tracer portable was also a close relative of this design.

In most respects it was a fairly conventional piece of work. An

electronically regulated servo motor, electronic automatic stop in all modes and a hand-aligned Dolby circuit constructed from discrete components (as opposed to purpose-made ICs) were three highlights, along with the ability to record from a pair of stereo microphones and an additional mono 'blend' mic at the same time. The machine was well constructed, but its input circuit was optimised for DIN standard equipment, with line-level RCA inputs working through a fixed attenuator seemingly fitted as an afterthought. It was the head that made these machines really special, being described as a "Focused Field Crystal Permalloy" design. Made from specialist materials and machined in a complex manner to intensify the magnetic energy tightly around the head gap, this head made it possible to specify an upper -3dB point of 17kHz, unheard of for a popular cassette deck at the time (around 12kHz was more the norm) and still credible today. The Goodmans SCD100 and the Nakamichi 500 Dual Tracer are essentially identical, the differences being that the Goodmans has teak cheeks at its sides where the

Nakamichi's were white, the Goodmans has a silver inlay behind its slider controls where the Nakamichi has black and lastly the Nakamichi has a built-in 400Hz tone oscillator for record calibration (activated by an extra position on the Dolby switch) and the Goodmans does not. This last point is the only one of any consequence, since Goodmans users were expected not to be able to set up their own recording currents as the pre-set controls at the back of the machine were hidden behind a screwed-on nameplate. SCD-100 owners need not worry about this omission these days since a test-tone CD can be used instead, the drill being to record a tone of between 400Hz to 1kHz at -3dB on the meters and then to adjust the relevant pre-set (they are all labelled, even though they are hidden) until the same reading is obtained on playback. This is a tedious process on a two-head machine involving lots of trial recordings, but the results are worth it, especially if using Dolby NR.

Taking the hiss

These machines work well with basic ferric tapes (TDK D, AD, BASF LH-E1 etc) with the selector switches set to 'norm' and with true-chrome tapes like BASF CR-II in the 'CrO2' position. The position marked 'high' was intended for an obsolete formulation marketed by Nakamichi called EX II, although since it uses 120uS EQ it can be re-set for performance ferrics such as TDK AR and AR-X. TDK SA (a pseudo-chrome) is not directly suitable unless the machine is re-biased - relatively straightforward for the experienced user, since separate controls for all three tape types are fitted inside the cabinet.

As would be expected for a machine where extended HF response has been a design priority, the Goodmans SCD100 gives a bright, clean sound that is quite at odds with the typical muddy results that normally come from seventies cassette decks of similar appearance. Pre-recorded cassettes with Dolby are rendered with plenty of detail and background hiss is well suppressed, a good result for any cassette deck, but outstanding for one of this generation. Like many Nakamichi machines the tape speed may have been set a little fast (possibly to enhance showroom appeal), which adds to the initial good impression that this deck gives. This is easily corrected with an insulated screwdriver inserted through a hole in the back - use a test tape and a frequency meter for the most accurate results. Some Nakamichi decks have a sonic character best described as 'hard' or 'glassy', a consequence no doubt of expanding the top end beyond what is normally considered possible. The Goodmans SCD100 only suffers from this effect in trace quantities.

Yes, the mid-band is a little cold and the extreme treble has a resonant quality to it, but the overall balance is

A good recording will easily eclipse the results given by a basic turntable

still impressive – a good recording will easily eclipse the results given by a basic turntable (and some of the more ambitious ones, too). Plenty of level is available through the output RCA connectors, the 0 to 10 scale on the output slider being representative of the output voltage at the Dolby reference of 200nWb/m with '10' sending approximately 1V to the amp.

When set up correctly, recordings are pleasingly transparent and play back well not just on the SCD100, but also on other decks built to the later IEC-reference tape standard, suggesting fine cross-generational compatibility. This makes the model a useful asset for making recordings for playback-only portables, car players etc, as well as for general listening in a domestic system. Pushing the level meters almost up to the start of the

BUYING ADVICE

Since the key feature of the SCD100 is its record/replay head, it is vital to ensure that this important component is in good condition. The same type of head is shared with other Nakamichi machines of the period, but since none of these are any cheaper or easier to find in good condition than the Goodmans this won't help you much. Nakamichi heads were high performance components, but they aren't especially hard wearing; check for a groove through the centre where the tape runs as the depth of this will show how much metal is missing. Originally the face was machined flat, a small nick that can be sensed by gently dragging a fingernail across the surface is acceptable, but anything larger indicates that a replacement is needed.

Heads aside, these models are simple and durable. The original Nakamichi belts are made from translucent rubber and look like elastic bands; they are long lived and should only be replaced if actually worn or broken. Check the capstan bearing too by attempting to rock the capstan shaft from inside the cassette tray – any sideways movement will make the deck impossible to set up accurately.

Various electronic problems often resolve when the record/playback switch and various multi-way connectors inside are carefully cleaned; do this first before delving into a big fault-finding session. When re-fitting the deck, take care that the record/playback switch engages correctly otherwise the machine will erase every tape you subsequently attempt to play.

red zone (0dB is Dolby reference level in this case, so around 3dB higher than is normal) gives clean results with ferrics although recordings made on chrome tape work better with more conservative settings.

Hunting them down

Up until recently these decks were either very cheap or simply given away, but now the Nakamichi origins are becoming better known, this is no longer the case. A slight premium (snob value?) still attaches to the 500 Dual Tracer, but the best advice would be to buy on condition rather than by badge. The Sonab C500 is also much the same machine (albeit in a better disguise) so similar comments apply here too, although compared with the Goodmans and the Nakamichi variants this one's rare in the UK ●



The Goodmans

well with basic

ferric cassettes

SCD100 worked

Sci-fi Bectronics assembled to sell supercars meets speakers designed to bring pro audio to the home. **Ed Selley** buckles up

W

hat you see here may be a first on the *Beautiful System* pages – a

professional offering. By this, I don't mean that it is comprised of pro-audio electronics (although all the brands concerned have pedigree in this area), but that the components in this system were originally assembled for a reason other than your edification – vital though that is too, of course.

This extraordinary collection of electronics – half hi-fi system, half art installation – is a Chord Electronics Choral system, but one that differs from the norm (if anything that hails from Chord can ever be described as normal), as it was built for a specific reason. This very system has been used to provide some suitable sonics for the Bugatti showroom in London. When your customer base is weighing up the pros and cons of one of the most extraordinary cars ever made, an old mini system pumping out commercial radio isn't really going to set the right tone.

Broom, shake the room

To this end, Chord worked with Bugatti to create a system that wouldn't be shown up by an £850,000 supercar. The main point where this system is different to the norm is the colour. These units are finished in titanium that better matches the visible metalwork on the cars. These unique-looking units are then mounted in an Aspire rack. This older design has since been replaced by the new Modular rack, but in a room full of supercars Bugatti felt the older design had more presence.

COMPONENTS

CHORD BLU CD TRANSPORT £5,970

Chord's dedicated CD transport features internal upsampling and a specialised output designed to work with the QBD76. The lid is spring loaded to stay open when the transport is mounted at an angle.



The OBD76 is a fully 192kHz-capable design that additionally supports DSD over USB. The processing architecture is unique to Chord and is built around FGPA technology.



The Prima offers one balanced and four unbalanced inputs that can all have their gain settings adjusted independently and output to power amplifiers via a pair of balanced outputs.

CHORD SYMPHONIC PHONO STAGE £2,670

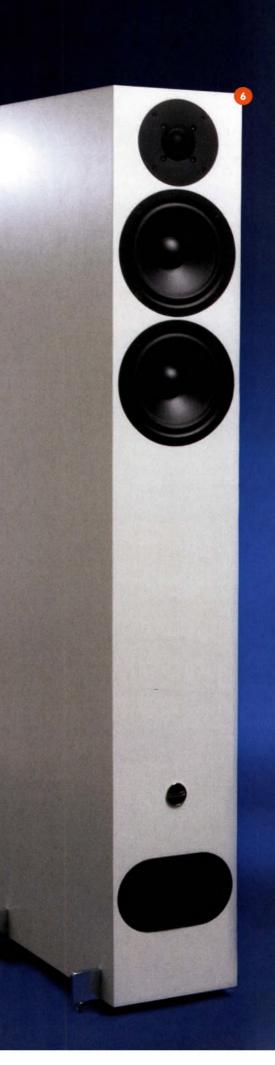
A moving coil phono stage that offers the option to run it fully balanced from input to output as well as a considerable choice of loading and impedance options, shown via LED's in the viewing windows.



A switchable stereo/mono power amp that uses a unique power supply with considerably more energy storage than would traditionally be the case, allowing for a more stable output.



The fact series takes many of PMC's technologies – transmission lines, inert cabinets and adjustable crossovers – and places them in a slimline and extremely attractive cabinet.







The electronics themselves are finish aside – conventional members of the Choral family, but this still means they are fairly extraordinary devices. Take the digital front end. The combination of Blu CD Transport and QBD76 DAC is a phenomenally advanced paring. The Blu offers selectable upsampling over the various multiples of 44.1kHz and then outputs the digital signal over a pair of 37.50hm BNC outputs instead of a single 750hm connection (although one of those is fitted, too), which means that the QBD76 is similarly equipped. The DAC doesn't stop there at unique ways to receive CD data either. The USB input is naturally 192kHz-capable, but also allows for the transfer of DSD - the native encoding of SACDs - as well.

Horsing around

The horsepower comes courtesy of a pair of the Mezzo 50 power amps. As the name suggests, these will deliver an 'unconditionally stable' 50W in sterec or – as used here – 100W in bridged mono. Marshalled by a Prima preamplifier, the trio is able to handle the output from the QBD76 DAC and there is even an example of the fully balanced and endlessly adjustable Symphonic phono stage as well.

Exactly what speakers this system made use of in the Bugatti showroom is unclear, but this stunning combo is completed with a pair of PMC fact.8 in the new white finish. The fact.8 is the embodiment of PMC taking everything it has gleaned from pro audio designs and squeezing it into a design that is elegant, bordering on minimalist. Within the slim cabinet is the same transmission line technology that allows a relatively discrete loudspeaker to generate the sort of bass output that we've come to know and love from PMC.

As you can see from the images above, this is a seriously impressive system to look at, but I can assure you that in the metal it makes even more sense. The titanium finish is absolutely fantastic and in certain lighting gives the Chord stack an almost otherworldly appearance. I find it amusing that Hollywood has countless people engaged in making the props for sci-fi films, but a small company in Kent has made something more convincingly extra terrestrial than pretty much anything seen in the movies. There is always the slight sense when using the Chords that you might be selecting a track on a CD or about to punch a hole in the fabric of spacetime. Special mention also needs to go to the complete suite of Atlas cables that are made to specific lengths to keep the back of the system looking as tidy as possible. With the slender fact.8's on either side, this is a system that is crying out to be displayed in full view rather than quietly tucked away.

Above left: The PMC's are slender, but pack one hell of a punch

Above centre: The Choral system is small, but connectivity is substantial

Above right: Chord puts its electronics on display via viewing windows Chord equipment comes in for critique from people that feel that the company puts too much emphasis on the external appearance of its equipment – and for those who feel that the UK peaked in design terms with the tweed jacket, the styling can be a bit much. After spending some time with this partnership of components, however, I would urge anyone to try and listen to a Choral system blind. Yes, it unquestionably looks extraordinary, but it really does sound extraordinary, too. Starting with the Blu CD Transport and cueing

This is a system that is crying out to be displayed in full view and not hidden away

up the latest offering from the White Lies, *Big TV*, it only takes a few bars to realise that this beautiful combination of components is something very special indeed.

This is not a system that will play in the background while you attend to other tasks. It is never bright or forward, but it demands your full attention from the outset. The way it handles vocals is simply stunning. Every line is delivered with urgency – whoever the performer may be – and it is distracting in the very best possible way. The space and



separation between voices and instruments on larger-scale musical pieces is absolutely captivating and the performance is believable in a way that a system without this effortless sense of power can struggle to convey. The PMCs manage to combine considerable power with an agility and sense of timing that is truly outstanding. By the standards of systems at this price, 100W is not a huge amount of power, but the way the Chords wield it and the manner in which the PMCs respond means you never feel you need more.

Beautiful on the inside

What level of attention has been lavished on the outside has been more than matched on the insides. The technology that powers the Blu CD Transport and QBD76 DAC is fearsomely complex, but it never impedes the musical message. Listening to the Cowboy Junkies' *The Caution Horses*, you don't sit there and think: "I'm sure it is the process of upsampling to 176.4kHz before decoding that is doing that", you simply revel in an uncommonly clear and natural musical message.

Likewise, the bass of the PMCs is tight, controlled and can be felt as much as heard. PMC claims a lower frequency response of 29Hz for the fact.8 and while this seems wildly unlikely when you unbox a speaker as slender as this, it's entirely believable



CONTACT: Chord Electronics TELEPHONE: 01622721444 WEBSITE: chordelectronics. co.uk/ CONTACT: PMC

TELEPHONE: 0870 4441044 WEBSITE: pmc-speakers.com CONTACT: Atlas TELEPHONE:

01563 572666 WEBSITE: atlascables.com upon hearing. This is undoubtedly a result of years of transmission line experience, but more importantly, it makes Massive Attack's *Karmacoma* a master class in potent low-end bass. The really clever part of this prodigious response is that it never for a second dominates or impedes the upper registers – you only really notice how good the PMC is in this regard when you switch to something less well endowed.

The final surprise comes when you connect a turntable to the Symphonic phono stage. The Symphonic looks like the QBD76 DAC in many ways – you can easily peer through the two viewing windows to see that there is a huge amount of technology and physical componentry being applied to the all-important business of making music, but when you listen to it, none of it is remotely intrusive. The



Symphonic is quiet as a crypt in terms of background noise and has an unambiguous realism that hoovers detail from the grooves of a record and into the willing clutches of the rest of the system.

The curse of beauty

In some ways this system would have an easier time of it if the electronics had been casually stuffed into biscuit tins and the speakers occupied cabinets finished in roadie-proof black crackle with mesh front grilles. With no aesthetics to speak of, we would be forced to concentrate on its astonishing abilities to produce a sound that is a nigh-on perfect blend of detail, scale and realism. As it is, this system is also an incredible thing to look at and makes no apology for that.

The effect on encountering it in the flesh for the first time is quite simply extraordinary and like most objects that can be described as art, the very fact it divides opinion should be enough to confirm that it has merit.

While it played a supporting role in the business of selling Bugatti cars, released from such tasks this is an impressive collection of electronics that delivers a slice of technical ability, extraordinary visuals and pulse-racing excitement of any supercar, but at a fraction of the price. Now, if you don't mind I'm going to take it for one last spin •

Powertrios

Strap on your ear goggles, crank up the volume and ride the exhilarating wave of the classic years of the rock three-piece. By **Simon Berkovitch**

he radical evolution of amplification technology in the mid sixties may have been

excellent news for bass players lead guitarists and drummers, but less cheering for rhythm guitar players and keyboardists who suddenly found themselves out of their R&B outfits and clutching P45s. Thanks to innovations from equipment manufacturers such as Marshall, the power trio was born – and in true *Spinal Tap* style, knobs were being joyously turned up to 11.

Just like the music, the term 'power trio' is a loose one, but the basic ingredients remain the same – a core line-up of electric guitar, electric bass and drums, and usually an emphasis on instrumental virtuosity, evident from the first supergroup, Cream, to the likes of stadium rockers Muse.

The first wave of the power trio rose out of the combination of improved amps that ramped up guitar volume and the presence of some mindblowingly talented guitarists: with the likes of Hendrix and Clapton on the scene, the role of the second or rhythm guitarist was instantly redundant, as these skilled musicians could handle both duties in their sleep. Vocal duties were often shared between all three musicians and song structures became longer and arrangements more fluid. Like acid rock, pop and blues numbers became launching pads for extended instrumental workouts – such as The Jimi Hendrix Experience's deconstruction of Chip Taylor's *Wild Thing* (via The Troggs) and Cream's elongated take on blues standard *Crossroads*.

With this seemingly effortless musical ability also came some serious showmanship. From Hendrix's infectious axe abuse to Emerson, Lake and Palmer's Keith Emerson's Hammond manhandling, showbiz moves went hand in hand with virtuoso musical chops.

The original late sixties and early seventies power trios also including acts like Rory Galagher's Taste, Tony 'TS' McPhee's Groundhogs and Robin Trower's band – undeniably had their roots in the blues (indeed Groundhogs once served as the backing band for John Lee Hooker). As the seventies gathered pace, the blues took a back seat and the term was applied to new wave bands such as The Jam and The Police - and even the likes of Supergrass and Green Day in the nineties. But, for the purposes of this primer, we are heading back to the sixties and seventies when volume defiantly ruled the roost.

SOUND AFFECTS

Cream

The original power trio assembled from the (ahem) cream of the musical crop

The group to get the ball rolling was the inspired – yet tempestuous – union of guitarist Eric Clapton, bassist Jack Bruce and drummer Ginger Baker under the less than humble moniker of Cream.

Formed in 1966, this power trio was a potent blend of blues. jazz and psychedelic rock - the first of its kind. The partnership of the highly accomplished ex-members of John Mayall's Bluesbreakers (Clapton) and Graham Bond Organisation (Baker and Bruce) created the template for the quintessential power trio: lengthy, loud, improvised instrumental passages sharing album grooves with self-penned, acid-tinged pop songs such as the fantastic, driving I Feel Free. The group can even lay claim to bringing the seventies rock staple of the drum solo to the party in the shape of Ginger Baker's percussive showcase Toad on 1966's debut album Fresh Cream.

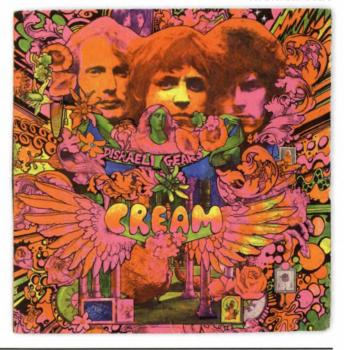
While the influence of the blues was most keenly felt on *Fresh Cream*, the band flew its freak flag high on 1967's *Disraeli Gears*. The music was more psychedelically informed and tackled more diverse musical styles. *Disraeli Gears* is home to hit singles *Strange Brew*, *Tales cf Brave Ulysses* and *Sunshine cf Your Love* – all increasing the power trio's worldwide profile.

A potent blend of blues, jazz and psychedelic rock

Wheels cf Fire (1968) saw the group mapping out more progressive territories, complete with some blistering Clapton guitar solos – such as on the group's take on Robert Johnson's blues staple *Crossroads*.

The title of 1969's LP *Goodbye* says it all, as Cream had finally imploded under the weight of inter-band tension.

Cream's retinadamaging sleeve for Disraeli Gears



The Jimi Hendrix Experience

The first vehicle for the guitarist by whom all others are still judged

ream may have lit the touch paper, but it was the arrival of Jimi Hendrix that was the explosion. From his outrageous, dandy dress sense to the interstellar sounds he coaxed from his Fender Stratocaster and wah-wah pedal, it's little wonder that many felt like the guitarist had stepped out of a UFO – and not just the fashionable sixties London club.

Paired with bassist Noel Redding and energetic drummer Mitch Mitchell by manager Chas Chandler (ex-Animals), the power trio's first outing was the relatively sedate cover of Hey Joe in 1966, introducing both virtuoso playing and Jimi's distinctive Dylanesque vocal drawl. But by full-on second single Purple Haze and companion album Are You Experienced? (both 1967), The Experience had won the reputation as the UK's most exciting group, hands down. In

short, nobody had heard the electric guitar do *that* before.

Follow-up album *Axis: Bold as Love* appeared the same year, but the power trio format was wearing thin by the following year's epic *Electric Ladyland* as multi-tracking and additional musicians – including members

Hands down the UK's most exciting group

of Traffic – were added to the mix. Indeed, this amazing album – home to the incredible *Voodoo Chile (Slight Return)* – was the last from the original line up under the Experience banner, although Hendrix again worked in the power trio format with Billy Cox and Buddy Miles – as heard to great effect on the *Band cf Gypsys* live album, produced and released by the guitarist just months before his 1970 death. They were a trio, but Hendrix was the real star



SOUND AFFECTS

Groundhogs

Griminally, wider success eluded this heavy, forward-thinking three-piece

This seriously underrated group may have had its roots firmly in the blues, but with innovative guitarist Tony 'TS' McPhee at the helm, Groundhogs developed into a fearsome power trio unafraid of embracing new technology.

Originally a five-piece, the group was a mainstay on the British blues circuit. First album *Scratching the Surface* (1968) saw a quartet recording covers, but second album *Blues Obituary* saw the Groundhogs slimmed down to the power trio line-up of McPhee, bass player Pete Cruickshank and drummer Ken Pustelnik.

Third album *Thank Christ for the Bomb* is considered the first of the group's classics, with all songs written by McPhee, including John Peel favourite *Soldier*. 1971's *Split* made the Groundhogs' reputation, featuring some blistering axe heroics on the mammoth acid-blues-rock freak-out *Split: Parts 1-4* and the driving one-take wonder *Cherry Red.* The album was the band's biggest selling and Groundhogs toured with The Rolling Stones the same year – not bad going for a record inspired by a drug-fuelled panic attack.



Motörhead

The artist formerly known as Bastard plays an ace and hits the jackpot

aving being fired from the band for a drug-related misdemeanor ("doing the wrong drugs"), piledriving Hawkwind bassist Lemmy's next move was to form a heavy, sky-high volume power trio called Bastard. Conceding the lack of airplay that would result from such a moniker, he renamed the project after the last song he wrote for his previous band: Motörhead.

Formed in 1975, Motörhead reinvented the power trio for the 1970s and beyond, leaving the blues for dust. Early albums Overkill and Bomber (both 1979) were recorded by Lemmy, drummer Phil "Philthy Animal" Taylor and guitarist "Fast" Eddie Clark. These LPs laid the groundwork for unexpected commercial success in the form of relentless hard-rock anthem Ace of Spades (1980) – the definitive Motörhead tune. Considering the band's musically uncommercial, sartorially countercultural appearance, chart success was no mean feat. And, as Lemmy himself so eloquently put it, *Ace of Spades* "proved to all that a band could succeed without sacrificing its blunt power and speed".



SHOPPING LIST

In addition to the four artists and albums profiled, your record collection will benefit from the following diverse power trios



Blue Cheer Vincebus Eruptum Forerunners of stoner rock, these San Franciscans were at odds with the peace and love vibes of their home town.





Speed, Glue & Shinki Eve Beloved by überfan Juliar Cope, this po

Eve Beloved by überfan Julian Cope, this power trio boasted the Japanese Jimi – Shinki Chen.



Budgie Squawk Cardiff's hardestrocking band are a major influence on the seventies/ early eighties New Wave of British Heavy Metal.

A prevent to king.

Rush A Farewell To Kings Canadian trio Rush have the musical chops to tackle the most complicated of musical arrangements.







Nevermind The album from the Seattle threepiece that took the grunge scene from the underground to the mainstream.

Fushitsusha Live1

No reference to the

power trio can be complete without

mentioning the

black hole-heavy

96 HiffChoice NOVEMBER 2013

Scher the IsoTek Effect

Mains electricity is distorted by numerous factors as it travels from power stations to our homes, eroding your systems performance. The **New Discovery Range** from IsoTek delivers highly effective yet eminently affordable solutions to enhance sound and picture quality, whilst also protecting your valuable equipment from power surges and voltage spikes.*



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IsoTek EV03 Premier, Hi-Fi Choice, March 2013

EV03 Premier

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- 24ct gold connectors
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- C15, C19 and C7 IEC options
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EV03 Polaris

Cost effective high-performance power distribution strip that cleans Common and Differential Mode noise from the mains as well as offering surge and spike protection.



"More space, lower noise and greater resolution... An increase in timing precision, depth of bass and a much greater sense of musical flow"

IsoTek EV03 Polaris, Hi-Fi Choice, March 2013



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SOUND FOUNDATIONS

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C-L













100 Prefab Sprout Crimson/Red



The Drop



Bob Dylan The Official Bootleg Series Vol 10: Another Self Portrait (1969-71) ****

Two CD set/four CD set/vinyl Sony

ALBUM **OF THE**

DYLAN'S 1970 ALBUM Self Portrait has long been the most despised album in his catalogue, a ragbag of country and pop standards sung in a off-key croon and overdubbed with syrupy strings and backing vocals.

On its release, Rolling Stone's infamous review of the offending work opened with the words "What is this s***?" Many believe that Dylan was playing a bleak joke on his more obsessive fans in a bid to undermine his own exalted reputation and shed the 'voice of a generation' tag. So it's a brave act for the latest release in Dylan's ongoing 'Official Bootleg' series to sail into such troubled waters.

In more recent years, Self Portrait has been rehabilitated by some as Dylan's bold exploration of the roots of 'Americana', a flawed, but laudable journey down the great river of popular American song from trad folk ballads to covers of Elvis and the Everly Brothers. It's a view dramatically reinforced here as the album is reconfigured with an altered track listing, the removal of the banal overdubs and the addition of previously unreleased tracks that are far superior to many of those that made the cut first time around. Add tracks recorded for the swift follow-up, 1971's New Morning - seen at the time as a kind of 'apology' for Self Portrait - and what emerges is a fascinating picture of a profound artist in a period of transition, trying to shed the baggage of the past and recast himself as a song and dance man.

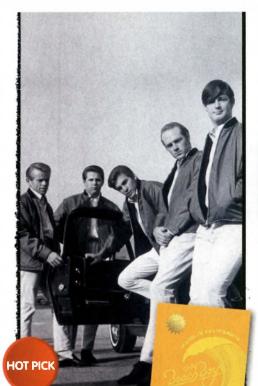
This portrait of Dylan is so different that it feels as if you're seeing the subject for the first time

The seven tracks from the original 1970 release are retained and stripped of the overdubs that caused so much consternation at the time, and the transformation is astonishing. Songs such as Days Of 49, Copper Kettle and Belle Isle, which once sounded trite and cluttered now sound vividly

sharp, raw and haunting, A further nine unreleased tracks from the original Self Portrait sessions, including Railroad Bill, House Carpenter, Tattle O'Day and a magnificently sung Pretty Saro are fantastic performances in which Dylan sounds like he's not so much singing as inhabiting the songs. Their omission from the original release further fuels the theory of deliberate perversity on Dylan's part by putting out a record he knew many of his fans would hate and get them 'off his back'

The tracks from the New Morning sessions contain further stunning revelations with the original over-wrought jauntiness of songs such as If Not For You and Went To See The Gypsy replaced with previously unreleased versions of beguiling simplicity.

Seldom can familiar music have been more successfully presented in an entirely new and gratifying way. The face may be the same; but the colours, contours, textures and perspective of this portrait are so different that it feels as if you're seeing the subject for the first time. NW



The Beach Boys Made In California

★★★★★ Six CD box set

Capitol

THE 50TH ANNIVERSARY tour and accompanying new studio album *That's Why God Made The Radio* found the surviving Beach Boys understandably starting to creak with age – and sounding a little sad as a result.

This then, is a much better way to celebrate their half century, an ageless collection of 174 sun-kissed tracks from *Surfin' Safari* to Good Vibrations and an entire disc full of 'from the vaults' rarities that until now have never before seen the light of day.

The presentation in a beautiful high school annual-style hardbound book

174 sun-kissed tracks from Surfin' Safari to Good Vibrations and a disc full of rarities

with replicated classic artwork and memorabilia is impressive enough, but it's the music that really grabs the attention. Presented chronologically and digitally remastered by the same team that won a Grammy award for its fine restoration work of the group's legendary *Smile* sessions, the set gloriously tracks the progression from the high-tide of 1960s carefree teenage innocence through to the symphonic complexity of the Beach Boys' later recordings. **NW**

MUSICREVIEWS



Ten Years After Positive Vibrations

Chrysalis



Graham Parker & The Rumour Three Chords Good

* * *

Proper Records

FIVE YEARS AFTER Ten Years After's careerdefining and show-stealing 1969 performance at Woodstock, the British blues-rockers were running out of gas. Their 1974 swansong worked hard to live up to its optimistic, post-hippie title, but there's little new or inventive, just rollicking, heads-down boogie, gimmick-free fastest-guitarist-in-the-west solos from band leader Alvin Lee and straightahead power riffing. That said, they still did it better than most of their rivals, as the previously unreleased live disc from their final tour proves, particularly on a storming 12-minute version of their Woodstock showpiece, *I'm Going Home*. **NW**



Paddy McAloon comes up tops again with another zinger

AUDIOFILE VINYL

Weather Report Mysterious Traveller

180g vinyl



THIS WAS THE album that marked Weather Report's move from improvisational jazz into funk/rock fusion territory, a change that brought greater critical and commercial

success. One significant driving force was the introduction of electric bass guitar courtesy of Alphonso Johnson who supplanted Miroslav Vitous. The first side opens with an infectiously atmospheric live recording with a lot of crowd noise that sounds like it may have been tailored if not actually overdubbed. It works, though, as SINCE HIS APPEARANCE in the movie *This is 40* last year, eternal nearly man Graham Parker's profile is the highest it's been since his heyday back in the eighties. Sadly, he never quite became the household name that he really deserves to be, but it's good to see the now US-based troubadour is back with the original Rumour line up for a round up of new songs.

The voice sounds better than ever, a bit more lived-in, a bit richer, and the songs sound pretty much as good as any he ever wrote, with standouts including the soulful title track and the Dylanesque Last Bookshop In Town. **DO**

Prefab Sprout

Crimson/Red



Icebreaker

HISFACE MAY get hairier as the years continue to roll by, but the songs of Paddy McAloon get ever sweeter, not least because he tends to release them so infrequently.

This latest batch, four years on from Let's Change The World With Music, is standard Sprout, but that's a very high bar indeed with glorious tunes about his usual obsessions including songwriting (The Best Jewel Thief In The World), songwriters (a fondly remembered meeting with Jimmy Webb in a Dublin bar in The Songs Of Danny Galway) and himself (The Old Magician). McAloon remains one of our greatest songwriters and every Prefab Sprout record's a gem – this is no exception. **DO**

Columbia/Speakers Corner

does the unstoppable percussion-powered groove provided by Dom Um Romão and Ishmael Wilburn on drums.

Side two opens with the harder-edged title track, Zawinul riffing on electric piano and Shorter providing the central voice over a muscular rhythm. Like the rest of the album, it builds a fascinating melange of sounds over rich, but relatively straightforward themes that coalesce to produce an irresistible groove underlining inventive playing from very talented musicians. The sound is very good considering the original label and credit should be given to Speakers Corner for extracting so much tonal depth and space with its vinyl mastering. **JK**



Syriana A Life In Film

24-bit/96kHz

Crystalline clarity,

what's not to like?

freshness and

immediacy -

HOT PI

Bowers & Wilkins

THIS TRANCE-Y CONTEMPLATIVE Middle-East meets West confection had only existed on vinyl so to digitise it, says engineer, Marco Magliari: "We chose the best turntable we could. We chose the best analogue to digital converter, calibrated everything and just played the record down. We didn't want to do any editing or clean it up." The recording is vibrant and the vivid mix of instruments makes for an exciting, but relaxing listen. MS

STRAVINSKY

GATT

OUCHKA · LE SACRE PU PRINTEMPS

Schubert

No 21 D960

Piano ****

IN THE FIRST movement of D845, Pires conjures

playing does not encompass the dynamic swings

reflective - more inward-looking. Yet, good as it is,

it's the performance of D960 that makes this disc

worth buying. It's a very considered and mature

interpretation that is both deeply pondered, yet

completely natural and artless at the same time.

is good, and the tone of the instrument sounds

truthful and real. JH

DG's piano sound is open, clear, and immediate. It's

dynamic, yet not too percussive or forceful. Clarity

up the aural impression of a vast landscape. Her

of (say) Alfred Brendel, but is gentler and more

Piano sonatas No 16 D845 and

Maria João Pires,



THIS IS NOT unlike a young Danish Kraftwerk having imbibed large quantities of dope and a few questionable concepts. Of one song they say: "We wanted to do an actual folk song, but to place that song inside some sort of minimalistic pulsing landscape", which is the sort of message one expects from hippies. Even so the music is quite charming. Try their 'dream-pop' if you are feeling inclined towards the European avant garde. MS

Bowers & Wilkins

Sonv

Stravinsky

Petrouchka-Le Sacre du Printemps Orchestre National de France. Daniele Gatti



THESE ARE CRISP, feisty accounts of Stravinsky's popular ballets. Tempi are for the most part quite brisk, though the famous Russian Dance from Petrouchka is taken a tad slower than usual. Gatti's acute ear for balance ensures that plenty of detail can be heard - especially from the winds. The sound itself is fairly bright and forward, and clarity is good. But there's no sense of excessive microphone spotlighting, or the engineers manipulating balances. Hall ambience is somewhat lacking, but a dry stark acoustic suits Stravinsky's 'black and white' tone colours. Overall, the impression is one of crystalline clarity, freshness, and immediacy, rather than richness or warmth. JH

BLU-RAY DVD

Paul McCartney and Wings Rockshow



DG



Filmed in 1976 on the US leg of the Wings at the Speed of Light tour, this finds Macca having a great time rocking it up in a number of huge venues. Originally released on Betamax in 1981, this is the first digital version and

HOT PICK

includes a selection of Beatles numbers, which hadn't seen a live airing since 1966. The sound is refreshingly analogue sounding by modern standards, the bass has been amped up and the treble is soft but it's very listenable. Presented in a hardback booklet, Rockshow is a must for Macca fans. JK

Nature's Dragonfly



Both shown actual size ... in their natural habitat.



audioquest.com/DragonFly

F Choice Reader Classified ads



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FOR SALE

DYNAUDIO Excite X16 Speakers £300 ono (£1000+ new). Dark cherry real wood veneer. Includes Apollo speaker stands - floor spikes, welded construction and filled with silver sand, plus bungs for rear ports. Four years old, but treated welland in good condition. no boxes. Minor cosmetic blemishes to the underside of one speaker and the side of another. Will deliver within a 30 mile radius otherwise buyer collects: 01489 582325 or email: lowtherman1@gmail.com (Fareham, Hants).

MONITORAUDIO R270HD Floor standing slim speakers piano black lacquer 12 months old £350. Monitor Audio Bronze BXW 10 Subwoofer walnut £250 both excellent condition. Opera Super Pavarotti floorstanding speakers walnut £150.00. QED XT400 xtube speaker cable 2x 5m as new £50: 07800 606892 or email: schandler@dopag.co.uk (Worcestershire). **CHORD** Epic Twin speaker cable, 3m pair bananas (£293), £140. Chord Chorus 2i/cs, 1m RCA(£280), £120. Chord Cadenza VEE i/cs, 1m RCA(£200), £100 or £325 for the Chord set. Audioquest CV-6 (with 32V/dBs battery) speaker cable, 10ft pair bananas (£400), £140, Audioquest King Cobrai/cs, 1m RCA(£215), £105, 0.8m RCA(£95) or £295 for the Audioquest set. Van den Hul The First Ultimate 2 i/c, o.6m RCA(£250), £110). All VGC and in original packaging: 07772 711432 or email: richard.schofield@kcl.ac.uk (Bucks).

LEHMANNAUDIO

Rhinelander headphone amplifier, the critically acclaimed amp, only a few months old in perfect condition, complete with manual, £199: **01303 863424** (Kent).

POWER SUPPLY for Class

A amplifiers, ideal for John Linsley Hood's 1996/1969 or any other low-power Class A amplifier. Fully built, ready to use, in self-contained enclosure, £279: **0207 4998729.**

AVI Neutron V speakers. In piano black gloss, as new condition, hardly used. Boxed, £240: **01642 559204 (Cleveland).**

DENSEN B110 amplifier in silver, recently upgraded to + version £875.Gizmo remote in black £85. MM phonoboard £85. Or all for £995. Can demo, buyer collects: 075011 30403 (Southampton).

SPENDOR A5 compact column loudspeakers, black, unmarked, boxed, exquisite sound £1,100: 01952 728773 (Shropshire).

BOWERS & WILKINS pair floorstanding 683 speakers. Red cherry finish, unmarked and occasional

unmarked and occasional use, factory packing £575: 01908 376966 (Bucks).

WANTED Marantz AV9000 pre-amp. TEAC X1000R reel-to-reel. Buyer will collect: 01243 860634. MONITOR AUDIO M8 Gold,



Headphone amplifier you say? Try the Lehmannaudio Rhinelander for size, it's a steal at just £199...

floorstanding speakers. Purchased in 1993 costing £1,100. Good condition. £150 to a good home: stephen.geary2@ntlworld.com

LINN LP12, fluted corner braced plinth, full Cirkus Upgrade, latest laminated Armboard and Lingo Power Supply, Fully loaded bearing with red cap so ready to go. In excellent condition with original boxes and internal packaging, together with set up instructions for the LP12 plus the Lingo manual. £765. Linn Ittok LVII Tonearm in very fine condition - only marks are on the headshell where the cartridge has been fitted. Bearings are beautifully smooth. Comes complete with accessories and Linn packaging. Serial number is 5021438.£450:0121 7041188 or email: boballen@ sky.com (Solihull, West Mids).

BRING your Linn LP12 up to date! I have a lovely brand new Cherry plinth bought from Grahams, but ended up having a black one instead. Half price £ 200: 02085242181.

WANTED amplifier in mint/ near mint condition for vinyl turntable: **01305 814033**

MUSICAL FIDELITY M6

preamp, M6 CD player, F15 power amp. All silver, all boxed, as new: £800 each. Martin Logan Odyssey speakers excellent condition: £1,000. New home forces sale: 07581390 3260r email:

keithsunasky@outlook.com.

NUFORCE Icon HDP DAC/ headphone amp. 24/192 coax/SPDIF 24/96 USB + 3.5mm inputs RCA/6.3mm outputs. Drivesto 96mW @ 600 ohms. Good condition, £400 new; £190 ono +post/ pick up: 07792414536 or email: drherd@talk21.com (Edinburgh/Lothian).

YAMAHA AS500 with Yamaha YDS12 for iPod etc, as new boxed £159: 02392 453382 or email: alanmcleods35@btinternet.

CHORD Indigo XLR balanced interconnects

1m, immaculate condition (£1,340) £495 ovn: 01159288006 oremail: Rolfyjordan@Gmail.com Nottingham.

GAMUTL3 standmount speakers. Birds eye maple. Superb condition. Grilles, manual etc. Demo welcome. Collection only. Fantastic sound and stunning looks. f1,925 ono (£5,400): o7725 o72878 (Leics).

CHORD Cobra Plus sub signalleads, 10m (£147), 3m (£70): £100 for both plus postage.EcosseBaton II Ref Interconnects o.8m (£100): £50 plus postage.Russ Andrews RGB Scart (£200) £60 plus postage:

01772 812992 (Preston).

ATLAS Elecktra 1m XLR balanced interconnects. Boxed. Fantastic sound and condition. Can be heard before purchase. £185

BUYING 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 betthan 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 gearthat 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!

ovno: 0115 9288006 or email: Rolfyjordan@gmail.com (Nottingham).

PIONEER CS-301 speakers in black finish £45, Mordaunt-Short MS235 speakers in wood finish £45, Bang & Olufsen P30 speakers in wood finish £75:01302 772495 oremail: adrian.petch@btinternet.com (Lincolnshire).

MARANTZ PM6003

integrated amplifier, well reviewed, in mint condition, boxed with manual, light use, bargain, £100. Buyer to collect: **01253856422** (Lancashire).

MISSION 792 speakers, matching stands, gloss, excellent condition £350. 4 Russ Andrews 1m Power Max IEC cables £25 each. Kimber 4VS speaker cables 2.5m terminated £60. Will post. Prices exclude p&p: 01772 468116 (Lancashire).

01//2400110 (LalicaSilii)

SUGDEN Mystro amp with free Sugden CD 21 (£3,000) £500. As new, one owner. Celestion A3 top of the range speakers (£2,750) £500. Amp three years old, guaranteed until October 2014: 01246 224144 (Derbyshire).

WANTED late van den Hul Frog gold cartridge. One requiring repair considered. White Beauty also considered: 01505 346791 (Renfrewshire).

SPENDOR A6 floorstanding speakers. Oak finish, excellent condition. £1,100 ono. Can demo. Buyer collects: 01798475319 (Essex).

DENON DVD-A1 DVD player (not Blu-ray) champagne colour with Denon D Link and remote/manuals. £300. Denon AVC-A1SR amp, champagne colour. With remote and manuals. £350: 07767 270242.

QUAD FM4 late model with grey/bronze buttons and phono outputs. Mint condition. £140. Radford STA25 'Series 3' valve amplifier silver wired. Cherished for15 years. £1095 ovno: 024,76679165 or 07968769595 (Coventry).

or 07968769595 (Coventry) ISOTEK Titan mains

conditioner in excellent condition, bought from new, complete with manual

and original box.£975 ono: 01303 863424 (Kent).

KEF Q100 black ash, brand new boxed, magazine prize. I have documents to prove. Highly rated standmounter £230 (£150 below retail): **078844309880r**

01782 397204. TELLURIUM Q Black 1m

digital cable. Locking RCA phono each end. As new, only a few weeks old. £195. (new price £390). Pictures available: **01403 711778 or 07813 367409 or email: lyndon.taylor@tiscali.co.uk** (West Sussex).

NAIM Supercap 2 in mint condition Serial no: 243xxx. 6 years old, original box. £1,820: email: hh@hhaps.dk (Denmark).

REGA Planar 3 turntable. Acos S-shaped arm. VGC. £125 ono. Kudos speaker stands, 60cm, silver. Excellent condition. £90 ono. Buyer collects: **07801 231963 (Lancs).**

KIMBER Select KS3038 speaker cable, 2.4m, f4,500. Kimber Select KS1136 XLR interconnect, 1m, f1,150. Kimber Select KS1036 interconnect, 3/4m, f950. Kimber Select 9033 Jumper set, f200. All with cases: 01772 314151 or email: jamesmckendrick@ btinternet.com.

POWER supply for Class A amplifiers, ideal for John LinsleyHood's 1996/1969 or any other low-power Class A amplifier. Fully built, ready to use, in self contained enclosure, £279: **0207 4998729.**

KEF X300A speakers,

only 4 months old, in like new condition, original documents and packaging are intact, asking for £500 (RRP £600), prefer buyer collection: **07741 485209 or email: budtsui@gmail.com.**

SONUS FABER Musica amplifier. Boxed, very good

condition £1,000 ono: **07753 271812 (Notts).**

SPENDOR 58E £300 ono. No boxes, buyer collects. Will demo: email: moss8rg@ btinternet.com (Northampton).

DPA 200 preamp and power amp £300 each. E.A.R. 834L Delux preamp £700. All boxed, in good condition: **07890 896819 (Cumbria).** **GRACE** M902 headphone amp £995(£1,500), Arcam BB3 £85(£360), Musical Fidelity X10 V3 tube buffer £200 (£300), Michi preamp by Rotel, fabulous, £800 (£1,250): **07811613140** (**Bristol**).

PAIR of custom-built speaker stands. 5kg each, finish black hammered. Height: 35.5cm; base: 25 x 22cm; top: 20 x 17cm. Excellent condition. £45 ono, buyer collects: 01258 454084 or email: gandjboutelle@talktalk.net (Dorset).

PRIMARE CD₃₁ CD player and 130 integrated amplifier (Balanced or RCA interconnects). As new, high-quality system bought ex-demo as second system, but never set up £ 1,500 (£3,000 new): 07712875316 or email: jeff.wilding@tiscali. co.uk (Manchester).

LINN Sneaky Digital Streamer £500 (£1,015); Townshend Audio Maximum Super Tweeters £400 (£800); Chord Signature Plus 1m RCA interconnect £350 (£765). All items are in excellent condition and come with manufacturer-supplied boxes, packaging and manuals. Excludes postage: 01305 263069.

USHER 5520 standmount speakers, blackgloss finish, immaculate condition, boxed, £250 incl delivery. Kudos 550 speaker stands, black, 20 x 15cm top plate, 60cm high, VGC, £60 (£170 new): **01706 3454180r**

email: mail@rodtheobald. force9.co.uk (Rochdale).

CREEK OBH-8SE with OBH2 power supply MM, original boxes and instructions VGC £135. Project PhonoBox SE2 blk MM/MC, original box and instructions VGC £135. Turntable record disc stabiliser weight alloy 370g, original box VGC £20.

o1684 290581 (Tewks) LEJONKLOU phono amp. Suitable for MM only. Bought new May 2011 for £425. Bargain at £280. All prices exclude p&p: 01772 715862 oremail: cpsquire@yahoo.co.uk

CYRUS 6DAC amplifier and DAC combined. Unwanted prize and absolutely immaculate. Used for three weeks only and just 'run in'. £580 – almost half price! Post or collect: 01575 572603 or email: russell@sayers. myzen.co.uk (Angus).

CAMBRIDGE AUDIO DAC Magic £100. Pair EB1 Speakers £250. Pair Sounds StyleZ2 stands f35. Pair Mordaunt Short Avant 902.1 speakers £75. Rega Headphone Ear amp with RCA output £100. Cambridge Audio Azur 340SE amp £90. Buyer to collect: 02920 568165 (Cardiff).

200+ vinyl LP records:

opera, orchestral, classical, jazz, pop etc. Buyers collect: 01246 865640 oremail: johnm_holmes@talktalk.net (Chesterfield).

For sale / Wanted

ARCAM CD17 in black, 3 months old £450. Linn Majik Sondek, 3 months old in walnut, with trampoline base and clearlid £2,200. Monitor Audio GX50 in gloss white, 10 hours use only £650. All boxed, prefer collection: email: igreenelectrical@aol.com (Edinburgh).

ATC SCM12 speakers, cherryfinish with matching stands, in excellent condition £500 ono. Audiolab 800P power amp, original black version, good condition £180 ono.Quad 44/405-1 pre/power amps, good condition £275 ono: 07547 413390 (Wiltshire).

REGA P3 turntable. Grado prestige gold cartridge, Michell tecno counterweight, Rega bias 2. Boxed, owned from new, excellent condition. Open to reasonable offers: 016144597700remail: dan. overton1@btinternet.com (Manchester).

PARASOUND ZDAC DAC Silver as new £359.99. Acoustic Energy AE1 speakers, black £499. Parasound A21 power amp £699: 07975 151445 (West Sussex) or email: patwack@aol.com.

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COMMENDE

Bose SoundLink Mini Bluetooth Speaker

RECENTLY RELEASED IN the UK, the Bose SoundLink Mini Bluetooth Speaker is a compact stereo loudspeaker that can connect wirelessly via Bluetooth technology to your smartphone, iPad, tablet or other Bluetooth device. It has been designed to offer both complete portability and performance.

The two front-facing 1.25in drivers are specifically designed transducers that, according to the manufacturer, are able to move twice as much air as traditional transducers in order to deliver a more powerful sound. The SoundLink Mini incorporates dual 3in-wide passive bass radiators to enhance bass quality, which face in opposite directions to minimise unwanted vibrations.

The Mini is 180mm from the top left edge to the top right edge, 58mm deep and 50mm high. However, the tapering to the bottom makes it look smaller than these numbers suggest. This very solidly made unit weighs just over 0.65Kg. It has a rechargeable lithium-ion battery that delivers up to seven hours of playtime. There's a single-piece aluminium casing that is attractive and durable, with soft covers also available separately in blue, green or orange.

One great feature is a separate charging cradle that powers the unit as well as the battery when at home. An empty battery will usually fully recharge in about three hours.

The joy of six

The Bluetooth has a range of about 9m and remembers the most recent six devices that have been paired with it. Connecting the unit to your source device is very straightforward and the instructions state that you should enter '0000' if prompted to do so as a passcode. The speaker features power and volume buttons on the top face and all other functions are controlled from your source device.

DETAILS

0800 0859021

bose.co.uk

OUR VERDICT

£170

In addition to the Bluetooth connectivity, the Mini has an auxiliary input to allow connection of other non-Bluetooth devices. It also has a USB port to allow



firmware updates. The design of the Mini is clearly focussed on creating a quality audio device, rather than turning a mobile phone into a speakerphone. The Mini does not include a microphone, so this speaker is not for making calls – as many are.

A set of printed multilingual instructions are included with the Mini and a full owner's guide is available for download as a PDF from the Bose website.

Time for a listen! As the instructions suggest, I turn up the sound on my smartphone to near maximum and use the controls on the top of the Mini to set the volume. I hit the play button on the phone's music player and I am completely blown away by the sound. Is all that really coming from such a tiny unit? Indeed it is - I am listening to Torelli's Concerto for Four Violins played by Musica Antiqua Koln and it comes through as a rich and full performance that is both exciting and involving. The sound stage is expansive and extends well beyond the confines of the Mini impressive stuff! There is ample volume available from the speaker to comfortably fill a room with sound and, given the small footprint, it is not going to take up too much space on your desktop.

Changing tempo to some jazz shows off the versatility of the Mini. The sound is rhythmically engaging and even entices other members of my household to investigate and see where the sound is coming from!

Of course, a speaker system like this is never going to challenge a dedicated hi-fi system in terms of treble response or midrange detail, but considering its small size, the overall sound quality is impressive at the price.

The top end is clean, triangles ring out with great clarity and the unit delivers an almost unbelievably clear and extended bass at all volume levels. Mid range is a little recessed and vocals can sound indistinct, but these are relatively minor shortcomings when you consider that this is a powered speaker costing less than £200, not a separates-based audio system!

Sound as a pound

The SoundLink Mini is a versatile Bluetooth speaker that is portable and will also be very much at home as a more permanent fixture on a desk or shelf. It has the benefit of being able to connect easily to any Bluetooth audio device or a wired connection via the 3.5mm jack socket. Above all, the sound quality is superb for such a small unit and the Bose SoundLink Mini is a real winner at the price. If you're in the market for a Bluetooth speaker, this one deserves an audition. **NR**



Goliath, Meet David.

This legend is more than just a shot in the dark. Crafted with the same high-gloss wood finishes and sensuous curves, combined with state-of-theart driver technology and cabinet construction, the Imagine mini and Imagine T2 might sound like the classic underdog tale but it isn't. Both are cut from the same stone for an equally seamless 'true-to-nature' performance full of rich musical detail.



PSB Imagine T2

PSB Imagine mini



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KEF M500 headphones

YOU CAN'T HAVE failed to notice that over-ear headphones have made a big comeback of late, and the number of new models seems to grow on a daily basis. With the number of hi-fi headphone wearers steadily on the rise, KEF is among one of many brands to join the burgeoning market, and the M500s represent the UK speaker maker's first pair of over-ear headphones.

KEF has over 50 years in the hi-fi business, and is well known for its unconventional speaker designs and engineering. It's perhaps a little surprising then, that it has taken until now to join the headphone market, but better late than never, and it has no doubt been spending the time fine-tuning its first pair of cans to fit with its considerable hi-fi heritage.

Hinge and bracket

Unpacking the M500s from their carton reveals that the brand's design ethos has most definitely been applied, as they are a lightweight and exceedingly stylish pair of cans that look sumptuous and are very comfortable to wear.

The elegant brushed-aluminium frame incorporates what KEF calls the Smart Hinge, which cleverly rotates on two axis to make the M500s adaptable to different-sized (and shaped) heads. The sophisticated multi-angle hinge also allows you to fold each earpiece up into the headband, reducing the M500's size by around half and making them extremely portable, which scores additional plus points over many rivals in the £250 price bracket. A protective carrying case is provided, along with gold-plated flight and 6.3mm stereo jack adapters, and there are also interchangeable 1.3m-long cables - one with an in-line Apple remote and microphone, and one without. Both cables are flat and pleasingly tangle-free.

The M500s are a closed-back design with memory foam applied to the headband and earpads, and have breathable and sweat-resistant covers for maximum comfort.



Beneath the ear pads sits the 40mm neodymium speaker driver, painstakingly tuned by KEF's audio engineers, so it's with high expectations that I place the M500s on my ears for my first listen.

From the outset I am impressed, and the KEFs go about producing music in a very enjoyable way. The frequency response feels well extended with a punchy and dynamic bass, and a nicely detailed treble that has a surprising sense of openness and sparkle to all tracks for a closed-back design. As well as being easy on your own ears the KEFs are easy on your neighbours, too. Annoying sound leakage is kept to a minimum, thanks to the closed-back design and makes the M500s suitable for travel on public transport with no need to worry about upsetting your fellow travellers.

Up close and personal

Peter Gabriel's Red Rain sounds great. The expansive soundstage places vocals and instruments exactly where you expect to hear them, and the M500s successfully manage to create plenty of atmosphere as the hi-hat evokes the sound of rain, and the track is nicely presented. Move on to something more challenging like *Firestarter* by The Prodigy, and the M500s demonstrate their forte for a heavier musical side and an

impressive ability to handle more propulsive and energetic beats. Bass levels are deep without being overwhelming and the M500s deliver a performance that's undeniably engaging and hard to fault, even if the track isn't really to my usual musical taste.

Energetic beats are lapped up by the KEFs, demonstrating spectacular timing skills with any hip-hop, rap or dance genres I care to play. Hard to produce female vocals on more mellow tunes fare well too, and Joni Mitchell's *River* is expressive with her voice sat convincingly in the mix. The track conjures all the atmosphere of an intimate jazz club on the KEFs with a tangible placement of instruments across the soundstage and Joni's voice anchored firmly to its central position. If there have to be criticisms, then only a slight lack of upper mid clarity affecting openness on some vocals, and a slightly over wide stereo presentation of instruments mixed to the extreme left or right channels affect an otherwise great performance.

The KEF M500s give a thoroughly enjoyable listening experience. They have a penchant for fast beats, but can also handle more sedate musical tastes. They ooze style and their foldable design only adds to their impressive flexibility. LD

DETAILS

£250

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Rega RP1, ex demo	Audiolab 8200 Integrated, Pre and Power, ex demo Call	Chord Qute HD and QBD76HD ex demoCall	Focal Spirit One Headphones, ex demoCall
Puresound P1(Phono stage ex demo	Chord CPA3000, SPM1050, ex demoCall	Esoteric RZ1, K03 ex demoCall	Stax Headphones, ex demoCall
Also, huge ex demo cartridge sale	Onkyo TXNR616 AV Amplifier, ex demo	Sonos, various pieces, ex demoCal	Grado Headphones, various ex demoCall

Koetsu Black, cood condition. Kuzma Stogi exoclent. Linn Nitok LVII. in rare tlack: exoclent. Linn Sordek LP12 Cakus. Vahala, front mount motor ... Mission 774L bracarm exoclent. Mon DEVRES260 NAM Stageline N. exoclent AMM Stageline K. exoclent. NAM Stageline S. exoclent. Origin Live stut modified R8250 Orioto TA100 exotent boxed. Project Tube Box Phono Stage. Project Tube Box Phono Stage. Project RPM5, t/w arm, speedbox 2 & Orto1 on 2M blue Project RPM4, with arm and cover Rega Planar 3, vgc...... SME IV, excellent boxed, SME V, complete, nr minland less than a year old. SME 3009ii Improved, superb boxed example SME S3, superb boxed example SME 20/2a, Series V arm, excelent

Radios/Recorders

Arcam T51, vgc+ Quad FM3, excellent Quad FM4, excellent

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2499	Audio Research Ref 610 Monoblocks, voc boxed	
1299	Audio Research Ref 210T Monoblocks, as new boxed .	
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1399	Ayre Acoustics V5xe Power boxed mint	
.399	Beard P35mk2 Power Amplifier vgc,	
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499	Chord Electronics Cyan, excellent boxed	159
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799	CR Developments Romulus Integrated, boxed vgc	
599	CR Developments Kalypso Integrated, boxed vgc+	
1399	Cyrus aCA75/Power combo	
149	EAR V20, excellent boxed	199
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179	Graaf GM100 Power boxed	
179	Karan KAS180 Power, crated	
149	Krell FPB600 Power Amplifier, vgc	.349
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Cal	Krell FPB650M Monoblocks	
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229	Lyngdorf SDAI 2175, excellent boxed	
199	Meridian G57 Power Amplifier, excellent boxed	119
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249	Musical Fidelity XA50 Monoblocks, excellent boxed	
249	Musical Fidelity XA1 Integrated amplifier	19
3249	Muscial Fidelity A308 Integrated, excellent boxed	79
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.799	NAIM NAP32, excellent condition	
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***	Linn Karik 3, excellent boxed	
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	Mark Levinson 360 DAC, excellent boxed,	
	Marantz OD6002, excellent	
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à	NAIM CD5i/2, excellent boxed remote	
9	Project Streambox DS, ex demo	Ca
Ð	Rega Planet, excellent boxed	
	Rega Apollo R as new boxed	
•	Rega DAC as new boxed .	
•	Shanling SCDT200C, excellent,	
	Sony SCD777es, excellent boxed	
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9	AV/Accessories/Cables	

Aquarius ex demo

Loudspeakers

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Castle Stirling 3, vgc+	
Dynaudio Contour 1.8mk2, excellent boxed	849
Dynaudio Audience 40, excellent boxed	
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Focal 806V, excellent boxed.	
Kel Reference 203, good condition boxed.	1199
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Kudos C10, excellent boxed.	
Martin Logan Aerius I, excellent boxed	
Martin Logan Cinema centre speaker	
Martin Logan Quest, excellent, B/G bargain!	
Magneplanar MG1.6, superb	
Meridian M1 Active speakers, boxed	
Mission M5as Subwoofer, excellent	
Monitor Audio GR60, vgc boxed	
Monitor Audio PL300, mint crated	
Monitor Audio RXW12, gloss black, ex demo	
Monitor Audio RX8, Gloss black, boxed	
Monitor Audio Radius 90HD Cinema Pack, new sealed	
Monitor Audio BX2, excellent boxed	
Opera Secondo, excellent boxed	799
Quad ESL57s, good working order boxed	
Revel Ultima Studio, vgc	
Revel Ultima Centre Channel	
Revel Ultima Subwoofer with matching amp.	
Ruark Prologue One, yew finish, excellent boxed	
Sonus Faber Cremona M, excellent maple	
Sonus FaberCremona Auditor M	
Spendor BC1, excellent.	
Thiel CS7.2, vgc, just refurbished,	
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Geneva Model S Wireless DAB+

WHILE THE LIKES of B&W, Philips and JBL have embraced the Lightning connector with speaker docks, Geneva has taken the opposite tack. It still sells its Model S and Model S Wireless DAB+ models, which feature motorised 30-pin Apple connector berths, but as you may guess from its name, the Sound System Model S Wireless DAB+ features wireless connectivity. In choosing Bluetooth over AirPlay, Geneva is aiming to attract owners of Android and Windows devices, as well as recent versions of Apple portables, and countless computers, too. There are pros and cons to both systems, but one of Bluetooth's advantages over AirPlay is that it doesn't require a network to operate over, and manufacturers don't have to pay Apple substantial licensing fees. This is not the latest apt-X incarnation of Bluetooth offering CD-quality streaming, but A2DP - which doesn't have as much dynamic range and attenuates frequencies above 14kHz.

DAB's the way to do it

Swapping the iPod dock for Bluetooth connectivity has enabled Geneva to offer this model for £70 less than the Model S DAB, a significant drop that incidentally makes the Model S Wireless DAB+ the same price as B&W's Z2 speaker dock, which has AirPlay and a Lightning dock rather than Bluetooth and a DAB+ radio.

The Model S Wireless DAB + is pleasing on the eye in any of its three colour options (red, white and black). It's a sturdy Bakelite-esq block, with nicely rounded edges and is covered in durable, pianolacquered plastic, plus it has an equally high-quality, fine-mesh grille covering the dual, full-range, drivers and bass ports.

With no obvious buttons or display windows, the unit looks like a speaker and nothing else until connected to a power source, at which point the time is displayed in 2cm-high red numerals behind the grille. This is the one aesthetic bum note, the fineness of the mesh





DETAILS

0843523 6344

genevalab.com

OUR VERDICT

£329

WEBSITE

impairing the clarity of the display. When all eight characters are lit they look warped because of a protruding dome in the centre of the grille.

The top of the speaker features an exquisite touch-sensitive panel that lights up on making contact with the indentation that is, in fact, the standby button. The remote is also nicely designed.

Each speaker is separately chambered and individually powered by a low-power Class D digital amplifier. Power output is a claimed 30W (2x 15W) with a frequency range of 75Hz to 20kHz (-3dB). At the rear is a 3.5mm line input

and the aerial connector.

When tuning into DAB stations, the names of stations don't always display fully and, frustratingly, there is no provision for showing the name of the music or programme title. But the sound quality is very good as the speakers deliver a rich version of Schubert's Symphony No 9 in C major. There's a hint of sibilance with higher register sounds from lower bit-rate sources including presenters' voices on DAB and some vocals on MP3s streamed over Bluetooth, such as OMD's Enola Gay, and the brass section during Young Person's Guide to the Orchestra.

Switching to higher-quality Apple Lossless Audio file versions of the same material proves that the Model S Wireless DAB + will deliver excellent results given suitable material, even when delivered via the A2DP Bluetooth profile from portable devices. Camp Ivanhoe Cadence Melody from the Moonrise *Kingdom Soundtrack* is a simple mix of big drums and trumpet, which is effortlessly reproduced. Strings and percussion, especially, are highly polished and Thom Yorke's spine tingling vocals on an Apple Lossless Audio file rip of Radiohead's Fake Plastic Trees is flawless, as is Bill Withers' version of Ain't No Sunshine. AAC files are decent too, Spitfire from Public Service Broadcasting's The War Room EP is energetic and accurate, underpinned by the relentless eagerness of its perfectly timed bass.

Keep it down!

Although the Model S Wireless DAB+ is powerful for its size, cranking the volume up causing reverberation, such as with the bass during Plan B's *Love Goes Down* and the electric guitars on the aforementioned *Fake Plastic Trees*.

The integration and the basic nature of the LED display is inelegant and doesn't match the otherwise peerless build. But overall, the Model S Wireless DAB+ proves a class act in terms of its performance and is easily recommended. **AJ**

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Pure Jongo A2 wireless streamer

PURE HAS COME out all guns blazing in the media streaming sector with the launch of its Jongo component system. The Jongo A2, much like the Arcam rBlink and OED uPlay Plus, is a small standalone box that's aimed at enthusiasts wishing to stream media from a smartphone or tablet on a hi-fi system. But while the rBlink and uPlay Plus only accept Bluetooth signals, the Jongo A2 can hitch itself onto a wireless home network where it can receive music, internet radio and podcasts via the Pure Connect app.

Pure has given the Jongo A2 a competitive edge price-wise, although the wireless streamer doesn't support the apt-X codec, unlike the £160 Arcam and £65 QED offerings. The A2 can be used to adapt any legacy hi-fi gear with analogue stereo phono or digital audio inputs to accept streamed audio. It can also be used with a Jongo S3 portable wireless speaker.

At its heart is a 24-bit internal DAC with an RCA stereo phono output, with the option to stream raw digital files using its coaxial and optical outputs. A USB socket is provided for making hard-wired Ethernet connections (the optional adapter is not supplied).

Rainbow bright

Available in all-black or black and white (oddly called piano) there are optional interchangeable side panels, priced at £12.99 and available in a number of mostly fluorescent colours. The main complaint, design-wise is that all it takes is a set of decent phono leads inserted into its sockets and the unit tilts over backwards to reveal its rubberised base.

As stated, the A2 can be used with Bluetooth, in which case all you need to do is pair it with your portable music player and start streaming. Handily, the Jongo A2 automatically switches to Bluetooth if it isn't receiving a wi-fi signal, and vice versa. To connect the Jongo A2 to a home network you press the wi-fi button to generate a wireless

DETAILS PRICE £100 CONTACT 0845 1489001 WEBSITE pure.com OUR VERDICT



network and using a smartphone (or similar) select the network, enter the provided URL and using the Jongo Setup Manager re-enter your router's password in order to switch back on to your home network. Then, by selecting Pure Stream within the Pure Connect app you can beam music stored on your device to the Jongo via your router, as well as any other Jongo devices connected to the network. The app also provides free access to a plethora of live internet radio stations and on-demand shows, plus Pure Sounds, a delightful library of natural and mechanical sounds. Finally, there's Pure Music, which for £4.99 per month provides access to a large catalogue of cloud-based music.

Using the Pure Connect app I stream music and internet radio from an iPhone 5 to the Jongo A2, which is connected to an Onkyo TX-NR709 and a set of Q Acoustics Q7000 speakers. I decide to concentrate on the output from the stereo phonos to test the A2's own DAC, but compare it with the coaxial connection.

In terms of file compatibility the Pure Connect app handles most playlists apart from a couple of albums that have been ripped from a CD via iTunes including Radiohead's *The Bends*, and which it informs me it is unable to play using Pure Stream. Otherwise, the results are pretty

much excellent, especially from the

A2's built-in DAC, which edges it over the Onkyo's own DAC for overall clarity. With Britten's *Canadian Carnival op19* the trumpet solo has a bit more top end and the subtle introduction of the cymbals is effortlessly defined against the strings and clarinet. The intensity of the tuba and trumpet two and a half minutes in is especially impressive.

Coming up trumps

James Dean Bradfield's vocals in Motorcycle Emptiness by The Manic Street Preachers can be tricky to fathom at the best of times, and inferior equipment often renders them uncomfortably shrill. Not so the Jongo A2, which delivers maximum bandwidth without any hint of sibilance. The Lark Ascending, ripped from a DSD recording yields terrific detail, including the rasp of the bow on the strings that transports you to the pit of the Festival Hall. Switching to Bluetooth results in a distinctly more cramped sound, with higher frequencies especially tending to trail off.

Overall though, the Jongo A2 is an excellent streamer that works particularly well with the Pure Connect app and it should appeal to hi-fi enthusiasts. Using wi-fi and the built-in DAC delivers superior quality results to Bluetooth. **AJ**

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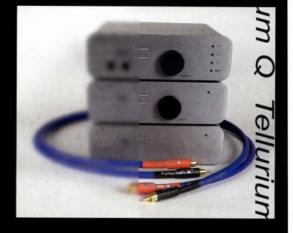
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Final Audio Design Heaven IV earphones

FINAL AUDIO IS not an especially well-known brand in Europe, but has been a prolific producer of high-end equipment in its native Japan. It has now turned its attention to the earphone market with a complete range of products. The Heaven IV you see here is hardly inexpensive at £170 but in terms of the Final range – which goes up into four figures – it is paddling in the shallow end.

The Final uses one balanced armature per enclosure, which is contained in a well-finished metal tube. The most intriguing part of the enclosure is the end that Final describes as a "BAM vent port without an actual vent." Quite how that works isn't described, but it certainly adds a touch of zen to proceedings. Build is superb and the finishing touch is a striking metal carry case that while a bit bulky is a class above the competition. A reasonable choice of buds is supplied and the comfort and isolation are good. The flat cable is reasonably tangle resistant, but when it does knot up it does so with a vengeance.

The Final countdown

The Final is impressively sensitive for an armature design and shouldn't prove challenging for most devices you are likely to connect it to. Having done so, the benefits of using an armature are readily apparent. The Heaven IV is fast, open and has genuinely impressive tonality that always sounds believable. There is also a commendable sense of scale to the performance as well, and the Final does a good job of generating a believable soundstage, which is something that headphones pushed into the ear canal can often struggle to do. The isolation from the outside

world is generally very good, although interestingly, the Final doesn't seem as dependent as some other in-ear monitors on a perfect seal for good bass response.

There is no shortage of competition for earphones at this price, but the Final is a seriously capable new arrival that has extremely impressive performance, excellent build and some welcome design touches that cumulatively means that if you are looking for a set of in-ear monitors at the price point, you need to check the Heaven IV out. **ES**

CONTACT CONTACT 01903 768910 WEBSITE bifibeadphones. co.uk/ OUR VERDICT * * * * * *

Walker Audio Ultra Vivid CD, SACD & DVD Enhancer

REMOVING STATIC CHARGE

from DVDs, SACDs and CDs can be quite a challenge. One approach is to use the Walker Audio Ultra Vivid CD, SACD & DVD Enhancer, available in the UK from Analogue Seduction. Note that although the Enhancer can be used on regular SACDs, it should not be used on SACDs that have a gold external tint (these relatively rare SACDs specify that no cleaner should be used on them). The Enhancer also removes any of the dreaded mould-release agent deposits from the surface of the disc.

It has an optical enhancer that renders the plastic more transparent so the laser can correctly read the information stored on the disc. All this means that the potential for jitter (ie timing errors of the digital signal) is dramatically reduced and your player's error correction system, therefore, has less work to do. As a result, the sound is a more accurate rendition of what was recorded – rather than the error correction circuitry's version of it!

Keep it clean

The product is supplied with three application pads, eight disc wipes and full instructions. Three or four drops are applied to one of the application pads and gently spread across the playing surface of the disc, then another one or two drops are applied using firmer pressure. The disc should then be wiped clean with a disc wipe before it dries and buffed to a clean and dry finish.

After use on several CDs, there are genuine improvements to the sound in terms of detail and focus. Top end sounds less harsh and easier to listen to, something that's especially noticeable with string sections and solo violins. Although quite expensive for a cleaner, Analogue Seduction offers a 30-day money-back guarantee so if it does not perform as promised, the unused portion can be returned for a full refund. **NR**



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ISOkinetik Miniplat A4 isolation platform

MOST OF THE isolation platforms available on the market today are designed and sized for supporting turntables and other larger pieces of hi-fi or AV equipment. However, the Miniplat A4 isolation platform from ISOkinetik is a competitively priced support that is more suitable for those smaller components in a hi-fi set up such as phono stages, half-size CD players, transformers and turntable power supplies, for example. The A4 platform is constructed from polished acrylic and has four sorbothane feet for isolation and dampening the platform from external influences.

As the model name suggests, the platform is A4 size (297mm x 210mm) and is 10mm thick. The four feet can be repositioned to suit the payload and offer effective vibration isolation for components placed on the Miniplat from external vibrations as well as from other components in the system. The model reviewed here is made from clear acrylic, but the platform is also available in black acrylic if preferred. I test the Miniplat with several items, including a phono amplifier. My phono amplifier is valve-based and, as such, is quite prone to microphonic noise effects arising from vibrations transmitted to the valves in the amplifier. The reduction in this noise is not insignificant when the Miniplat is fitted underneath the phono amp.

Making a difference

In addition to the reduction in microphony, I experience subtle improvements with the sound, especially in the midrange, that seems to blossom and become effortless. Bass response is tighter and better controlled. Similar effects are



experienced with other items I try, but to a lesser extent. Overall, the sound feels more natural and musical, and I even discover a subtle improvement when I use the Miniplat underneath the power supply of my phono stage and main preamps. Everything sounds somehow cleaner than before, as though the music has been lifted clear from the noise floor.

This is a useful platform that looks good and yields noticeable sonic improvements. The price is well pitched and it's ideally sized for isolating several smaller audio components at once. **NR**





Russ Andrews Clarity Mains DIY



DETAILS

01539797300

OUR VERDICT

russandrews.com

WEBSITE

PRICE £111 I NEVER CEASE to be amazed by the difference that cleaning up the mains supply can make to an audio system. There are many ways of achieving this – devices that connect between the mains socket and the hi-fi components, units that plug into a nearby unused mains socket and modules that are fitted into a piece of equipment. The Clarity Mains DIY unit before you here falls into the latter category.

The manufacturer, Russ Andrews, states that the Clarity Mains DIY contains the same internal circuitry of its standard Clarity Mains plug-in device, but with a pair of flying leads to allow it to be connected to the terminals inside the equipment on the back of an IEC socket. This device incorporates its so-called 'coherence technology', which is designed to neutralise noise inherent in circuits. Russ Andrews considers that this noise is caused by discrepancies of time and amplitude in the ground plane and asserts that by increasing the underlying coherence of the plane, the technology is able to neutralise this noise.

Bring the noise

The device is mounted inside equipment such as CD and DVD players as well as amplifiers and is supplied with 30cm flying leads and a self-adhesive pad to allow for installation and mounting. I install the unit in my preamplifier power supply, which in my system is in a separate box. This is a very easy process, as it simply requires soldering the two leads across the mains input, having first trimmed them to a suitable length. The device is secured neatly to the case of the power supply with the double-sided adhesive pad in readiness for re-connecting the mains and having a listen.

At once I detect an improvement in overall clarity with my recordings sounding more alive and realistic. Vocals are easier to pick out and identify and everything sounds that little bit cleaner on my system. With these kind of sonic benefits I have no hesitation in recommending it as a very worthwhile upgrade! **NR**

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Meridian Explorer external USB DAC

THE MERIDIAN EXPLORER is

an external DAC aimed at delivering superior sonics from a laptop or a desktop computer. It works by using asynchronous USB clocks, which are of a higher quality than those built into most computers, resulting in less jitter. It's other vital attribute is that it can handle native hi-res audio files up to 24-bit/192kHz, which are becoming increasingly popular. Since most computer soundcards have to down-sample 192kHz to 96kHz or 48kHz, this makes the Explorer a natural fit for delivering maximum audio enjoyment from hi-res files.

The Explorer consists of a 10cm-long cylinder, weighing just 50g and finished in high-quality brushed aluminium. It attaches to your computer's USB 2.0 socket, from where it draws its power. Using this cord makes for a more elegant solution than other portable DACs that plug dongle-like into a USB socket. Using USB 2.0 also means the Explorer can be plugged into a hub and still handle audio up to 192kHz sampling.

Connect more

One end of the Explorer sports two audio outputs, a headphone jack and dual-purpose 3.5mm analogue and S/PDIF digital optical output for fixed-level connection to a separate amp. When listening via the headphone output the volume is controlled from the computer. The Explorer's approach to volume is critical in that it alters the analogue output rather than the digital signal when changing volume to maximise the bandwidth of the available digital resolution.

The Toslink digital output is limited to 96kHz (with higher res 192kHz/176.4kHz files downsampled to 96kHz and 88.2kHz respectively), as the bulk of the Explorer's processing takes place in the analogue domain thanks to a six-layer circuit board that decouples the analogue audio stages using audiophile music-grade electrolytic capacitors. At the digital stage dual high-quality oscillators,





DETAILS

01480 445678

OUR VERDICT

WEBSITE meridian-audio.com

£250

based on those found in Meridian's top-of-the-line Reference Series components, are used to extend its sampling reach to 192kHz. There are two USB clocks, one

handles 44.1kHz, 88.2kHz and 176.4kHz sampling rates, the other deals with 48kHz, 96kHz and 192kHz. Three small white LEDs down its spine light up according to the sampling rate of the active timing clock. The incoming sampling rate can be selected using the computer's onscreen audio utility panel.

Setting up a Mac is a case of plugging in and choosing the Explorer from the Sound Output pane in System Preferences. Windows users have to download and install the drivers.

Using an iMac with a set of Philips Fidelio L1 headphones and starting with a 24/192 download of Claire Martin and Richard Rodney Bennett's version of I'm Gonna Laugh You Right Out cf My Life, the Explorer shows just how good computer-based audio can be. The gentle tinkling of the ivories by Mr Bennett sound effortlessly soft and Martin's husky vocals take a vice-like grip on your attention, as she delivers "affair" as a suffocated scream and softens the "r" to a Jonathan Ross style "w" in "dreams". With the Explorer you feel that nothing is compromised as you are treated to a spine-tingling emotional roller coaster with all the

presence and vitality of a live show. More heavily textured 24/192 material such as Beethoven's *Piano Concerto No.5 in E flat major* is equally compelling. The piano glides along, teasing out the strings and wind instruments, building to fully orchestrated peaks. The maximum bandwidth and absence of compression brings out the best of each element of the piece. It's a joyful listen, that never becomes tiring or a strain, despite the great energy and changes of pace.

Special delivery

An Apple Lossless Audio Codec download of Emily Barker singing *Nostalgia* in hi-res 24/96 is gritty and raw, yet delicately delivered as the low accordion introduction blends with the gently picked guitar notes. Barker's soulful vocals transport you to a bleak and sodden tramline in Melbourne.

With 16-bit/44.1 material the Explorer is tight, balanced and polished. It can't perform miracles, an MP3 of *Motorcycle Emptiness* (Manic Street Preachers) still feels clipped and lacks detail, although Thom Yorke's haunting vocals are certainly optimised in an AAC rip of Radiohead's *Fake Plastic Trees*. You'll be hard pressed to find anything offering the same levels of performance for the money. **AJ**



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Dali Kubik wireless loudspeaker system

AROUND 15 YEARS ago, the PC industry spawned something called 'multimedia speakers', a whole new breed of box purposed for delivering music from computers that had previously remained silent. Now, a couple of decades and a new millennium later, the specialist hi-fi industry has got wise to this wheeze and has offered its own variations on the theme. Spurred on by the explosion in portable iDevices, serious manufacturers have provided transducers that will hook up to just about anything, yet sound a whole lot better.

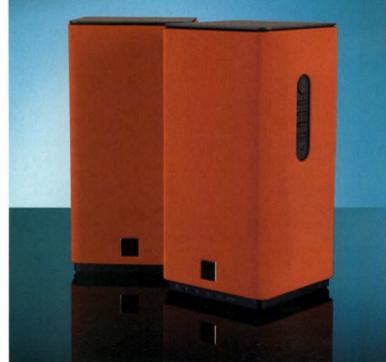
Into this segment slots the new Dali Kubik loudspeaker package, a clever system that offers superlative connectivity and flexibility, able to make music from your iPod, Bluetooth or digital music source. It consists of the Kubik Free active master speaker and the Xtra passive slave. The active box sports an onboard Class D amplifier offering a claimed 50W per channel.

The speakers themselves use Dali's design best-practice; they're a two-way design with 160mm wood fibre cone mid/bass drivers and a single 25mm soft dome. The bottoms unclip to reveal the socketry; there's an umbilical chord to link the two speakers together only on the Xtra, but the Free has the aforementioned power input and audio input socketry, too.

Free for all

To the side of the Free, there's an on/off switch that doubles up as a mute and volume up/down, and a source selector. There are further controls on the back, and a bank of white LEDs on the front bottom section to denote the source selected. In use, you plug the connecting lead inbetween the two speakers, and the mains lead in; then you toggle between inputs. My iPad recognises the Dalis as a Bluetooth device immediately, and pairs up within about 30 seconds. The grilles are removable, and come in a range of colours – including those big-selling primary ones of red, white and black.





Fed a high-quality line or digital source, this system sounds very strong - aside from a slightly thicker bass and a tad less high treble, you could mistake it for a good passive standmounter. Feed it some big sounding pop from Mark Ronson, and it's in its element - with a punchy, bouncy sound that powers the song along on a wave of adrenaline. The system goes loud and doesn't show any sign of break up at high volumes, which is something you certainly can't say about cheaper designs. Treble is crisp and decently smooth; again there's a conspicuous lack of nasties, and the speakers make an agreeable pair. Via Bluetooth, things get less energetic, and sound more plodding,

DETAILS £650 & £300 CONTACT 0845 644 3537 WEBSITE dali-uk.co.uk

OUR VERDICT $\star \star \star$ but they're still perfectly listenable. Bass is slightly boomy; it's not bad, but it's not totally linear. And neither does it go down particularly low, but then again you wouldn't expect it too. Rather, the Dalis do enough to get the basics right, and don't draw attention

to their vices. Further up the midband, they're clean and project well; if anything they're a little on the warm side, which is a refreshing change from many tinitus-inducing multimedia boxes, and the treble again is couth, although not brilliantly spacious right up top. Overall, they sound clean, refined and punchy, and are a fine listen considering their price and obvious flexibility. The very best results come in via the stereo RCA inputs with a high-end CD player as a source, but none of the inputs let the side down too much.

Rise to the challenge

A thoroughly modern multimedia loudspeaker package, this combo covers all bases; it sounds good and is versatile, well made and attractive to look at. Don't expect it to perform quite as well as passive hi-fi speakers, but do expect convenience on another level to conventional hi-fi separates. Its real joy is being able to play music out via your computer, tablet or phone at the press of a button, yet feed this Dali package with a good wired source and it rises to the challenge. **DP**



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



LP INDULGENCE

Describing itself as "an independent British music and arts enterprise", The Vinyl Factory is aimed towards the luxury end of the LP market. Since its inception over a decade ago, the enterprise has grown to include a record label, gallery spaces, record shop, music magazine and a pressing plant. The factory is actually located at the old EMI plant in Hayes, which used to churn out



BARGAIN CORNER

As its twitpics revealed a few months back, Moorgate Acoustics has been proudly flying the hi-fi flag in Sheffield for decades, where it offers its customers products from Arcam, Creek and Spendor to name just three.

As well as new kit, its website also boasts a revolving list of special offers spread over recommended systems, end of line, used and ex-demo. The end of line list is packed full of speakers and amps from Castle, Quad, Cyrus and more, which sit alongside cables and accessories at knock-down prices to help finesse your system. The used/ ex-demo list has even more on offer with over 50 items and each coming with six month's warranty. Whether you're after a QED cable for £30 or a £4.5k Musical Fidelity AMS50 behemoth, there's something for every wallet.

Under its new ownership, The Vinyl Factory produces limited runs of quality pressings from selected audiophile favourites including Bryan Ferry and Massive Attack, which you can browse on its website. Vinyl Factory prices start at around £20 for limited edition pressings, which are collectors' items, with albums often spread over more than one 180g LP and lavishly packaged with nice extras including signed artwork and bespoke sleeves. Thankfully,

masterpieces from the Beatles,

Pink Floyd and the Sex Pistols.

the website is more than just a product archive and you can also browse thought pieces, features and videos ranging from how to master a record to how the civil rights movement influenced jazz on vinyl. And with an active presence across a range of social media channels combined with a regular enewsletter, there are plenty of ways to join the conversation and ensure you stay up to date with VF new releases.



PAMPER YOUR PICK-UP

Ever wondered how to tell your azimuth from your VTA, but were too afraid to ask? Well fear not, as help is at hand via Ortofon's simple cartridge Q&A and Installation guide. Unlike many set-up guides, this isn't too bogged down with detail, instead Ortofon's insight is broken down into need-to-know info to help get your vinyl singing.

The guide starts with the basics around stylus care and the stylus types download is a handy reference when considering what to look for on your next buy. The guide then moves through the steps to take when mounting a cartridge and although it's written with Ortofon products in mind, the rules are mostly generic. This is a great starting point to ensure you know the basics before delving deeper into the dark arts of cartridge set-up.

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@chordcables@nineinchnails Excellent!... If you buy the album from **nin.com** you get the 'audiophile' download for free!

PATRICK MILLER (@SUGDENAUDIO)

Currently playing in our listening room is one of my favourite systems; A21a S2 and Quad ESL 57s

CUSTOM-CABLE (TALKCUSTOMCABLE) Could this USB headphone amplifier be an Audioquest Dragonfly killer and be Christmas 2013's hottest product? fb.me/2kkT3ahVy

KRELL AV (@KRELLAV)

KRELL Download cf the Week: John Coltrane (in freakin' DSD): via @Audio_Stream: ow.ly/or2ll #HiRes



ONKYO CORPORATION (@ONKYOAV)

Here's a blast from the past - a snapshot cf our main showroom circa 1970. Check out the sheer size of those ... fb.me/tiLIJkWli



The CT-1 interconnect from High Fidelity Cables. I personally hate wires but this thing

changes the game pic.twitter.com/QmQe7eSgv9

CHATTER

Ever heard of a 'silent disco'? Neither had | until | saw this video by Sennheiser. Okay, so bopping along 'silently' while wearing your best cans, tuned to the same beats as the rest of the crowd may seem a little strange, but this is the perfect party to keep your neighbours placated t.co/A894KpENrX



launched a Pinterest board featuring its artists of the month and more. Find out what's hot at: ow.ly/onfaD

funniest thing I've The prize for the seen this month goes to Wilson Audio for this image posted on Facebook, which perfectly illustrates just how much music on the move has changed over the last 20 years! fb.me/1jMVy6OHU

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PURIST AUDIO DESIGN CABLES "These are good cables. So good in fact, I started this review thinking they were the Proteus Provectus that cost ten times as much as the Genesis cables." Alan Sircom.

Analysis Plus, Voodoo Reference, Townshend Audio, Stealth Audio are just some of our Hi End Cable Brands that take your system to a new level. We also supply an impressive range of electronics from companies such as; Electrocompaniet, Astin Trew, Townshend, Bel Canto and Usher Audio, to name but a few.

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2012 Tonearm of the Year award - The Absolute Sound Magazine



2012 Tonearm of the Year award A Tonearm is probably the most overlooked yet rewarding component to dramatically improve system performance.

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ALSO: Our Group Test looks at six stunning floorstanding speakers costing from £1,000 to £1,200



FEATURE: RECORD STORE REVIVAL

If you believe the media, the record shop is on its last legs. Not true, but only the most robust can survive in the digital age... **ALSO** DAB radio Mini Test, Peachtree Audio decco65 integrated amp, three dealer-based systems and all your hi-fi queries and woes answered

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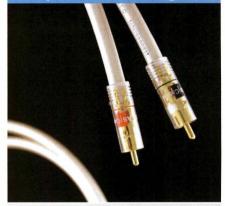
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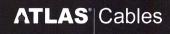


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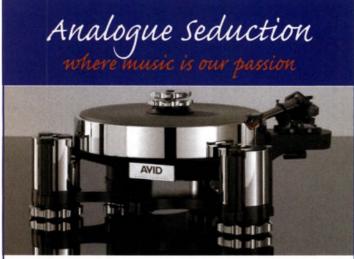
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BACKCHAT

WE HEAR...

EXOTICA FANS WILL BE INTERESTED TO HEAR THAT DEVIALET is launching a new range of amplifiers using technology that has trickled down from the D-Premier. The French company's new 110 takes the patented Analogue Digital Hybrid circuitry and offers it for less than half the price. It is the entry-level model in a threestrong range of innovatively packaged new components.

JUST WHEN YOU THOUGHT WE'D MOVED SEAMLESSLY to an all-digital world, out from behind the wardrobe crawls the Compact Cassette! The inaugural Cassette Store Day recently took place, described as "a celebration of a physical product that is accessible, fun, cheap and still going strong in the turbulent current musical climate". To find out when the next one's due, keep an eye on: cassettestoreday.com.

IMPOVERISHED VINYLISTAS MIGHT LIKE TO KNOW ABOUT Musical Fidelity's forthcoming new M1 LPS phono stage. The popular M1 range already has an upmarket version of the same in the shape of the highly flexible £700 M1 ViNL; this new version knocks £300 off of the price tag and loses all the user-configurable loading/gain settings, although performance should be the same.

WE HEAR THAT CHORD ELECTRONICS IS POISED TO LAUNCH its first complete Chordette system. Called extremis, this other-worldly looking package comprises the Prime preamplifier, Scamp power amplifier and Toucan headphone amplifier. They're all wrapped up in a stunning-looking, bespoke Chordette Carry Case. Price will set you back six thousand of your Earth pounds.

THROUGH THE PAST, SMARTLY...



NOVEMBER 1991 Who'd have thought back in the summer of 1975 that our little magazine would reach it's 100th issue? But that's preciselywhat happened in November 1991. To celebrate, every issue came with a free CD cleaning tissue - no

HI-FI CHOICE ISSUE 100

expense spared! We also lifted the veil on the magic that goes on at *Hi-Fi Choice* towers as we revealed how we test all the kit that comes through our doors. As long-time readers will remember we placed the same emphasis on objective and subjective testing then as we do now. "I spend two weeks, seven days a week up in that lab working 15-hour days, testing everything," said Paul Miller from his converted bedroom laboratory. Though Paul's equipment and lab has evolved significantly since then, he still works the same hours

Unaware of the significance of Hi-Fi Choice's 100th issue, Robert Maxwell's corpse was found floating in the Atlantic ocean, Queen singer Freddie Mercury died from pneumonia and kidnappers in Lebanon released Terry Waite. Meanwhile Vic Reeves' Dizzy sat at the top of the music charts.

G SOUND!

HI-FI CHOICE ISSUE 171

NOVEMBER 1997 "There is one over-riding goal for cassette-deck reviews in *Hi-Fi Choice*," wrote Alvin Gold sagely, "What do they sound like? However, to think this way is to ignore the fact that numerous cassettedeck buyers are at least as

interested in convenience features as they are in sound quality." And so began a roundup of six of the leading twin cassette decks from back in 1997. While the results indicated that pretty much any single cassette deck would perform better than the twins in this particular round up, Kenwood's KX-W6080 and Yamaha's KX-580SE were both singled out for attention and were duly awarded Recommended badges. In the world of music, November1997 marked

a low point. Michael Hutchence – lead singer of Australian rock outfit INXS – was found dead, having hung himself in a Sydney hotel room. Then Leader of the Gang Gary Glitterwas arrested after the discovery of indecent images on his home computer after taking it to be repaired and finally, and most shockingly, the Spice Girls released their second album, *Spiceworld*. Oh the horror...



DESERT ISLAND DISCS

This month John Franks from Chord Electronics chooses four of his favourite long players..



ELBOW **UILD A ROCKET BOYS!**

Sheer poetry! Elbow are brilliant wordsmiths and I can relate to the wonderful songs and themes of northern life on this album



JONI MITCHELL OURT AND SPARK Very accessible, I get a real sense of the bohemian, California-hills lifestyle that inspired this folk-rock/jazz fusion masterpiece. Wonderful

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MAHLER SYMPHONY 9 BERLINER PHILHARMONIKER The Philharmoniker's delivery is quite exceptional and this delivers the depth and structure of the ninth with aplomb.

-Fi Choice PASSION FOR SOUND

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