



Red magic

Musical Fidelity's Merlin 1 spellbinding vinyl system

Swede spot

XTZ: meet the Scandinavian speaker breaking the rules



Hi-Fi Choice

PASSION FOR SOUND

Issue No. 396

April 2015

Rock on!

Is this Roksan's most musical pairing yet?

UK EXCLUSIVE
First test of K3 amp & CD duo

32

PRODUCTS ON TEST:

Chord, Clearaudio, Naim, PS Audio, Sony & Stax

Do not disturb!

Luxury setups for headphone users

GROUP TEST

Sweet streams

Deezer, Napster, Qobuz, Rdio, Spotify & Tidal - which is best?



Audio Analogue

The Crescendo AirTech integrated amp that delivers more bang for your buck

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AROUND-THE-EAR SEMI-OPEN HEADPHONES



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BADGES EXPLAINED

OUR AWARDS



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



RECOMMENDED:
Products that we feel meet a high standard of performance



GROUP TEST WINNER:
Comparative tests can only have one winner, and this badge says it all!



As hi-fi fans it's probably true to say that many of us have enjoyed building up our music collections on various physical media formats over the years, and I'm sure the majority will continue adding to their library in this way for as long as possible. But there is a new kid on the block, offering new-fangled ways of accessing music that come with a mind-boggling array of choices, with millions of tracks instantaneously available, streamed via a respectable high-speed broadband service direct to PCs, tablets, MP3 players and hi-fi systems.

Streaming is a real growth area, with nearly 15 billion songs accessed last year alone from the ever-growing choice of digital services like Deezer and Spotify, to name just two. It accounts for a significant proportion of music consumed in the UK, with many listeners now opting to hear their favourite tracks on demand rather than on CD or as a download.

And the number of services continues to grow, with Tidal being the latest addition. With this in mind, this month's *Group Test* looks at the most popular subscription-based options to see if they are good enough for hi-fi ears. All six services on test offer vast catalogues and multi-platform access, but to see if any are good enough to replace a CD collection and be music to our ears, turn to page 24 and find out what our blind-listening panelists had to say. Hopefully you'll discover a service worthy of your subscription.

Lee Dunkley Editor

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“Before you start making offers, the first thing to do is to ask plenty of questions”

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

Naim's new network player

The NAC-N 272 do-it-all steamer, preamp and DAC box that plays DSD

PRICE: £3,300/£3,595 (WITH DIGITAL RADIO) **AVAILABLE:** NOW
CONTACT: 01722 426600 **WEB:** NAIMAUDIO.COM

DESCRIBED AS “A niche product”, Naim's NAC-N 272 has surprisingly wide appeal. Combining the roles of analogue preamplifier, DAC and steamer in one box, it also offers iPod connectivity and the option of a DAB radio tuner. The company envisages that many of its customers will want to upgrade to its SuperUniti if they're into streaming, or preamps like the NAC 202 if they are not. In either case, Naim would recommend that it's partnered with a NAP 200 or NAP 250 power amplifier (see page 88), whereupon it becomes a highly versatile two-box system.

Alternatively, users of active loudspeakers will be able to run a system with a full range of inputs from just the NAC-N 272 unit.

The new standard-sized, full-width Naim box has a dizzying array of facilities, including UPnP hi-res streaming at up to 24/192 and DSD64 (the latter a first for Naim streamers), built-in Spotify Connect and iRadio, aptX Bluetooth and USB connectivity, plus six digital (via coaxial and Toslink) and three analogue inputs; when the latter are used all the digital circuitry is powered down so it cannot interfere.

The internal layout of the unit was also carefully done so as to minimise extraneous electrical noise from its many sections. In the spirit of purism, the DSD signal is carefully handled internally and does not go through the DAC's internal digital filter, thus preserving the integrity of the digital datastream. The latest generation 'super SHARC' processor does all the number crunching, running bespoke Naim code. The NAC-N 272 also features a high-quality analogue section with selected high tolerance components and a large toroidal power transformer.



“The dizzying array of facilities includes UPnP hi-res streaming at up to 24/192 and DSD64”



COMMENT

NO SUCH THING AS A FREE LUNCH



Picture credit: Warp Records

If you're a music fan, there are few things more interesting than being able to have a listen to some of the good stuff that your favourite artist recorded, but then for one reason or another never got around to releasing. Whether it be Led Zep discovering new versions of *Stairway*, Bob Dylan unearthing yet more basement tapes or Neil Young re-harvesting *Harvest*, this stuff has become so prevalent that it's almost a music genre all of its own.

While it's admittedly nice to hear Bob or Neil or Jimmy noodling on their guitars and playing around with different styles, there is undoubtedly a feeling of being taken for a ride. Particularly as such 'previously unheard gems' are usually packaged in a fancy box with a poorly written set of linear notes and sold to us for more than what we'd pay for a normal album. Surely if the stuff they binned wasn't good enough to make it onto the original release, we shouldn't be expected to pay over the odds for it? There's even an argument that it should be sold for less or – goodness forbid – be given away for nothing. It's not as if these guys are struggling for a bob or two...

Enter Richard D James, aka Aphex Twin, who last month became a Grammy Award-winning artist for his album *Syro*. While the unique electronic beats of this dance music auteur might not be to everyone's liking, Messrs Dylan, Young and Paige could certainly learn a thing or two from him about giving something back. With no fanfare, press release or tie in with a clothing company or phone manufacturer, James quietly placed 120 previously unreleased tracks going as far back as 20 years onto Soundcloud for anyone to download free of charge. In an age where the biggest selling act on the planet won't supply her music to streaming services because she's not getting enough in royalties (millionaire Taylor Swift, we're looking at you), this is an approach that should be not only applauded but followed by others. Somehow, we don't think it will be, but Richard we doff our hats to you... ▶

Revolution XT

Tannoy unveils next-gen series featuring latest speaker tech

PRICE: £599-£1,299 **AVAILABLE:** NOW
CONTACT: 01236 420199 **WEB:** TANNOY.COM

THE FIRST SPEAKER to utilise the company's new Dual Concentric driver with Omnimagnet motor and Torus Ogive Waveguide, Tannoy's Revolution XT cabinets are based on its successful Revolution trapezoid design. Both low and high frequency drive units use a single shared magnet and a donut-shaped (Torus) diaphragm with a bullet-shaped (Ogive) phase plug to ensure exceptional time alignment and coherence. The result, so Tannoy claims, is improved phase coherence and accuracy of production, greater dynamic headroom and outstanding dispersion characteristics for superior imaging.

The range consists of the XT6 standmount (so called due to its 6in driver), XT6F floorstander (also with 6in drivers) and XT8F (with, you guessed it, 8in drivers). Prices are £599, £999 and £1,299 respectively and the speakers are available in a choice of walnut or oak finishes. An XT mini loudspeaker is planned for release in late spring for £399 and we will, of course, bring you further details as they're announced.



IN BRIEF

NEW OPPO HA-2 HEADPHONE AMP



● Having made a name for itself in the AV world, Oppo has become a bit of a mover and shaker in the audiophile sphere of late, too. With astonishing headphones and the superb HA-1 headphone amplifier/DAC (HFC 390), it has impressed many. And now, the HA-2 is available. A portable headphone amp/DAC it's designed to enhance music on the move. Stylish and sophisticated, it boasts a Sabre32 Reference DAC and supports PCM audio up to 32-bit/384kHz and DSD audio up to 12MHz (DSD256 or DSD4x). It has a rechargeable battery, along with a brace of USB inputs (one for Apple products and one for Android) and a 3.5mm input for other devices. It's available now for £259 and will be on test in next month's issue. **OPPODIGITAL.CO.UK**

Q Acoustics 3000 series

PRICE: £140-£650 **AVAILABLE:** NOW
CONTACT: 01279 501111 **WEB:** QACOUSTICS.CO.UK

Taking its extremely successful Concept speakers (the Concept 20 standmount was tested in HFC 372) as a starting point, Q Acoustics unveiled its new 3000 Series at the Bristol Hi-Fi Show. Borrowing innovations in cabinet design and construction from the aforementioned speaker range, the new 3000 Series boasts additional advancements including new ultra-low resonance dual-layer front and top panels, 'pivotal' internal bracing and 'minimal' rear-mounted terminal plates. The result, so Q Acoustics claims, is a stronger cabinet with reduced distortion so that the speaker's drive units can perform at their very best.

Speaking of drive units, the 3000 features a new 'two-in-one' concentric ring dome tweeter, which aims to combine the benefits of 'ring radiator' and 'dome' type high frequency drivers to provide lower distortion and extra wide dispersion. The tweeter is mounted into a butyl rubber resonance absorbing housing. Meanwhile, the bass and midrange

drivers have been improved by upgrading the cone material to a mix of paper and aramid (aromatic polyamides, aka Kevlar) fibres and the crossover boasts what Q Acoustics claims are more audiophile components such as 'u-core' inductors to reduce crosstalk. It's a fourth order 'Linkwitz/Riley design' produced to limit phasing problems between the drivers at the crossover point. The new 3000 series consists of a

compact bookshelf, a standmount and a floorstander as well as a selection of home cinema speakers and subwoofers.

The 3010 compact bookshelf is available in matte graphite or American walnut for £140 or in gloss lacquer or leather for £180. The 3020 standmount comes in the same finishes for £190 and £250 respectively, while the floorstander continues the trend at £500 and £650.



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Arcam delivers mega amp

Designer John Dawson gave himself the task of building the best amplifier he could and here's the result, meet the Class G FMJ A49

PRICE: £3,750 **AVAILABLE:** NOW **WEB:** ARCAM.CO.UK

REDEFINING HIGH-END MUSIC performance and value is a mighty claim, but Arcam reckons that the FMJ A49 might just have what it takes to tick all the boxes. Boasting 200W per channel into 8ohm loads (400W into 4ohm), the US-produced amplifier was designed with a 'money no object' remit.

The A49 utilises Arcam's Class G amplification, running in full Class A for the first 100W and then switching to Class AB for anything more (up to 400W). It is built on a massive, robust chassis and is fully balanced throughout, providing the lowest distortion and noise floor combined with the highest power ever from an Arcam amp – the company claims. It boasts high-performance MM/MC phono stages, a preamplifier output, balanced XLR preamplifier inputs and unbalanced preamp inputs, plus two pairs of speaker terminals. The amp weighs in at 19.7kg and has 433 x 171 x 425mm dimensions (wxhxd).



IN BRIEF

ONKYO UNVEILS HI-RES STORE

● In partnership with 7digital Onkyo has been providing hi-res music for the masses in Japan through its e-onkyo store since 2005, and now the service is coming to Germany, the US and, of course, the UK. Rebranded onkyomusic, the store covers all genres from pop and soul to jazz and folk with classical a major focus and has hundreds of thousands of 24-bit hi-res tunes available in FLAC and millions of 16/44 CD-quality files. We're told there are plans to introduce more material from Japanese record labels and less commonly available genres including rock, metal and even ANIME albums. **ONKYOMUSIC.COM**



Leema debuts Libra DAC

PRICE: £5,995 **AVAILABLE:** NOW
CONTACT: 01938 559021 **WEB:** LEEMA-ACOUSTICS.COM

Leema Acoustics has become the latest manufacturer to unveil a DAC to make the most of your hi-res music files. With compatibility for DSD64 and 128, DXD and resolutions up to 384kHz, the Libra is also claimed to be futureproof, thanks to its new fully balanced Quattro Infinity dual-mono DAC modules, which can be replaced or upgraded as and when technology advances. It additionally offers three separate analogue inputs, making it into a highly flexible

preamp. Each input can be configured as unbalanced via RCA Cinch connectors or fully balanced via XLR connectors. The Libra is able to operate either as a conventional component with fixed output levels or as a high-end preamp with full analogue volume control on board, and can be hooked up to other Leema power amps for direct control.

Additional connections around the back include three optical and three coaxial inputs (capable of

receiving 24-bit/192kHz audio), a pair of XLR connectors for AES or EBU input and an asynchronous USB port. An optional Bluetooth interface can also be added to the package for wire-free playback from mobile devices and a headphone amplifier is also provided for personal listening.

The latest addition to Leema's flagship Constellation series, the Libra DAC has the same precision-machined casework as the Antila CD player and Tuscana amplifier. ▶





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PDP 3000 HV

DSD-PCM player with SACD disc mechanism



The PDP 3000 HV is the latest player in the HV series, and has been developed specifically to reproduce high-resolution audio data to uncompromising levels of quality. Its unique converter design consists of a **T+A** True 1-bit DSD converter for DSD data up to DSD 512, and a **T+A** 32-bit double-differential quadruple converter for PCM data up to 384 kSps.

The PDP 3000 HV is also designed to operate as a DAC, to allow external sources to exploit its extraordinary converter system, and therefore features seven digital inputs (incl. USB Class 2 mode).

The PDP 3000's high-quality SACD disc mechanism is fully shielded, and housed in a case machined from solid aluminum. The disc transport assembly is mounted on just two close-tolerance pushrods, which de-couple it completely from the heavy external case. The loading mechanism makes it easy to insert discs without damaging them; they are held securely in place by an anti-resonance puck.



Hand built in Germany, the PDP 3000 HV from T+A are available in the UK now.

For more information or to arrange a demonstration, please contact:

Dynaudio UK
Tel: +44 (0)1353 721089
Email: info@dynaudio.co.uk

New Cyrus amp

PRICE: £1,750 **AVAILABLE:** NOW **WEB:** CYRUSAUDIO.COM

CYRUS CHOSE THE occasion of the Bristol Hi-Fi Show to debut its latest product, the Stereo 200. Described as a hybrid design because of the way it combines a new Class D output stage with a sophisticated Cyrus analogue power supply, this “very high power” amplifier claims 2x 200W output.

This is the first time the company has opted to use Class D and Cyrus’ Peter Bartlett said about the half-width design: “Issues such as

matching Class D output stages with loudspeakers have until now been a barrier to Cyrus using this interesting technology. Now we have devised several unique engineering features, our team have solved these issues with new techniques such as an automated Speaker Impedance Detection (SID), [which] accurately measures the connected speaker and cables and adjusts the amplifier to perfectly match”.



Furutech’s new cans

PRICE: £295 **AVAILABLE:** NOW **CONTACT:** 0118 981 4238 **WEB:** SOUNDFOUNDATIONS.CO.UK

Tokyo-based sister brand of Furutech, ADL (Alpha Design Labs) has announced details of its second headphone, the H128. Following on from its debut model, the H118 (reviewed *HFC 374*), the new model aims to take the smoothness and balance of its sibling and add increased dynamics to the package. In an effort to achieve this goal, the brand’s engineers have developed a new driver from scratch in collaboration with colleagues at Furutech and an external team of renowned Japanese audio experts. The result is a dynamic, closed-back circumaural headphone with 40mm diameter drivers with what ADL calls a “special high-flux magnet”. Tailor-made diaphragms aim to provide high noise attenuation and low distortion and feature a ‘PEEK’

film with unique surface design that is claimed to provide optimal sound reproduction. The Alpha Triform Contour leatherette earcups are specially designed to form a “superior” seal over the ears for improved bass response and the Triform Contour is claimed to minimise internal standing waves and reflections for reduced distortion.

The H128 has a claimed sensitivity of 98dB and frequency response of 20Hz-20kHz. It weighs 320g (without the cable) and comes bundled with 1.3 and 3m cables, and a 3.5-6.3mm gold-plated adaptor. It is available in a choice of silver-black, silver-brown and dark blue finishes and is being distributed in the UK by Sound Foundations.



IN BRIEF



THE ART OF HI-FI

● Not content with having a classic hi-fi setup in your listening room? Then why not have it on the walls of your home too? Audio Icons is a limited edition print project that’s been created by speaker designer Phil Ward. Inspired by classic British hi-fi kit from the seventies and eighties, the collection of prints include six iconic amplifiers and nine speakers, with turntables, more speakers, amplifiers and complete setups planned in the future. The prints are limited to 100 and each is numbered and signed by Phil. Measuring 332 x 484mm and on high-quality 200gsm fine art paper, the unique works are available for £60 each including p&p.

AUDIO-ICONS.COM

CHART NEWS

● Confirmation that streaming is becoming the dominant force in the way that we consume our music has come from the announcement that the Official Charts Company will now be including album streams to put together its Official Album Chart. Streaming has doubled from 25 million a day to 50 million over the last 12 months and was included for the first time ever for the Official Singles Chart back in July 2014. The new data was gathered from the week of the Brit Awards (23 February) and the first ever chart to incorporate streams was published on Sunday 1 March (topped by Sam Smith). The data represents on-demand plays via services such as Spotify, Deezer, Napster, Google Play, O2 Tracks, Rara, Rdio and Xbox Music.

OFFICIALCHARTS.COM



Webwatch

Andrew Simpson checks out the best hi-fi websites, social media and online content



Grado legacy
After the recent passing of Grado Labs' founder Joseph Grado, this fascinating history video into the Brooklyn-based business is a timely reminder of how innovative yet traditional it has remained since its inception: bit.ly/1EUGJ66



Record Store Dave
Promoting Record Store Day 2015, its ambassador and bona fide rocker Dave Grohl explains why he thinks vinyl is special in this video. More surprising is his first ever LP, although I doubt many of us will be searching that album out this April: recordstoreday.com



MusicScope analyser
This new precision audio analysing software claims to provide functions that are usually only available to sound engineers, and lets you assess the quality of your digital music files to see whether your hi-res is exactly what it says on the virtual tin: xivero.com/musicscope



Dynaudio microsite
The release of Dynaudio's Focus XD range firmly stakes the company's claim in the high-end active speaker market. This new microsite takes you inside the range's cutting-edge amplifier, DSP and drive unit technology: focusxd.dynaudio.com



Wood you?
This recent Kickstarter by the Silvan Audio Workshop features hand-carved decks by a father and son team of wood savvy audio nuts. With 58 backers pledging \$8k of its \$14k goal at the time of writing, many have already seen the wood for the trees: kck.st/1E4KOrb



Phantom power
We've all seen the ads and the online excitement for Devialet's latest Phantom sound centre active speaker, but how does it look in action? This short Vine clip has the answer and within a six-second loop shows precisely why Phantom is unique among its rivals: bit.ly/1EUJSTo

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CHOICE TWEETS

- 
STONEAUDIO.CO.UK (@STONEAUDIO)
Naim will offer firmware upgrades to the ND5 XS, NDX & NDS network players and the SuperUniti to allow DSD playback.
- 
KEF AUDIO UK (@KEFAUDIO)
KEF was honoured with an award from @Dolby in appreciation of KEF Leadership in Introducing Dolby Atmos for the Home!
- 
SOUND FOWNATIONS (@SOUNDFOUNDTATION)
Thanks to all those who visited our @IsoTekSystems room at the @SvBristolShow! + Special thanks to Keith & Bjorn!!!
- 
HIFI LOUNGE (@HIFILOUNGE)
@PMCSpeakers PMC Unleash The New Twenty.Sub @SvBristolShow, Coming to HiFi Lounge Soon hifilounge.tumblr.com/post/111572828893/pmc-unleash-the-twenty-sub
- 
SHANE DORRIAN (@SHANEVINYL)
@HiFiChoiceMag Great product and service from @OriginLiveHiFi replaced my tonearm which was giving lots of feedback with a brand new 1
- 
MCINTOSH LABORATORY (@MCINTOSHLABS)
Compact #McIntosh MC152 #stereo #amp is perfect if you don't need higher power levels bit.ly/1DCQYny
- 
DECO AUDIO (@DECOAUDIO)
We're delighted to now have the new Helios Alexia turntable on demonstration: decoaudio.com/deco_audio_turntables3.html#Alexia
- 
DAVIDSON HOME AUDIO (@DAVIDSONAUDIO)
This new Musical Fidelity table looks even sexier with a red mat
- 
KRELL AV (@KRELLAV)
It's Friday the 13th. Have any strange #audio superstitions? #AVTweeps #Audiophiles
- 
MUSIC MATTERS LTD (@MUSICMATTERSLTD)
Coming soon - uncompressed music streaming with Meridian streaming. @TIDALHiFi @MeridianAudio
- 
ANALOGUE SEDUCTION (@ANALOGSEDUCTION)
We're very pleased to announce we have added Bryston to our lineup of products! Made with incredible attention to detail...fb.me/7bADIPWNB
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THE AUDIOBARN (@THEAUDIOBARN)
Thanks everyone for your support so far & for following us. We will be unveiling some new & exciting things soon, keep tuning in! #hifi
- 
AUDIOQUEST (@AUDIOQUEST)
Listen to @audioquest #Ethernet cables while blind, naked, dancing, or however. Just listen. bit.ly/1DGNOBx



Asimi Ultra RCA Interconnect

hi-finews
EDITOR'S
CHOICE

“ Reflecting the mood of the music, the Asimi Ultra allows the very best hi-fi systems to sing – sing loud, sharp and clear when required or soft, slow and relaxed as the recording demands. It’s a true flagship cable. ”

*HiFi News,
December 2014*

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Three for all

Roksan's K series has just been refreshed. **David Price** samples the new K3 CD player and integrated amplifier





► DETAILS

PRODUCT
Roksan K3 CD

ORIGIN
UK

TYPE
CD player

WEIGHT
9kg

DIMENSIONS
(WxHxD)
432 x 102 x 380mm

FEATURES

- Burr Brown PCM1798 DAC
- 1x coaxial digital output
- 1x Toslink optical digital output
- 1x Balanced AES/EBU (XLR) digital output

DISTRIBUTOR
Henley Designs

TELEPHONE
01235 511166

WEBSITE
henleydesigns.co.uk

► DETAILS

PRODUCT
Roksan K3 Amp

ORIGIN
UK

TYPE
Integrated amplifier

WEIGHT
14kg

DIMENSIONS
(WxHxD)
432 x 105 x 380mm

FEATURES

- Quoted power output: 2x 140W into (8ohms)
- 5x line inputs
- 1x MM phono input
- aptX Bluetooth

DISTRIBUTOR
Henley Designs

TELEPHONE
01235 511166

WEBSITE
henleydesigns.co.uk

Though its products have been very well received over the years, every five or so years the time comes to refresh the range, and that's what Roksan has done here. The K2 series was excellent, but the company claims the K3 is even better, with improved technologies and design.

Starting with the source, the new K3 CD player gets updated circuitry and improved components. A Burr Brown PCM1798 24-bit/192kHz-capable DAC is fitted, and this works with a high-precision master clock with less than 150psecs of jitter, the company says. The disc mechanism has a front-loading CD drawer; unlike some Roksan has not chosen to go to a slot loader. The K3 CD nails its colours to the mast with a 75ohm RCA coaxial digital output and a 110ohm balanced XLR digital out. Perhaps the company views it as a 'last ever CD player' and has kitted it out with serious transport functionality, rather than trying to make it a DAC with a disc drive inside like so many rivals.

The K3 amplifier has five line inputs, moving magnet phono stage and aptX wireless Bluetooth, but no DAC

The K3 is surely the most musical amplifier on sale at or near its price

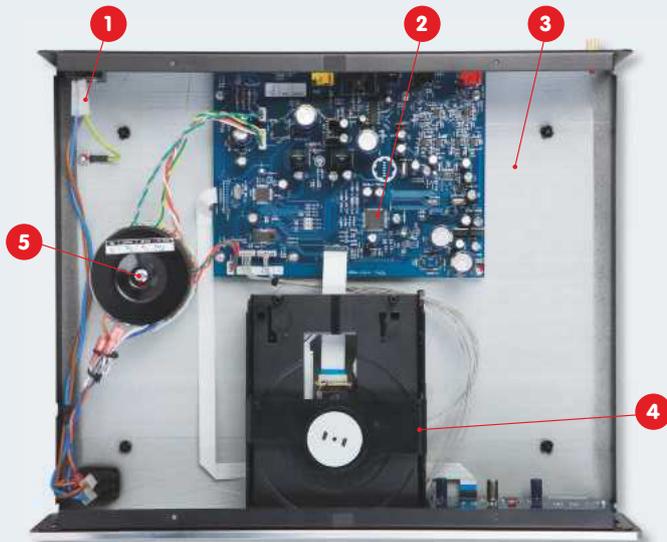
functionality. Inside, the amplifier has been the subject of a substantial redesign; laid out symmetrically, it uses new op-amps, audio and power supply circuits. High-quality signal output relays are fitted, and the new chassis gets better ventilation for cooler running. The power amplifier section is directly powered from the mains supply, via a 550VA toroidal transformer with five regulated supply rails. The manufacturer claims 140W RMS per channel into 8ohms, and over 220W into 4; suggesting a robust power supply. This is a lot of power from an amp of this relatively average size, although it's a little heavier than some at 14kg.

Down to business

The K3s are very nice to use and generally pretty intuitive, although one oddity for those not accustomed to either is that the main power on-off switch on both units is underneath; the fascia has a 'mode' button to flick between on and standby. Supplied with both is the new system remote, an impressive metal-framed device that's nice to use and offers total



ROKSAN K3 CD PLAYER



- 1 Mains inlet
- 2 CD processor
- 3 Zinc-plated steel chassis
- 4 CD mechanism
- 5 Toroidal transformer

control. Together the duo is a neat visual match and exudes an air of quality that the previous K2 series didn't quite manage.

Sound quality

The K3 integrated proves to be one of the most enjoyable amplifiers I have heard at this price in a very long time. I find myself wondering why rivals costing three or four times its price don't sound so much fun. It has the unerring ability to make music magic – and it doesn't matter what music it is. Whether it is the brilliant *Electric Café* by Kraftwerk or the rather ropey 2009 remaster of The Beatles' *White Album*, somehow the K3 cuts to the musical quick. It has the special ability to lift you beyond the recording, so you're no longer concerned with it and instead find yourself lost in the music.

It goes beyond normal considerations of a £1,250 amplifier. It has its faults yet they never get in the way. *Mother Nature's Son* by The Beatles seems to take on a life of its own fed from a high-end CD transport and dCS Debussy DAC. Via one of its line inputs the song floats and emotes; the amp throws out an amazingly wide recorded acoustic, seemingly unaware of the loudspeaker boundaries. Tonally it is sweet and smooth, perhaps with a slight accent on the upper midband, but bass is very strong and slightly warm by its rivals' standards. Dynamically it's superb, really going out of its way to signpost the music's accenting.

With Kraftwerk's *Telephone Call*, the stereo soundstage seems to expand TARDIS-like when you step into the song. It sounds vast, and fills up with crashing electronic percussion, infectious drum breaks and wonderful sequenced keyboard lines. Drum machine cymbals shimmer, electronic baselines grumble, and snares thump. Vocals are beautifully pure, just like you're standing in the vocal booth with Ralf Hutter. I never find myself thinking how good it is at the price; instead I sit there totally immersed in the majesty of the mix. This is a rare talent for any solid-state amplifier, let alone one that costs £1,250.

The phono stage is also good, but you can do better if you spend a serious amount of money on an offboard one. Fed by a Michell GyroDec/TecnoArm tracking a Goldring 1042 moving magnet, I became completely at one with the music. I cue up an old pressing of Supertramp's *Breakfast In America* and soon am absorbed in *Child Of*

TRANSPORT MATTERS

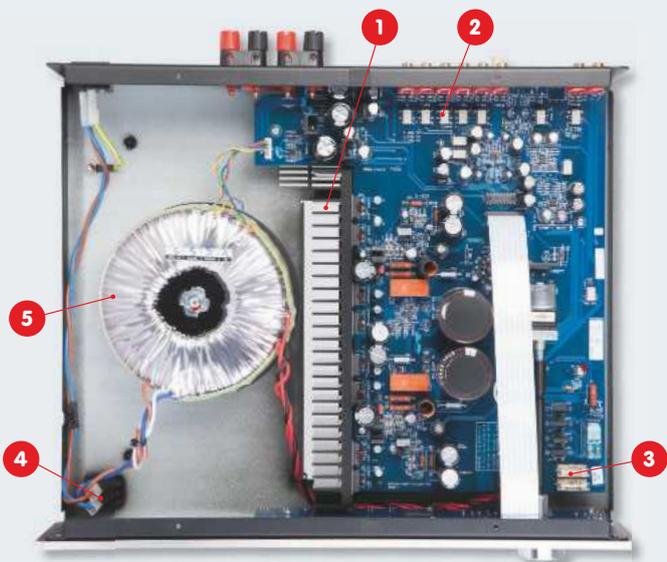
The Roksan K3 CD player is surprisingly 'old school' in a number of ways, not least because it doesn't have DAC inputs, or indeed any USB connectivity. Either or both of these has become *de rigueur* over the past two years for any newly launched silver disc spinner, so it's a little odd to see that they are missing here. Whether this is actually

a problem, of course, is very much down to personal preference; many buyers will already have a decent digital-to-analogue converter, or will just want to play their compact discs.

The slightly retro feel of the unit extends to its display, which has 'music calendar' – last seen on nineties Sonys – and other features including elapsed

time and track and disc time remaining. Random play and 10-second 'intro play' facilities are a blast from the past, too. Track access is pleasingly brisk and the disc drawer – again a slightly old-fashioned touch – goes in and out smoothly and unlike some is made of decent quality plastic that doesn't feel flimsy or fragile in use.

ROKSAN K3 AMPLIFIER



- 1 Heatsink
- 2 Input control relays
- 3 Protection fuses
- 4 Power switch
- 5 Toroidal transformer

WIRELESS WORLD

Like the CD player, the K3 amplifier is also devoid of a lot of features that you might expect from a new product of its type today. And again, I am not so sure that this is a problem; indeed you might argue that you're spending more of your money on the important bits inside that make it sound better, as opposed to fripperies. The Roksan's

one concession to modernity is aptX Bluetooth, which allows – in theory – transmission of near CD-quality digital music wirelessly over short range.

I find it sounds pretty much like all other implementations of this technology, which is good but not great. It's an extremely handy thing to have if you just want to squirt some

decent quality music to your amplifier for casual or background listening, but it lacks detail, depth, dimensionality and general musicality and tonal accuracy compared with its matching CD player. I like Bluetooth music, but the trick is treat it like we used to cassette, and use it when convenience is the order of the day.

CONNECTIONS



- 1 Analogue outputs
- 2 AES/EBU digital outputs
- 3 4mm speaker binding posts
- 4 CD player inputs
- 5 Moving magnet phono inputs
- 6 Pre outputs

Vision, marvelling at the vast amounts of detail, 'walk-around soundstage' and the ease with which all the instruments are able to play independently. The music sounds so unconstrained that I have to keep pinching myself to remember that I am listening to an affordable integrated. Indeed the K3 is able to cheekily fool the listener into ignoring its failings – which admittedly are relatively minor – and celebrate the music like it's my 21st birthday party. The only downside is its slightly limited tonal palette; everything sounds a fraction on the warm side, whether it was originally recorded that way or not. Also, while it is brilliant at throwing stereo images left to right, it doesn't hang them back quite as far as it could.

The matching CD player is also excellent, but struggles to match the brilliance of its partner. Moving from my reference (and very expensive) dCS DAC highlights where it is lacking; there's a little fall off in low-frequency power, midband precision and depth, and treble definition and space. Still, the K3 CD player sings like its life depends on it; here's a mid-price silver disc spinner that gets into the groove as well as many good vinyl sources. It somehow manages to come over as sounding a lot less processed than most digital disc sources and again has that wonderfully easy rhythmic quality about it. I find myself engrossed by a Deutsche Grammophon recording of Vivaldi's *Four Seasons*, focusing on the way the orchestra plays and the emotion of the music in general. It's an extremely good performer at the price, and difficult not to like.

Conclusion

As someone that was impressed by the previous K2 range, and someone with a lot of respect for Roksan in

general, I expected much from this new K3 pairing and it really doesn't let me down. The integrated amplifier in particular is quite exceptional; it is surely the most musical amplifier on sale at or near its price and is never less than cracking fun to listen to.

The CD player is an incredibly strong partner, and well worth having if you intend to buy the amplifier to accompany it, or indeed if you're looking for a good, 'old-school' silver disc spinner. Together, they're a dynamic duo the likes of which you rarely see anywhere near the price. Heartily recommended ●

Hi-Fi Choice

OUR VERDICT CD player

SOUND QUALITY ★★★★★ **LIKE:** Relaxed, easy, open, musical sound; balanced digital out

VALUE FOR MONEY ★★★★★ **DISLIKE:** Some may want DAC functionality

BUILD QUALITY ★★★★★ **WE SAY:** Old-school CD player with excellent sound

FEATURES ★★★★★

OVERALL ★★★★★

Hi-Fi Choice

OUR VERDICT Amplifier

SOUND QUALITY ★★★★★ **LIKE:** Exceptionally musical, expansive, powerful sound

VALUE FOR MONEY ★★★★★ **DISLIKE:** Nothing at the price

BUILD QUALITY ★★★★★ **WE SAY:** Brilliant mid-price amp with handy Bluetooth input

FEATURES ★★★★★

OVERALL ★★★★★

HOW IT COMPARES

Cambridge Audio's Azur 851C/851A (HFC 359) combo (£2,400) is the closest rival. It is better specified, in the sense that the amplifier has a sophisticated programmable display and the CD player is more like a DAC with a CD drive built in. The Cambridge combo also feels a lot more sophisticated and slick to use. It is excellent sonically, with a powerful, tight, detailed and open sound. The K3s are much more beguiling, enchanting and enriching to listen to; music seems to breathe and flow better, bringing an immersive quality to the listening experience. That's just how special the Roksans are.

Q&A

Tufan Hashemi
MD, Roksan Audio



DP: What were the design aims of the new K3 series?

TH: To take the very best attributes of the K2 series, such as punch and power, and develop them to a higher audiophile standard. This includes particular attention to the bass depth and grip, increased detail and the transparency and air of the soundstage. Of course, all this had to be coupled with the new aesthetic design and range of finishes, which are elegant, modern and understated.

What made you decide to fit Bluetooth to the K3 amplifier?

Our experience with high-quality Bluetooth in the flagship Oxygene range and the K2 BT has shown that customers welcome the flexibility that this aptX option brings. The module has its own internal digital-to-analogue converter with a differential signal as part of its integrated codec, it therefore outputs two differential analogue signals. We have taken these signals to an external circuit to convert into a single signal. Thus we have been able to leave behind any noise or disturbance present on the differential signal and only the clean signal is amplified through the board.

Why is the K3 CD fitted with a balanced XLR digital output?

Bearing in mind that the mechanism used is the same as that in the reference Caspian M2 series, the K3 CD acts as a supremely confident and solid standalone transport with true high-end performance. Our players have always been renowned for their genuine reference-quality performance and the K3 DAC is to be launched soon. Actually, many of our overseas customers still utilise the transport/DAC configuration and the inclusion of the new K3 DAC will make this an attractive option.

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 Address of bank.....
 Postcode

Account holder.....
 Signature..... Date

Sort code Account number

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How we test

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

Unique group tests

Our *Group Tests* are supported by rigorous and exhaustive listening tests carried out by experts

STREAMING SERVICES GROUP TEST

COMPARATIVE TESTING OF six of the most popular streaming services presents a unique challenge for panel listening. As test tones are not a common feature of any of the services' multi-million track libraries, level testing has to be done peak to peak across the same material. Thankfully, the nature of the USB connection on the NAD C 510 digital preamp (HFC 395) ensures a level match without physical adjustment of the volume.

None of the services permit an Audio Stream Input/Output (ASIO) USB connection like bespoke playback software, but the two services that have a separate sound output option on their desktops were allowed to make use of it.

Choosing the four test tracks is also made complicated as they need to be available on all six services. With the test material selected, the NAD is connected to a Cambridge Audio Azur 651W power amp and a pair of Neat Momentum 4i speakers. One of the unusual benefits of the instant switching between streaming services means that the panel can listen to each service play track one before doing the same with the remaining ones.

After the panel test, the mobile apps are compared using an iPad 3 and Motorola Moto X connected to a pair of Grado SR225e headphones for testing on the move as well as via Bluetooth and AirPlay.



BLIND LISTENING TESTS

This crucial process is very carefully controlled so that we get reliable and consistent results in a relaxed and friendly atmosphere. Our listeners must not feel that they're being tested, despite being unaware of the brand or price of the products they are auditioning.

The session begins by setting the volume level to an agreed point, one that all three panellists feel comfortable with, yet that is

high enough to make differences easily discernible. Then the choice of music is agreed – it needs to be familiar, but also well recorded and of sufficient variety to give meaningful listening comparisons. The chosen selection of music is played, and the panellists are encouraged to discuss their impressions of the sound of the product. This is then repeated, and periodically the panel listens to earlier products for reference purposes. The

consensus, or otherwise then forms the basis of our sound quality section.

At the end of the session, there's a final debrief when panellists discuss their findings. It's an exhaustive process, but carried out in this way is free from prejudices based on brand, price or appearance, while the different sensitivities of the listeners help to round out the analysis in order to make it more widely applicable.

REFERENCE SYSTEM

SOURCE
Lenovo T530 ThinkPad

PREAMP
NAD C 510 Direct Digital DAC

POWER AMPLIFIER
Cambridge Audio Azur 651W

LOUDSPEAKERS
Neat Momentum 4i

CABLES
Nordost Heimdall XLR interconnect
Tchernov Audio Classic Bi-wire MkII speaker cables

TEST MUSIC

PUNCH BROTHERS
My Oh My, The Phosphorescent Blues



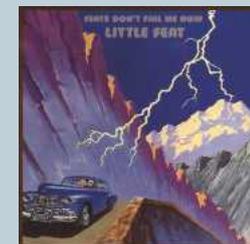
SCRATCH MASSIVE
Take Me There, Nuit De Rêve



DAFT PUNK
Outlands, Tron: Legacy



LITTLE FEAT
Rock And Roll Doctor, Feats Don't Fail Me Now



Our SuperUniti all-in-one player will unleash your digital music, from high-resolution audio files to Spotify playlists. Its analogue heart is an integrated amplifier backed by over 40 years of engineering knowledge to offer countless years of musical enjoyment. Just add speakers.



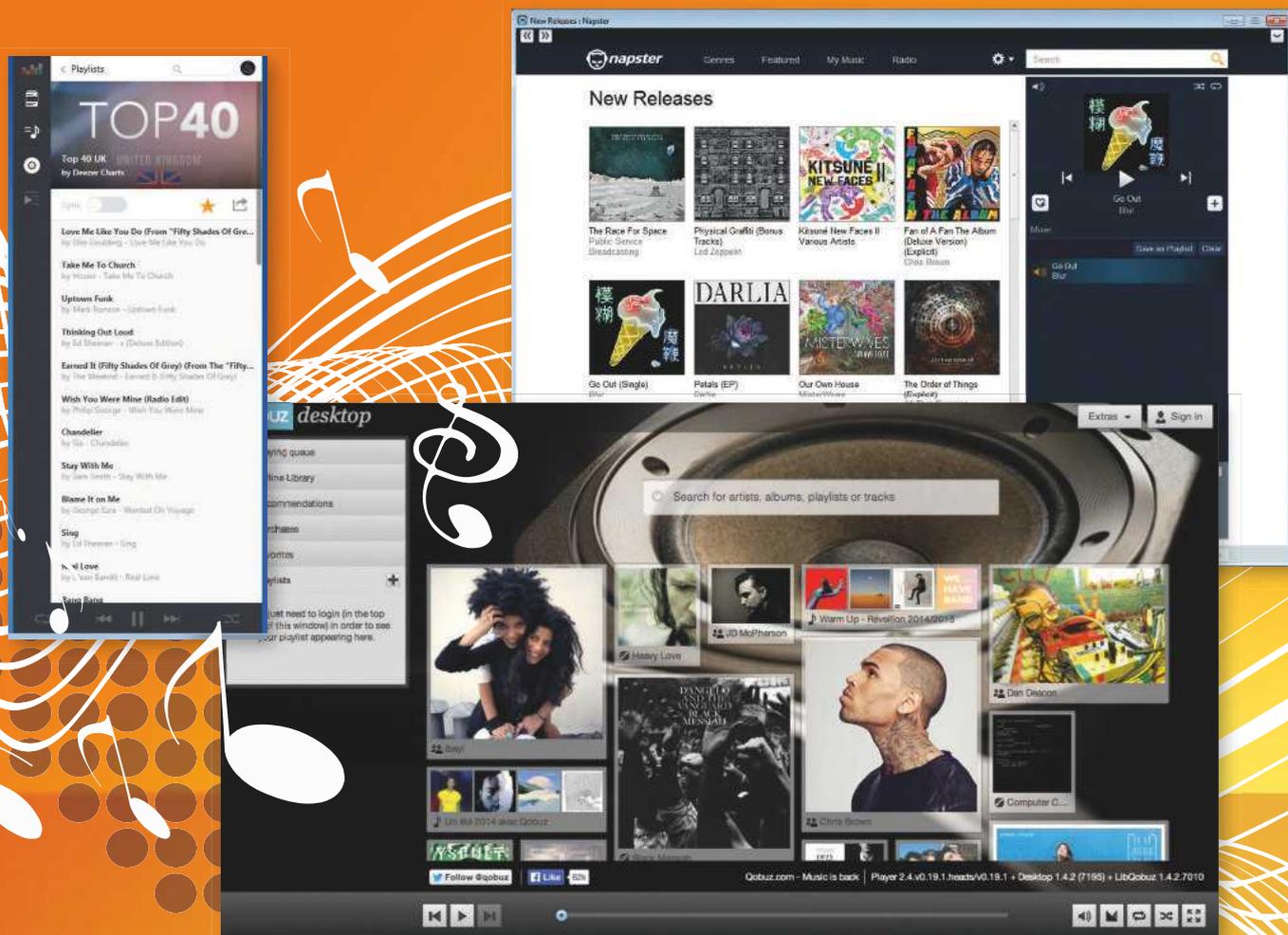
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Go Deeper

Group test



MUSIC STREAMING SERVICES £FREE-£20/MONTH

Sweet streams

Ed Selley puts six of the most popular music streaming services to the test, but which offers the best sound quality and interface?

WHEN MUSIC STREAMING services first appeared on the scene in 2007 they were generally considered to be an extremely neat way to instantly access and discover music from a vast library – the size of which we could only ever dream of – but they were unlikely to replace our CD collections. Right?

Access to increasingly stable and faster broadband services has changed our perceptions of internet streaming services over the last few years, and has undoubtedly played a big part in the growth of the number of music providers that are now available as we all get used to

content being piped seamlessly into our homes free from glitches and buffering issues.

Musical treats

Like kids in a sweet shop we are mesmerised by the number of songs and albums readily available at our fingertips, and the musical discovery our searches take us on trawling through these extensive libraries is an interesting and often very nostalgic journey. But although the instantaneous access has revolutionised the way in which we get hold of music, as hi-fi fans we certainly didn't consider that we

would be swapping our CD collections for a monthly subscription fee to a music streaming service. Nevertheless accessing music in this way is now a reality and can even offer very decent audio quality.

Here we compare six of the most popular services. Despite all providing instant access to millions of tracks, one service may be better suited to your musical taste than another, so it's worth running a free trial to ensure you choose the one that's right for you. But it's not all about content, the winning service needs to provide access across the platforms you use and – most importantly – sound good. ▶



ON TEST



Deezer
£free-£10/month p27
 One of the more senior services in the group, French-based Deezer claims among the largest music libraries at 35 million tracks of up to 320kbps MP3 files with various supporting apps and a strong social media presence. It offers free and subscription services.



Napster
£10/month p29
 A famous (or infamous depending on your view) name from the early days of online music returns to front the European wing of a US streaming service. The 192kbps sampling rates may not be state of the art, but prices start from just £5 per month for desktop subscription.



Qobuz
£4-£20 p31
 The older of two lossless streaming services, Qobuz offers a 20 million plus track library at CD quality that fronts an online store selling lossless and hi-res music files. The £20 per month Hi-Fi or £15 Hi-Fi Classical subs and are offered at reduced yearly rates.



Rdio
£free-£10/month p33
 Perhaps the least well known of the services here, Rdio offers an MP3-based ad-free service with 32 million plus tracks for £10/month. If you are part of a family of music lovers, a structured discount for multiple users might be enough to tempt you to sign up for a subscription.



Spotify
£free-£10/month p35
 The big fish in the music streaming pond, Spotify offers a large 30 million track library and then proceeds to make it available in a truly vast number of ways across literally hundreds of different devices for an ad-free £10/month Premium subscription.



Tidal
£20/month p37
 The newcomer to the UK market is the other lossless service here with an extensive 20 million plus library of CD-quality tracks. Its subscription costs over the year may be the highest here, but it sweetens the deal by offering curated content, playlists and HD videos.

NOVAFIDELITY X40



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Made for
iPod iPhone iPad



Deezer

£free-£10/month

Relatively new to the UK, Deezer is one of the older streaming services with a big following in Europe

DETAILS**PROVIDER**

Deezer

ORIGIN

France

TYPE

Desktop & mobile app music streaming service

FEATURES

- Library claims 35 million tracks
- Format & highest bit rate: MP3 at 320kbps
- 30-day free trial of Premium+ service with opt out; £10/m thereafter

WEBSITE

deezer.com

The first of two French music streaming services, Paris-based Deezer is also one of the oldest, dating back to 2007. The service is offered (in what is a fairly familiar model) as a free-to-listen lower quality and premium pay streaming service that costs £10 per month, ditches the advertising and raises the quality to 320kbps MP3. There is a 30-day free trial running at the time of writing and promotional offers with other companies are available.

Your subscription buys you access to a claimed 35 million tracks as well as support across a number of platforms (see boxout). Functionality includes playlist creation and offline storage and there are also recommended new albums and artists plus playlists collated by Deezer.

After installing the desktop app (in Beta form for Mac users), the first reaction likely to be elicited from most users is “where’s the rest of it?”. Once



installed, Deezer is never more than an upturned rectangle of information, making it the smallest of the desktop apps and the hardest to use. Certain things you almost take for granted on other apps like elapsed and remaining timings are absent unless you hover over the playback bar. The search function is also fairly unsophisticated with search results being affected by misspelling and spacing errors. The gap between what Deezer considers to be an album and a single track is also fairly elastic, making it harder to search through its extensive library.

There is very consistent level matching across the tracks we try

On the plus side, signing up to the service is pretty self explanatory and site security is good. The desktop app has no trouble playing back via the dedicated driver for the NAD C 510 and playback times with streamed material are usefully quick.

Sound quality

The listening panel finds Deezer to be a bit of a mixed bag. There are consistently positive comments for the soundstage and stereo imaging, which manages to convey the scale of the larger pieces of test material like Daft Punk’s *Tron: Legacy* effectively and present a meaningfully accurate presentation of the orchestra. Praise for the bass response is rather less forthcoming, however, with *Tron* and the Scratch Massive collaboration with Jimmy Somerville *Take Me There* lacking both definition and impact compared with some rivals.

Another issue that is mentioned by all three listeners is sibilance. Of all the services here, Deezer seems to be the one most likely to tip over into harshness at higher volume levels. All three members of the panel feel it sounds a little strained with the Punch Brother piece and the cymbals of the Little Feat recording are scratchy

KEEPING IT SIMPLE

As well as the desktop version (for PC and Mac), Deezer has smartphone operating systems covered with iOS, Android, Windows and Blackberry all having dedicated apps. Further integration is a little less extensive, however, with dedicated integration on Sonos (where apparently a dedicated lossless version of Deezer is due to break cover soon), BMW in-car systems and some smart TVs. There is nothing equivalent to Spotify Connect, however, and this means that most audio systems will connect via USB, AirPlay or Bluetooth.

A quick test of the iOS for iPad and Android apps for phone shows smooth operation and is fairly consistent in operation with their desktop brethren. Equally, nothing really stands out as being truly exceptional about Deezer’s software, but this means that there is no design for design’s sake making it harder to use than it needs to be.

and thin. This tends to undo some of the good work it manages to do in producing a meaningful soundstage.

Hearing to Deezer in isolation does back up these comments. Listening to material on both the test system and via headphones, there is a strong sense that the mastering and EQ of the service is geared towards headphone listening on the sort of cans supplied at lower cost where there is often a degree of roll off at the frequency extremes. On a more positive note, there is very consistent level matching across the tracks we try and once you acclimatise to its sound, it proves very listenable in isolation. The biggest issue for Deezer is that when you are comparing with to other services at the same price, there aren’t really any compelling arguments why you would choose it over better-sounding and integrated desktop rivals ●



HIFIChoice

OUR VERDICT

SOUND QUALITY



LIKE: Soundstage; reasonable track choice; price

VALUE FOR MONEY



DISLIKE: Poor desktop app; can sound audibly compressed; high frequency harshness

INTEGRATION



WE SAY: An adequate music service, but it offers nothing unique

FEATURES



OVERALL





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Chord C-stream
Hi-Fi Choice July 2014

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Napster

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ADDING VALUE

Napster supplies desktop apps for OSX and Windows and mobile apps for iOS, Android and Windows Phone (Blackberry is left out in the cold for this one). The ubiquitous Sonos platform has an integrated app as do Yamaha AV receivers, although Napster also has to take a backseat to the all-encompassing integration of Spotify.

Some tests with the app on both iOS and Android are fairly positive, though. The Napster layout is similar to that used by Tidal, and like Tidal it provides a quick and stable browsing experience. Unlike Tidal, this is also replicated on the Apple platform. Napster has managed to make its playlists and additional content easy to browse and use on smaller screens and the result is commendably pleasant to use. Although the mobile facility doubles the cost of the subscription, there is a sense of value added when you do so.

DETAILS

PROVIDER

Napster

ORIGIN

US

TYPE

Desktop & mobile app music streaming service

FEATURES

- Library claims 25 million tracks
- Format & highest bit rate: MP3 at 192kbps
- 30-day free trial with opt out; thereafter £5/m for desktop or £10/m with mobile devices

WEBSITE

napster.co.uk

Although the name dates back to the dawn of the internet age and is synonymous with online file sharing, the Napster you see here is not really the same organisation as the one that made all the headlines at the end of the nineties. After a few ownership changes, the brand is now effectively the European wing of US site Rhapsody, and most software seems to trace back to it.

It can be trailed for 30 days for free after which you have the choice of paying £5 per month for desktop only or £10 per month for mobile devices

Collated playlists sound consistent even when from multiple locations

as well. Total track count is given at around 25 million songs. The library maxes out at 192kbps with no 320kbps, let alone a lossless option.

While the desktop app is nowhere near as truncated as Deezer, it is not fullscreen and isn't terribly intuitive or appealing to use. Furthermore, the web browser adds little, as the two are essentially identical. That said, the search is fast, fairly good at guessing

where you are going and tolerant of the odd typo. You can create your own playlists and listen to assembled editorial playlists. One thing you can't do that some rivals allow is to store offline content on a PC or laptop – this is for mobiles only. Speed of operation and playback controls is perfectly acceptable, but nothing to get overly excited about.

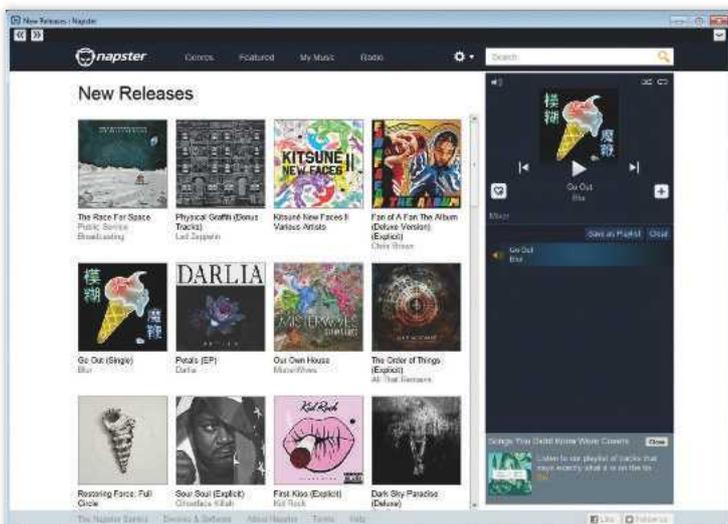
Sound quality

Having failed to steal much of a lead on the competition in terms of features, Napster also fails to win consistent praise from the listening panel, although it must be said that it doesn't stand out as being one of the more compressed services, either. Listeners feel that the stereo imaging is generally good and with the smaller scale Little Feat recording, it sounds smooth and refined. The balance across the frequency response is felt to be very consistent and further aids the perceived smoothness of Napster. With the more dynamic Punch Brothers recording though, this smoothness robs the piece of the startling energy it is supposed to have.

There is evidence of audible compression too. The bass in both the *Tron: Legacy* piece and track by Scratch Massive suffer from a lack of fine detail that means that Napster

never sounds truly convincing with these more potent pieces of music. Equally, when listening to Napster on its own, the service doesn't feel like it has been robbed of all differentiation between good and bad recordings and material that sounds better in original lossless form survives to sound better here too. There is some useful level matching across material too, which means that collated playlists tend to sound consistent even when they are from multiple locations.

If you are looking for a service solely for desktop use, the reduced price of Napster does make it appealing in a cost effective sense. But if you need a mobile device as well, it doesn't really deliver any knockout blow over the compressed rivals and can't take the fight to the lossless services. The name might be worthy of note but the service is rather less memorable ● ▶



HifiChoice

OUR VERDICT

SOUND QUALITY

★★★★★

LIKE: Affordable desktop app; fairly easy to use

VALUE FOR MONEY

★★★★★

DISLIKE: Can sound compressed and lacks excitement; indifferent app and browser

INTEGRATION

★★★★★

WE SAY: A respectable but unremarkable piece of software

FEATURES

★★★★★

OVERALL

★★★★★



MERIDIAN

REDEFINE THE POSSIBLE

Explorer²

Listening to music has
never felt like this before.

Explorer² – the new pocket DAC with Meridian's unique resolution enhancement technologies – includes MQA®, the revolutionary British technology that's bringing a whole new meaning to the sound of music. MQA will change *everything*.

MQA
musicchanging.com

From your Meridian partner
Details at meridian-audio.com

Qobuz

£4-£20/month**FOREIGN TONGUES**

Qobuz offers the usual selection of platform compatibility that one might expect in the form of an OSX and Windows desktop app, mobile applications for iOS, Android and Windows Mobile (Blackberry users might be sensing by this point in the test that their platform is on the endangered list as far as these services are concerned) and a genuinely good web browser. Sonos has embedded support and Qobuz has a long list of brands it partners with although doesn't give too much away about what this integration is.

Mobile apps prove satisfyingly stable, brisk in operation and possessed of the same basic sound quality of the desktop app, but... as with the desktop app, there are some menu options that remain in French. Similarly the mobile apps refuse to accept my attempts to change to the English language and make it just as quirky to use on the move as at home.

This unique lossless streaming and download service comes with some French flair and a dash of quirkiness

DETAILS**PROVIDER**

Qobuz

ORIGIN

France

TYPE

Desktop & mobile app music streaming/download service

FEATURES

- Library claims 20 million tracks
- Format & highest bit rate: FLAC 16/44 at 1,411kbps for hi-fi subs; MP3 at 320kbps with other subs packages
- 30-day free trial with opt out; £4, £9, £14 or £20/m thereafter with discounted yearly subs on offer

WEBSITE

qobuz.com

It has been in existence for some years, but Qobuz is a much more recent arrival to the UK. The service is rather different to the competition – even Tidal. As well as an on-demand streaming service with the regulation couple of million tracks, Qobuz is also an online store for a large selection of lossless and high-resolution audio. The £20 subscription is on the nose with rival Tidal but Qobuz edges the value fight with an annual offer of £200.

What it gives with one hand it takes with the other, though. The desktop app looks normal enough, but some of

compressed ones that the majority of other streaming rivals use, the speed that they are made available using a 39Mbps broadband line is no slower than its rivals. A final useful feature is that the desktop app can select a USB source separately to Windows so that music goes to the DAC, but notifications stay on the computer.

Sound quality

Despite being stocked with lossless audio, Qobuz never truly delivers a knockout blow. There are moments of promise – our panellists know what they like when it comes to bass response and it delivers both the depth and texture that the compressed rivals frequently seem to lack. The *Tron: Legacy* piece and Punch Brothers track receive favourable comments with the scale and space of the presentation sounding genuinely CD-like.

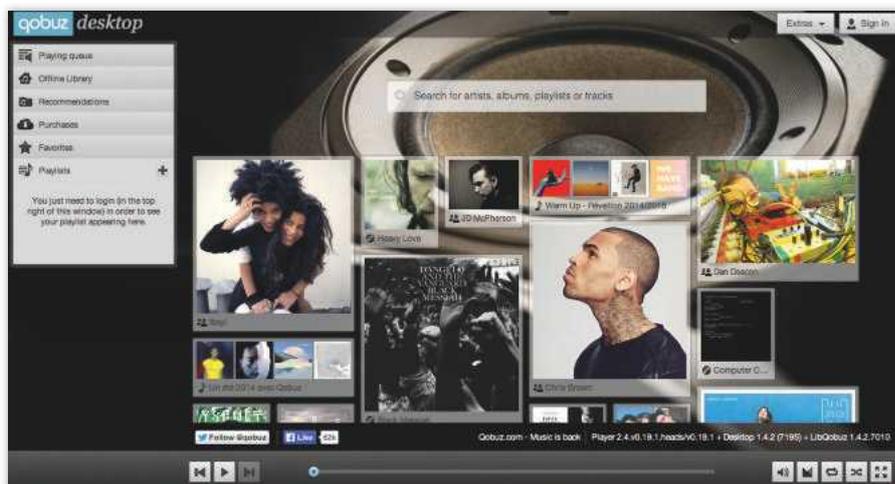
Having said that, it frequently sounds a little unnatural, particularly with higher frequencies and voices. The word “processed” repeatedly crops up in the listening notes, which means that Jimmy Somerville's voice and the Scratch Massive piece in particular simply doesn't sound as natural as it really should do. What exactly is causing this slightly artificial presentation is unclear, but it hinders Qobuz from sounding decisively better than its rivals when it comes to streaming compressed music files.

Delivers both the depth and texture that the compressed rivals seem to lack

the menu options are in French, and defy all efforts to change it to English.

The key feature is the availability of a 44.1kHz lossless audio stream, although, there is the option to drop the audio quality to 320kbps on the desktop and mobile apps if needed via a comprehensive choice of reduced cost subscription options – see boxout. The attractive and logical desktop app also has some interesting playlists and articles, too. Given that the files are significantly bigger than the

Further listening reveals that some material is more adversely affected than others and this seems to directly correspond to its popularity. There is the possibility that high demand material – and the *Tron: Legacy* album looks to be one that is played a great deal – is subject to slightly more compression than less routinely requested music on quieter servers. Certainly, revisiting Beck's *The Information* – an album I've not seen on any other streaming service – sounds impressively close to a CD rip I have on my NAS drive. There are clear indicators that Qobuz is capable of very high performance and the annual price reduction is a welcome incentive, but the lack of consistency to its lossless sound quality and the usability of the rather French-biased interface mean that at the moment this is not quite a foolproof replacement for CD

**Hi-Fi Choice****OUR VERDICT****SOUND QUALITY**

★★★★★

LIKE: Can sound extremely close to CD; varied music catalogue**VALUE FOR MONEY**

★★★★★

DISLIKE: Processed sound on some material means quality is variable**INTEGRATION**

★★★★☆

WE SAY: Outperforms compressed services, but not quite a CD replacement yet**FEATURES**

★★★★★

OVERALL

★★★★★

Primare NP30

The luxury link for high resolution streaming



PRIMARE



“ Primare’s NP30 sounded every bit as good when streaming as when used as a standalone DAC... A great all-rounder. ”

“ ...the Primare is blessed with an analogue richness that’s as reminiscent of a top-notch phono stage as it is a DAC... it tells me that what I’m hearing is about as close to the album’s studio sessions as I’m going to get within my listening room. ”



July 2014



August 2014

karma

audio - visual

karma-av.co.uk

For more information please visit primare.net.

Rdio

£free-£10/month



The least well known streaming service has one of the largest music libraries and does things rather well

DETAILS

- PROVIDER**
Rdio
- ORIGIN**
US
- TYPE**
Desktop & mobile app music streaming service
- FEATURES**
 - Library claims 32 million tracks
 - Format & highest bit rate: MP3 at 192kbps (approx.)
 - 30-day free trial with opt out; £10 thereafter plus group offers and discounts
- WEBSITE**
rdio.com

One of the more recent streaming arrivals, Rdio has been in existence since 2010 and claims a mightily impressive 32 million tracks that can either be accessed as a free radio station-style experience or as a free choice service. At £10 per month, this all sounds familiar, but Rdio offers graded discounts for additional subscribers on your account which is useful if you have a family to consider.

Rdio won't be drawn on the format or compression that it employs, but consensus puts it at the same level as Napster – something in the order of a

locate on the Rdio site itself and when I do find the download, it makes my antivirus software extremely unhappy about installing it. The web app is identical, but is subject to noise and interference from sounds that might crop up from other browser windows. Once installed, the desktop app has no issue connecting to the NAD C 510.

Sound quality

Nothing about the specifications of Rdio suggest any intrinsic advantage over the other compressed formats, but to the ears of the panel it emerges as the compressed service with the most consistently positive comments and at times puts in a performance that sees it preferred over lossless Qobuz streams as well. While our most critical panellist still feels the sound is rather flat, there are fewer mentions of compression across all pieces of music.

The limited audible compression combines with an appreciable stereo image to give a performance that manages to sound pleasantly punchy when needed, but without tipping over into aggression or forwardness. There is still a degree of variation to this; the simpler Scratch Massive track is more successfully reproduced than the complex layered strings of the *Tron: Legacy* soundtrack, but this is more controlled and consistent than the compressed rivals. The detail levels also receives positive comments.

Complex layered strings are more consistent than compressed rivals

192kbps MP3 file. Where it scores over Napster and Deezer is that the desktop app is full-size, well laid out and easy to use. The search tool is able to cope with the odd typo and auto sorts results into track, album and artist. It has new album lists and a wide choice of playlists and stations, but not so many articles and interviews.

All of these positives make it all the more puzzling that Rdio doesn't seem very keen for you to use the desktop app. It is (for me at least) difficult to

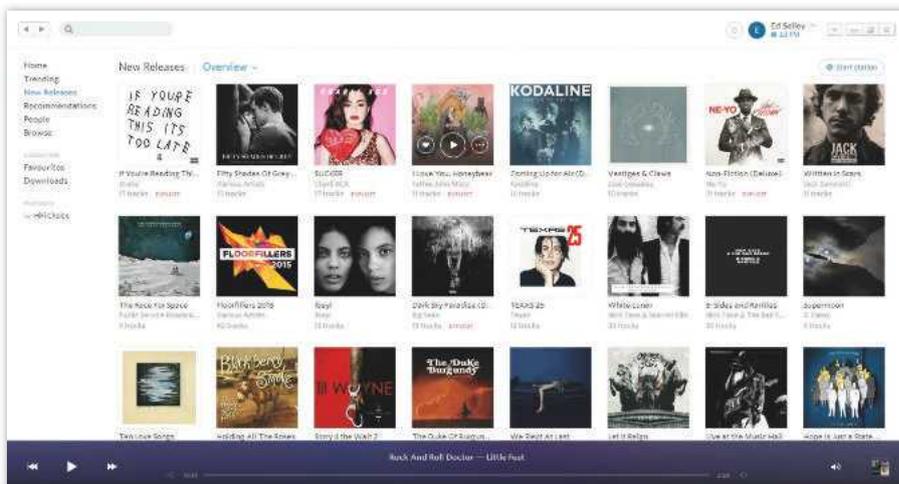
RDIO ACTIVE

While Rdio is the service of choice for Tesla's electric cars, this is a slightly specialised high point in a rather limited retinue of services. As well as the obligatory browser version, Windows and OSX desktop app there is a mobile version for the standard platforms (including Blackberry!) and the ubiquitous Sonos app. However, other than support for the Bose Jambox, that is effectively it. If you want a service that works on many different things, this probably isn't the one to go for.

That said, the apps for Android and iOS are well designed and easy to use (although the business of saving material for offline use isn't as intuitive as some of its rivals). Sound quality is very similar to the desktop app and the search and playlist functions are well laid out and easy to use. While Rdio can't compete with the all encompassing Spotify, it does a decent job with its inhouse apps.

Listening to Rdio on its own doesn't contradict the findings of the panel. The sound is consistently refined and there is plenty of detail and a greater sense of life to many listening tests pieces even than some of the rivals using notionally larger files. Rdio also does a reasonable job of keeping the quality of better recordings intact without being too harsh or unpleasant with poorer ones. All of the services manage to sound better in isolation, but Rdio is perhaps the easiest of the compressed streaming services to return to after having listened to lossless audio.

If the desktop app download becomes a little easier to locate and install, and a little more effort is made to get the service onto other platforms, this could well be the best way of spending £10 month if you don't want or need higher quality



HifiChoice

OUR VERDICT

SOUND QUALITY
★★★★★
LIKE: Refined but detailed sound; decent desktop app

VALUE FOR MONEY
★★★★★
DISLIKE: Sounds a little flat; desktop app difficult to locate; limited support

INTEGRATION
★★★★★
WE SAY: Affordable service that delivers pleasant sound and user experience

FEATURES
★★★★★

OVERALL
★★★★★

ARIES

Wireless Streaming Bridge

Aries £1495 / Aries LE £995



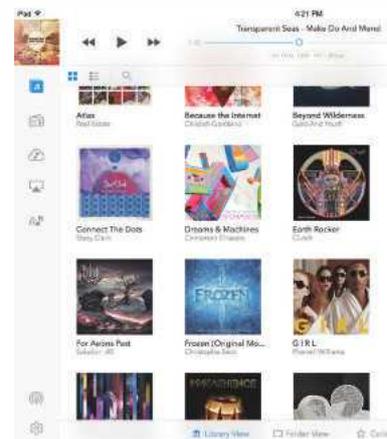
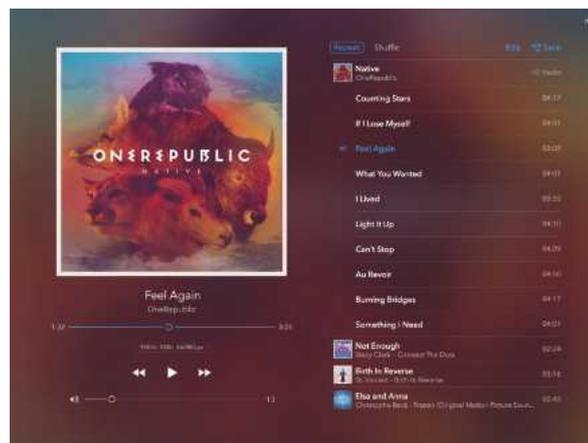
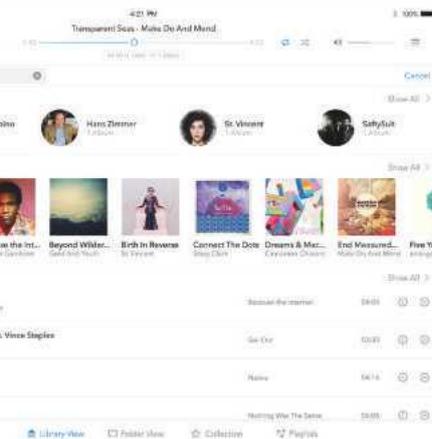
It is not a streamer, it turns your DAC into a streamer !

Streaming DSD and DXD Music Through WiFi Network

The ARIES serves as a "bridge" between music files on network storage or high quality online streaming services and your DAC — enabling DACs for the first time to stream high-resolution music quickly and wirelessly in virtually any sampling rate, including DSD, Double-Rate DSD and DXD. It is powered by AURALiC's proprietary Tesla hardware platform that includes a Quad-Core ARM Cortex-A9 processor running at 1GHz, 1GB DDR3 onboard memory and 4GB internal storage. The Tesla platform has a calculation ability of 25,000 MIPS, more than enough to decode a vast spectrum of audio formats, including AAC, AIFF, ALAC, APE, DIFF, DSF, FLAC, MP3, OGG, WAV, WV and WMA. ARIES as well as all other Lightning based products support several advanced functions such as on-device playlist that allows control software to turn off during play and complete supporting of multi-room, multiple control points.

LIGHTNING DS

Multi-Room Streaming Control Software



Seamless integration with online streaming from qobuz and TIDAL

audioemotion



Spotify

£free-£10/month



THE FULL MONTY

In terms of support for third-party devices, Spotify has the competition completely demolished. As well as a complete set of desktop and mobile apps (including Linux and Symbian), Spotify has multiple embedded apps across audio, video and even automotive platforms and as a final ace up its sleeve it has Spotify Connect. This add-on to the Spotify app sends the URL of a track to a compatible product for it to play there. Simply put, Spotify works with pretty much everything.

Not only does it have pretty much ubiquitous coverage, generally Spotify apps work very well. Their iOS and Android implementations are stable, fast and extremely easy to use both as direct listening sources and as controls for other devices running Spotify Connect. Offline storage is simple and even the preview function works fairly well. The slightly flat sonics are also universal, however.

DETAILS

PROVIDER
Spotify

ORIGIN
Sweden

TYPE
Desktop & mobile app music streaming service

FEATURES

- Library claims over 30 million tracks
- Format & highest bit rate: Ogg Vorbis at 320kbps
- 30-day free trial with opt out; £10 thereafter plus group offers and discounts

WEBSITE
spotify.com

Of all the streaming services, Spotify probably needs the least introduction. Since its launch in 2008, it has been the preeminent music streaming service and boasts 60 million listeners of whom 15 million pay for the service. The track library is somewhere in the 30 million range and premium subscribers receive a stream in 320kbps Ogg Vorbis. Spotify has claimed since launch that this offers superior performance to MP3.

The desktop client is a masterclass in how to operate a streaming service. There is a significant amount of

the first fraction of a second of audio from tracks when connected via USB and while the search function produces excellent results at locating what you are normally after, if it doesn't find what you are looking for in the immediate results, it is hard to search the entire set of results as they can't be sorted by artist or album in the latest version of the app. Installation is a breeze and works exactly as the instructions say it will.

Sounds smooth and composed where other services sound thin

information onscreen, but it's also easy to navigate and use. Personal preference swings to the light text on a dark background for long-term use and the search function is the best of the bunch in terms of finding and arranging material. A further welcome addition is the use of outside plugins. I have been using the Pitchfork one for some time as a great means of finding and listening to new albums.

It isn't perfect, though. Unique to any of the desktop apps here, Spotify clips

Sound quality

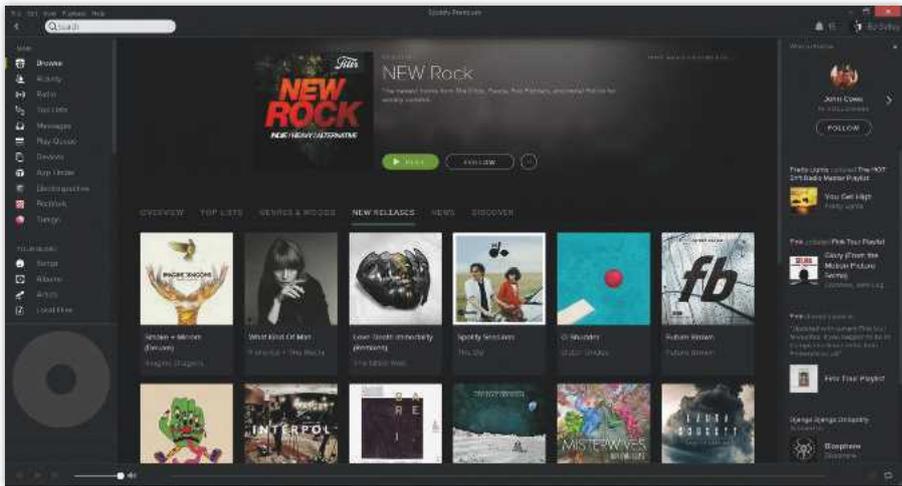
For all the claims of Ogg Vorbis offering superior quality to MP3, Spotify fails to register a great deal of enthusiasm from the panel. The general consensus is that the sound is free of aggressive compression and generally sounds usefully refined while it does so. This refinement does seem to come at the expense of excitement and attack, however. The Punch Brothers track comes across as a little lacking in dynamics and Scratch Massive is missing some of the low-end drive and a little detail.

The general refinement of Spotify is both a blessing and a curse. It rarely sounds harsh or forward, but this means that the panel finds it sounds a little flat and veiled. Where Jimmy Somerville's vocals should soar across the top of the Scratch Massive track, they seem intertwined with it, meanwhile Lowell George's vocals

sounds a little congested fronting the Little Feat track.

When you listen to Spotify in isolation, these traits are actually not completely negative. Spotify is extremely easy to listen to for long periods as it never sounds harsh or fatiguing and if you have speakers or headphones that have a slightly bright sound, Spotify winds up sounding smooth and impressively composed where other services sound a little thin and bright. Used in a more high-end context, however, the lack of dynamic punch robs it of the chance to sound truly convincing.

You can listen to Spotify on more devices than any of the other services here, but in the rush to be an all-encompassing platform it hasn't kept pace with what is sonically possible from the best sounding rivals, and it might be time to up its game



HifiChoice

OUR VERDICT

SOUND QUALITY
★★★★★
LIKE: Excellent app; superb integration; refined sound

VALUE FOR MONEY
★★★★★
DISLIKE: Lacks excitement and drive; some minor interface niggles

INTEGRATION
★★★★★

FEATURES
★★★★★

WE SAY: Clever software, but maybe loses ground to better sounding rivals

OVERALL
★★★★★

EarPlay



HEGEL H160

The new integrated amplifier from Hegel is one of the most versatile and well sounding music reproducers on the market. It enables you to connect all kinds of analogue or digital sources, even streaming with Apple AirPlay or DLNA - and uses Hegel's proprietary technology to make AirPlay and DLNA streaming sound better than you thought possible. The H160 is a virtual power house, with 2*150 watts and a very stable design. This might be the only high end piece of electronics you need in your system.



MUSIC SYSTEMS

Derby: Musicraft

Edinburgh: Loud & Clear

Kent: Igloo Audio

Hegel: www.hegel.com

Tidal

£20/month



The newcomer to the UK market promises lossless music streaming to rival Qobuz, but can it deliver?

DETAILS

- PROVIDER**
Tidal
- ORIGIN**
Norway
- TYPE**
Desktop & mobile app music streaming service
- FEATURES**
 - Library claims 25 million tracks
 - Format & highest bit rate: ALAC/FLAC 16/44 at 1,411kbps
 - 7-day free trial with opt out; £20/m thereafter
- WEBSITE**
tidalhifi.com

Even judged against the short lifespan of the category as a whole, Tidal is the new kid on the block. Founded in 2010, it has been active in a number of markets under the name of WiMP HiFi, but the more serious sounding Tidal service only debuted in the UK last year.

It currently claims a 25-million track library that is available in ALAC and FLAC formats. This is available via web app and desktop app. The latter is conventional enough and is well laid out and easy to use. There are some curious operational quirks, though.

Snap dynamics are reproduced with greater bass depth than the competition

The search box is demanding with spelling and spacing and can be a little slow. Also frustrating is the large number of albums that appear with greyed-out tracks because they aren't available. Tidal's idea of related artists to the one you're listening to is also different to everyone else's and often comes up with unusual alternatives.

There are some big positives, however. Of all of the services, Tidal's content is comfortably the best. The playlists are consistently interesting

and many of the articles are a worthwhile read, too.

Like Qobuz, Tidal can be output to an external DAC independently of the computer's output. The app installs in a simple and logical way and given that the files being streamed are much larger than on compressed services, tracks are delivered speedily and glitch-free using my broadband line.

Sound quality

Confronted with the performance from Tidal, the panellists finally show some signs of enthusiasm and affection. Consistent across all notes is a sense that the sound is fuller with better frequency response and as a result is more believably real than the competition. This most obviously manifests itself in a sense of front-to-back depth to the soundstage that allows for a more believable relationship between performers.

Something that also crops up in the notes is that Tidal manages to be extremely smooth and refined, but this doesn't come at the cost of robbing the performance of the necessary excitement. The snap dynamics of the Punch Brothers track is faithfully reproduced with audibly greater bass depth than the competition, and the *Tron: Legacy* piece is a towering wave of strings that has a believable relationship to one another. It isn't a complete clean sweep, though – the

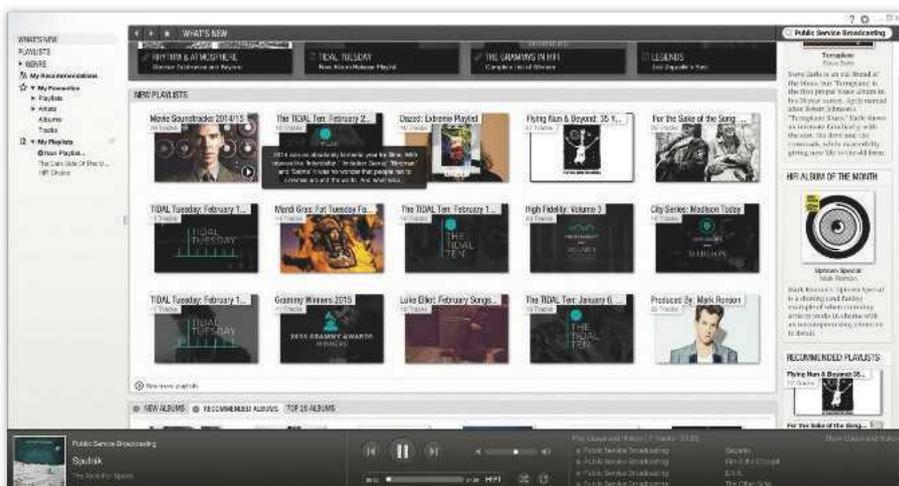
EARLY DAYS

Given that Tidal is a very recent arrival to the market, the progress that it has made at cross platform support is commendable, but there are some limitations. There is a web browser, desktop app and mobile apps for iOS, Android and Windows phones. After this, things go a little quieter. Tidal has been announcing partnerships with a number of brands (and the near inevitable Sonos app broke cover recently), but not all of these have reached fruition it seems. There is an interesting work-around, though. Tidal can be streamed to many UPnP devices via the Bubble app on Android, which is useful.

The apps themselves are a slightly mixed bag. The Android app is fast, easy to use and very attractive, but the iPad app – while good looking – can be a little slow and reluctant to operate. The same excellent sound quality level is present across all platforms, however.

Little Feat recording doesn't manage to open up a clear cut advantage over the rest of the pack – but with the remainder of the test material, Tidal outperforms the competition.

Revisited outside of the panel listening test set pieces, Tidal manages to keep the same refinement scale and realism it demonstrates in the blind listening session. There is consistent depth and impressive detail retrieval that manages to present a wide variety of material in a way that is generally convincing and usually either close or imperceptible to an equivalent rip. This means that it can be affected by poorer recordings, but at least the presentation is as the artist presumably intended. It isn't completely perfect, but as one listener comments "it gives the sound I expect to hear from CD" – which is really the whole point of what it's aiming to achieve ●



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★	LIKE: Consistently real and believable performance; decent interface
VALUE FOR MONEY ★★★★★	DISLIKE: Periodically quirky interface; won't flatter poor material
INTEGRATION ★★★★★	WE SAY: Some minor interface grumbles, but it has a sound that's often very close to CD
FEATURES ★★★★★	
OVERALL ★★★★★	

Group test verdict

He's streamed for all his worth and grilled our panellists to within an inch of their lives, so now it's over to **Ed Selley** for the final verdict on the services

AS WELL AS the level of sound quality that's delivered, these music streaming services are also judged on the integration of their interfaces across different platforms in terms of ease of playback and ease of searching for the music you want to listen to, not forgetting the additional services provided to help you get the most from your chosen music service. With this in mind, Deezer is the service that is the least convincing proposition overall. The very limited desktop interface and mediocre sound quality means that it's not among the best streaming proposition here at the

asking price. Napster edges ahead of Deezer on account of the reduced cost for the desktop-only subscription and a better interface, but sonically it is still somewhat lacking and its cross platform support is nothing to get especially excited about.

Spotify and Rdio are stronger performers, but have almost diametrically opposed weaknesses. Spotify offers a class-leading interface and truly astonishing integration with plentiful hardware brands, but its sonic performance doesn't stack up against the competition. Rdio on the other hand is far less extensively

supported, but manages to deliver a level of performance that makes it the best of all the compressed services. If you only need desktop and smartphone support, Rdio works rather well.

Qobuz is not without its flaws – not least because it has a French focus to the material available and even some menu options aren't in English – and we did find that its music library had some gaps in its catalogue. Sonically it can deliver high levels of performance that come close to CD, but it lacks consistency with some tracks.



WINNER

The Tidal hi-fi service is comfortably the most expensive service taken over a full year and offers no price reductions currently. It is, however, the best in terms of its consistent sound and makes a credible alternative to CD both at home and on the move.



Provider/Origin	Deezer France	Napster US	Qobuz France	Rdio US	Spotify Sweden	Tidal Norway
Price	£free-£10/month	£10/month	£4-£20/month	£10/month	£10/month	£20/month
Sound	★★★★☆	★★★★☆	★★★★★	★★★★☆	★★★★★	★★★★★
Value	★★★★☆	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Integration	★★★★☆	★★★★☆	★★★★★	★★★★☆	★★★★★	★★★★★
Features	★★★★☆	★★★★☆	★★★★★	★★★★★	★★★★★	★★★★★
Overall	★★★★☆	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
	An adequate music streaming service, but there's nothing unique on offer here	A respectable, but ultimately unremarkable piece of software	Outperforms the other compressed services, but isn't quite as good as CD	An affordable service that delivers a pleasant sound and user experience	Clever software, but it loses ground to better-sounding rivals – like Tidal	Some minor interface grumbles, but about as close to CD as you can get

Key features

Type	Music streaming	Music streaming	Music streaming/store	Music streaming	Music streaming	Music streaming
Format/bit rate	MP3/320	MP3/192	FLAC/1,411	MP3/192	Ogg Vorbis/320	ALAC & FLAC/1,411
Library tracks	35 million	25 million	17 million	32 million	30 million	25 million
Free trial	30 day	30 day	30 day	30 day	30 day	7 day
Website	deezer.com	napster.co.uk	qobuz.com	rdio.com	spotify.com	tidalhifi.com

TRY WITH THESE

DAC/PREAMP
NAD C 510 Direct Digital
£999 HFC 395

The NAD formed part of the test system and the smooth but punchy performance is an ideal partner for Tidal. The excellent USB implementation also works well with the service.



STREAMING SYSTEM:
Sonos **From £169**

If you don't want wires, Sonos has its Tidal app up and running along with bombproof stability and dozens of other useful plugins.



PORTABLE AUDIO PLAYER:
Sony NWZ-ZX1 **£549**
HFC 384

If you want to make the most of lossless on the move, the Android-based Sony can install the Tidal app and store content offline in addition to your existing music library as well as stream music wirelessly.



NEW

NAD MASTERS BUILT FOR THE AUDIOPHILE 2.0



M12 / M22 £5998

DIGITAL PREAMPLIFIER / DAC / POWER AMPLIFIER



The M12 is an ultra-high resolution digital audio hub that boasts a full roster of audiophile-grade features. An optional DD BluOS MDC Module allows streaming of a variety of music services, HD streaming from a NAS device plus it gives you full control of your music library. The M22 employs the latest generation of digital PowerDrive™ and offers a minimum of 250W per channel with amazing reserves of dynamic power at lower impedances.

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NEW **£299 OR LESS**



B&W • T7 • BLUETOOTH SPEAKER SYSTEM

Introducing the pick-up-and-play hi-fi speaker. Perfectly sized for bedrooms, kitchens and gardens, T7 is B&W's most portable, versatile wireless system yet.

Bluetooth **NEW** **£249 OR LESS**



TIVOLI • MUSIC SYSTEM THREE+ PORTABLE STEREO BLUETOOTH SPEAKER

Compact, lightweight design for both outdoor and indoor use. Features DAB/DAB+ and FM tuners and Bluetooth. Its proprietary wide circuit creates big sound from a small box.

Spotify **£399 OR LESS** **NEW**



RUARK AUDIO • R2 MK3 WIRELESS SPEAKER SYSTEM WITH DAB/FM TUNER

Play your music and discover new music in a variety of convenient ways. Spotify Connect lets you select R2 as your player and then control playback using the controls on R2 itself.

£199 OR LESS **SAVE £150**



PIONEER • N-30 • MUSIC STREAMER

Audiophile Network player supporting AirPlay® and DLNA wireless technologies, allowing you to stream music wirelessly from your iTunes libraries or iOS devices. When connected to your home network, you can also enjoy a wide variety of online music services remotely.

WHAT Hi-Fi AWARDS 2014 **NEW** **£895**



NAIM • MU-S0 • WIRELESS MUSIC SYSTEM

Combines Naim's expertise in streaming, amplification and loudspeaker technology. Mu-so is the stage your music deserves, bringing you closer to the songs that inspire your life.

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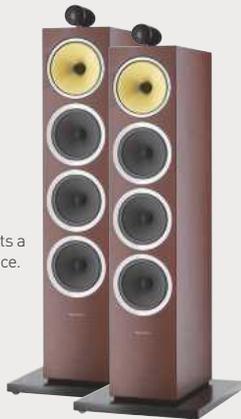
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Best compact system
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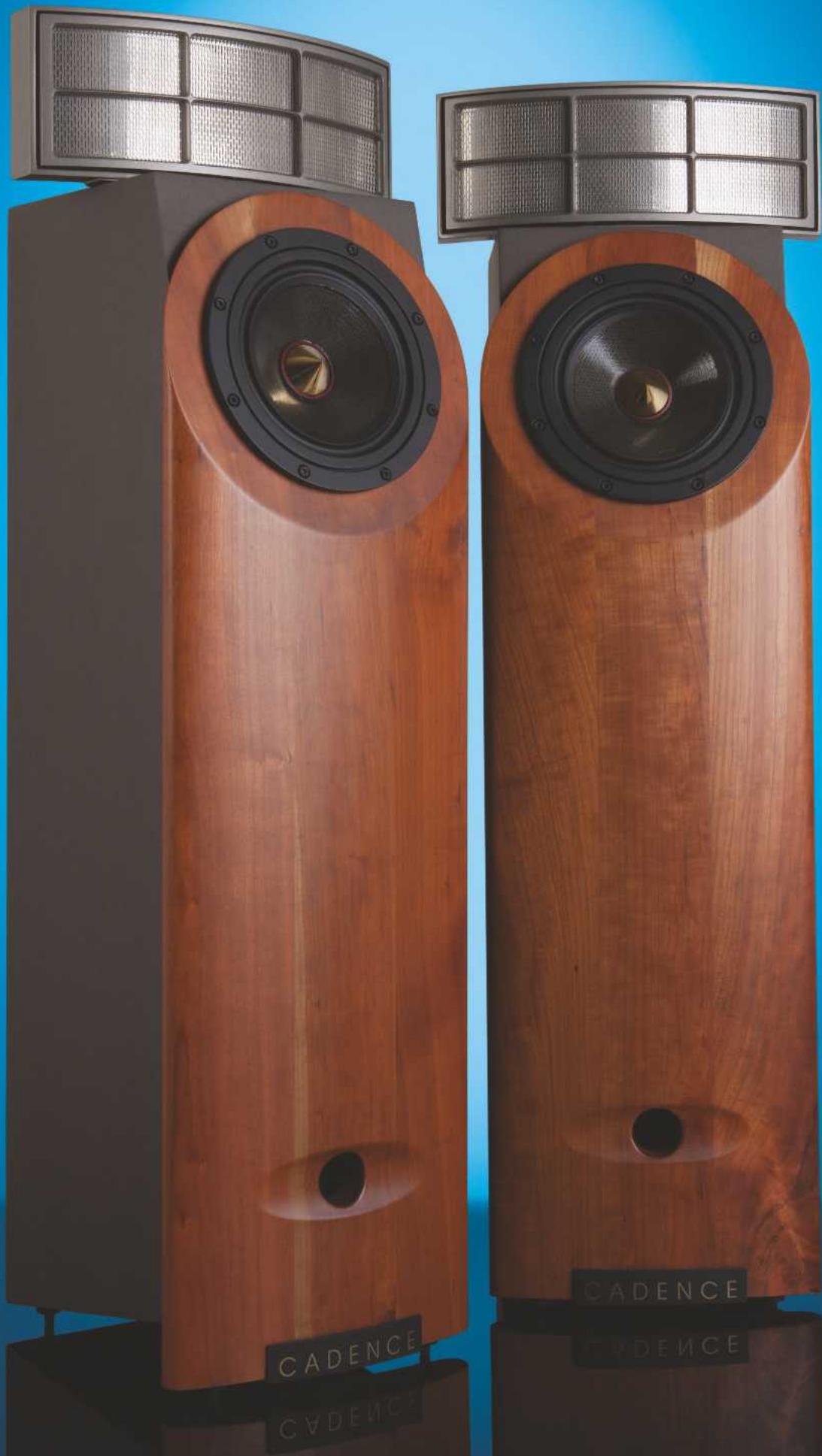
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Passage to India

Chris Ward discovers a speaker that really puts the exotic into *Exotica* as he takes this unique Indian hybrid electrostatic for a spin

When thinking of countries that embody qualities of high-end audio, you'd typically mention the UK for refined, understated amps, Italy for craftsmanship, the USA for muscly power and Scandinavia, Germany or Japan for cool, engineered accuracy. Now it's time to add India to the list for expressive hybrid loudspeakers. Cadence Audio – based in Pune, India – celebrated its 25th anniversary recently by announcing that some of its most celebrated products would be available in the UK. Leading the way are the Avita speakers, considered one of the entry-level products in its hybrid electrostatic range.

One look at these elegant floorstanders should delight and intrigue the unfamiliar in equal measure. The beautifully sculpted,

Every percussive note from guitar or drums starts and stops on a pin head

solid cherry wood baffle speaks of a bygone era of craftsmanship – housing a gently reclining 7in Kevlar/Nomex bass unit and chamfered front port. The diminutive mid/tweeter electrostatic panel is a thing of engineering beauty. The superbly cast aluminium frame defines a gentle arc while the polished, perforated face catches the light, making it look more like a designer light fitting than revolutionary audio driver. Within this shimmering panel, an extremely durable but thin (5 micron) indium tin oxide-coated PTFE membrane is responsible for the vast majority of frequency response.

The main body of the speaker appears simpler, but the choice of materials confirms that significant attention is being applied to acoustic

performance. MDF impregnated with polymer concrete, rigid cross bracing and internal damping materials give the speaker substantial mass and inertness, making it feel more like it is hewn from slabs of meteorite.

I set up the speakers by unboxing the separate electrostatic panels and simply locating them on top of each speaker body via a form of D-sub connector and tightening an integrated brass retaining bolt. The panel is set a small distance back from the woofer to create better time and phase alignment with the bass driver. Sturdy adjustable spikes screw securely into four corners. Plugging in the mains lights up a subtle blue LED in the front baffle lending the artisan woodwork a hint of digital know-how.

The Cadence speakers seem very tolerant of positioning, and I find only a little toe-in is required. Even while setting up, it is apparent that the curved electrostatic panel significantly widens the expected sweet spot, with the degree of on and off-axis listening being far less important than many electrostatic panels. Given the modest height of the panels they do need careful spike adjustment to aim the strongest treble energy towards ear level. This is easy in practice and within minutes I have a very convincing, airy, wide and deep soundstage flooding between and beyond the speakers.

Sound quality

Spinning Neil Young's *Old Man* on HDCD remastered from the 1971 Massey Hall recording, I am impressed by just how believably the Avita recreates the intimacy of the performance and the deep acoustic of the venue. The power of Young's voice and the dexterity of his guitar fingerpicking are fixed in space in a way that you just see vividly. Speaker reviews sometimes describe a floating image. This acoustic image doesn't

DETAILS

PRODUCT
Cadence Avita

ORIGIN
India

TYPE
2-way hybrid electrostatic floorstanding loudspeaker

WEIGHT
35kg

DIMENSIONS (WxHxD)
240 x 950 x 280mm

FEATURES

- Electrostatic mid/tweeter
- 7in Kevlar/Nomex cone bass unit
- Quoted sensitivity: 86dB @1W/1m

DISTRIBUTOR
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float, it snaps into sharp focus and unfolds beyond the dimensions that such a small speaker has any right to deliver. Image height isn't quite as tall as some, but this feels like nitpicking given such a convincing image.

The Avita has a claimed frequency response from 43Hz to 35kHz, with the electrostatic panel picking up all duties above 1.6kHz via modified second order Linkwitz-Riley filters. On paper, this might have been a potentially tricky crossover point as it is smack in the middle of the range for reproducing the human voice, but I don't detect any significant coherence issues between the different driver technologies.

Playing a lossless rip of *Seasons (Waiting On You)* by Future Islands presents a more challenging track. Opening synths and tambourines are beautifully lit in deep, dark space by the smooth but sparkling panel treble, and the woofers lock straight into the infectious groove. Bass is agile and feels surprisingly deep for such a small floorstander. Cadence only claims a low frequency response of 43Hz, but it feels lower in practice. As the track builds, Samuel T Herring's vocals are delivered with dynamism and soar high above the electronic synthpop layers. And all this time I'm looking at small floorstanders that don't appear to be the source of the sound – a sign of excellent imaging.

To confirm the Avita's soundstage prowess, I play a lossless rip of Roger Waters' *Perfect Sense, Part 1* from

The Avita sounds every bit as good as it looks



Q&A

Ajay Shirke

Chairman, Cadence Audio SA



CW: What got Cadence started in hybrid electrostatic designs?

AS: The electrostatic principle has been around for decades and can produce a wonderfully natural and pure sound, but it has well-known limitations around low-frequency extension, low efficiency and directivity. During the early nineties Cadence called upon the experience of chief designer Walter Schmid, an ex Phillips research expert who had new ideas about making an electrostatic hybrid that would overcome these limitations. Cadence invested heavily in a dedicated research centre and sophisticated laboratory equipped with anechoic chamber and measurement apparatus to explore the application of advanced materials and engineering solutions.

What are the challenges integrating panels with cone drivers?

The challenges are considerable. To begin with they are electrically different units. The electrostatic panel being essentially a capacitive load and the dynamic cone resistive. There are also intrinsic differences in transient responses between the two types of drivers around speed, impedance and radiation patterns, not to mention one is a dipole and the other an enclosed driver. We put a great deal of effort into making an electrostatic driver with increased field strength and high sensitivity, as well as a strong curve to give a much wider sweet spot. Bass drivers are custom-built with high flux densities and low gaps, enabling a faster driver with a stiff Kevlar/Nomex membrane.

Stereo imaging and vocals are handled beautifully. Was this key to your design philosophy?

Our philosophy has been to make electrostatics exceed what they already do well – imaging, vocals, midband and transparency with that sense of airiness. But our objectives went further; we wanted to push both driver technologies to their limits, to arrive at a speaker that was happy to do almost everything well and many things wonderfully. We believe in quality without any compromise.

IN SIGHT



- 1 Curved electrostatic mid/tweeter panel
- 2 Bi-wireable binding posts
- 3 AC power input
- 4 Tuned front port
- 5 Tin Kevlar/Nomex driver



HOW IT COMPARES

The Spondor A6R is a benchmark product at this price, delivering excellent timing, imaging and strong musicality from a far more orthodox design. It can sound a touch bright with the wrong amplification and might feel less subtle than the Avita. Around this price MartinLogan's ElectroMotion ESL produces a markedly different balance between electrostatic panel and cone woofer driver. It is similarly unfussy in positioning with strong imaging and good coherence between panel and cone driver. As always, source, amplification and the nature of your listening room will dictate your best choice, making auditioning essential.

Amused To Death. The spatial information and recording technique highlights exactly what this speaker is able to do. A clap of thunder breaks through the lazy congas and ambient cicadas and the Avita comfortably steers the deep, brooding sound up and around the ceiling of my room. The tone of the piano motif and Waters' close-miked vocals are sumptuous and crisp in equal measure and fixed in three dimensions. PP Arnold's exceptional vocals then press forward; the Avita conveying her passionate performance brilliantly with revealing, airy, sweet detail from the panel seamlessly integrated with the bass driver. Spellbinding.

With a claimed sensitivity of 86dB the Avita isn't a tough load, especially with a stated nominal impedance of 8ohm, but it probably responds best to amps with reasonable grip. I partner the speakers with the Hegel 160 integrated amplifier/DAC (HFC 394), which is a good sonic match with power, refined treble detail, fast bass and a strong damping factor. Yet swapping to Transcription Audio 211 triode valve amplification (with plenty of current delivery) yields even stronger results. Spinning a CD of *Roda Gigante* by Badal Roy and Duofel, shows just how agile and sweet the speakers can be. Weaving

acoustic guitars are laid out as a transparent curtain of Brazilian rhythms, exquisitely punctuated with Roy's expressive Bangladeshi tabla playing. Every percussive note from guitar or drums starts and stops on a pin head with no confusion between instruments, and the purity of tone defines the rapport between these gifted musicians and the charged air of the recording space.

Conclusion

The Avita is a quality speaker that clearly inherits many trickle-down engineering solutions from higher up the Cadence range. It blends unique technology choices in ways that combine to create a rare mix of wide and deep imaging with fast and natural tonal delivery, especially around voices and acoustic instruments. The bass driver punches beyond its weight, with clean bass flowing from the ultra-damped cabinet. As with almost any port-derived bass extension, the lowest notes can't quite emulate the definition that can come from a considerably larger driver, but driven well, the woofer is superbly matched to the panel.

The beautifully finished electrostatic panel is the star performer and an easy load. Where some less sophisticated dome tweeters might beam their treble energy in a relatively simplistically manner, these curved panels project the highest frequencies in a sweeter, less grainy, more nuanced and subtle manner. Think more watercolour finesse than oil painting. Some may feel that they want more pronounced treble, but an extended audition should win anyone over. Hybrid electrostatics have long been considered a tricky holy grail by audio designers and Cadence is demonstrating impressive mastery in the modestly priced and elegantly finished Avita ●

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OUR VERDICT

SOUND QUALITY



VALUE FOR MONEY



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OVERALL



LIKE: Epic imaging; wide sweet spot from sweet panel; build

DISLIKE: Nothing at the price

WE SAY: Unique design that blends refined engineering to create a magical, sweet soundstage with an agile performance



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Air apparent

Audio Analogue has given its entry-level integrated amplifier an 'AirTech' upgrade
David Vivian puts it to the test

The expectations associated with being an Italian hi-fi manufacturer must be both a blessing and a curse. We should know better, but our all-too human tendency to attribute national and cultural characteristics to inanimate objects seems especially acute when it comes to the land that gave us the supercar, full-fat, high carb gastronomy, Barolo wine, effortless fashion sense, credible designer stubble, exquisitely crumbling villages, misty morning horizons, Vivaldi and the Sistine Chapel. Put simply, Italian hi-fi has to look and sound fabulous. It's the law.

Some 'aspirational' Italian brands live the dream partly through aesthetics, celebrating hi-fi as a defining hedonistic pursuit with a conspicuous display of naked, softly glowing tubes, buffed wood and fragrant leather inlays – all,

presumably, to deflect thoughts away from a more prosaic, behind-doors reality involving people with stern expressions sitting in front of computer displays and oscilloscopes grappling with damping factors and slew rates and zeros and ones. It's a seductive and well-practised approach but, regrettably, there's no such thing as a passion-to-analogue converter, and amplifier power is measured in watts and current not romance and charisma.

High-end player Audio Analogue, founded in 1995 but unable to resist citing Leonardo da Vinci and Galileo Galilei as part of its Tuscan heritage, seems to have a much more sober and pragmatic take on the business of building hi-fi amplifiers (which it does on home turf and not in China), and its entry-level Crescendo solid state integrated is a fine example. Much like its predecessor, the Puccini, which

DETAILS

PRODUCT
Audio Analogue
Crescendo

ORIGIN
Italy

TYPE
Integrated amplifier

WEIGHT
10.5kg

DIMENSIONS
(WxHxD)
445 x 81 x 380mm

FEATURES

- Quoted power: 2x 50W into 8ohms
- 5x RCA line inputs;
- 1x 3.5mm front panel input jack
- 1x tape loop output
- 4 selectable volume maps

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made many friends in the UK a decade ago, the face it presents to the world is one of studied simplicity with a slim, solid aluminium front panel and control ergonomics so smart and sussed that an Audi dashboard designer would be impressed. Cleanly designed, sturdily built, classily finished and achingly understated, the subliminal message is actually pretty obvious: the fancy stuff is under the bonnet and it's all about the sound. Coming from a manufacture that knows what it takes to impress music lovers with seriously deep pockets, that's reassuring.

Power up is carried out using a conventional push button just to the left of the headphone jack socket on the left side of the fascia with standby implemented by the plasticky, low rent remote which, in light of the amp's decent build and finish, is inexcusably horrible – although it is possible to buy the far superior ASC100 controller that comes with the Fortissimo amp and CD player separately if an aluminium top cover, nicer design and backlight keys are more to your liking.

If you give the large, round volume knob in the middle of the Crescendo a prod – which is far more satisfying than using the remote – it switches the amp to the next input, visiting all five with each successive push (plus the front panel mini-jack socket for



plugging in your iPod/personal player) before cycling back to the first. All are line-level and, like the progress of the volume setting, flagged up by tiny but rather too dazzling blue LEDs on the fascia.

A welcome degree of sophistication, made possible by the electronic volume control and IC-based internal architecture, is provided by the four different 'gain maps' that allow you to tailor the response and linearity of the volume control to the sensitivity of any given speaker that the amp's 50W into 8ohms (80W into 4ohms) will have to work with, the idea being to make it easier to pin the sweet spot with any pair of suitable speakers.

The Crescendo is about as Italian as Ferrari, pizza and pasta sauce

Technically, this latest iteration of the Crescendo – distinguished by the 'AirTech' logo on the front and a back-to-roots circuit reboot on the inside – is up to the solid state mark and, like its famous Puccini forebear, forsakes conventional banks of output transistors for sonically more cost-effective ICs from National Semiconductors. These are claimed to bring benefits including fast response and accurate bias current as well as protection from overheating and short circuit. They also permit neater, more compact design with fewer components and shorter signal paths, all good for performance while leaving enough space under the lid for a nice meaty toroidal transformer (with separate taps for the pre and power sections) to further advance the sonic cause.

Sound quality

Initially hooked up to a pair of small, Edwards Audio SP2 two-way floorstanders, the Crescendo seems slightly but persistently underwhelming: sweet, subtle and deftly detailed but mostly lacking the required sense of brio, drive or urgency when the music demands it. It's as if it can't quite get these usually ebullient speakers to wake up, never mind boogie – and this mild torpidity remains whichever gain mode is used, irrespective of the clean, high volumes it is easily able to achieve.

Curiously, the Edwards are the only speakers to hand at the time, making this a chronic issue for the Crescendo. Although you'd never call it an up and at 'em sort of amp, its slow burning qualities are far better appreciated given a little patience and experimentation with a few choice two-way standmounts from Monitor Audio, Epos and Polk. And, perhaps more than usual for a £879 solid state integrated, it takes a good long time for the electronics to warm up.

Some hi-fi components are a wow on first listen, but not so easy to live with. The Crescendo is just the opposite. A charmer rather than a show off, it's the kind of amp you relax into and find yourself liking more and more after a slow, maybe even disappointing start. Partly it's because it seems to have a very low noise floor and is very, very good at resolving low-level detail – the sort of detail that gives texture and

Treble performance is open and detailed and the midband only subtly forward

nuance to a performance in a clearly defined acoustic space that some amps that should know better smear or blur, or worse simply gloss over.

True, there are amps of similar quoted power that sound bigger and more dynamic than the Crescendo, but few at the price that sound quite so unforced and natural or that present harmonic structure and micro dynamics so convincingly within a wide open soundstage that extends well beyond the boundaries of the speakers in every plane. Audio Analogue's more expensive amplifiers use valves and, although the Crescendo doesn't, it's clear that it shares some of the attributes of its tube-driven stablemates – not least the atmospheric airiness, composure and absence of glare and graininess.

Bass isn't the grippiest or tautest you'll ever hear, but has believable weight and extension and can carry a tune with a good measure of rhythmic integrity. What the Crescendo doesn't do is anything remotely approaching cold and clinical. Perhaps adhering a little too closely to its national stereotype, it's a bit of a romantic and errs on the warm side of neutral. ▶

CONNECTIONS



- 1 Analogue inputs
- 2 Tape loop output
- 3 12V trigger input
- 4 4mm speaker binding posts

Q&A

Stefano Blanda

Managing director Audio Analogue



DV: In which areas is the new AirTech Crescendo superior to the previous model?

SB: AirTech is a new Audio Analogue-affiliated name that develops and produces high-end cables and electronics. The experience developing the cables has been really helpful to incorporate design ideas into electronics like the new Crescendo amp and the rest of the new AirTech electronics (such as the Vivace DAC/Preamplifier and Fortissimo products). The improvements on previous versions are easily discernible and regarding the sound parameters, we can say that the biggest improvements are found in the soundstage (wider and deeper), in the bass extension and micro-details.

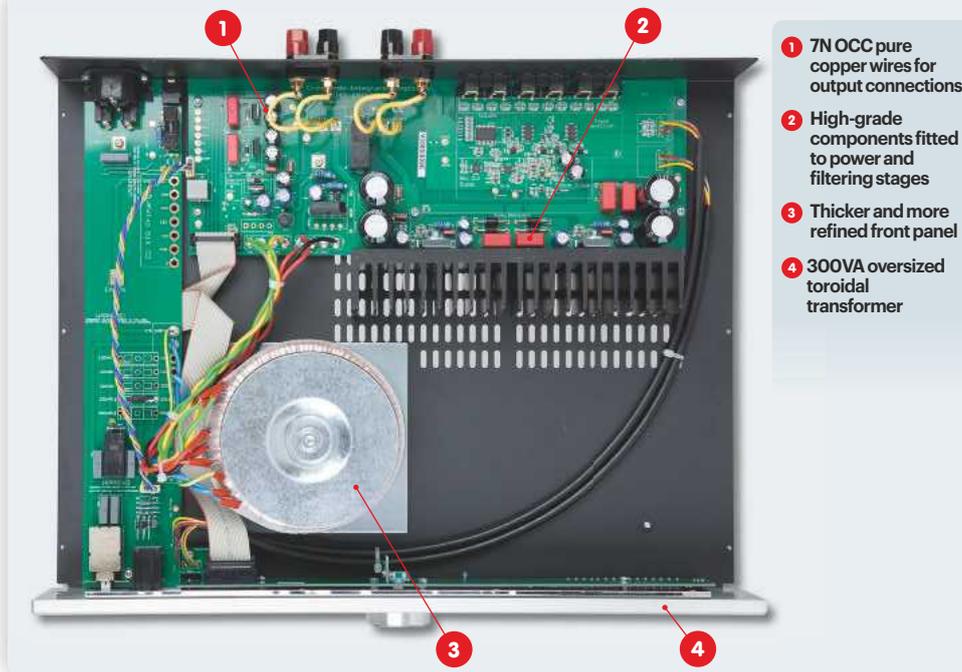
Why is there a personal player input, but no phono stage?

Traditionally it is not easy to obtain superior performance when a phono input is located on the same board of an integrated amp, as it is a high gain stage and the performance could be easily affected by various interactions of the other amplifier sections. So with the Crescendo's goal being to obtain the best possible performance for this kind of amplifier in this category, we prefer to concentrate and invest more on the overall design and component quality instead of including a phono stage that could potentially not be as good as the amplifier's overall performance.

Explain the reasoning behind the selectable volume maps

With our previous designs, numerous times in the past customers with high sensitivity speakers contacted us having problems from too much 'early' gain in the first few volume steps, so using a digital potentiometer is the solution to this problem, giving the customers different options.

IN SIGHT



- 1 7N OCC pure copper wires for output connections
- 2 High-grade components fitted to power and filtering stages
- 3 Thicker and more refined front panel
- 4 300VA oversized toroidal transformer

Even recordings that previously sounded tonally thin and weedy – The Crusaders' *Healing The Wounds*, for example – put some meat on the bones, almost as if a vital part of the frequency that had gone missing has been restored.

Digital recordings as pristine and dynamic as Gregory Porter's *Liquid Spirit* are delivered with clarity and grace, again anchored and enriched by that fulsome bass. But don't get the impression that the Crescendo in any fashion drags its feet. Rhythmically lucid and surefooted, it keys into up-tempo material with verve and keen discrimination.

Vocals, on the whole, are handled beautifully. The amplifier's natural warmth and sweetness never descends into mush or over-ripe euphony, so while Anita Baker's notoriously edgy voice gains some warmth, it does so without shedding definition, while Michael 'cotton wool mouth' McDonald at the other end of the scale, manages to be both simultaneously soulful and intelligible. And while it's certainly true that the Crescendo's tonal balance isn't absolutely textbook, it is very well integrated top to bottom.

Treble performance is open and detailed – neither too forward nor laid back – and the midband only subtly forward. Although the amp's sound does lean towards the romantic side of the spectrum, it doesn't stint on clarity. You can listen for hours on end without fatigue, never having to strain to hear what's going on.

Added to which, the amp goes loud without strain and always stays impressively in control.

Conclusion

Out of the box, this isn't the most thrilling amp you'll ever hear. It isn't because it's chronically laid back, though initially, paired with the wrong speakers it might seem so. In the right system, it's a modestly priced integrated that can conjure up the kind of intimate, effortless sound more commonly the preserve of amps costing two or three times as much.

Careful component matching will reveal a repertoire that is rewardingly wide and informed by the quality of the recording rather than the character of the hardware. In the long run, that's where the heart of real satisfaction resides. The good news is: the pursuit of happiness doesn't have to cost a fortune ●

HOW IT COMPARES

Audio Analogue could hardly have chosen a tougher corner to fight from. It's a part of the market in which British contenders like to slug it out and if a lineup comprising the £875 Naim Nait 5i (HFC 305), £900 Rega Elex-R, £795 Roksan K2, £800 Creek Audio Evolution 50A (HFC 377) and £800 Cyrus 6a (HFC 364) doesn't give the Italian manufacturer a dose of the shivers, it should. Perhaps its strongest card is it doesn't really sound like any of them, and least of all like the energetic and explicit Naim and Rega. There's little chance of it out-muscling the Roksan, and the Cyrus is probably its equal for detail and transparency, the Creek for overall musicality. Yet none can quite match its warmth and naturalness.

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



LIKE: High-end style; resolution; musicality; tube-like balance

VALUE FOR MONEY



DISLIKE: More brio wouldn't go amiss

BUILD QUALITY



WE SAY: Some exceptional qualities, but not for everyone

FEATURES



OVERALL



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Red magic

Musical Fidelity has conjured up a compact, affordable separates system in the shape of the Merlin 1. **David Price** thinks it's wizard

Nowadays many people listen to music by swiping their smartphones to stream their favourite tunes. Within seconds, the chosen song flows forth via their wireless speaker system from the great digital music cloud in the sky. But what goes around comes around, and suddenly some music buyers appear to be looking at pastures new – or rather old. Not all of them admittedly, but enough to cause vinyl record sales to hit an 18-year high in 2014. Young people it seems are now digging the old breed and re-evaluating black plastic as the funky music medium that it always was.

The Merlin 1 is described as “a multi-format digital system designed with vinyl at heart”. It features the Merlin digital amplifier and Bluetooth aptX streamer, the Round Table turntable and the unique Merlin 1

speakers. If ever there was a crossover product to bring together both music buyers young and old, then this is surely it.

Looks are highly subjective, but I think the designer has hit the sweet spot. It is elegant, harmonious and well proportioned. The softened lines of the turntable's plinth allied to its deep piano gloss shine lend it a classy feel and it doesn't look like it's simply a rebadged deck from another manufacturer's range. The amplifier feels like a full-size Musical Fidelity that has shrunk in the wash – no bad thing – and is again well finished. The loudspeakers have a nice twist in that they are elliptical and can be configured vertically or horizontally. The turntable and speakers come in a high gloss painted finish, but the amplifier casing is made from a matt black custom aluminium extrusion. Purchasers can choose to mix and

DETAILS

PRODUCT
Musical Fidelity Merlin 1

ORIGIN
UK/China/Czech Republic

TYPE
Mini separates system

WEIGHT
Turntable: 6kg
Amplifier: 1.9kg
Speakers: 2.5kg

DIMENSIONS
(WxHxD)
Turntable: 482 x 100 x 342mm
Amplifier: 220 x 55 x 240mm
Speakers: 130 x 220 x 200mm

FEATURES

- Quoted power output: 2x 50W into 4ohms
- aptX Bluetooth input
- 3.5mm jack and MM phono inputs
- USB and optical digital inputs
- Headphone amplifier

DISTRIBUTOR
Musical Fidelity

TELEPHONE
0208 900286

WEBSITE
musicalfidelity.com

match their system; the turntable comes in red or black finishes, the amplifier is in black only and the speakers offer a choice of red, silver or black.

The Round Table turntable is bespoke made to the company's specifications by Pro-Ject. The £599 belt drive design has been configured to ensure that the deck is statically balanced and that its centre of gravity is at the pivot point of the main bearing, which partly explains the slightly unusual proportions. It sports a polished high carbon tool steel bearing, which is claimed to have “an exceptionally long life and friction free performance”, and the chassis has been designed to be as inert as possible. The pick-up arm is a good quality item, that feels smooth to use with very little bearing play and is fitted with an Audio-Technica AT95E moving magnet cartridge.

The Merlin amplifier offers a claimed 50W of power into 4ohms. It has inputs for the turntable, USB, aptX Bluetooth and digital or analogue line in. The USB input is primarily for updating the system's firmware, but can play music from a computer. Digital audio is taken care of courtesy of twin 24/192 Texas Instruments PCM 1789 DAC chips in dual differential mode. Power is provided by two Texas Instruments TAS5708 Class D modules in dual



IN SIGHT



mono configuration. The amp has a good headphone amplifier section based on Musical Fidelity's dedicated V90 HPA model (on test *HFC 378*), and a subwoofer output for a forthcoming low-frequency speaker that is due out in a few months' time. The 3.5mm socket on the back automatically switches between an optical digital input or RCA mini line-in, and there's another 3.5mm socket that can be switched between RCA fixed line out or variable, making the Merlin a preamplifier. High-grade 4mm speaker binding posts are at the back, too.

The Merlin 1 loudspeaker package is arguably the most interesting of the lot, featuring an elliptical cabinet with what Musical Fidelity calls a "diffraction multiplier system" designed to give relatively compact speakers a larger soundstage. This is effectively a multi-stepped baffle, and works with a single Balanced Mode Radiator (BMR) driver. BMRs are relatively unusual and show a certain imagination on the part of the designer.

Sound quality

This system has been designed to sound good and be easy to use across a variety of sources, but it's not intended as an alternative to an expertly assembled separates system, tuned to within an inch of its life. What really counts is how enjoyable a

With its mix and match colour scheme and innovative design, the Merlin 1 is a real head turner

system such as this is to play, and how much closer it gets the listener to the music compared with mass market rivals. In this, the Merlin 1 succeeds without reservation; even by purist hi-fi standards it's fairly impressive.

The reason for this is that each separate component pulls its weight. The turntable has an open and accessible sound with a nice gentle easy musical feel. The Rolling Stones' *Emotional Rescue* shuffles along at a pleasing gait, throwing out a lot of detail and a pleasingly wide soundstage. The Audio-Technica cartridge tracks well, showing its basic high quality and also that of the arm. The sound is reasonably secure, yet nicely musical too. Tonally the Merlin 1 turntable is a light, breezy, spry sounding device. It does not deliver vast amounts of subterranean bass, but then again you wouldn't expect it to. Rather, it serves up a smooth and open soundstage without harshness or any of the other problems of budget vinyl sources.

The amplifier also works very well, and is obviously blessed with a decent quality phono stage. It suits the system perfectly, with a light, easy, open sound that can fill a normal-sized room comfortably. It is especially enjoyable when listening to vinyl; for example I cue up some classic eighties pop in the shape of the

Pet Shop Boys' *Opportunities* and the Merlin amplifier quickly gets into the swing of things. It may not be the most dynamic performer in absolute terms, however it is very good at reproducing the more subtle inflections of the music and this makes for a quite inviting and immersive sort of sound. It follows the rhythm of the music well, and invites the listener to play more. At the same time, this little integrated is never hard or strident, refusing to give away its modest place in life.

Indeed you can hear the same characteristic friendliness when you switch to other inputs. Via the analogue-in it's clean, even and punchy with a decent amount of detail. Moving to the digital input, you can hear the stereo image tightening up and getting better defined, although perhaps you might say that things fall back slightly less behind the plane of the speakers.

The Bluetooth input is also very impressive; I find it works reliably, is easy to configure and ends up sounding better than it has any right to. It is hard to understate just how handy this is, especially when you have a lot of music on a portable device. It gives a most enjoyable rendition of Daft Punk's *Get Lucky*, giving little away in sound quality to the standard digital input. The music ▶

CONNECTIONS



- 1 Turntable earthing point
- 2 Loudspeaker 4mm binding posts
- 3 Optical/3.5mm jack output
- 4 USB/optical/3.5mm jack input
- 5 MM phono input

Q&A

Antony Michaelson
Musical Fidelity founder



DP: Who is the Merlin aimed at?

AM: It's a response to two factors: the massive increase in streaming and growing vinyl LP sales, which have hit a 20-year high. Indications are that a large percentage of those customers are 16 to 25-year olds who are used to streaming but new to vinyl and often don't know of an easy way to play their new LPs. We wanted to offer them an easy route in through a stylish, compact system that gave them both streaming and a turntable, and sounded fantastic. Having said that, there are also plenty of over 50s returning to vinyl and we offer them a choice. They can buy a Merlin system or can just buy the Round Table. We were not aware of a value-for-money system that gave them everything they wanted – a streaming digital amp with a phono stage and a turntable. All are welcome!

Why did you choose to use BMRs in the loudspeakers?

In our opinion, the key to a really good audio experience is stereo imaging, but very few – even expensive – systems image properly and although the general consumer may not understand the concept, they know and like good stereo imaging when they hear it. The new Merlin loudspeakers combine the fine dispersion characteristics of a Balanced Mode Radiator drive unit with the new technology of the Diffraction Multiplier baffle to produce a wide but accurate stereo image that is truly exceptional in our view.

Why does the Merlin 1 amplifier use an analogue-to-digital converter?

This is designed to give a configurable digital output from all inputs, whether analogue or digital, which we thought was a very useful thing to have on a flexible, modern product such as this.

IN SIGHT



- 1 Motor drive pulley with 33 & 45rpm belt grooves
- 2 Tonearm assembly
- 3 Audio-Technica AT95E cartridge
- 4 MDF platter

bounces along, bass is supple and the superb rhythm guitar playing of Nile Rogers is well carried.

The loudspeakers are surely the most innovative part of the package, and are very likeable. They suit the rest of the system very well indeed. It will come as no surprise to hear that they are limited in the bass and high treble regions, but that's not to say they cannot entertain across a wide range of music. Indeed the midband is most engaging, and projects extremely well into the room. The amplifier is not especially powerful, yet the speakers make the absolute most of it and fill the listening space in a most harmonious way. This is

the Merlin system captures this song's feel really rather well – better than many full-size separates systems at the price. The key is the naturalness with which the rhythm is carried, getting the foot tapping and the shoulders moving even at fairly modest volumes.

Conclusion

Overall, Musical Fidelity's new Merlin system works extremely well; you might even go so far as saying it is greater than the sum of its already respectable parts. First and foremost it is enormous fun to listen to, letting you connect with the music. Secondly, it has a decent amount of power and proves able to work in a reasonably sized room, filling it up with smooth and warm stereo sound. Thirdly, it is compact and a good visual match, as well as being available in several smart colours. Last but certainly not least is the fact that it is easy to set up and will integrate well with most people's listening rooms. Although not quite magic enough for wizard status, this system might have enough to cast a spell on you ●



The clever thing about this system is that it does not have any direct rivals. Instead you are forced to mix and match components. Rega sells the fine RP1 turntable with bundled cartridge (£230), and matching Brio R integrated amplifier, (£550) together, then you need to add speakers such as Wharfedale Diamond 210s (£150) and a wi-fi receiver such as Musical Fidelity's V90-BLU (£200).

This 'mix and match' system sounds very good, but struggles to better the Merlin in terms of sound quality. It does better in some individual aspects of performance, but isn't as dramatic and you lose the small footprint nature of the Merlin 1.

Even by purist hi-fi standards the Merlin 1 system is fairly impressive

one of the key benefits of using BMR drivers, and they have been well implemented here.

Another bonus is, of course, that with a single BMR, the speaker doesn't need a crossover. This in turn helps phase coherence and the general sense of musical flow. The result is that the Merlin loudspeakers sound unexpectedly lucid – music seems to stream out of them in a seamless way, both tonally and rhythmically. I find myself really getting into some early seventies rare groove courtesy of Donald Byrd. The seminal *Lanasana's Priestess* from the Blue Note LP *Street Lady*, proves to be lots of fun. Despite the speakers' limited low-frequency extension this bass-driven track still motors along, sounding rich and smooth. Indeed,

Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Style; ease of set up; compactness; pleasant sound
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Lacks bass and treble extension; limited power
- BUILD QUALITY** ★★★★★ **WE SAY:** A charming and stylish compact separates system
- FEATURES** ★★★★★

OVERALL



oppo

HA-1

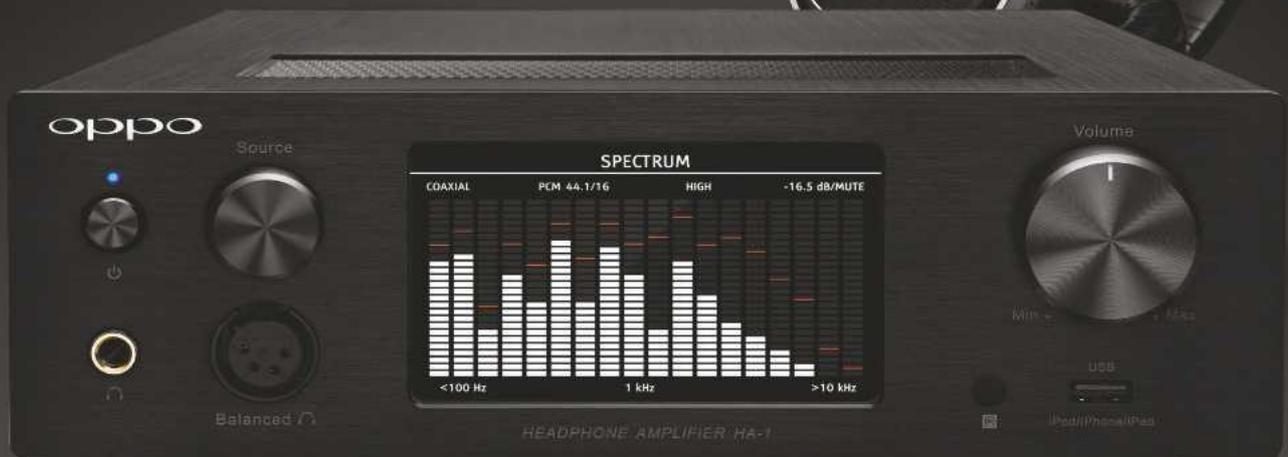
Headphone Amplifier



JULY 2014

“ HA-1 is a well thought out and thoroughly engineered product at a competitive price ”

“ Its headphone amplifier stage is up there with the finest ”



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Toroidal power transformer

Fully balanced design



Asynchronous USB DAC supports PCM and DSD

ESS 9018 Sabre³² Reference DAC



IR remote control included

Doubles as a digital audio dock for mobile devices

Control and music streaming via Bluetooth



oppodigital.co.uk



Bite size

With Bluetooth and vinyl bases covered, the stylish Sprout mini-integrated has plenty on offer. **Andrew Simpson** whets his appetite

In the not too distant past 'proper hi-fi' inevitably had to equate to stacks of similar sized and similar looking separates for it to be taken seriously by audiophiles. But with improvements in more efficient amplifier technologies – such as Class D – combined with the move to higher quality streaming from portable devices, compact hi-fi no longer necessarily means compromised quality, as we've recently seen with Quad's Vena (HFC 390) and NAD's D 7050 (HFC 382) both of which come from companies with long-standing reputations for producing class-leading products.

Like these two brands, PS Audio's usual stomping ground also lies in the high-end separates arena where its DACs and digital products sit alongside a selection of audio power plants. The Sprout is a different beast, representing the culmination of two and a half year's work by sales director Scott McGowan, son of CEO and founder Paul McGowan.

It's a product that's firmly focussed on taking the company's know-how to new audiences, who will be equally wooed by its demure size and style as they will by its sonics. And judging by the 897 Kickstarter backers who pledged \$414,963 against its \$36k goal, this audience is clearly hungry

DETAILS

PRODUCT
PS Audio Sprout
ORIGIN
US

TYPE
Integrated
amplifier/USB DAC

WEIGHT
6.4kg

DIMENSIONS
(WxHxD)
152 x 45 x 203mm

FEATURES
● Quoted power: 2x
32W into 8ohm
● Wolfson WM8524
DAC chipset
● aptX Bluetooth
streaming
● MM phono stage
● Headphone
output

DISTRIBUTOR
Signature Audio
Systems

TELEPHONE
07738 007776

WEBSITE
psaudio.com

for it. Its intentionally stripped-back aesthetic means there's no flashy digital front panel LEDs or menu screen to contend with, leaving you with the simplicity of just rotary dials for input and volume to choose which source you want to listen to and at what volume level.

Designed, engineered and hand-tested in PS Audio's Colorado homeland, the Sprout is built in China and the quality of its finish is first rate. The two front panel knobs are machined from solid billets of aluminium, while the unit's 3.5mm-thick main chassis is formed from bead-blasted extruded aluminium, with elegantly rounded corners and chamfered edges. Topping the case in style is a panel of walnut veneered MDF, which adds a touch of elegance to the compact unit.

The Sprout's five inputs have been carefully selected to each cater for different sources. On the analogue side, a 3.5mm jack socket is fitted for line-level inputs, while a pair of RCAs allow moving magnet-equipped turntables to connect to the Sprout's internal phono stage, which boasts passive equalisation and a Class A



gain stage. On the digital side, you can choose from a USB-B or S/PDIF (coaxial) socket, both of which can accept data up to 24-bit/192kHz. Instead of wi-fi streaming, PS Audio has armed the Sprout with aptX Bluetooth to bring music stored on smartphones and the like into the equation. Under the lid sits an Anaview ALC0100-2300 Class D switch mode amplifier, claiming 2x 32W into an 8ohm load. This module

Stripped back simplicity is the order of the day for the Sprout

was chosen above others for its sound quality, with its size and efficiency also meeting the company's brief.

For DAC duties, the Sprout's USB, coaxial and BT inputs are fed into a Wolfson WM8524 asynchronous chip, selected for its smooth analogue character and how well it works with the high-quality clocking mechanisms.

Alongside the front panel's analogue stepped volume control sits a handy 6.35mm headphone jack, which auto-mutes the speaker outputs when a pair of cans are plugged in.

Getting the PS Audio up and running takes seconds, not minutes. Although if you plan on hard wiring analogue sources other than a turntable to the Sprout you'll need to budget for interconnect cables that terminate with a 3.5mm jack plug, and to send music over USB requires installing a driver from PS Audio's website (psaudio.com/support/downloads). Connecting to the Sprout via Bluetooth is more convenient, as there's no pairing button on the rear panel antenna to fiddle with. Instead any BT-equipped device simply finds the Sprout and lets you pair automatically.

Sound quality

Listening to each of the Sprout's inputs immediately reveals how it's been crafted to give its all in equal measures across a range of sources, while being especially forgiving of lesser-quality content.

Parked between my Q Acoustic 2020i (HFC 360) bookshelf speakers (in matching walnut finish) and testing its Bluetooth input with my iPhone 4s, the little Sprout looks and sounds right at home. Streaming a 320kbps MP3 file of Future Islands' *Light House* reveals how easy its Bluetooth input is to access while making the music sound enjoyable enough, given its limitations. The Sprout seems to let the rhythm of the

track do the talking, which is presented with enough separation to help create a holistic stereo image.

But while this confirms that having a Bluetooth input is a convenient inclusion, streaming a 16-bit/44kHz (1,411kbps) FLAC version of this same track over a hard-wired USB connection from my laptop running Tidal, quickly reveals how much more it has to offer when it's asked to go up a gear. Gone are the fuzzy edges and closed-in soundstage of the previous version, replaced with music that has real body and greater levels of detail, adding depth to each note and making the music sound much more convincing. The treble in particular snaps into focus with greater degrees of clarity, while the bass guitar in the

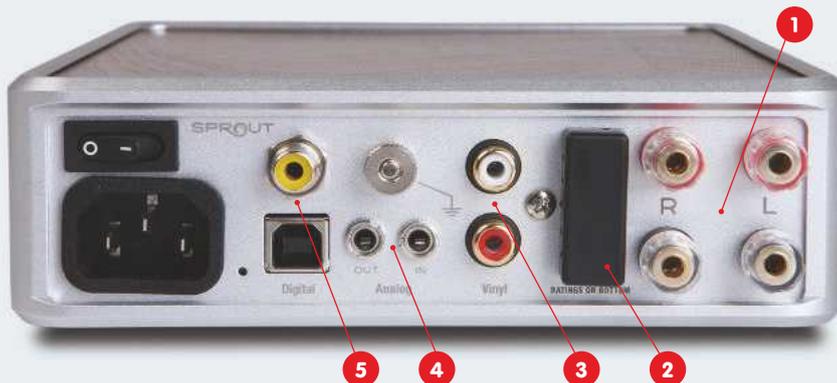
Its top end is nicely refined with a strong and confident soundstage presence

upper midrange has more texture, which gives it improved presence.

Pushing the envelope further with a 24/96 studio master of Pink Floyd's *Lost For Words* from *The Division Bell* (via highresaudio.com) gives the Sprout more to chew on. David Gilmore's opening guitar solo sounds accurately defined in the soundstage, with a tonal clarity that's clean yet relaxed, without sounding overly clinical or grainy and of a manner that some Class D amps can be. As with the Future Islands track, strong stereo imaging comes to the fore to make the little Q Acoustics speakers disappear as much as they can into a soundstage that's denser than what these budget boxes usually muster.

While it's unlikely the dinky Sprout's target audience will be using it to drive a pair of £3,000 floorstanders, I'm keen to test its mettle with my

CONNECTIONS



- 1 4mm speaker binding posts
- 2 Bluetooth antenna
- 3 RCA inputs for turntable
- 4 3.5mm analogue in/out sockets
- 5 Digital inputs for USB and S/PDIF (coaxial) antenna

Q&A

Scott McGowan

Sales Director, PS Audio



AS: Why have you named this product Sprout?

SM: Many facets of audio equipment can alienate non-technical music lovers. Sprout was chosen to get away from alpha-numeric titles typically given to audio equipment. Sprout is about removing intimidation. It's our response to the music lover who wants great sound quality but may be put off by stacks of complex separates. Sprout is small and packed with potential.

Why did you decide to launch this product?

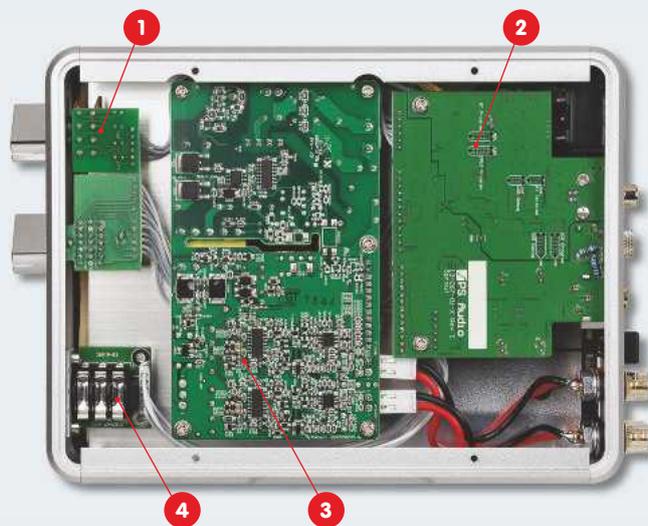
Because of selfishness, as I wanted one! I had a stereo amplifier, a preamp, a phono stage (all PS Audio) and a turntable, all of which I wanted to streamline. With Sprout I freed up a load of space yet gained Bluetooth, a headphone amp, a DAC and a product I'm really proud to show off.

What challenges did you face along the way during production?

Back panel real-estate was hard to get right. We could have made the unit just 1in wider or a half an inch taller to include any features we wanted, but myself and our industrial engineer Bill Abplanalp decided that form was king. This forced us to be minimalists and resist feature-creep. Subsequently, thermal testing was a huge undertaking, and parts sourcing like the potentiometer took a long time. We needed analogue inputs, but found they'd be easier to fit using 3.5mm sockets instead of stereo RCAs. We were going to build in a loudness feature that increased the low-frequency response as you turned the volume down, but it played heck with the DAC so we ditched that plan.

Other challenges included finding a solution to prevent the wood panel from warping, launching Kickstarter and months of iterative changes. At no time did we compromise on sound quality. I considered canning the whole project many times in lieu of a single compromise to sound and build quality, but we sailed on. Experiencing the final product tells me I'm glad we did.

IN SIGHT



- 1 Analogue gain control
- 2 Input PCB
- 3 Class D amplifier module
- 4 Discrete headphone amp

Dynaudio Focus 260 towers and see just how it fares under pressure. Pleasingly it puts in an admirable performance and is able to present the Pink Floyd track with enough power and poise to not let the speakers sound too wanting. Where it loses out compared with the best of the Class AB brigade at this price is in its slight lack of grip and expression in the bass, which can seem a tad grainy and harder edged through the Dynaudios. There's enough bass quantity, but with this it adds a certain tonality of its own to the lower registers, that's more noticeable on some tracks. It's also more prominent through the more demanding Dyns than the smaller Q Acoustics, which are less revealing and can't get anywhere near the bigger speakers' bass retrieval levels. Therefore the PS Audio will benefit the most from being partnered with the best pair of mini monitors you can afford, such as Q Acoustics' more premium Concept 20 or KEF's LS50.

Testing the MM input with my VPI Scout 1.1 turntable shows that vinyl fans are well served. With a mint pressing of Vaughan Williams' *The Lark Ascending* conducted by Sir Adrian Boult and the London Philharmonic Orchestra channelled through the Sprout I can hear how background noise is kept low, while the air and space that surrounds Hugh Bean's exceptional solo violin allows his instrument's notes to soar and swoop above the delicate orchestral accompaniment, showing that this input in particular has been well implemented.

Using this track to test the headphone output with a pair of AKG

cans brings equally fruitful returns. Over headphones the Sprout isn't overly revealing, which lets it keep sibilance at bay and makes for a fatigue-free experience, especially for extended late-night listening sessions.

Conclusion

Along with its uncomplicated aesthetic, what sets the Sprout apart from its contemporaries is how it's intentionally engineered to be as user friendly as possible. In today's hi-fi age where intelligent apps and touch screens to access your music are all the rage, it's refreshing to come across a product as easy to live with and listen to as this. It also manages to have a sensible spread of digital and analogue bases covered.

While its lower bass is not quite as clean as some rivals, its top end is nicely refined with a strong and confident soundstage presence for such a modest output. If you're building a fuss-free second system, the Sprout should be near the top of your audition list ●

HOW IT COMPARES

With hi-fi companies eager to cash in on the desktop audio dollar, you are spoilt for choice at this price point. Leading the charge is the powerful sounding £600 Quad Vena (HFC 390). A recent *Group Test* winner built around a more traditional Class AB amplifier, it packs a wealth of digital inputs plus aptX Bluetooth. Cambridge's smooth sounding Minx Xi (HFC 379) follows in a similar vein with wi-fi streaming, app control and a digital screen to boot and can now be had for £400. If you don't need analogue inputs, consider NAD's funky looking £799 Class D D 7050 amp (HFC 382), which offers AirPlay, aptX and wi-fi alongside its hard-wired sockets.

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



LIKE: Range of inputs, including vinyl; detailed sound

VALUE FOR MONEY



DISLIKE: Lower bass could be cleaner

BUILD QUALITY



WE SAY: Stylish looks and sensible features combined with a simplified user experience will win many fans

FEATURES



OVERALL



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"Compared to many high-end cables whose bulk and rigidity (or fragility) seem contrived to make their installation as arduous as possible, Black Rhodium's Duet DCT++ CS is a positive joy to hook up. But while the cable is unusually 'bendable' its sound has real spine – its bass powerful and robust while the treble is smooth rather than incisive or biting. Certainly one for the shortlist, the Duet's warm quality is suited to sharp-sounding systems."

Paul Miller, Hi-Fi News, March 2015

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Hitting the Swede spot

XTZ aims to put the cat among high-end pigeons with its affordably-priced standmount. **David Vivian** is in for a shock

Olle Eliasson, the boss and founder of Swedish would-be high-end applegart worrier XTZ, makes no bones about claiming to “offer the best relation between price, performance and quality on the market” and, with his latest standmount speaker, it’s clear he means to press home the point.

The job sheet’s first line is straightforward enough: high-quality, rear reflex-ported, two-way standmount speaker. And, up to a point, so is the execution. But from

With the right material the M2 can muster stunning dynamic clout

the wine-gum shape of the baffle to the curvy, super-dense construction of the enclosure to the sourcing, development and implementation of the top-drawer drive units, this speaker’s ambition bears little relation to its real-world price.

Departures from the ordinary start with the enclosure, which is made from a weighty composite comprising epoxy, polyurethane, potassium carbonate and ‘organic bubbles’, resulting in a material that, according to XTZ, is 40 percent more dense than MDF. Internal bracing is added to further reduce cabinet resonance. The slim, tapered baffle is intended to improve dispersion characteristics while the enclosure’s curved, non-parallel walls are claimed to minimise internal reflections and standing waves.

Round the back there are two pairs of gold-plated terminals mounted on a glass fibre reinforced plate to reduce contact resistance and improve reliability. The black piano gloss finish is excellent rather than exquisite (fine

by me) and, overall, the M2’s aesthetic statement is one that I suspect won’t be to everyone’s taste.

The 165mm-diameter bass/midrange driver is a SEAS unit further developed by XTZ and SEAS and employs a new woven polypropylene ‘Curv’ cone. The material claims to be the world’s first self-reinforced 100 percent polypropylene composite and to provide “extraordinary levels of impact resistance, light weight and high stiffness”. The Curv cone is combined with a special, natural rubber surround to reduce suspension and edge resonances to a minimum.

The substantial magnet assembly includes heavy copper rings and there’s a solid copper phase plug in the middle to reduce flux modulation and eddy current distortion, the desired upshot being a smoother, more extended frequency response that crosses over seamlessly to the tweeter. This is a generously sized 30mm soft dome unit with dual neodymium magnets to boost efficiency and power handling. It’s deep set in a waveguide to further increase perceived efficiency, reduced distortion and provide more uniform high-frequency dispersion.

Handling the handover between the drivers is an advanced Linkwitz/Riley type crossover, with 12 and 18dB/octave slope for midrange and tweeter to minimise phase shift and promote good transient response. The filter uses MOX resistors, air-wound inductors and Mundorf capacitors. The rear-firing port comes with a sleeve-style neoprene sock that reduces the size of the aperture (but improves bass extension) and a foam bung for quasi-infinite baffle operation.

Sound quality

I eventually settle on a Roksan Caspian M2 CD/integrated amp front end for the XTZ with the ‘max bass extension’ port socks in situ and the

speakers’ deep, tapered bases secured as firmly as possible to my Slate Audio stands. I say eventually, because I spend several days snared by the M2’s almost spooky ability to lay bare with unerring consistency and clarity the differences in sonic character of any kit I place upstream from it. Not just electronics and wires, either, but support platforms, mains blocks and even the brand of CD-R used to make duplicate rips.

This kind of forensic transparency isn’t always a good thing, of course, but it is an essential part of the high-end remit that generates degrees of separation from brighter, blunter mainstream boxes. It’s also where things can start to go wrong. Well-designed budget speakers often impress because they concentrate on the musical fundamentals and can carry a tune. High-end sensibilities require rather more. In addition to marrying musical communication with the kind of resolution and bandwidth that can precisely recreate any recording acoustic in three dimensions – whether live or contrived – there has to be the dynamic compass allied to a lightness of touch that engages and involves the listener. Connection is the thing. And beneath all the separate elements that contribute to a speaker’s sonic signature, there is a deal to be struck ▶

DETAILS

PRODUCT
XTZ Master M2

ORIGIN
Sweden

TYPE
2-way standmount
loudspeaker

WEIGHT
18.6kg

DIMENSIONS
(WxHxD)
231 x 424 x 374mm

FEATURES
● 30mm dome
tweeter with
waveguide loading
● 165mm mid/
bass driver
● Quoted sensitivity:
88dB/1W/1m
● Frequency range:
37Hz-29kHz (in
room) +/- 3dB

DISTRIBUTOR
Epic Home Cinema

TELEPHONE
07429 370015

WEBSITE
epichomecinema.
co.uk

The distinctive ‘Curv’ done brings a touch of class to the M2



Q&A

Olle Eliasson

Owner and founder of XTZ



DV: Why did you opt for a loaded dome tweeter instead of a ribbon?

OE: This wasn't a choice based on cost. In general there are advantages and compromises in utilising both dome and ribbon tweeters.

Initially the ribbon tweeter utilised in the XTZ 99 series was considered as a viable candidate for the Master M2 series. We wanted, however, a tweeter with a response that would disperse without limitation. Also we needed one with a lower crossover point, but this would present a greater challenge to the smaller ribbon tweeter. To incorporate a ribbon tweeter to provide the desired response it would need to be larger, and in turn a larger speaker. Consequently the dispersion would be narrower vertically. Aesthetics also had to be given due consideration.

Taking account of the need to create a compact speaker with high SPLs, low distortion, high efficiency and a wider dispersion both horizontally and vertically, the chosen 30mm dome tweeter was selected. It fulfilled all parameters perfectly to create the sound envisioned. We wanted a speaker that was adaptable in its placement in a typical listening room and uncompromised in its performance.

How were the cabinet shape and construction arrived at?

First and foremost, the cabinet design options were fairly infinite given its makeup. It could be moulded as required. We wanted a shape that did not compromise the sound and at same time reflects the pinnacle of classic timeless and sophisticated Swedish design for which we are now well known.

The cabinet has a narrower front end. This has an advantage from an acoustic point since the non parallel walls keep resonances to a minimum.

IN SIGHT



- 1 30mm soft dome tweeter
- 2 Tuneable bass reflex port
- 3 Bi-wireable speaker terminals
- 4 165mm SEAS 'Curv' woven polypropylene mid/bass driver

between excitement and refinement that has the potential to deliver more enduring listenability and satisfaction.

The M2 doesn't quite nail the high-end ideal, but comes amazingly close – astoundingly so considering its price, if with at least one caveat. Despite XTZ's 'room friendly' claims and port tuning possibilities, the speaker can actually be quite fussy and needs heavy-duty stands (XTZ's can be filled with sand) and a good deal of experimentation with positioning and the port bungs to give of its best. In my room, it's a little dry and lifeless with the ports blocked off, a tad loose and boomy fully open. The aperture-narrowing sock works a treat, though. Pulled about a foot away from the rear walls and toed-in a few degrees, everything suddenly gels and serious listening begins.

The visceral thwack of Steve Gadd's drumkit on Steely Dan's re-mastered *Aja* CD immediately hints at the speaker's startling bass power and reach, perfectly parlaying the Caspian M2 amp's penchant for delivering music in a tangible, coherent way with fine drive and rhythmic integrity. In fact, the speaker seems to love its Roksan namesake, sharing nose for subtlety alongside an obvious talent for scale and impact. It seems to be a deal brokered in heaven: power with a sense of poise and control I never find wanting.

Time and again, from Boz Scaggs to Bob Dylan, the speaker's output proves finely revealing, harmonically rich and rhythmically coherent. Treble has air and harmonic definition devoid of synthetic sparkle, the midrange a luminous, holographic presence, bass proper foundational weight and depth coupled to supple agility and control. The longer I listen,

the easier it is to appreciate the sheer range of tonal colours in the standmount's palette. It seems to help average quality recordings but, with the right material, it can muster quite stunning dynamic clout combined with delicious detail, clarity and finesse. There's something of the proverbial iron fist wrapped in a velvet glove about this approach, and it draws you in.

Conclusion

A tantalising glimpse of high end? No. The Master M2 is a true, slightly imperfect, slightly fussy high-end speaker at a bargain price. If you want a standmount speaker to live with – pretty much forever – you'll want to give it some very serious consideration. It casts its spell within the first few bars, but the more you listen the more you'll grow to love it. Not just for the way it makes the bones of the music seem fresh and urgent, but it also captures and scales the entirety of the performance with rare precision and grace. It encourages you to listen for hours on end with zero fatigue. A revelation ●

HOW IT COMPARES

Not everyone will like the way the M2 looks or will want to indulge that fussy nature to chase down their best game. But there are some attractive alternatives. Dali's Rubicon 2 is a smart-looking box that sounds faster and more agile, but without the XTZ's sumptuous, extended bass, almost holographic midrange and sheer resolving power. ATC's SCM 11 is a drier, less glamorous sounding speaker that delivers great insight with zero fatigue. Push the budget a bit harder and PMC's twenty.22 can certainly rival the Master M2 for scale, bass performance and detail retrieval, but like the ATC will sound a little dry next to the more relaxed and tonally richer XTZ.

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



VALUE FOR MONEY



BUILD QUALITY



EASE OF DRIVE



OVERALL



LIKE: Goes for the full nine yards and mostly succeeds

DISLIKE: Needs care and patience to get the most from it

WE SAY: Not perfect, but as close as you'll get to high-end for the money

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IsoTek EV03 Premier, Hi-Fi Choice, March 2013

EV03 Premier

IsoTek's most affordable power cable has at its core three 2sqmm conductors made from 99.9999% OFC (oxygen-free copper) and coated in silver to aid conductivity, with a Teflon FEP dielectric extruded over each conductor. A cotton filler is used to give the cable internal strength and reduce microphony whilst maintaining dielectric performance. The cable is terminated with high-quality 24ct gold connectors, designed and manufactured by IsoTek rather than bought off the shelf. No similarly priced power cable is constructed to such a high specification, with correspondingly impressive benefits to sound and picture quality.

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RECOMMENDED

Hi-Fi Choice



“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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Walk this way

With its hi-res audio capabilities this Sony will appeal to the size and depth of many pockets. **Adrian Justins** presses play and goes for walk

It's just 18 months or so since Sony reinvented the Walkman with a couple of hi-res models, the flagship NWZ-ZX1 (HFC 384) – due to be replaced by the ZX2 – and the entry-level NWZ-F886 (HFC 381). The NWZ-A15 effectively replaces the F886, but its £80 price reduction is something of a false dawn seeing as Sony has dispensed with the bundled in-ear phones. More positively, the new player is much more compact with dimensions akin to the fourth-generation iPod Nano.

And it no longer resembles a smartphone that can't make phone calls. Also happily jettisoned is the Android operating system and superfluous wi-fi connectivity. Sony has twigged that most people have a phone for making calls, tweeting, etc. and a music player only needs to act as a music player. The 2.2in screen is plenty big enough for the operational requirements. In fact, the font size is larger than on its predecessor.

We still have compatibility with WAV, AIFF, WMA, AAC, HE-AAC, FLAC and ALAC, plus MP3 of course. The standout omission is still DSD. You can play AVC, MPEG4 and WMV 9 video files, but watching movies is rather pointless on such a small screen and I would happily trade it for DSD playback faster than you can say PonoPlayer.

Features retained from the F886 include an FM radio and Bluetooth connectivity for streaming to a speaker or headphones, with aptX and NFC now added. Another significant addition is the provision of a microSD card slot, which allows you to expand the paltry 16GB built-in memory to 80GB using a 64GB microSDXC card, albeit at additional cost.

There is no real change to the most significant playback features, so ClearAudio+, Clear Bass, DSEE HX (upscales lower bit-rate MP3 files) and Dynamic Normaliser are all on board. A five-band equaliser (None/Heavy/Pop/Jazz/Unique/Custom 1/Custom 2) provides additional

tweakability, with a handful of DSP modes thrown in for good measure, which claim to recreate the acoustic qualities of listening in a sweaty little club, soulless arena, etc.

Music transfer should be a simple drag-and-drop process using the supplied software, but I am unable to transfer direct from iTunes on an iMac and have to copy files to the desktop first, thereby losing any Playlists. Presumably Sony's software hasn't managed to keep up to pace with the latest OS X incarnation.

At least operating the actual player is simpler and much more logical. Two small buttons below the display provide quick access to the home screen and power options. You simply



DETAILS

PRODUCT
Sony NWZ-A15

ORIGIN
Malaysia

TYPE
24-bit/192kHz-capable digital audio portable

WEIGHT
66g

DIMENSIONS
(WxHxD)
44 x 110 x 9mm

FEATURES
• 24/192 FLAC, AIFF, WAV, ALAC, MP3, AAC, WMA playback
• 16GB built-in internal memory, expandable to 80GB
• DSEE HX; ClearAudio+; 5-band equaliser
• 2.2in TFT screen

DISTRIBUTOR
Sony Europe

TELEPHONE
0845 6000124

WEBSITE
sony.co.uk

navigate up, down and across using the click pad on the front and press play in the middle. On the right edge are volume buttons, a hold slider switch and the SD card slot.

Sound quality

Directly comparing a 24-bit/96kHz download of *Valentine's Day* by David Bowie with all enhancements switched off reveals that the NWZ-A15 is almost on a par with the F886. The bass is a tad over extended and can only be tempered by adjusting the EQ's custom settings (it's even stronger with the ClearAudio setting). That done, the remarkable clarity of the higher frequencies can be fully appreciated.

With Fleetwood Mac's *Family Man* the drums are now taught and punchy, the vocals sing out effortlessly and the guitars have supreme energy and vitality. Compared with the MP3 version it's like removing cotton wool from your ear canals, allowing the greater detail to shine through. Michael Jackson's *Thriller* is at its spine-tingling best as the rhythmic guitar blends beautifully with the king of pop's vocals, while the cymbals are crisper than a Walkers factory.

Classical music is equally well served, the NWZ-A15 delivers a sense of scale to the strings of Bach's *Brandenburg Concerto No. 3* that allows the texture of the violins and cellos to grab you by the emotional collar in a way that less dynamic renditions fail to do.

Conclusion

It's a pity the NWZ-A15 can't handle DSD files and bear in mind it needs a pair of headphones that have enough dynamic range to extract every last drop of sonic goodness out of its diminutive proportions. Overall though, it's hard not to like Sony's most portable, affordable and easiest to use hi-res audio player to date ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY
★★★★★ **LIKE:** Terrific sound quality; diminutive size

VALUE FOR MONEY
★★★★★ **DISLIKE:** No DSD playback; non-durable build quality

BUILD QUALITY
★★★★★ **WE SAY:** A nicely priced pocket-sized package for enjoying hi-res audio on the go

FEATURES
★★★★★

OVERALL



It looks less like a smartphone, and makes hi-res music sound great

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Cable CRAFT

Creating cables up to the rigours of the pro-audio arena and the demanding audiophile takes some doing. **Andrew Simpson** meets VDC Trading

Whether you consider the effects of cables as hugely influential on your system's sound, audiophile pseudoscience that has relatively little impact in the grand scheme of things, or you're somewhere in between, speaker wires and interconnects are the vital veins and arteries that link our systems together. These humble cables supply our precious components with their lifeblood in the form of electrical signals to get the music flowing.

That's why there are plenty of companies dedicated to the art of making cables, but what sets VDC Trading apart from most hi-fi cable manufacturers is that its origins and main business lies more in the pro-audio arena than the domestic sphere. VDC Trading, which stands for Volts DC Trading is the sole distributor for Van Damme cables (which despite the name, have nothing to do with the mullet-sporting Belgium beefcake of martial arts movies and low-cal lager fame).

Since its inception over 25 years ago, this London-based company has grown from humble beginnings to carve out a phenomenal client list that few other pro-audio companies can hold a candle to. Whether it's within the cosy confines of Abbey Road Studios or out in the fields of the Glastonbury Festival, VDC's products have played a vital role in helping make some of the biggest live gigs and studio recordings in recent times happen. From AC/DC and Adele to Radiohead and Rihanna, VDC has been called in to serve a raft of headline tours that reads like a who's who of the music glitterati – you can read a comprehensive list on the VDC website at: vdctrading.com/landing/clients-and-achievements. Such is VDC's reach, it's likely

that many of the albums you own were recording and mastered with Van Damme cables somewhere in the mix. To cite just one recent example, last year superstar axeman Jeff Beck used a full set of Van Damme Silver Series Session Grade guitar and effects cables, which he debuted at his Royal Albert Hall show. Commenting on his new handmade wires Beck reputedly stated: "If I didn't like them I wouldn't be f***ing using them would I?" Point taken Mr Beck.

Where it all began

VDC Trading started life in 1987 when company CEO and founder Niall Holden, then a budding musician in his early twenties, and his bass player used a £5,000 business loan to get the company off the ground from a spare bedroom office in a Hackney tower block. Two cars and three weeks in Greece later, this financial foundation had shrunk to £128, and it was time to get serious. The company's first order was a batch of 36 mic stands for Dave Stewart and Annie Lennox of Eurythmics fame to be used in their Church Studios, netting VDC a princely profit of £18. From there the business quickly grew at an exhaustive rate and mass cable production



This multicore cable and connector can offer up to 48 balanced channels in a single loom

soon followed. The first Van Damme cable was an instrument cable, designed to be the ideal on-stage lead for live musicians. It had a tight construction with dual screens of conductive thermoplastic and lapped copper, which gave it excellent noise rejection abilities as well as being very flexible, yet strong. "It set the standard for Van Damme cable going forward" says Niall.

Then followed speaker and microphone cables that were designed to match its instrument cable, which led to the company's next major development, an audio multicore designed for professional use. This offered multiple pairs of audio wires, from four to 48 within a single loom, meaning signals can all travel within one very thick cable terminated with a single, dedicated plug.

On the road

Alongside its innovative cable designs, durability and reliability have also been the company's watchwords over the years. In the home, our hi-fi cables are typically installed with maximum care and attention to ensure they sound at their best, and once installed they're usually left alone, aside for the odd connection clean or component swap. In the



Technical Director Nick Chmara with a VDC QC machine, one of only three in existence



Spot the difference: one is Van Damme's main man Niall Holden, the other is called Jean Claude

live music arena, however, it's a different ball game with the daily rigours of repeat installations in a range of often challenging settings placing huge physical demands on wires and their connections. Which is why since day one VDC has sought to build a reputation based on trusted quality into its products and services. As Niall explains: "Our main thing is reliability at the right price. VDC quality has to be total. If you are on stage or on a live tour things simply cannot go wrong. If you get that right you get the business."

These days Van Damme's cable production runs into the thousands of kilometres per year (VDC's current stocks of microphone cable alone extends to over 65km). Yet despite such high turnover, Niall and his team of over 50 employees have ensured that high standards of quality control have remained, as one of its recent clients Ian Nelson director at LEE Engineering and front of house engineer for rock group Placebo explains: "In over 200 shows, with 56 lines running every night, in over 60 freight moves to more than 30 countries on every continent on the planet, and with the best part of 200 ins and 200 outs, including at least 90 festivals, we didn't lose one line.



Speaker and hi-fi cables by the drum role inside VDC's London HQ

Not one mic cable, one XLR, one multipin line. Nothing broke. It's nothing short of astonishing."

New markets

Equipping cutting-edge recording studios also remains key to the company's core business. VDC has been supplying Abbey Road Studios since 1993 and almost all of its wires are now from the Van Damme stable. Other clients include the Dominion Theatre, which used over 36km of Van Damme cables during its recent refurbishment, and towards the end of last year London's Wave Studios became the latest destination to get the Van Damme treatment as did The Church Studios, marking 27 years since it became VDC's first client.

It's not just analogue audio wires that VDC has grown its reputation around. With the rise of bespoke networking solutions combined with the often poor quality of off-the-shelf data cables, industry demand led Van Damme to develop its own CAT5E cables that were launched around four years ago and come built to VDC's rugged tour-grade standards.

Alongside its copper-based cable offerings, VDC has recently made the move into the



Colin Huntley aka 'the fibre guy' uses a magnified image to check an optical cable

VDC TRADING HIGHLIGHTS

- 1987 Company founded by Niall Holden in council tower block in Hackney with £128 in the bank
- 1988 Sells 36 microphone stands to Annie Lennox and Dave Stewart at The Church Studios and makes £18 profit
- 1989 Moves to a small council unit in Carol Street, Camden Town
- 1992 Develops range of serious professional AV cables for Van Damme including 1.5mm and 2.5mm Shotgun Clear hi-fi cable range
- 1993 Launches Blue Series Studio Grade multicores four to 48 pair
- 1994 Begins supplying selection of cables to Abbey Road Studios
- 1997 Outgrows the Camden unit and buys a derelict 22,000 sq/ft warehouse in King's Cross, which becomes new HQ
- 1997 Supplies Van Damme's Black Series Tour Grade to the Glastonbury Pyramid Stage headlined by Radiohead
- 2002 Extensive use of Van Damme on Coldplay's World Tour for front of house and monitors
- 2003 Supplies the audio visual infrastructure for Lehman Brothers Holdings
- 2004 Supplies cable for Arsenal's new Emirates Stadium and the Bank of America
- 2005 Produces a 412-page product directory – the most comprehensive in its industry and supplies cable for Live 8 in Hyde Park
- 2010 Launches Marine Grade cable series for superyachts
- 2012 Supplies 8km of Van Damme terminated cable used up and down The Mall for the Queen's Diamond Jubilee celebrations
- 2012 Supplies huge amounts of every type of audio visual cable for the London Olympics
- 2012 Celebrates 25th anniversary by throwing a party in Abbey Road Studio Two, Jimmy Page (pictured below) attends



- 2013 Builds a huge multicore system for the Muse World Tour
- 2013 Establishes an in-house optical fibre lab and is certified by Neutrik as a COCA opticalCON assembler. Develops Van Damme TourLight fibre multicore
- 2014 Jeff Beck debuts Van Damme Silver Series Session Grade guitar cables at the Royal Albert Hall
- 2014 Van Damme cable used exclusively by Miloco for the refurbishment of the iconic Church Studios

fibre optic market and built its own high-tech fibre optic lab within its London HQ. From here it's developed the cutting-edge TourLight cable range, which is designed to carry massive amounts of data over long distances. Being primarily aimed at the touring and broadcasting sectors – like all VDC products – these cable assemblies also need to be built to last, which requires specialist skills combined with the very

INSIDER FEATURE VDC TRADING

latest technologies. VDC is certified by Neutrik as a Certified opticalCON Assembler (COCA), one of only 24 facilities world-wide and only the fourth in the UK to get this accolade. VDC also recently added being able to offer HMA (hybrid multi application) connectors to its Van Damme fibre cables, which are specifically designed for use in the field, and were originally developed to stand up to the demands of military applications.

As Niall explains, VDC's expansion isn't ending here: "Where do I see us in five years time? We'll hopefully have a second centre of operations and we will have expanded further into the installation contractor market. With convergence happening in new buildings through audio, video and data installation, when these premises are built we are finding more and more contractors are turning to us to supply the cable and the advice. I also see us making more inroads into the export market, and even launch a Van Damme hardware clothing range for the rock and roll touring industry!"

Cult following

While studio, touring and live applications easily generate the largest slice of VDC's estimated £8m annual turnover, it's clear to see why Van Damme's cables have also remained firm favourites for hi-fi fans on a budget for years. From military-grade valves to broadcast studio monitors like the legendary LS3/5A loudspeaker, the hi-fi community has long held a magpie approach to cherry picking products from other sectors that will bring rewarding results to our home systems, and for what's often a very modest outlay. So when it gets a whiff of kit that

offers a no-nonsense approach to tech specs and build, word spreads fast, as evidenced by many a hi-fi forum where VDC's range of Studio Grade speaker and Pro Grade XKE balanced/unbalanced interconnect cables remain popular, thanks to their quality construction, customisable lengths and choice of cores. Niall says: "We have 1,800 entries on Amazon and they all have four and five star ratings. Our products do what it says on the flight case."

Take the Studio Grade speaker cable for example, it's made from ultra pure oxygen free copper and comes in 0.75/1.5/2.5/4/6mm cores with twin and bi-wire options for all but the twin-only 6mm variant. Then

From AC/DC and Adele to Radiohead and Rihanna, VDC has been called in to serve

factor in its durable twin PVC sheathes designed for the most brutal studio abuse, which makes it ideal for swapping in and out of hi-fi systems without worry, and it's easy to see why for some audiophiles this cable is just what the doctor ordered. And for those less keen on the blue hosepipe look, Van Damme offers a hi-fi market version sheathed in a more attractive transparent PVC/neoprene jacket – see the full range at van-damme.com/product.html.

It's not just hi-fi consumers that have been flying the Van Damme flag, as a number of audio manufacturers have also followed suit. PMC Ltd, a company which like VDC, also

has a foot in both the pro and domestic audio camps, has been fitting Van Damme cables within its loudspeakers for years, as has Bryston within its hi-fi hardware.

Sensing the rise in consumer demand, last year VDC launched its online YouSpec portal – vdc trading.com/youspec – which lets you create and buy your own custom cables in specified lengths and with a wide range of terminations. You can even choose your own custom labels, which takes the pain and cost out of finding bespoke cable builders.

Birthday celebrations

In 2012 VDC Trading reached its 25th year, which it celebrated with guest of honour Jimmy Page at the legendary Abbey Road Studios, home to some of the most influential recordings of all time, including Pink Floyd's *The Dark Side of the Moon*. Says Niall: "To meet Jimmy was tremendous and I have Bob Dylan to thank for it. How many people can say that? Apparently, Jimmy was due to see Thom Chacon play a couple of nights before but had decided to go and see Bob Dylan as he was in town too. Fortunately for us Chacon was one of the guest artists at our event and as Jimmy was still keen to hear him he came along."

Spending just a few hours at VDC Trading gives you a real sense of the passion that Niall and his team have for the industry they're in. For them it's more than just the story of the cables and connections that drives them, it's about the vital role their gear plays in delivering the musical end product, from the stage to the studio to your living room, and the pleasure this brings to music lovers everywhere ●

QUALITY CONTROL

Being able to render quality connections time and time again that are guaranteed to go the distance takes years of experience. Thankfully Paul Marchesi can claim over 15 years on the front line at VDC since he first started as a trainee wireman, before quickly getting promoted to floor supervisor and production manager.

Paul walks us through the complex process of assembling a handmade interconnect using Van Damme LC-OFC Twin Audio 268-500-000 cable (van-damme.com/25.html) and Rean NYS373 plugs (rean-connectors.com/en/products/phone/phone-plugs/nys373).



1 Components are carefully laid out ready to build, with each connector stripped and inspected



2 Each channel is separated out and heat shrinking is applied 100mm from the cable ends to keep the main cable together



3 Once the plugs' outer sockets are passed over the cable, the PVC/Neoprene jacket is trimmed to reveal the LC-OFC braided screen



4 Braided screen is expertly gathered to one side of the red and white polyethylene foam inner insulator and solder sealed



5 Inner 0.63mm copper core is soldered to the centre receptacle hole, while the outer braid is soldered to the outer cable clamp



6 All four plugs are visually inspected before being reassembled. Note the black clamps that ensure each grips and seals to the outer jacket



7 Each cable is individually checked for signal flow. This tester box has put thousands of cables through their paces



8 Paul proudly holds up the finished article, complete with a Van Damme Velcro cable tidy and cheesy grin

ANTHONY GALLO
ACOUSTICS

ARCAM

ATLAS | Cables

audiolab

AUDIOVECTOR

Bardaudio

B&W

BOSS

THE CHORD
COMPANY

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CRESTRON

CZEK

CURLS

DENON

epos

EXPOSURE

GENELEC

GOLDRING

GRADO

IMAGE audio

ISOtek

JVC

KALIDESCOPE

KEF

KUDOS

LINN

Lumagen

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THIS MONTH



ED SELLEY

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



NEVILLE ROBERTS

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



JASON KENNEDY

EXPERTISE: REVIEWER
Former HFC editor Jason loves music so much that he has dedicated his life to finding the ultimate system. A long-time vinyl nut, he also enjoys a well-streamed file.



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.



CHRIS WARD

EXPERTISE: REVIEWER
When Chris isn't advising businesses on strategy, he's trying to squeeze more musical qualities out of exotic combinations of cutting-edge tech and vintage hi-fi classics.

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



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➤ One Direction

Normally I don't get into arguments about the benefits of certain hi-fi features. I think some work and some are voodoo, but on the whole not much harm is done, so if people enjoy it that's absolutely fine with me.

In the case of last month's letter of the month, we are dealing with the question of cable directionality. One of the replies uses lots of (pseudo) science, which can be quite intimidating, others are more honest in saying there may not be a scientific basis. All claim they can hear the difference. One thing is omitted: simple logic.

I am not a scientist, but I do know that the audio signals have no direction. It does not

'flow' from CD player to amplifier, or from amp to speaker. Cables make an electrical connection thus causing both terminals to have the same potential/voltage. The one-sided shielding claim makes no sense: shielding keeps out interference, so if there is no interference the shielding is okay. Audio signals are AC so saying cables are directional is just as meaningless as saying a washing line is directional. If a cable would be directional, a sine wave would get distorted as there would be a difference in conductivity for the positive half compared to the negative one (very much like a diode). Directionality would, therefore, be a very bad thing.

I am not surprised that your experts can hear the difference, as they can also hear the difference in mains cables and audio racks. But logic dictates it is impossible. A serious, scientifically sound, blind listening test would prove that.

Ed Stegeman, by email

NR: Hi Ed, When you say that audio signals have no direction, this is true when averaged over time. However, at a particular instant, current is flowing in either one direction or the other

I'm not a scientist, but I do know that audio signals have no direction

and as you correctly say, if there was a difference in conductivity in one direction compared with the other, this would be a bad thing. This was the point I was making as, at metal grain boundaries, you can get some slight differences (think about junction diodes). Burning in cables, DCT and good cable design (which can make the cable 'directional') all help to minimise this. At the end of the day, I and my learned colleagues make judgments based on what we hear and do not discount an effect just because we can't fully explain it. Indeed, many blind listening tests have been conducted that do support the

fact that there is an audible difference. Of course, these effects are more noticeable with higher quality equipment – after all, you would be unlikely to notice any improvement in performance of a Reliant Robin by fitting it with high performance tyres.

Graham Nalty, Black Rhodium:

I have long been aware of the relevance of direction to good cable design, but my experience has always been that while a cable might sound better in one direction, the cost for a manufacturer of reliably testing each cable for direction by listening is too high compared to the improvements I have heard. Twist (pictured), and almost every other Black Rhodium cable, is manufactured by first specifying that the whole production run of a cable order is made from the same continuous length of wire.

The run of single cable is insulated and printed so that the direction is recorded. Half of the cable is wound on to new reels to reverse the direction. Two cores, marked to be in opposition direction, are wound together. The cables may then be subjected to further processes such as screening or covered in an outer jacket, though this does not happen with Twist.

When a pair of Twist speaker cables are terminated in the factory, printed heat shrinks are used at each end to prevent the cable from unwinding. The heat shrinks are applied so that they



The great direction debate continues, but will it ever end?



Bill Guest isn't convinced by DV's quick fix

both read in the same direction and we say that this should be the direction from amplifier to speaker. Please remember that each cable pair has a wire in both the 'forward' and 'backward' direction in relation to the wire as originally supplied. The wire that is overprinted in the same direction as the printing on the printed heat shrinks is designated the 'positive' and fitted with red marked plugs. The other wire becomes the negative and is fitted with black plugs. By these processes, we can guarantee that all cables have their positive core in the opposite direction to the negative one.

A test of a pair of high-end cables manufactured by this quality control process yielded very interesting results.

When both cables were reversed, there was a small change in sound, enough to persuade a fastidious owner to use the cables in the preferred direction. When only one speaker cable of the pair was reversed, the sound lost its focus quite dramatically. Reconnecting the cable in its original direction immediately gave the impression that a layer of background noise

had been removed. Our manufacturing quality control processes ensures that both cables in a pair will perform in the superior configuration.

▷ April fool?

I was much amused to read the Tweaker's Corner piece in the March issue. I assume it was meant for the April issue as an April fool's day prank?

If you are still wondering what to replace it with, may I recommend that you contact Hi-Fi News? There may still be someone on the mag who can put you in touch with the supplier who, back in the sixties, provided them with a natty little item – a sort of predecessor to the erasers beloved of David Vivian – which if memory serves was a house brick wrapped in a steel coat. This was alleged to improve the performance of an amplifier, rather than a loudspeaker, when placed on top of it.

I did not buy one, and I have seen little mention of the item in recent years. I can only conclude, therefore, (whisper it to David) that this

was something else that did not do what it said on the tin!
Bill Guest, by email

DV: The urge to rid kit of unwanted resonances is probably as old as hi-fi itself Bill, and littered with belt 'n' braces solutions cobbled up by keen tweekers. 'Plonk something heavy and inert on it' can be surprisingly effective – in the case of budget speakers firmly fixed to heavy stands, damping at least one side of the exposed box and adding mass to the stand/speaker structure can change the sound significantly – the added mass helping bass weight and perceived extension in particular. Whether the result is more pleasing is a personal thing, of course, but experimenting can be a hell of a lot of fun.

▷ DAC's not right...

David Price's reply to George Hodge's letter in your March issue is incorrect. The Sony unit does not allow an external DAC to be fitted. The USB socket on the rear only allows the connection of an external hard drive.

Colin Green, by email

LD: Hi Colin, you are correct in saying that the USB output at the back the HAP-ZIES is only intended for use with external HDDs. As you rightly point out there is no upgrade path to add an external DAC, but the Sony is still among the most complete HDD music sources around.

▷ Hide and Geek

I have been reading your instructive and enjoyable mag for many years now, and the time has finally come to ask your advice. In issue 393



The Geek Out DAC should be ideal for Asher

TWITTER QUERIES

Hi-Fi Choice Hi-Fi Choice
@HiFiChoiceMag

Shane Dorrian @ShaneVinyl
@HiFiChoiceMag Feb 25
I'm a bit confused, is the @DEVIALET a standalone Music System? or could it be used with a turntable and speakers?

Hi-Fi Choice
@HiFiChoiceMag
@ShaneVinyl Feb 25
@DEVIALET #PHANTOM is a unique multi-room speaker system with powerful built-in amps playing networked music via its Spark app

Shane Dorrian @ShaneVinyl
@HiFiChoiceMag Feb 25
@DEVIALET So probably not the ideal thing to pair with a turntable then in the future at least

Hi-Fi Choice
@HiFiChoiceMag
@ShaneVinyl Feb 25
@DEVIALET actually it's great for vinyl, has inbuilt phono stage which has highly customisable settings via the app and SD card

Lee Dunkley warmly recommended the Geek Out DAC in the Group Test. I'd like to buy it in order to connect my laptop to my amplifier (Marantz PM7001 KI). The Geek Out output impedance is only 47ohm, which is way below the 20k input of the amplifier. Won't this cause a problem due to impedance mismatch? Is the Geek Out's 450mW good enough or will I need to invest in a stronger one (eg 750 or 1000mW)?

Please note that I will be ordering this item from overseas and so I cannot test it, which is why I need your advice. Thank you

Asher Uziel, by email

JK: Having tried the Geek Out DAC myself I can assure you that its 47ohm output impedance will drive your amp with ease. As a general rule output impedances should be low and input impedances high, it's an approach you find in all but valve-based equipment. Likewise the lower than average 450mW output of the DAC will be fine with your – and pretty much any modern – amplifier. I believe the higher output Geek Out DACs were created in order to drive the more challenging headphones on the market. ▶

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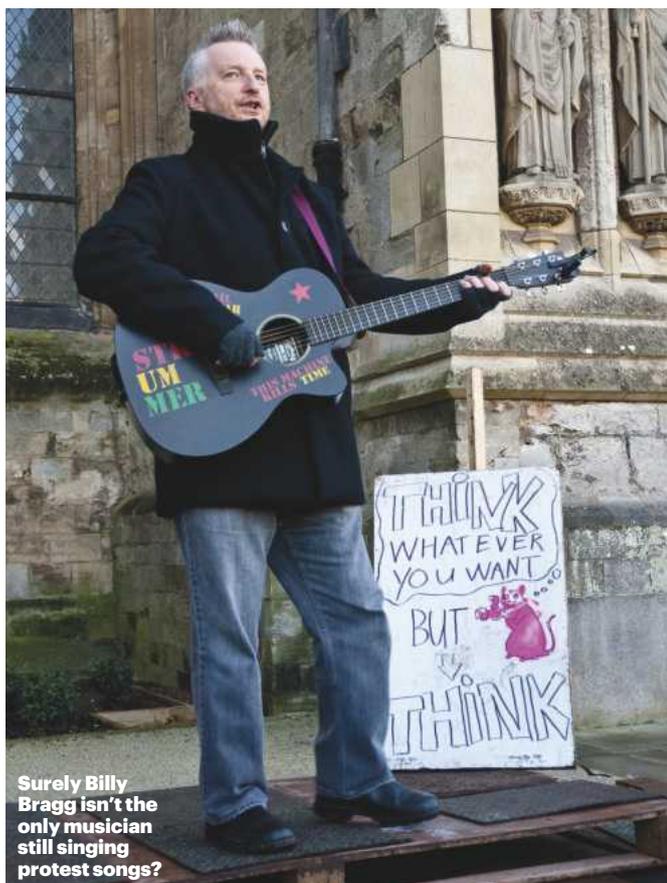
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Surely Billy Bragg isn't the only musician still singing protest songs?

LETTER OF THE MONTH

Songs of freedom

Hi, I was quite taken by Nigel

Williamson's *Opinion*

in issue 393, and it got me thinking. I'd agree that with some exceptions the overt socio-political songs have gone from the popular mainstream. But apart from a brief time in the mid sixties to late seventies, were they ever there – and if so, rarely?

The charts were almost exclusively standard boy/girl love songs, or about having a good time dancing the night away. It is true that Dylan's protest songs, Neil Young's stuff and so on have gained a profile over the years that most will have heard. But the Pistols' songs *God Save The Queen*, *Pretty Vacant et al* are also now widely recognised. As punk in turn was drawn in to become harmless (Sham 69, Plastic Bertrand, Blondie, etc.), other music changed the approach people took to challenging authority – house music scared the state to the point of creating the Criminal Justice Bill, banning three

or more people gathering together to play music consisting of a series of repetitive beats. Castle Morton was that generation's Woodstock and Altamont rolled into one. The Prodigy responded with *F*** Them And Their Law*; others like Aphex Twin made songs without repetitive beats.

Heavy metal has an outsider's vibe but rarely engages with social

Apart from a brief time in the sixties were protest songs ever popular?

problems, so is more of an escape. Rap started off strong, hence the title of your article, but got drawn back into the quotidian – money, bling and girls. The last person I can think of who has written lots of social commentary songs would be Michael Franti (and Spearhead), good tunes too. Oh, and Billy Bragg. But the music that is currently

moving me is the stuff made from outside the terms of reference of the industry. For this I turn to Constellation Records based out of Quebec, and I'd like to highlight Silver Mount Zion as the seminal band. Given as you point out that protest is no longer contested, but amalgamated back into the system against which you protest, they start from us already living in a collapsed counter-cultural world. Their stuff points to the weeds growing in the rubble, the little found things, and glories in that. I wonder if this is the greatest form of protest, to assume that all is lost and to carry on anyway? It's not exactly what you'd call hi-fi, though...

Christian Halpin, by email

JDW: Hi Christian. Some great points there and I'm inclined to agree with much of what you say. Scratch under the surface and you'll find a wealth of artists with plenty to say about today's society – whether it be hip hop, grime, dance music, folk reggae, hardcore, the list is endless. Oh, and sorry to be a stickler, but it was Autechre that produced the track that had no repetitive beats not Aphex Twin, but I will concede that it was hard listening.

NW: Hopefully there will always be a healthy dose of protest in the undergrowth of popular culture's sub-genres and cult followings. My point, as you correctly surmise, was to mourn the disappearance of protest from the musical mainstream. You ask if protest ever really occupied such a central place, apart from in the sixties and seventies, which we now look back on as a golden age. Perhaps one can only expect protest to command a voice in the mainstream at times of extremis. Thatcherism, for example, gave us Billy Bragg and the Red Wedge bands in the eighties. Yet it doesn't seem to have happened in quite the same way over more recent flashpoints such as the Iraq War or the banking crisis. I wonder if there are great protest songs being written in Greece against austerity right now? I'd like to imagine that there are and it would be fascinating to hear them. Finally, I'd say protest songs

HINTS & TIPS

CLEANING COMPACT DISCS

When CDs were first released to an unsuspecting public, they were marketed as 'virtually indestructible' and it was claimed that, being digital, no surface dirt or scratches would have any effect on sound quality. How wrong they were! It is now generally accepted that CDs are not immune to contamination, so cleaning them is extremely beneficial. That inadvertent fingerprint can reduce the overall clarity of the music by increasing jitter as the player has to correct for errors during playback. In extreme cases, surface contamination can cause skipping and even render the CD unplayable by many players, especially in-car devices, which seem to be less tolerant.

The best way to clean a CD is to use a proprietary anti-static CD cleaning fluid. In the absence of specific instructions from the manufacturer, the safest way is to apply the fluid to the CD playing surface and wipe it using a lint-free cloth radially from the centre to the outside edge, working around the entire surface. Finish off with a dry cloth, again wiping radially, and make sure that the CD is completely dry before attempting to play it again. It is also worth checking that there are no stray drops on the label side of the CD. In many instances, the resultant improvement in sound can be surprisingly good.



ADJUSTING CARTRIDGE VTA

It is important to ensure that the height of the tonearm is adjusted so that the Vertical Tracking Angle (VTA) is correct. The VTA is the angle of the cantilever to the record surface (usually 20°), but in itself this is not critical. However, the VTA affects the Stylus Rake Angle (SRA), which is the angle of the stylus in the groove, and this does have a major impact on sound quality. The closer the SRA can be to that of the original cutter head, the more information the stylus will retrieve from the groove.

The VTA will vary depending on the tracking weight so it is important to set this first. Adjustment of the VTA is carried out by altering the height of the arm and the correct point is best determined by ear. A good starting point is to set the arm height so that the arm is parallel to the record when it is playing and to choose a well-known disc with some bass and either a solo violin or a female vocalist. If the arm is too high (VTA too great), the sound will be harsh and thin with poor imaging. If set too low, the bass will be 'boomy' and the sound will be dull, lacking detail and again have poor imaging. The correct point is unmistakable where the instruments and vocals snap into focus and everything sounds crystal clear.

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can be very specific in response to a particular event or completely universal and generalised. One of my favourites in the latter category was Black Eyed Peas' *Where Is The Love?* and we need more of this sort of thing.

DP: Without wishing to get too philosophical, what makes a protest song? I think it's necessary to get beyond the idea that you have to sing about how terrible the government is, at a particular time. Do you have to sing – as Billy Bragg did – that the Tories

What's the best way to improve my Sugden with a budget of £1k?

were uncaring and International Socialism was the answer? If almost no one except a few refugees from John Peel's shows of the eighties listens to this, will Billy Bragg change the world? Of course he won't. But how about songs that catch the zeitgeist, without making literal political points? Dance anthems like Inner City's *Good Life* spring to mind, celebrating the hedonism that the end of that decade offered. I'd argue that these did more to make sociological statements than punk's more obvious literal stylings. Songs that capture the public's mood, from The Reynolds Girls' *I'd Rather Jack* (*Than Fleetwood Mac*) and Flowered Up's *Weekender* have done more to make pop music meaningful than folk singers or rappers droning on about how evil society is!

➤ **Upgrade SOS**
My system has largely been static for around 10 years, comprising a Goldring GR2 turntable with 1012GX cartridge, Arcam Alpha 8 CD

The Rega RP8 is perfect for Mark's needs according to JK



player and Sugden A48 MkIII integrated amp, feeding Acoustic Energy AE 509 floorstanders via van den Hul Clearwater cables. I'm very attached to the Sugden and don't want to swap it out, given its warm and laid back character, so I'm looking at upgrading one of the front-end components. Given a budget of around £1k, am I better advised to go for just one component now (leaving the other for the future) and pursuing something like a Rega RP8 turntable or Audiolab 8200CD CD player, or will their award-winning performance be compromised by my ageing amplifier? Should I, instead, set my sights lower on the front-end upgrade and audition two £500 products (eg an RP3 – in which case, am I really upgrading?), or do I really need to consider upgrading the amplifier first? My listening covers a number of genres, including sixties beat, post-punk, indie and Americana, but particularly female vocalists. Thanks.

Mark Knowles

DP: No Mark, don't upgrade the amplifier first – especially if you like it and feel it works well with your loudspeakers. You may want to send it back to Sugden to have its electrolytic capacitors replaced and its various settings recalibrated, as these deteriorate over time and begin to harm performance. If any high-quality but ageing amplifier sounds unduly loose in the bass, or opaque through the midband, there's a good chance it needs a service. Personally I would drop £1,000 on a new source component, and the ones you suggest are excellent examples. Your main problem is deciding



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whether to invest in CD or vinyl; given your music tastes, I would strongly advise on the latter.

JK: I would also stick with the Sugden, it is as you say a very fine amplifier and is not the limiting factor in the system. I would purchase a Rega RP8 turntable and arm now and a Rega Saturn-R CD player later when funds allow. Both are superb pieces of equipment that compete way above their price league, in fact there are few CD players at any price that make a more engaging and musical sound than the Saturn-R. Both of these will dramatically transform the sound of your system.

CW: Given your love of female vocals, I'm guessing you may want more refinement and better expressive detail around critical midband and treble frequencies. If vinyl is important to you, the strongest upgrade you could make is using a moving coil cartridge. You'll also need to budget for an MC phono stage or step-up transformer into your Sugden, but there are many excellent options for sensible money. If you choose to upgrade your CD, as well as auditioning the 8200CD you might want to try Audiolab's Q-DAC or M-DAC fed from your Arcam's digital output. This would give the same character of sound with the same subtle digital filters, but might leave enough budget to start pursuing moving coils.

➤ Money talks

Hi there, I have two problems with your journal: one for the money, two for the talk!

In issue 393, page 44 David Price wrote about "a £1,300

DAC/preamp that sounded a lot better than it had a right to at the price." The first thing to upset me about this was the enormous cost; the second was that his view of sound quality was clearly affected by it.

David should have read Chris Ward's article Listen without prejudice on page 77. Agreed, it is difficult to assess something like sound quality objectively: the psychometrics books are full of the errors that can arise. But they also discuss methods of avoiding these errors, and any serious assessment should take account of them. Perhaps cheap cables to the speakers really do sound just the same as pure silver. Without proper comparison procedures how can we tell?

As to the money, there is something wrong with an industry producing products only affordable by bankers. What are the rest of us supposed to listen to? As a pensioner I got a second-hand Marantz PM45 driving KEF 104s for £100 all in. Connected to my smart TV headphone output, the Berlin Philharmonic digital concert hall feeds are clearly superior to CDs. When I get my £85 Schiit Modi 2 DAC I hope to get even better sound from the optical output.

I am sure more money would produce better sound, but I don't have the sort of money you write about. How about advising the great lower-waged majority who are not bankers how to get reasonable sound?

James Semple, Devon

DP: Hello James, it's a shame that you allow yourself to be upset by such trifles. I think both of your contentions are wrong, so let me explain why. First, in DAC terms £1,300 is not enormous; if you had attended the Las Vegas Consumer Electronics Show in January for example, you would doubtless have been angered to see that there are several DACs on sale costing well in excess of \$100,000. In this world, £1,300 would be called 'budget', which shows you how relative things are in life.

This brings me to my second point. Having auditioned these,

How about advising those of us that don't have bankers wages?

and indeed reviewed hundreds more DACs over the past 20 years, my praise for this particular one was in the context of how good one can expect a DAC to sound at a certain price point. So my assessment of its sound was not "clearly affected by it". As a reviewer, you need to talk about the sound quality of a product relative to its market rivals, and also contextualise its absolute ability. I have an £8,500 dCS Debussy DAC as a reference, which is one of the best digital converters around. I use this to make A-B comparisons with every DAC I review. If the new one on test comes close in some respects but is substantially cheaper, then this marks it out as super value for money in the great scheme of hi-fi things. This can be demonstrated reasonably objectively; I often do repeated

comparisons between the DAC I'm reviewing and my reference DAC with friends, musicians and/or other reviewers present, and we get similar results.

I do not agree that "there is something wrong with an industry producing products only affordable by bankers" – providing they also produce stuff for the rest of us to afford too. If the more expensive hi-fi uses tech that trickles down into the affordable stuff, then that's all for the better. Long before it was fashionable to bash bankers, the hi-fi industry was producing high-end designs that most people couldn't afford – such as your very own KEF 104 loudspeakers, for example. It's lucky KEF didn't follow your philosophy back in the seventies or you wouldn't have them now. As regular readers of this august journal know, I'm an ardent advocate of affordable audio – as well as the classic variety that, as you rightly point out, is a great way of getting the best sound per pound for those on a tight budget. Happy listening.



COMPETITION WINNER

Back in the February issue we ran a competition offering you the opportunity to win Philips' excellent wireless Fidelio DTM9030 speaker system. We received a mountain of entries and having found a hat big enough, plucked the winner at random from it. Congratulations to: I Brewster from Gwent, your prize should be on its way to you soon.

The dCS Debussy DAC, a snip at a mere £8,500



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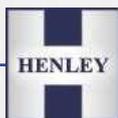
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Army of me

It's difficult to have much sympathy for millionaire pop stars complaining about falling royalties, but argues **Lee Dunkley** maybe they've got a point and it's time for a rethink

In the 2002 movie *About A Boy*, Hugh Grant plays a character who doesn't have to work for a living and instead enjoys a life of leisure, thanks to the royalties generated by his deceased father who wrote a Christmas number one single. Although this is obviously a work of fiction, the idea that royalties from recordings are enough to live from certainly isn't beyond the realms of possibility. But this got me wondering. With the current increase in popularity of music streaming services over the more traditional ways of obtaining music, would such a story be believable now?

Back in 1998 when the novel was originally released, if you wanted to go out and treat yourself to the album of the day – let's say for argument's sake The Verve's *Urban Hymns* – you'd have gone to your local record shop and thought nothing of splurging the best part of a tenner to get it on vinyl or CD. Jump forward to now and you'd more than likely get it from somewhere like iTunes, stream it or – naughty, naughty – download it illegally for free. If current trends are anything to go by, you'd more than likely use a streaming service like one of the six mentioned in this month's *Blind Listening Group Test*, starting on p24.

But the thing is, instead of shelling out £10 for the album, you'll be paying around the same amount to access *Urban Hymns* and many more for a month, which means

You've got more chance of living the rock 'n' roll lifestyle being an accountant

that Richard Ashcroft and his scruffy mates will be getting far less in the way of kickbacks than they once were.

There have been many naysayers of late pointing out the lack of fair play when it comes to streaming services and the amount of money the artist receives in return. When it's high-profile best sellers like Taylor Swift proclaiming: "I'm not willing to contribute my life's work to an experiment that I don't feel fairly compensates the... creators of this music" it's difficult to feel much in the way of sympathy as she's clearly not short of a bob or two and is obviously angling for the best commercial deal possible to make even more cash. But when artists that appear to genuinely care about the craft of making music – and not the cash injection – cry foul, it's perhaps worth giving it a bit more serious consideration.

Take the creator of this issue's album of the month in *Music Reviews* on page 99 – Björk. She might be something of an acquired taste and dress up like a bit of a loon at times, but the Icelandic songstress seems to speak a lot of sense when it comes to this emotive subject. In late

February, she told the Fast Company website: "This streaming thing just does not feel right. I don't know why, but it just seems insane..."

To work on something for two or three years and then just, 'Oh, here it is for free'.

It's not about the money; it's about respect, you know? Respect for the craft and the amount of work you put into it".

In fairness to Taylor Swift, the two wildly different artists appear to be effectively saying the same thing. But the difference is that Björk appears to care more about the music that she's put her blood sweat and tears into and not so much about how to squeeze every last penny out of it. Hell, she even goes one step further and suggests a way that this streaming stuff could work for everyone, noting: "But maybe Netflix [the TV series and film streaming service] is a good model. You go first to the cinema and after a while it will come on Netflix. Maybe that's the way to go with streaming. It's first physical and then maybe you can stream it later."

The great rock and roll swindle

It's obvious that no one really has the answer to the conundrum, but what is clear is that there's a definite feeling of improvisation going on. And while this 'make it up as you go along' way of doing business is fine for established acts like Taylor Swift, U2, The Rolling Stones and even Björk who can subsidise poor financial returns from streaming with sell-out tours that in reality make them far more money, the outlook is pretty bleak for any band that's just starting out.

Popular music – and in particular rock music – has always had a reputation for its excess, but the days of multi-million pound record deals are long gone and in all probability you've got more chance of living the rock 'n' roll lifestyle by becoming a banker or an accountant. If new bands and young musicians are ever going to have a chance to make a living from music, we're going to need a rethink of how we do things. Could it be that an ethical or fair trade streaming service holds the answer? I'm not sure that I – or anyone else for that matter – knows, but fair trade streaming is certainly food for thought ●



Björk's headgear might not be to your liking, but her logic is sound



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Vinyl game changer

It might be 42 years old, but says **David Price** *Dark Side Of The Moon* was a seminal album and an incredibly important release for a number of reasons

That has obviously struck a chord somewhere”, said Roger Waters when his wife burst into tears upon hearing a pre-release tape of *Dark Side Of The Moon*. Described by Nick Mason as a document of modern life that crossed over into a meditation on insanity, it propelled Pink Floyd to superstar status. Just when it looked like Britain’s musical star was on the wane, this album began its 1,500 week chart tenure, busting every sales record of the time. The original Harvest solid ‘blue label’ vinyl pressing (pictured) was released on 8 March, 1973, and things were never the same again.

It was recorded over the summer of 1972, when Abbey Road was proudly running 16 tracks; the new Dolby noise reduction system was introduced halfway through the sessions, and the final album mixed down to stereo towards the end of the year. Legend has it that EMI commissioned Alan Parsons to do a quadraphonic mix too, but Pink Floyd boycotted its launch at the London Planetarium; their place was taken by life-sized cardboard cut-outs!

Surely no audiophile cannot love *Dark Side* – or at least respect it? Even if you’re not naturally inclined to be a fan of the band, then the attention to detail shown in its words, music, musicianship and production shine through. As do the mastering and the pressing quality of the record itself – especially on the transcendent blue label Harvest original,

The explosion in sales of high-fidelity equipment led to audiophile LPs

which now sells for up to £500. Money that it likely helped the British economy survive its most turbulent economic decade of the twentieth century, working wonders for the balance of payments. And it raised the bar for what a vinyl record could sound like.

For audiophiles, this has special significance. Without albums like this, what was the point of hi-fi? This seminal disc gave the hi-fi world a reason to exist. It let audiophiles put their system through its paces; suddenly they could have friends round, crack open a bottle and make an event of listening to a great album on a high-quality system.

It didn’t just do this in isolation, it set the template for all the great rock bands of that decade. In the same way that Paul McCartney said that *Pet Sounds* inspired The Beatles to do *Sgt. Pepper’s Lonely Hearts Club Band* in the way that they did, so this Floyd album gave a generation of progressive rock bands a benchmark. Would Supertramp’s *Crime Of The Century* have been quite as pristine sounding if *DSOTM* had never happened? Would Genesis’ *Lamb Lies Down On*

Broadway have sounded the same, I wonder? And would The Eagles’ *Hotel California* have been different without it?

By 1975 we found ourselves at the high watermark of progressive rock – with a wealth of great releases recorded to extremely high technical standards

on multi-track analogue tape machines, the like of which we could only dream about five years earlier. The new technology allowed music to become far more sophisticated both musically and aurally, ushering in a different way of listening. And of course, hi-fi was the means by which it was all unlocked. The Beatles’ *She Loves You* sounded great on a good system, but Mike Oldfield’s *Tubular Bells* sounded amazing in glorious hi-fi stereo. In this year, sales of the LP peaked and (in Britain) would never be as high again. This was, I would submit, down to the ‘perfect circle’ of the explosion in quality and creativity, allied to the new seriousness that the buying public were giving to hi-fi.

The Floyd effect

The generation of albums inspired by *Dark Side* had now reached the record shops – in all their multi tracked gatefold-sleeved finery. Meanwhile, a new generation of high-quality audio equipment was appearing. Buoyed by the explosion in sales of components, the music industry responded with audiophile LPs, specially mastered on higher quality virgin vinyl. They were really expensive, often three times the price of a normal LP, but people still collected them and the music industry took this seriously enough to build in a so-called ‘audiophile clause’ in its contracts with recording artists, reducing the royalties to them on special pressings in the name of promoting the cause of high-quality sound to a wider market!

The period from the release of *Dark Side Of The Moon* in 1973 to the appearance of Steely Dan’s *Aja* in 1977, was the golden age of vinyl. We had a number of highly talented bands writing brilliant music, prepared to back it up with painstakingly high production and recording standards. This wasn’t cheap, but the music industry knew that people were willing to pay for perfection, and put its hand in its pocket to invest – something that sadly we can’t say today ●



The original Harvest solid ‘blue label’ vinyl pressing is worth up to £500



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Shake, rattle and roll

It's generally accepted that vibrations are not a good thing for your hi-fi's performance. But did you know about the issue of earth quakes? **David Vivian** explains all

Go jump on that!" It wasn't exactly the greeting I was expecting from Max Townshend when I bumped into him at the Bristol Sound & Vision show. But I've always trusted Max's judgement – especially when it comes to Australian reds – so I did.

The 'that' in question was the largest in his range of seismic isolation podiums, a sizeable metal platform supported by a captive Townshend load cell at each corner and designed to decouple a large floorstanding loudspeaker from its surroundings by severing the acoustic connection between the floor and it – thus preventing the passage of deleterious vibrations to and from the speaker cabinets.

To be honest my jump was more of a tentative step, although once mounted I did bend my knees a few times to test the amount of give, and then stand perfectly still for a number of seconds to see whether my susceptibility to the show's many and vigorous deleterious vibrations had been reduced. My guess is they had but that being a wobbly bi-pedal life form even more adept at absorbing vibrations than the platform I was standing on, and not a Focal Grand Utopia loudspeaker, I didn't notice.

Although Max has come as close as anyone to being hi-fi's own genius-level maverick, his most beloved first principle is the idea that hi-fi components should be isolated from the sundry air and structure-borne vibrations of their surroundings by a low-pass filter – ie a supporting

That the evils of vibration are all embracing is generally accepted

mechanism with a natural resonant frequency of around 3Hz in all planes. To this end, Townshend has evolved a range of products over the 28 years since his first Seismic Sink support platform went on sale to nail the problem once and for all. The reason his Seismic stuff works so well (and it does) is far stranger than that if you accept its core premise. It's all about decoupling a system not just from noise pollution generated by what goes on in the big, wide world outside, but from the world itself. We're talking about earthquakes.

Mostly tiny ones that we don't directly perceive, but earthquakes all the same. And they're happening right under our feet and our hi-fis 24/7. The reason we don't feel them, Max explains, is because of their extremely low amplitude. They are nevertheless real, measuring between -1 and 2 on the Richter Scale, and effectively the embers of the numerous small-time earthquakes and tremors occurring around the planet every day. The measurable level of seismic activity is very small and can vary due to



the contribution of man-made disturbances and other natural phenomena, such as wind and tide.

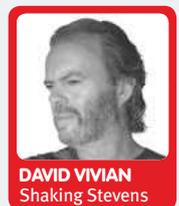
The upshot of all this, according to Max, is that most floors are vibrating with an amplitude of about 10 microns (force 1 on the Richter Scale) with a frequency range from 1-500Hz. In typical listening conditions with a speaker producing a 5kHz signal at 40dB – more or less the equivalent of a decaying cymbal strike – the resulting speaker cone movement of a 100mm diameter driver would be about 0.01 microns. So in my room, with the speaker coupled rigidly to the floor with spikes, that 10 micron floor vibration will travel up the spikes, into the cabinet, into the basket and onto the magnet plate. This seismic movement is then superimposed onto the music with contaminating consequences. Ergo, replace the spikes with what amounts to a 3Hz filter and you radically reduce the ground-borne vibration entering the speaker, resulting in a sound that's more music and less mush.

Seismic shift

That the evils of vibration are all embracing is generally accepted, but Max has made it his business to know why. His investigations have shown that the smallest vibrations affect the laser mechanism and crystal oscillators in CD players, increasing sound-degrading jitter. Even solid state amps have microphonic components, including capacitors and connecting wires that move relative to one another, generating rogue voltages as they do. Max has found that computers, streamers and DACs are highly susceptible to mechanical noise as well, since they all contain vibration sensitive crystal oscillators.

His big problem is convincing people that something so small it can't be felt can have a big say in how your hi-fi performs. Lots of satisfied customers say he's right. And he does own the best-sounding system I've ever heard ●

Could this seismic isolation platform hold all the answers to earth quakes?



DAVID VIVIAN
Shaking Stevens

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Natural selection

Ever noticed how different the recording of classical music can sound compared with the actual live event? **Jimmy Hughes** wonders if manipulation is really such a good idea

Surfing Amazon recently, I came upon a CD of Mozart piano concertos 24 and 26 on the Decca label. Played by Spanish pianist Alicia de Larrocha in the mid eighties, the recordings were not released at the time because of technical problems with the sound. Intrigued, I ordered the set and wondered how bad it could be. Surprisingly, it wasn't as bad as I feared. It wasn't exactly scintillating, but musically it was perfectly listenable – if a little dark tonally.

It turns out the sessions had been engineered by legendary tonmeister Kenneth Wilkinson. As 'Wilkie' was the man responsible for many of Decca's greatest recordings, the mystery deepened; how could he, of all people, make a bad recording? Wilkie was a master at mixing so that everything fit within the dynamic limits set by vinyl and magnetic tape perfectly. He famously disliked Dolby noise reduction, feeling it dampened the sound, compressing dynamics. But digital, with its wider dynamic range, didn't really need the Wilkie treatment. Worse, digital and CD tended to make such manipulation and multi-miking seem crude and obvious. So classical recording engineers took a more purist approach after 1984.

I once read an interview in *Absolute Sound* with Adolph Herseth, the Chicago Symphony Orchestra's principle trumpet. Over the years, the Chicago SO had been

The art was in capturing the ideal sound rather than the actual sound

recorded by many different labels – RCA, EMI, Decca, DG, Teldec, Erato – yet Herseth felt no one had ever caught the true 'Chicago sound'. Why? Herseth asserted that each company came with its own preconceived ideas about how an orchestra should sound, and endeavoured to capture that on tape. As a result, he felt none of the recordings faithfully reflected how the Chicago SO actually sounded when heard live.

Likewise, concert pianist Alfred Brendel once described the way Wilhelm Kempff's Decca fifties mono LPs had captured the unique tone and touch of this pianist with an amazing fidelity he'd not heard equalled – even if (by hi-fi standards) the recordings weren't sonically perfect.

This is a very different take on high-fidelity. It's about something more than idealised notions of how (say) a piano or orchestra ought to sound. It's about the uniqueness of how a particular pianist or orchestra actually sounds – their sonic signature.

Things don't always sound perfect in real life. Indeed, the more live concerts I attend, the more I realise how variable

and flawed live sound can be. Many times I've heard things live that would never be accepted from a recording.

Keeping it real

Yet, for all the faults and foibles of live sound, it has one vital quality that saves the day. It sounds real. Real in ways hi-fi can only hint at. When you hear an instrument playing live, you can tell immediately it's real – even when it's played badly. The art of an engineer like Kenneth Wilkinson was all about capturing that ideal sound, rather than reproducing the way things actually sounded. He saw his job as improving on reality, so that the end result flattered everyone concerned. Sonic Photoshop!

Many Wilkie blockbuster recordings (Solti's Chicago *Rite Of Spring*, for example) flatter to deceive. The LP seemed awesome. But with CD you're aware of balances being manipulated. As the medium improves, and hi-fi gets better, the need for such assistance (subterfuge) grows less and less.

But, maybe the unexaggerated naturalness of recordings like this simply highlights limitations of the equipment being used back then. Put another way, the recording does your hi-fi no favours, and actually exposes areas (clarity; tonal separation) where it isn't so good.

I've lost count of the recordings that disappointed back in the eighties or nineties, only to sound marvellous when played on today's hi-fi. Sometimes, I wonder if these old recordings have matured like a good wine, but of course that isn't the case.

For those of us with audio roots stretching back to the seventies or eighties, our current hi-fis deliver a far more rounded and accomplished sonic performance compared to what we had back then. I find I can listen to all kinds of material without recording quality becoming an issue. Sure, some sound better than others. But one's enjoyment of the music and performance is not necessarily ruined because the 'fi' isn't stratospherically 'hi'. We all like to think our current system sounds better than anything we owned previously. But in reality who can say? What I can say without hesitation is that with what I have now I'm able to enjoy a wider range of recordings from all periods than ever before. That to me signifies progress ●



This Kenneth 'Wilkie' Wilkinson recording admittedly isn't one of his best



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Mind the gap

What have the 'chairman of the board' and the 'voice of protest' got in common? Not a lot you'd have thought. **Nigel Williamson** mourns the passing of the generation gap

The news that Bob Dylan has recorded an album of songs popularised by Frank Sinatra, I confess, took me by surprise. In fact, let's be honest, I was shocked. Like Kipling's famous poem about the unbridgeable gulf between east and west, I had always rather assumed that Bob is Bob and Frank is Frank, and ne'er the twain shall meet.

Back in the sixties, Sinatra and Dylan represented the twin polarities of popular music, the ultimate manifestation of what we used to call 'the generation gap'. One was a tuxedoed, establishment figure singing cabaret in Las Vegas; the other was a denim-clad rebel with a cause, ushering in a revolution that was a-blowin' in the wind in the folk clubs of Greenwich Village.

Frank once described rock 'n' roll as: "The most brutal, ugly, degenerate, vicious form of expression it has been my displeasure to hear". In *The Times They Are A-Changin'*, Bob righteously chastised the old order, singing: "Don't criticise what you can't understand". It was not hard to imagine that ol' blue eyes was pretty prominent among those he was admonishing.

When I was a teenager in the sixties, I used to dread my father coming home from work. Not because he was a cruel tyrant who took his strap to us. Far from it; he was a kindly, considerate man who loved his children dearly.

I feel blessed that when my kids were teens we enjoyed the same music

But he did have a despotical attitude towards the family gramophone. Or rather, his gramophone, as he would have it. As soon as he had walked through the front door, the needle would be lifted unceremoniously from whatever disc I was listening to – invariably something by The Beatles, The Rolling Stones or Dylan – and with the words: "I don't know how you can listen to that rubbish, let's have some real music", Sinatra's *Songs For Swingin' Lovers* or *Come Swing With Me!* would be lowered onto the turntable.

At 14 years old, I couldn't understand why all Frank's albums seemed to have 'swing' in their title because I'd never heard anything that swung less than those drippily sentimental Nelson Riddle strings while a middle-aged bloke crooned his way through cheesy Broadway show tunes by the Gershwins, Johnny Mercer and Cole Porter.

Frank was pure showbiz hokum. Bob was real and authentic. At least, that was how I saw it at the time. Peering down the telescope from the opposite end, in my father's eyes, of course, Frank was a true artist and Bob was a scruffy beatnik who couldn't even sing in tune.

This generation gap was something we valued and cherished. As teenagers, we not only needed our own culture, but we demanded that it had to be in conflict with the culture of our parents. These musical wars were a rite of passage and a vital part of our identity and self-definition. And they left proud scars that have taken a long time to fade.

So what do we make of Dylan singing Sinatra? Well, if he'd done it half a century ago instead of writing, say, *Subterranean Homesick Blues*, *Desolation Row* and *Like A Rolling Stone*, we would have accused him of selling out. A betrayal. And yet Bob can now claim a cultural affinity with Frank, telling us: "Right from the beginning he was there. His music had a profound influence on me, whether I knew it or not. He was one of the few singers who sang without a mask."

Eventually, of course, even the most militant veterans of the rock 'n' roll wars – among whom I am proud to number myself – have learnt to appreciate the music of our parents. I can now recognise that 'the chairman of the board' sure could sing and that thing he did of hitting the note just behind the beat was masterful. And yes, Sinatra's repertoire – now referred to as the great American songbook – is full to bursting with irresistible tunes and smart lyrics.

Regrets, I've had a few...

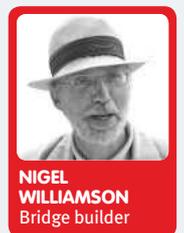
There is still a part of me that regrets the sight of Frank and Bob becoming bedfellows, and it's reassuring to remind myself that if my dad was still alive, he would have hated it. Of course, I'm glad there was never any 'generation gap' between myself and my children and feel blessed that when they were teenagers we could all happily enjoy the same music, whether it was my collection of sixties classics or their Blur and Oasis records.

At the same time I can't help thinking they missed out by not having a music of their own capable of provoking outrage among their elders, just as Dylan's nasal whine was once anathema to Sinatra's generation, and *vice versa*.

Along with Little Richard's war cry: "Awopbopalooobop alopbamboob", the parental demand to "Turn that bloody racket off!" was probably the most important phrase in the history of pop music ●

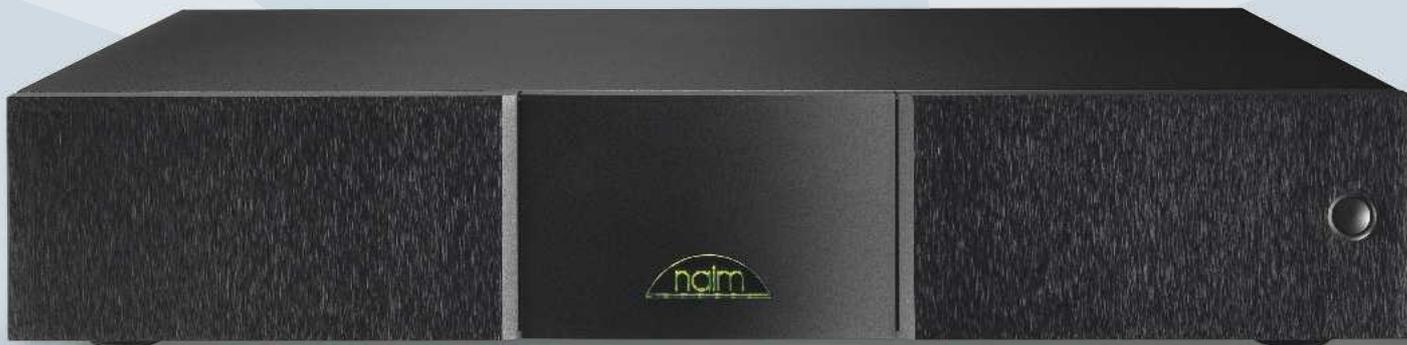


Altogether now: "Johnny's in the basement, mixing up the medicine, I'm on the pavement, thinking about the government..."



NIGEL WILLIAMSON
Bridge builder

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Salisbury thrill

Still going strong today, **David Price** tells the story of the evergreen NAP 250 power amplifier that first appeared in 1975

It's a long time since Naim Audio Ltd. first started up in a Wiltshire backstreet in 1973, and from that moment on began to win friends and favour. Its founder was the sadly now deceased Julian Vereker, who established the company to make hi-fi equipment that he and his friends would enjoy listening to. Unlike many of his contemporaries in the audio industry he wasn't a Cambridge University engineering PhD with 20 years of electronics design experience. He was entirely self taught, and claimed it took him a year to learn enough to produce his own amplifier.

While many regarded this as a chronic weakness, in some respects it was his strength. There was a strong orthodoxy in solid-state design, with amplifiers being regarded as (the saying went), "a piece of wire with

gain". The conceit was that all sounded the same providing they had been properly designed. Julian blew a hole through this idea, being able to demonstrate dramatic differences and account for them too. The first Naim product was the NAP 200 power amplifier, and it soon got the NAC 12 preamplifier to partner it. They were both designed for his personal use only, then productionised, and this set the pattern for Naim amps for the following two decades or so. Those early Naims were highly distinctive in their sound, and so very controversial and the company was something of a Marmite brand for many years.

The NAC 12/NAP 200 sold in small numbers; it wasn't until 1975 when Vereker really found his feet. The NAP 250 was the product in question, and it became an iconic amplifier in the space of just a couple of years as well

as Naim's top stereo power amp for a quarter of a century. Julian explained its sound in terms of making: "a musical signal that I could compare with the sound of live music", which pretty much hit the nail on the head. However, it was important to caveat this with the point that he was a big rock fan, and didn't spend too much time listening to anything else.

His thesis was that a power amplifier should be able to drive loudspeakers into 'real-world' loads – which is to say impedances that vary under dynamic conditions, rather than the static ones you see on the test bench. The way the hi-fi press waxed lyrical about the NAP 250, you would have thought its power output was a kilowatt or so, but in truth it was 125W into 4ohms, and around 70W into an 8ohm load. Indeed Naim named its power amps by the total

A brief history of Naim

1973	1975	1984	1989
<p>Julian Vereker starts Naim, the same year that Bowie ruled the album charts</p> 	<p>The NAP 250 is released, while <i>Bye Bye Baby</i> becomes the best selling single of the year</p> 	<p>Naim debuts the NAP 135 as Band Aid outsells every other single and feeds Africa in the process</p> 	<p>A switch to olive-green fascias causes havoc for Naim fans, while <i>Neighbours'</i> soap star Jason Donovan rules the album chart</p> 

power made into a 4ohm load; with its stereo amplifiers, to get the 'per channel' rating you have to divide by two. The company was right not to obsess over measured power figures; despite being of fairly small stature in the power stakes compared with the emergent American and Japanese competition, it still went loud. Indeed, it had more life and soul than many far bigger (on paper) amps, and this tallied with his stated objectives.

It was an essay in doing amplifier design differently. It ran custom output transistors biased well into Class B mode, because Vereker believed this was more efficient and able to provide power better. He wasn't overly concerned with conventional harmonic distortion measurements either, or the power output into a static load. He was very interested in power supplies, however, and did his best to over-engineer them with each NAP 250 running a very sizeable 450VA toroidal power transformer custom made to Naim's specification by Holden & Fisher. This had two

The NAP 250 has a sense of life and vibrancy that you don't hear very often

windings and twin 22,000uf capacitors feeding two regulator boards, which provided excellent dynamic headroom so the amplifier could go loud fast – when the music signal so demanded. He also insisted on DIN plugs; this wasn't such a big deal in the early seventies when the connector was ubiquitous, but by the nineties the rest of the world had moved to RCA phono connections. Naim also used recessed 'banana' speaker sockets, which ruled out spade connectors or bare wire.

Stir it up

By 1978, the NAP 250 was really causing a stir, and was hugely popular with reviewers. Meanwhile, Vereker's friendship with Ivor Tiefenbrun led to a strategic partnership with Linn, the idea being that the latter supplied the source and speakers, and the former took care of the electronics. It was a very successful partnership and the active version of the Linn Isobarik speaker (the PMS) caused Naim to develop an active crossover, the NAXO, which would partner with no less than three NAP 250s to power a

pair of active Isobariks. It was a formidable combination, and acted as a 'force multiplier' for both companies for a decade from the late seventies. When Naim began making speakers and Linn produced electronics around 1988, the partnership cooled off.

In 1984, the NAP 250 was given a close cousin in the shape of the NAP 135 mono power amplifier. This was, ostensibly, a NAP 250 with its two stereo channels split into individual boxes and given their own power supplies. This was a formidable device, regardless of what configuration it was used in. The power output remained at just over 70W RMS, but the circuit layout was slightly different, with Naim able to pay better attention to grounding, with a star ground bus bar between the big smoothing capacitors. A cooling fan was also fitted, useful when the 135 was called upon to drive very awkward loads – which it did better than practically every other transistor amp of its era. Linn's Isobarik loudspeaker was famously one of the few loads tricky enough to trip this fan on in normal use.

Both NAP 135 and 250 were initially made of heavy aluminium extruded cases that acted as heatsinks. Painted black with a silver front edge, this style began to be called the 'chrome bumper' era soon after it ended in 1989. In this year, the entire Naim range got an olive green coloured front panel with a backlit Naim logo. Many Naim owners sold their entire systems to get a perfect visual match with their new green kit. In 2002 the NAP 250 got tweaked circuitry and at the same time, the NAP 135 was discontinued. Then in 2013, the NAP 250 was updated again with aluminium chassis and sleeves and a diecast zinc



Naim Audio's electronics seen here with its SBL speakers shortly before the olive-green face lift

BUYING AND RUNNING

The great thing about buying any used piece of Naim hi-fi equipment is that the Salisbury company takes its legacy products very seriously. Many others do not, and simply stop supporting them, giving you an apologetic "no, sorry" on the phone when you enquire about servicing or spares availability. So, you can buy a used NAP 250 safe in the knowledge that you can send it back to Naim for repair, or even if you feel it might need a service. As electronics age, they do periodically need recalibration, solder joints or internal connectors need cleaning, and capacitors need replacing – so it's great to have the manufacturer still around to do it!

Because of its excellent – and surprisingly affordable – aftercare service, the prices of second-hand Naim hi-fi holds up extraordinarily well. Indeed, you might say it has some of the highest residuals in the whole industry. The used price of a Naim product may be between 30 and 50 percent higher than its price rival back in the day. This means that picking up a NAP 250 isn't cheap; you'll expect to pay £1,000 for a good one. The other side of this is that when you do, it will likely have been serviced and be working just as well as it did when it first came out of the factory. And for £1,000, it still represents one hell of a lot of performance for the money.

fascia; it's a different beast to the original, but still shares much DNA with its 1975 antecedent.

Getting it right

There are many who think this amplifier's sense of pace, rhythm and timing is unsurpassed. Some say that the NAP 250 still has that special something about it. It certainly has a sense of life and vibrancy that you just don't hear very often; rival power amps from other manufacturers all too often sound flat, lacking in energy. They may be more powerful, but there's something about the way the 250 does its business that is unique. Many find it abrasive, overbearing even; it's perhaps not the sort of thing you'd want to relax in front of at the end of a long day, listening to jazz standards at low levels just before bed! This harks back to Vereker's insistence that an amp needs to provide a strong sense of live music.

Naim's NAP 250 and 135 are 'Marmite' products; some love them and some just can't stomach them. But still, the world changed a little when Naim's first statement power amplifier was launched. Later products have bettered them in many ways, but these two remain very special to this day. For this reason alone it warrants a special place in the great scheme of hi-fi things. And with its many incarnations over the years, you might say the NAP 250 is a veritable serial thriller ●

All in your head

With the boom in headphone sales, it's inevitable that a dedicated store would open **Ed Selley** heads on over

Unless you've been living in a cave for the last few years, you will have noticed that headphones have become big business. For many dealers they have gone from being an incidental display in the corner to a key part of their portfolios. This being the case, it followed that someone would take the logical step and devote a store solely to them.

For pedantry's sake, High End Headphones is not a completely standalone concern. Those of you with longer memories will remember that we visited the then brand new HiFi Lounge in early 2013. Owner Paul Clarke was sufficiently impressed with the interest in headphones that

he has extended into one of the other buildings at the lovely former granary where HiFi Lounge is based. With wife Wendy overseeing day-to-day operations, High End Headphones has now been open for a few months.

As befits a different type of store, this is a slightly different dealer visit. Rather than the traditional good, better, best model, I asked Paul and Wendy to show me three high-end setups. The reason for this is that comparing these three systems in one place is only possible in the UK at this store so it would have been a shame not to make use of what High End Headphones is all about. In the fabulous surroundings, I sit down to experience some serious cans...



THE EXPERTS



High End Headphones

1 The Stable Yard, Millow Hall Farm,
Dunton, Bedfordshire, SG18 8RH

01767 448121 highendheadphones.co.uk

chordelectronics.co.uk naimaudio.com

mcintoshlabs.com stax.co.jp

bryston.com isol-8.co.uk

abyss-headphones.com



System test music



**CRAIG
ARMSTRONG**

*It's Nearly
Tomorrow*
FLAC 24/96



KRAFTWERK

Minimum-Maximum
FLAC 24/88



CASSIUS

Au Reve
FLAC 16/44

System 1 – Into the Abyss

KICKING OFF WITH the most expensive system of the three, this setup combines Paul's deep seated love of Bryston with a truly extraordinary pair of headphones. Pretty much the only part of the Abyss AB-1266 that is remotely run of the mill is the name – it really should be called Terminator, Dreadnought or Revelations.

The Abyss is a planar magnetic design built around a pair of bespoke planar drivers. It is unique in that it doesn't have a rear magnet structure, which means it's entirely open backed in a way that most planar designs aren't.

These drivers are then encased in some serious metalwork. Abyss mounts the driver enclosures on a right angled frame that is effectively fixed in place. As this frame would only provide a comfortable fit for Herman Munster, a separate leather band is used to effectively hang the Abyss on your head. As this means that the earpads don't exert much traction on the ears, they are exceptionally deep and can be rotated to achieve the best seal between you and the outside world. While you look a bit like a Cyberman wearing them, they are supremely comfortable.

Balancing act

By design, the Abyss is a fully balanced headphone with two separate leads exiting the main body. To make full use of this it is connected to a Bryston BHA-1 headphone amp that supports these balanced connections as well as more conventional ones. Partnering it are the BDP-2 digital player and BDA-2 DAC (as well as a legacy BCD-1 CD player that helps Paul do CD demonstrations for customers that need it). These are connected to the mains via an Isol8 mains conditioning unit that makes a useful and cost effective addition to the system.

With the Abyss hanging on my head, it takes less than a minute of the 24-bit/96kHz rip of Craig Armstrong's *It's Nearly Tomorrow*, to appreciate that it sounds even more striking than it looks. The most immediately arresting part of the performance is that the AB-1266 is capable of incredible delicacy underpinned by staggering force when needed. Brett Anderson's soaring vocals in *Crash* seem to

arrive in the head without any intervening processes as mundane as electronics getting them there. The scale is absolutely and unambiguously convincing and the tiny details lift playback from a simple reproduction to out-and-out performance.

This is underpinned by a bass response that is positively seismic

Incredible delicacy underpinned by staggering force when needed

when required, but it also seriously fast. With the fast and complex low end for Kraftwerk's *AeroDynamic*, the Abyss captures everything but the result is never forensic or sterile, you simply receive absolutely every single last detail as a welcome by product of a performance that is totally and utterly captivating. Thanks to the care that has gone into the design, neither

does the listening experience ever really feel 'nearfield' in a way you might expect headphones to. Instead, the vastness of the soundstage extends well beyond the confines of those spacious earpads. There is no sense of left or right, just a wonderful soundstage around the head.

Something that emerges listening to the Abyss but that is applicable across all of these setups is that these are not mere convenience items – something to turn to when you can't use conventional speakers – but a truly arresting way of listening to music that has an immediacy and presence that a pair of speakers, even ones at or beyond the lofty price of the Abyss, cannot easily match. There are few conventional setups anywhere near this price that can transport you so completely to the space that the artist intended. I'd be happy to slouch in one of the armchairs and kick back for the rest of the day listening to the Abyss, but there are still two other systems to consider...



- 1 ABYSS AB-1266 HEADPHONE £4,254
 - 2 BRYSTON BDP-2 DIGITAL PLAYER £3,125
 - 3 BRYSTON BCD-1 CD PLAYER ~~£2,595~~
 - 4 BRYSTON BDA-2 EXTERNAL DAC £2,595
 - 5 BRYSTON BHA-1 BALANCED HEADPHONE AMPLIFIER £1,495
- ISOL-8 MINISUB WAVE & AXIS £799
-
- TOTAL £12,268

The Abyss/
Bryston rig
offers
seriously
accurate yet
enjoyable
performance

System 2 – Value added Stax

I HAVE HEARD the Stax SR-009 and partnering SRM-007tII Kimik Energiser when doing *Beautiful System* in the past and would have been entirely happy to hold on to them indefinitely. Of all the brands that Paul and Wendy have at their disposal, Stax is the one that most defines premium headphones, not least because it has been doing it for so long but because it's going about its business in a totally different way to anyone else.

As far as Stax is concerned the SR-009 is not a headphone at all. It is in fact, the premium 'earspeaker' in its lineup and, like everything it makes, it uses electrostatic drivers to produce sound. In the case of the 009, these are the latest version with a new polymer for the membrane and MLER electrodes to drive it. These require a level of current delivery that even the very capable collection of headphone amps that High End Headphones has at its disposal cannot drive, so the SR-009 forms a double act with a matching Energiser. This is a headphone amp that also supplies the required electrical current via a bespoke connection.

Like the SR-009, the SRM-007 is the flagship in the Energiser category and this Kimik variant enjoys some UK-specific tweaks including cryogenic treatment of the

valves and uprated fuse. Like many Stax Energisers, it is capable of driving two pairs of earspeakers at once. It is also one of the most beautifully finished and ergonomically satisfying pieces of electronics you can buy. Providing a source for such a piece of equipment is no small undertaking, but Chord's brilliant Hugo takes a digital feed from the Bryston streamer in the first system and decodes it for the SRM-007. Once again, the electronics benefit from the Isol8 mains conditioner.

Extra terrestrial

In the terrestrial world of headphone listening the Hugo is a seriously good amp, but here it only has to be a capable DAC as in headphone terms we are a long way from terrestrial with this system. What is interesting and indeed unique about High End Headphones is that you can approach a system as singular as the Stax having listened to other equally special headphone systems, which gives far more perspective about what the setup does but doesn't make the way that it does it any less special.

Listening to it after the Abyss rams home that the electrostatic principle of making headphones is extremely difficult, technically complex and has required a huge amount of time to perfect. Five minutes with the Stax and you discover it's worth the effort.

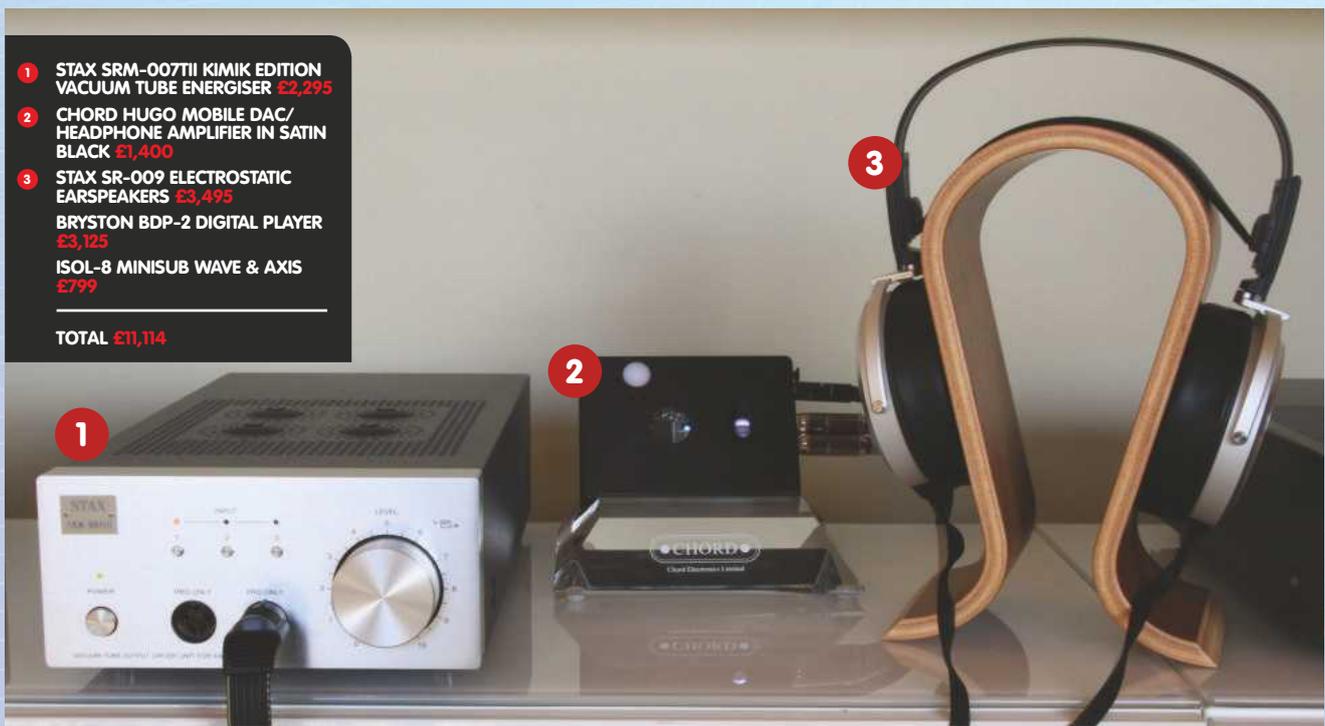
There is still outstanding detail retrieval and it is totally unconstrained by the supposed limitation of being so close to your head. The Craig Armstrong piece is still vast and beautifully arranged, but the Stax brings an almost liquid quality to the midrange and treble that I have never experienced from any other brand or headphone. Saying that it makes everything sound analogue is wrong because there is nothing in the way of warmth or bloom to the music, but equally there is no sense of processing.

Some of this extraordinarily natural performance is down to the Hugo, which manages to be both ferociously clever and tremendously self effacing at the same time. With Air's *All I Need*, the intoxicating way that Beth Hirsh's vocals are presented is a fantastic partnership of Chord's pinpoint accuracy and Stax's effortless three dimensionality. Absolutely every last detail is extracted, but never overwhelms the balance of the performance as a whole. It is only when you have to step down from the Stax and return to headphone normality when you head home that you realise just how much information the Stax can extract seemingly without trying.

The asking price is considerable, but after a few minutes of listening to it you'll be wondering just how much a slightly careworn kidney might fetch.

This high-end rig more than holds its own in exalted company

- 1 STAX SRM-007TII KIMIK EDITION VACUUM TUBE ENERGISER £2,295
 - 2 CHORD HUGO MOBILE DAC/ HEADPHONE AMPLIFIER IN SATIN BLACK £1,400
 - 3 STAX SR-009 ELECTROSTATIC EARSPEAKERS £3,495
- BRYSTON BDP-2 DIGITAL PLAYER £3,125
 ISOL-8 MINISUB WAVE & AXIS £799
TOTAL £11,114



System 3 – The Mac daddy

AS ONE OF the senior companies in hi-fi, McIntosh hasn't rushed into the business of making headphones, but the MHP1000 has been causing a bit of a stir since it was launched last year.

This is because, working in partnership with Beyerdynamic, it has elected to make the MHP1000 a closed-back design, which is unusual in high-end headphones and practically unheard of at the elevated price point. Inside these sealed enclosures is a pair of 40mm dynamic drivers and the whole ensemble connects to a headphone amp via a conventional jack. After Planar drivers mounted on spaceframes and electrostatic exciters it almost seems run of the mill, but hold the McIntosh in your hand and it feels anything but. The build quality is simply perfect and every component feels like it has been engineered to the point of obsession and then engineered a bit more. Visually impressive though the MHP1000 is, it is nothing compared to what McIntosh has built to partner it.

Calling the MHA100 a headphone amp is correct in the sense that Picasso's Guernica is an anti war doodle. It features a selection of analogue and digital inputs and, of course, a loop through so that any signals can be passed onwards and

out to a full-size power amp. Not that you absolutely need a power amp. As well as being a serious headphone amp, the MHA100 is an actual amp too. The 50W internal amplification is pretty *bijou* by McIntosh standards, but it is enough to run a fair few speakers perfectly happily.

Big Mc

Of the three setups, the McIntosh sounds the most like a headphone system, but when you stop to consider that these are closed-back headphones and thus the only pair here you could listen to in a room

The sheer sense of attack that these electronics have is utterly addictive

without the other person having to listen to what you are, you begin to realise just how good the MHP1000 is. With the test pieces of music, the McIntosh still sounds vast, it's just that there is barely perceptible edge to the space. If you feel you can only listen to open-backed designs, you need to listen to these.

There is also a sense of drive and power to this system that means if you tend towards electronic and rock music (and I do), it delivers an energy

that it is hard to live without once you've heard it. The Kraftwerk album is simply more visceral when the McIntosh is involved. What is very clever about this duo is that although they are not 'normal' McIntosh products, they exhibit the same powerful, accurate and extremely compelling sound that the traditional electronics do. If you want to hear what the recording is about, there is very little to touch this setup.

The really clever bit is that this accuracy and tonal honesty doesn't come at the expense of fun. Having run through the test music and being in no rush to leave my armchair, I switch to *The Sound of Violence* by Cassius. I love this track unconditionally and letting the McIntosh loose on it is simply and unapologetically joyous. The sheer sense of attack that these electronics have and the speed and agility with which they handle basslines is utterly addictive. And as you sit there with Steve Edward's epic vocals filling your head and those trademark McIntosh VU meters bouncing away like moshing rockers, the entire experience is sublime. Everyone else can get on with what they are doing none the wiser to what you're listening to. The McIntosh is a near perfect balance of accuracy, power and sheer excitement and represents a fantastic way to finish the day.

All the McIntosh joy in a slightly smaller package



1 NAIM ND5 XS NETWORK PLAYER
£2,060

2 MCINTOSH MHP1000
HEADPHONES £1,995

3 MCINTOSH MHA100 DEDICATED
HEADPHONE AMPLIFIER £4,995

TOTAL £9,050



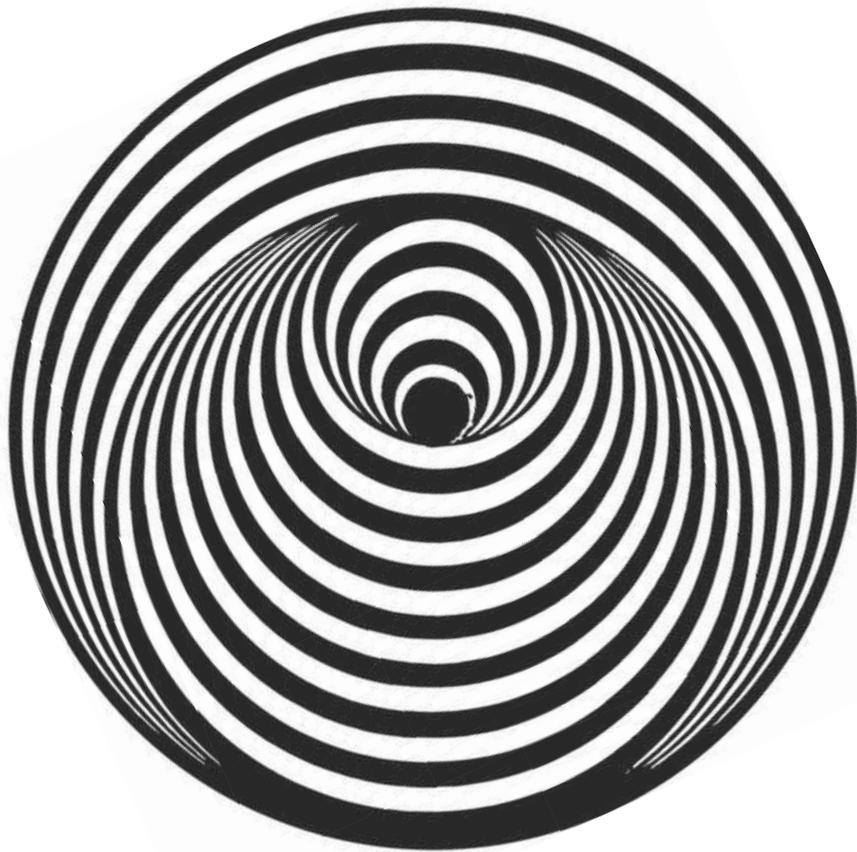
Setting up any audio business in the present climate should be admired and the fact that Paul now has two is commendable. The care and attention that Paul and Wendy have lavished on the premises, the exceptional brand portfolio assembled to fill it and the

unapologetic joy that they have about creating great sound are the right ingredients for the task.

There is no finer indicator that the business is on the right lines than the three systems you see here. Being able to compare at leisure a set of brands

and equipment that normally only exist on their own gives you much greater confidence that you are choosing the right one for you rather than simply reaching the top of a dealer lineup. I'm afraid that having heard them, though, I don't want to choose. I want them all.

LABELLED WITH LOVE



VERTIGO RECORDS



This progressive label is a feast for all the senses – from fabulous graphics to mind-blowing music. **Simon Berkovitch** finds himself in thrall of the swirl

For vinyl heads of a certain vintage, there's nothing quite like a trip-inducing op-art swirl label design rotating on a high-end turntable to get the heart aflutter.

Vertigo Records is a trip for the eyes as well as the ears thanks to an impressive, diverse roster, lavish gatefold sleeves and one of the most distinctive logo designs in rock history – the spiral that graces the vinyl on all of the label's early releases.

The imprint was launched in 1969 as a progressive subsidiary of Phonogram to rival the likes of Neon (parent: RCA) and Harvest (home to EMI's

soon-to-be cash cow Pink Floyd), tapping into the post-psychedelic underground market, serving up a heady brew of jazz, prog and heavy rock. Notable homegrown signings included progressives Colosseum and Jade Warrior and the jazzy folk of Affinity, but Vertigo also cast its net wider into Europe. Indeed, classic double albums from Kraftwerk (Germany) and Aphrodite's Child (Greece) also appeared on the label – as well as some of the most groundbreaking hard rock to appear on wax.

No mention of Vertigo is complete without a nod to Black Sabbath, one of the most influential proto-metal acts of all

time. During the classic 'swirl' era (1969-1973), the quartet unleashed four classic LPs: *Black Sabbath*, *Paranoid*, *Master Of Reality* and *Vol. 4*. Signings such as Status Quo, Uriah Heep and Thin Lizzy also released a series of heavy albums, upping the label's profile.

Not all artists enjoyed commercial success: for every Sabbath you'll find obscurities from the likes of Cressida, Beggar's Opera, May Blitz, Nucleus and sixties survivor Graham Bond. Unsurprisingly, many of these records are now extremely difficult to find in their original pressings and some can command astronomical

figures among collectors. Most expensive of all is Dr Z's *Three Parts To My Soul* (1971) – a mint condition first press of this could set you back £3,000+.

During its first incarnation, Vertigo was active until the early eighties. Although late seventies releases from Dire Straits may have swelled the coffers, musically times had changed and the more adventurous groups are no more.

Revived, Vertigo is still active today as a division of Mercury, part of Universal Music. Black Sabbath returned to the label on which they had recorded some of their greatest work in 2013, releasing the well-received *13*.

Aphrodite's Child

Kaftan-wearing balladeer Demis Roussos in Biblical prog rock double-opus shocker

Recently departed high-pitched warbler Demis Roussos may have provoked an unlikely outbreak of swooning among housewives with 1973's middle-of-the-road standard *Forever and Ever*, but his recent musical past was far more interesting – and much darker.

Roussos (bass; vocals) had been a member of Greek psych-pop act Aphrodite's Child along with keyboard virtuoso Vangelis, scoring a big late sixties hit in Europe with the melancholy *Rain and Tears* for Mercury. After 1970's *It's Five O'Clock* LP, Vangelis and Roussos embarked on creatively diverse solo projects, regrouping to record an ambitious double album, the distinctly un-MOR *666*, for subsidiary Vertigo.

This concept album based on the Biblical Revelations of John was Aphrodite's Child's most ambitious work to date and far more out-there than anything the group had attempted before.

Largely the vision of the more experimentally inclined Vangelis, in collaboration with lyricist Costas Ferris, *666* was a mix of blistering progressive rock and lengthy instrumentals, bolstered by synthesisers, Middle Eastern instruments and eerie spoken word passages.

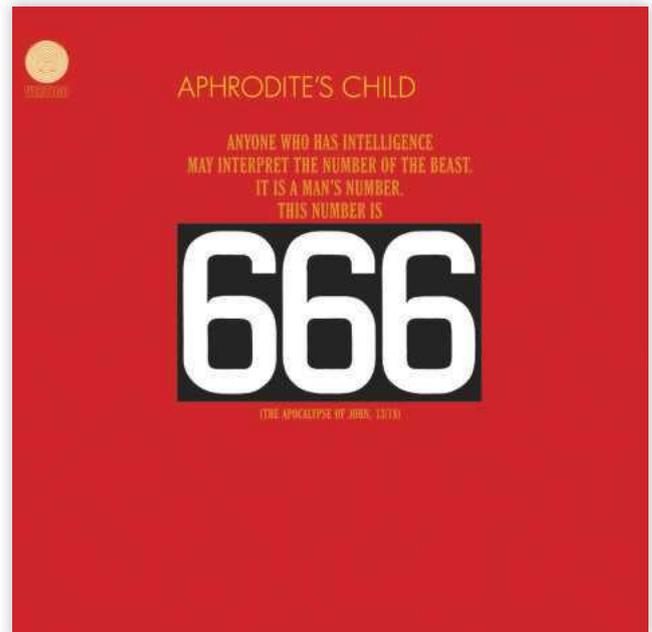
Aphrodite's Child's finest hour, *666*'s standout track is

More out-there than anything the group had done before

unquestionably *The Four Horsemen*, which shifts from eerie, tinkling atmospheric – above which a mesmerising Roussos vocal levitates – to propulsive acid rock.

Internal pressures saw the album's release being delayed, and by the time the double finally appeared on Vertigo in 1972, Aphrodite's Child were already history.

666 is "recorded under the influence of Sahlep" according to the gatefold notes



Black Sabbath

Four compelling long-playing reasons why the devil has all the best tunes

From the clang of church bells that usher in the slow-mo descending guitars and soaring vocal of the opening track of 1970's eponymous debut album, it's instantly obvious that Black Sabbath was a different proposition to the rest of the Vertigo roster.

Ozzy Osbourne (vocals), Tony Iommi (guitar), Geezer Butler (bass) and Bill Ward (drums) burst out of Birmingham with a head full of horror movies and doomy guitars. The first album, includes both the quintessential Marcus Keef cover and future-standards *Behind The Wall of Sleep* and *N.I.B.* Cover version *Evil Woman* was released as a single, but failed to set the charts aflame – unlike the game-changing hit *Paranoid*, culled from the follow-up LP released just four months later.

Sabbath's second full-length set for Vertigo was the group's breakthrough release. Taking a

look at the track listing, it's not hard to see why with monsters like *Paranoid*, *War Pigs*, *Iron Man* and *Rat Salad*. The roots of heavy metal are barely contained in the grooves.

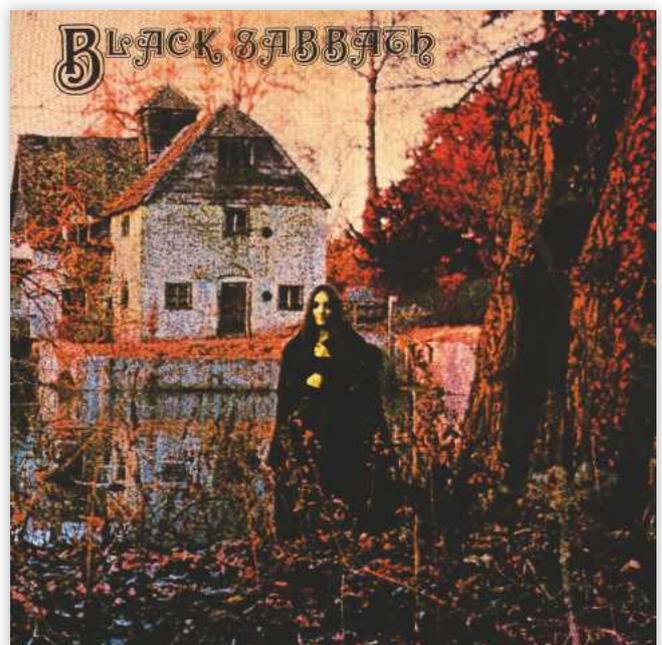
Master of Reality (1971) was lavishly packaged for its Vertigo swirl label release, housed in a

Practically the template for stoner rock

flip-top embossed outer and containing a giant, moody poster of the group. More importantly, heavy anthems such as *Sweet Leaf* and *Into the Void* practically created the template for nineties stoner rock groups.

Vol. 4 was the last release during the classic Vertigo years, and saw the group adding more progressive, experimental textures, as well as ballads to their cauldron of doom.

Sabbath's debut LP was released on 13 February 1970 – it was a Friday



Fairfield Parlour

Please listen to the pictures of one of psychedelia's last blooms

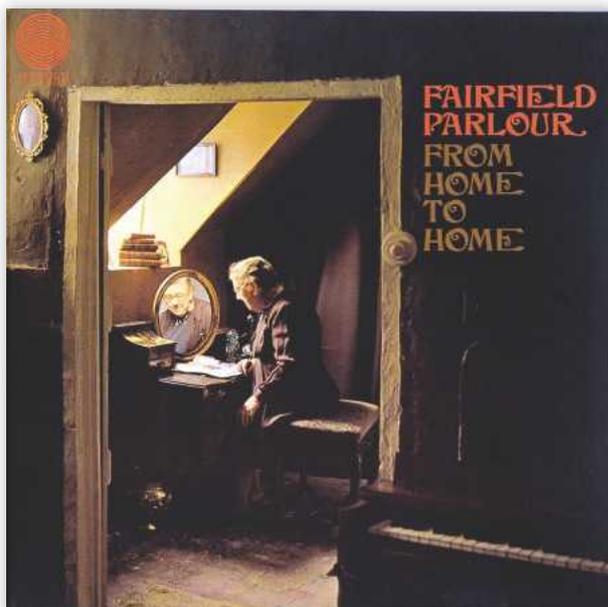
To all intents and purposes, Fairfield Parlour is Kaleidoscope: the line-up of Peter Daltrey (vocals; keyboards), Eddy Pumer (guitar), Steve Clark (bass; flute) and Danny Bridgman (percussion) is identical to the UK psychedelic act. After recording two excellent but commercially unsuccessful albums for Fontana, the group adopted a new moniker to avoid confusion with the US group of the same name.

The outfit's sole album for Vertigo, *From Home To Home* (1970), may have been tagged progressive, but it is better considered late-psychedelia. Despite containing astonishing songs – such as the intensely moving *Aries* and the brilliantly observed *Emily* – *From Home To Home* was out of step with the heavier sounds of the time and swiftly faded from view. It deservedly enjoys a cult reputation, its

suite of songs still shining brightly some 45 years later.

Follow up *White Faced Lady* was passed on by Vertigo and wasn't released for 20 years.

A new version of Kaleidoscope, fronted by Daltrey, still performs his remarkable songs from both incarnations of his group.



Rod Stewart

There was also room for this former mod's best work on the Vertigo roster

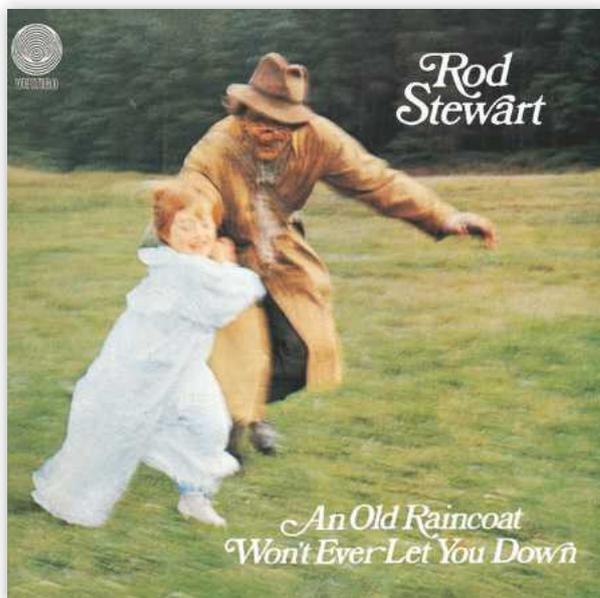
There's a crossroads in Rod Stewart's career. The sign points Vertigo in one direction; *Sailing* the other. The rot had set in by *Smiler* (1974), but it was artistically game over by the dreadful *Atlantic Crossing* for Warner Bros the following year. Nightmarish mega-hit *Sailing* is year-zero for most of his fans, but rewind a few years and you'll find a former mod who had teamed up with Jeff Beck and was also a soulful interpreter of great songs.

During his time in The Faces, Stewart had a parallel solo career. He released two albums on Vertigo: debut *An Old Raincoat Won't Ever Let You Down* (1969) and *Gasoline Alley* (1970). The first, saw him aided and abetted by assorted Faces, Keith Emerson and Steamhammer's Martin Quittenton on ragged, rootsy tracks *Street Fighting Man* and the traditional *Man Of*

Constant Sorrow. He also made Mike D'abo's *Handbags and Gladrag*s his own.

Gasoline Alley was a similar mix of folk-tinged covers,

including Bob Dylan's *Only A Hobo*, and strong original compositions. The next stop was breakthrough hit *Maggie May* and a rapid decline...



► SHOPPING LIST

Check out these eight pearls of the swirl from the Vertigo label's early years, carefully selected for your listening pleasure



Colosseum
Valentyne Suite
Vertigo's first album release. Opener *The Kettle* is a stone-classic floor filler. Awesome gatefold, too.



Juicy Lucy
Juicy Lucy
Get past the sleeve and you'll find an excellent debut album from former Misunderstood guitar genius Glenn Ross Campbell.



Manfred Mann
Chapter 3
Manfred Mann Chapter 3
Snakeskin Garter and *One Way Glass* from this album are in demand by crate diggers.



Affinity
Affinity
This jazz-rock vehicle for Linda Hoyle's gorgeous voice is housed in a contender for the best Vertigo sleeve ever.



Dr Strangely Strange
Heavy Petting
Irish experimental acid folk from The Incredible String Band school. Features Gary Moore on guitar.



May Blitz
May Blitz
Original pressings of this hard rock power trio's debut LP from 1970 now command a fair chunk of change – if you can find one.



Graham Bond
We Put Our Magick On You
One of two LPs released by the magic-obsessed organ player before his untimely death in 1974.



Ramases
Space Hymns
Half of 10cc back the claimed reincarnation of an ancient Egyptian Pharaoh on this set of cosmic meditations.

icon Audio

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Performance Value Reliability UK Service



"It knows few equals and in these value conscious days makes it a pearl almost beyond price" Roy Gregory

hi-fi+

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VERDICT

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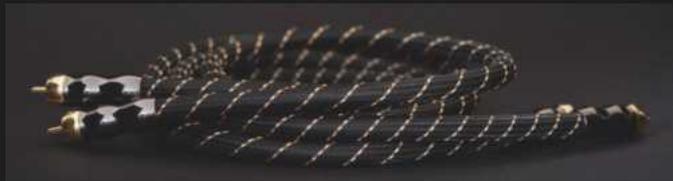
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100 Rebecca Ferguson
Lady Sings The Blues



101 Janáček
Orchestral Works
Volume 1



101 Henri Dutilleul
Edition

Musicreviews



Björk
Vulnicura

**ALBUM
OF THE
MONTH**

★★★★☆

CD **One Little Indian**

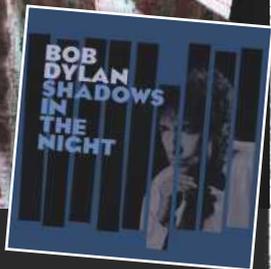
IT HAS SOMETIMES been easier to admire than to love the music of Björk. At her best, the Icelandic singer with a penchant for flamboyance and kookiness has combined breath-taking pop immediacy with a radical sonic adventurousism. But recent albums have tended to become increasingly abstruse, the dazzling ideas and avant-garde experimentation at times overwhelming the songs. What she does is impressive and challenging, sometimes thrillingly so; but at times there has also been something terrifying about her determination to pursue her artistic vision so unbendingly and at any cost.

2011's cerebral *Biophilia*, found her covering, among other topics, plate tectonics, genetics and human biorhythms, with narrations by David Attenborough. *Vulnicura*, by contrast, is more intimate and confessional, revealing a Björk who sounds wounded and vulnerable. This is a shock for

the last artist you expected to make anything as conventional and confessional as a break-up record was surely Björk. Yet here it is, "a complete heartbreak album" as she herself describes it, an emotionally raw chronicle of her estrangement from her partner of 15 years, artist Matthew Barney. Her 2001 album, *Vespertine*, one of her finest, was a wonderfully sensual record, inspired by the first flush of new love. *Vulnicura* is its companion, the darker bookend to the affair and arguably the most vital, vivid album she's made since.

Co-produced by Venezuelan beatmaker Arca (at 24 already a veteran of collaborations with Kanye West and Mercury Prize nominee FKA twigs) and the Yorkshire-born electronic auteur the Haxan Cloak, the personal narrative of the songs has not resulted in any retreat from her sonic experimentation and the textures are heavily multi-layered and engrossing. There's a

chronological arc to the songs, so that the opener *Stonemilker* is drenched with opulent strings, as a Björk in denial tries to pretend there is still hope in a relationship already oozing with decay. By four songs in and the cathartic, 10-minute long *Black Lake* she's in emotional despair as she sings "Did I love you too much, devotion bent me broken" over cavernous, twitching beats. The chasm of gloom grows even deeper on the atonal *Family* which opens with the chilling line "Is there a place where I can pay respects for the death of my family?" The final trio of songs find her bravely attempting to rescue a glimmer of hope from the wreckage. "I am fine-tuning my soul to the universal wavelength," she sings on *Atom Dance*, a song described by one critic as "a kind of avant-garde *I Will Survive*". The emotional maelstrom is underpinned by a melange of beats, strings and electronica as rich in sonic detail as her lyrics are dramatic. **NW**



Bob Dylan

Shadows In The Night

★★★★★

CD

Columbia

THERE'S A COLUMN elsewhere in this month's *HFC* about the ostensibly bizarre juxtaposition of Dylan singing Sinatra, but what it fails to mention is that against all the odds, the results are rather lovely. Dylan insists that the 10 songs aren't really covers at all; rather, he says, he's "uncovering them". It's readily apparent what he means, for this is the 'Great American Songbook' as you've never heard it, reinvented as authentic, rootsy folk music.

Shadows In The Night is Dylan's strongest vocal performance in almost 20 years

The production is warm and intimate with a 'live' feel that places you there in the studio; you even faintly hear Dylan breathing close to the mic when he's not singing. When he does, it's his strongest vocal performance in almost 20 years. The arrangements are sensitive and mellow and as far removed from Broadway bombast as it's possible to get, generating a ripe autumnal feel, suggesting this is his equivalent of *Buena Vista Social Club*. **NW**

MUSICREVIEWS



Ryley Walker Primrose Green

★★★★★

CD

Dead Oceans

THE FIRST GREAT discovery of 2015, the Chicago-born Walker's second album marries pastoral sixties British folk tropes drawn from Pentangle and John Martyn to a freewheeling, seventies West Coast canyon rock vibe. Yet despite such obvious reference points, he sounds like he's part of a great tradition rather than merely someone with a classy record collection in thrall to his influences. Liquid guitar lines, plangent picking, buoyant double bass and jazzy piano vamps combine to create a fluid sound bed over which his sensuous voice soars and swoops like a modern day Tim Buckley. **NW**



Rebecca Ferguson Lady Sings The Blues

★★★★★

CD

RCA Records

FOR HER THIRD album the finest pop/soul voice of recent years tackles the songbook of Billie Holiday – with a high level of success. It's a tough act to follow, but despite the similarities in her vocal stylings she doesn't attempt a retreat of the legendary singer's works. The arrangements are lush and romantic without being trite, inspired by the past but not in thrall to it. Recorded at Capitol Studios in LA, the sound is rich and warm with full horn and string sections, but there's plenty of space for Ferguson's expressive voice to wrap itself around the melodies and deliver a series of heartfelt interpretations of some terrific tunes. **DO**

HOT PICK



ESKA

E S K A

★★★★★

CD

Naim Records

DESCRIBED BY LAURA Mvula no less as the greatest vocalist in the UK, acclaimed session singer ESKA may be one of the finest performers you've never heard of. Veering between husky and sweet, winsome and aggressive, she's a vocal chameleon gracing this melting pot of a debut with hints of folk, soul, psychedelia, electronica and much more besides. Produced by Matthew Herbert and David Okumu among others, the sound is an eclectic mix that's buzzing with influences and stylish production filigrees. There's a lot going on, but it manages to steer a course that's fascinating and surprising, with plenty of detail to be gleaned from turning up the volume. **DO**



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

AUDIOFILE VINYL

★★★★★

HOT PICK

Nina Simone Folksy Nina

180g vinyl

Pure Pleasure



RECORDED IN THE same year and at the same venue as Simone's much vaunted *At Carnegie Hall*, this collection of nine pieces has a core of folk tunes, but is not

exclusively of that ilk. It starts with Leadbelly's blues about Blind Lemon, *Silver City Bound*, and takes in two Israeli tunes and the standard *Twelfth Of Never*, which is taken slowly and sung with a sophistication and emotion that gives it real beauty. The second side starts with *The Young Knight*, a bawdy tale with an unusually feminist angle, and finishes with two "children's songs"

and is played in such open, assured yet fragile style that the last number, Pete Seeger's *Hush Little Baby*, is one of the finest on the album. It's sung very quietly which draws you in, and there is a constant fine interplay between piano and guitar that gives it filigree detail.

The sleeve notes suggest that the atypical *Lass Of The Low Country* is a real highlight but I am more impressed with *When I Was A Young Girl*, a down tempo blues that is steeped in misery and so suits Simone to the ground. The sound is stereo and has some space in it, but suffers from a crudeness that is largely a reflection of its 1963 vintage, this however does nothing to undermine the peerlessness of the performance. **JK**

HIGH RESOLUTION DOWNLOADS



Radiophonic Workshop
Radiophonic Workshop



FLAC 24-bit/48kHz

B&W Society of Sound

THE BOFFINS OF the BBC Radiophonic Workshop officially disbanded in 1998, but the core members have reconvened to explore where their musical journeys had taken them since, and the results are intriguing, exhilarating and frustrating all at once. The mix of found sounds and manipulations can at times lean towards the prog rock of their one-time disciples Pink Floyd, but unlike them it never loses its sense of fun. **DO**



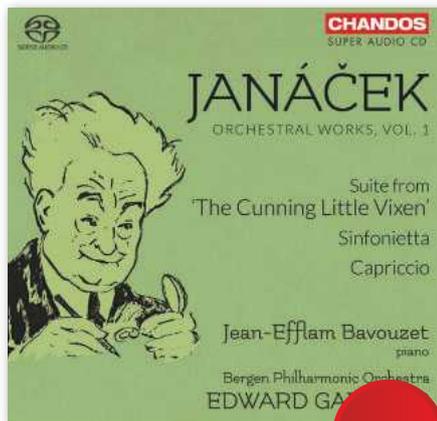
William Orbit
My Oracle Lives Uptown



ALAC/FLAC 24-bit/44.1kHz

Linn Records

FOR HIS EIGHTH album Orbit returns to his signature sound, with lush, rich swathes of synthesised strings, insistent beats and quirky melodic elements and voices floating in and out of the mix. It's like an upbeat ambient record, one that works equally well whether it's bobbling away in the background or subjected to close listening. It has a full, busy, if ever so slightly chilly and precise sound that gives you plenty to focus on. **DO**



Janáček

Orchestral Works Volume 1
Jean-Efflam Bavouzet (piano),
Bergen Philharmonic Orchestra, Edward Gardner



CD/SACD

Chandos

VOLUME 1 IN a projected complete orchestral works of Janáček series, the disc gets off to a good start with a rousing account of that great showpiece *Sinfonietta*. The performance is crisp and full of detail, though at times one wishes for something earthier and more elemental. The Chandos recording is bright and clear, sounding immediate and dynamic, with good clarity and detail. You notice these qualities best in the *Vixen* suite and *Capriccio*, especially with an increase in volume level. The dense scoring of *Sinfonietta* is always a challenge, but the recording clarifies the inner detail while expanding impressively for the big moments. **JH**

If volume 1 is this good, we can't wait for the follow up

HOT PICK



Henri Dutilleux Edition

Various performers



Six CDs

Deutsche Grammophon

THIS EXCELLENT 6-CD set brings together a good cross section of Dutilleux's music in various forms – orchestral, chamber, solo piano, song, and instrumental. The recordings mostly date between 1994 and 2010, and are of high quality. The earliest dates from 1971, but is technically excellent. The music is well crafted, worthwhile, and will repay close attention and study. DG itself never really recorded much Dutilleux, so this set is essentially a compilation taken from Decca, Philips, ECM, Sony, and Erato sources. With an excellent 12-page essay on the man and his music, this is an impressive issue that deserves to reach a wide audience! **JH**

BLU-RAY DVD ★★★★★

The Doors
Feast of Friends

HOT PICK

Blu-ray

Eagle Vision



Jim Morrison and Ray Manzarek met at the UCLA Film School and this series of short films was made by fellow student Paul Ferrara. Originally hired to take stills, he realised the band's documentary potential

and made this collection of films. The earliest footage was done without sound so music is overdubbed, but there is some live material including a great version of *The End* that is distinctly live. The sound is amped up and polished with more bass than the originals, but it doesn't intrude. **JK**

DEMO DISCS



Robin London-Willis, KSD – distributor for Final Audio Design and SoundMAGIC – reveals the music used to develop products



Radiohead
Nude

In Rainbows is a classic record that I know inside out. The drifty instruments that move around the stereo field help with judging imaging and detail.



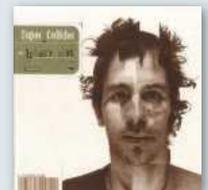
Mahler
Symphony #2
Vienna Philharmonic

For getting the real measure of the dexterity of equipment you can't beat listening to *Symphony #2*.



Michael Jackson
Don't Stop

Tons of percussion and an amazing vocal. It feels so quick and light that any sluggishness in performance is bound to show up.



Super Collider
Darn (Cold Way of Lovin')

If you want to test the bass performance of a product this is really helpful. This has one of the biggest and dirtiest synth bass lines that I know of.

HI-RES HIGHLIGHTS

Our pick of the best hi-res downloads released over the past month...



HDtracks (hdtracks.co.uk) has added an embarrassment of riches with Led Zeppelin's *Physical Graffiti* being the standout. Other highlights include Chaka Khan's *Chaka*,

Steve Earle & The Dukes' *Teraplane* and John Coltrane's *The Atlantic Studio Album Collection*. High Res Audio (highresaudio.com) has a whole host of Michael Jackson albums – *Thriller* being the zinger – Royal Blood's eponymous album and lots of LSO releases, including Colin Davis conducting Dvorak's *Symphony No.9*. Finally, B&W's Society of Sound has eighties soul and funk from the Universal Togetherness Band (bowers-wilkins.co.uk/Society_of_Sound).

Minitest

HEADSHELLS £60-£250

Head of the class

Upgrading the headshell supplied with your tonearm can offer real sonic benefits. **Neville Roberts** weighs up four options

There is no doubt that upgrading a headshell can really help you get the best from both your cartridge and tonearm. Some tonearms come supplied with a very basic headshell and it is not difficult to appreciate that this can add colouration to the sound. This can be caused by two important factors. Firstly, the headshell itself can flex in use and so its vibrations can be transmitted back to the cartridge. Secondly, if the

cartridge is not well supported by the headshell, any unwanted vibrations that it creates will not be conducted safely away through the tonearm and the pivot assembly.

Both the design of the headshell and the materials used will have their own mechanical characteristics, which will help to dissipate unwanted vibrations from the cartridge.

A further consideration is the integral finger lift, which should be firmly fixed to the headshell and not

have any adverse effect on sound.

Having the ability to remove a headshell allows for easy swapping between two cartridges. For example, you may have a mono cartridge that you use to listen to your mono record collection in addition to your stereo cartridge. An extra headshell will therefore be very useful.

All of the headshells reviewed here have the industry-standard SME mount and are fitted with a Lyra Clavis DC moving coil cartridge.

Oyaide HS-TF

PRICE: £150 TELEPHONE: 01332 342233 WEBSITE: blackrhodium.co.uk

DETAILS

PRODUCT
HS-TF carbon fibre headshell

ORIGIN
Japan

WEIGHT
10.7g

FEATURES
SME headshell mount; carbon fibre body

DISTRIBUTOR
Black Rhodium

MAKING USE OF a carbon and silver hybrid material, the HS-TF is an extremely rigid headshell with a low mass. It comprises a 4mm-thick carbon fibre reinforced plastic manufactured from 13 layers of carbon cloth and a single layer of silver. The connector is made from an aluminium cup ring containing the rhodium-plated brass contact pins, which are insulated in a Polybutylene terephthalate (PBT) thermoplastic with a 30% glass filler. This design is to help attenuate vibration and enhance the overall rigidity of the headshell. The cartridge connecting leads are made from pure copper Ohno continuous cast wire (PCOCC-A) and terminated at both ends with rhodium-plated phosphor bronze cartridge clips.

The end result is a very low mass headshell that weighs in at just 10.7g including the lead wires, as opposed to the 12g or so of my standard metal options. Size-wise, the headshell is a

standard 20 x 15.9 x 56mm (WxHxD) excluding the finger lift.

All bright on the night

In comparison with a standard metal headshell, when playing Beethoven's *Symphony No.3*, I find that the HS-TF delivers a faster and clearer sound. I occasionally find the strings to be a touch edgy during some exuberant playing, but this brightness may suit some tastes. An excellent stereo copy of Raymond Fol's iconic jazz version of Vivaldi's *The Four Seasons* is really exciting during the *allegros* and the

soulful guitar in the second movement of *Spring* is particularly captivating and moving. The bass is delightfully pithy and well controlled, exemplified by the double bass in a recording of the Dave Brubeck Quartet playing *Bossa Nova USA*. Top hats are wonderfully crisp and really grab my attention – great stuff ●

VERDICT

A great headshell that is ideally suited to jazz and popular music



ISOkinetik Silver Melody

PRICE: £80 TELEPHONE: 0208 2418890 WEBSITE: isokinetik.co.uk

DETAILS

PRODUCT
Silver Melody
headshell

ORIGIN
UK

WEIGHT
12g

FEATURES
SME headshell
mount; magnesium
body; pure silver
wiring

DISTRIBUTOR
ISOkinetik

AS ITS NAME suggests, the Silver Melody range makes use of high purity silver wire for its conductors. The Silver Melody headshell is additionally manufactured from magnesium and is considered to be an ideal upgrade for the Jelco SA-750 or other tonearms that are fitted with an SME connector. It is available with either a black or bronze finish.

The silver wire fitted to is 99.99% pure silver to give a very detailed and open presentation. A pressed metal finger lift is attached to the side of the headshell with two screws. It also features a clamping arrangement on the SME connector, which is held firmly in place with a bolt.

An Allen key is included with the headshell for this adjustment, along with cartridge mounting screws. This allows for small alterations to the azimuth of the cartridge to be made until the stylus is exactly perpendicular to the surface of the record if required.



With the Lyra cartridge in place, the Silver Melody wastes no time in impressing me with the performance of Beethoven's *Symphony No.3*. I am treated to a soundstage that is crisp, clean and full of power – just as it should be.

Four play

The Four Seasons sparkles with energy while the strings are quite strident at times, but never harsh or abrasive. That's not to say that things don't get smooth when they need to and the guitar in the second movement of

Spring is both easy on the ear and tuneful. The musicality of the performance makes listening so enjoyable it's difficult to stop. The double-bass playing in *This Can't Be Love* in the Dave Brubeck recording drives you along through the introduction until the tune breaks into the main melody ●

VERDICT

Offers a clean and bright performance that is both refined and musical



Clearaudio Stability

PRICE: £250 (Titanium) TELEPHONE: 01189 814238 WEBSITE: soundfoundations.co.uk

DETAILS

PRODUCT
Stability headshell

ORIGIN
Germany

WEIGHT
18.7g

FEATURES
SME headshell
mount; aluminium
or Titanium body

DISTRIBUTOR
Sound Foundations

THIS DESIGN IS something of a departure from the norm. Instead of having a solid body with slots to allow for the adjustment of the cartridge, the Stability has a moveable cartridge mount with two holes for securing the cartridge in the headshell. Adjustment is carried out by loosening a tiny Allen bolt on the top of the headshell and sliding the SME connector forwards or backwards as required. Some Allen bolts for mounting the cartridge are also included, along with the appropriate keys.

The body and cartridge mount are CNC lathe-machined from a block of either aluminium (£225) or titanium. The model reviewed here is the titanium version.

Weighing 18.7g, the Stability provides an extremely rigid and very stable platform to bring out the best from both MM and MC cartridges. The cartridge leads are permanently fitted to the SME connector. Fitting the Lyra in the headshell isn't problematic in



the slightest and sliding the headshell on with the cartridge installed is easy.

Jump to the beat

Jumping straight into the Beethoven, I find that the music flows effortlessly and the timing is excellent. When the pace of the first movement subsides momentarily into a lilting passage before taking off again, I don't get the sense that parts of the orchestra are struggling to keep up. The Stability races through the fast sections of *The Four Seasons* with great gusto and energy and still manages to give me a

chance to catch my breath during the slower movements.

The soulful playing at the start of Dave Brubeck's *The Trolley Song* soon gives way to the exciting main melody that is played on a saxophone. The hi-hats are well positioned towards the rear of the soundstage and yet still retain their immediacy and presence ●

VERDICT

Delivers effortless performances and the unique design is stylish and easy to adjust



Ortofon LH-2000 Universal Mount

PRICE: £60 TELEPHONE: 01235 511166 WEBSITE: henleydesigns.co.uk

DETAILS

PRODUCT

Ortofon LH-2000 Universal Mount headshell

ORIGIN

Denmark

WEIGHT

15.5g

FEATURES

SME headshell mount; solid aluminium body

DISTRIBUTOR
Henley Designs

WITH ITS NO-NONSENSE design and clean and minimalist aesthetic presentation, the LH-2000 should suit a wide variety of cartridges. The mounting slots provide adjustment of the cartridge position and the mounting distance from the rear of the headshell to the slots is 32.5mm – with the slots extending this to a maximum of 41.9mm. The body is made from a solid piece of machined aluminium and a plastic finger lift is attached to the side of the headshell. The cartridge connecting wires are fitted with push-on clips at both ends and so are easily replaced or upgraded if required.

I have no problems with installing and setting up the Lyra moving coil cartridge in the LH-2000 and, in use, tracking ability is never a problem. The full orchestral performance of the Beethoven symphony is exuberant and the excitement of the first movement is well conveyed to the

listener. Crescendos are dynamic and uncluttered, but there is nothing particularly special that I can discern with the presentation of the piece during listening.

Jazz-ma-tazz

The jazz version of *The Four Seasons* is clear and there is no indication of break up during trumpet solos, so tracking ability is decent. Similarly, with the Dave Brubeck recording, I am not aware of any colouration being added to the music, which I attribute to the good solid construction of the LH-2000

headshell – colouration is something I have experienced when using some pressed-metal headshells.

The Ortofon is a great 'second headshell' option that will appeal to enthusiasts that like to have the choice of a couple of cartridges on the go. Its budget price will also appeal to anyone looking to keep a headshell as a spare ●

VERDICT

A straightforward option that is great value and well suited as a secondary headshell



Mini test verdict

MANY PEOPLE HAVE concerns about removable headshells. The idea of having another connector in series with the delicate signal wires coming from your cartridge pushes some towards tonearms with a fixed headshell. However, the SME connector did not become an industry standard for nothing and, having owned both types of tonearm, I can honestly say that I've never had any problems with a removable headshell.

There is inevitably going to be an element of matching the headshell to the tonearm and cartridge due to the relationship between the effective mass of the arm and cartridge compliance. My cartridge falls into the medium compliance category and I have a mid-mass arm – probably as good a combination as any for testing.

The presentation of the Ortofon offering is not going to set the world on fire, but it is certainly a good little performer at the price point. Its unpretentious styling means that it will fit in well visually with many turntables. The carbon fibre construction of the Oyaide HS-TF renders lovely bright and speedy performances and the patterning of

the body manages to look both sinister and inviting at the same time. Although a little pricy, the Clearaudio Stability is unashamedly modern in its looks and also turns in a really superb performance. It's an extremely rigid and stable platform weighing in at 18.7g and delivers a great performance and easy cartridge installation.



There are some superb performers in this group, but the ISOkinetik Silver Melody's balance across the musical spectrum takes the spoils. It's great value for money and allows the cartridge to deliver a lively, yet controlled musical performance.



One of the physical properties of an arm is the effective mass (the mass of the arm as seen by the cartridge). Changing a headshell will have an effect on this. Generally, a low compliance cartridge matches well with a high effective mass arm, and vice versa. This should be a consideration when choosing a new headshell. If the current arm and cartridge is performing well, choose a headshell that is close in weight to your current one.

If you are planning on using two or more cartridges with your tonearm, you can have a separate headshell for each and set each cartridge in its own headshell. If the VTA setting differs between cartridges, you can fit a small spacer to one of them to make the VTA the same as for the other one. Swapping the cartridge is then a simple case of switching the headshell and adjusting the tracking force to suit that cartridge.

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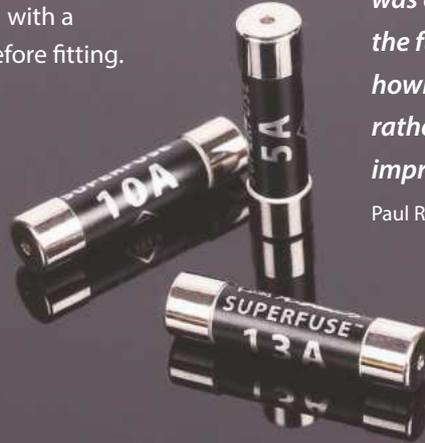
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 VERDICT ★★★★★



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Monitor Audio

S200 wireless speaker



ACCORDING TO LATEST figures from GfK (which monitors these things) two of the hottest selling things in consumer electronics right now are Bluetooth speakers and networked multi-room systems. The S200 falls into both categories, with a spec that covers nearly every audio streaming type you can think of. In addition to Bluetooth 4.0 with aptX, it boasts go-faster AirPlay stripes along with Monitor Audio's Airstream Direct, which is mainly a means of using AirPlay in the absence of a wireless network. It can also play nice with DLNA sources (fed through third-party apps) and has 3.5mm aux and USB inputs. It's a pity you can't have a pair of S200s in a stereo configuration in the same way as the likes of Sonos and Pure offer, but you can dot several around the house in a multi-room setup using AirPlay.

The hard work is done by a high-quality DAC calibrated to deliver the goods from ALAC and FLAC files. Hailing from a company with a fine heritage in speaker design, the S200 is the beneficiary of trickle-down technology with dual 3in C-CAM metal cone bass drivers flanking a 1in gold C-CAM dome tweeter. A rear-mounted 'Race-track' profile ABR (Auxiliary Bass Radiator) helps extend the low-frequency reach, while the front drivers receive 65W of Class D amplification and some DSP with in-house designed algorithms and audio tuning.

An acquired taste

On paper then, all seems hunky dory but there's something about the S200 that leaves me a little cold. You can't argue with the build quality but I'm not a fan of the partly curved profile, which looks like the unit was left too near the fire so the top started to melt. Or maybe someone just thought an oblong would be too boring. I also don't care for the black grille stocking-type cloth (I have the black and charcoal grey version, maybe the white and light grey combination is more appealing).



And while I'm about it, I have to say that the so-called Quick Start guide is a let-down. Monitor Audio has opted for the sort of instructions ordinarily found with IKEA products that are more challenging than *The Krypton Factor*. The in-depth online user guide is also confusingly laid out, but does provide explanations of what the countless colours and sequences that the LED light glows mean.

The easiest way to get the S200 hooked up to your network is to connect an iPhone to the USB socket and agree to the prompt that appears automatically requesting permission to do so. There's no remote, so if you want to adjust the volume or toggle through the inputs (including stream via Bluetooth) you have to press buttons on the side.

I first try the S200 sitting about 3m away in my main 12m² listening room – smaller than the size of room used in Monitor Audio's publicity photos. Streaming from a MacBook Air I'm unimpressed as it feels underpowered and the bass lacks punch. In a smaller 8m² room, placed less than a metre away from me, I begin to understand what all the fuss is about.

On an inferior speaker, Bryan Ferry's ageing vocals on his latest album *Avonmore* lack definition and get hopelessly lost among the guitars and

percussion. But here *Loop di Li* feels airy so that his voice lifts adroitly with refinement. The subtlety of the instrumental layers especially among the higher frequency instruments such as the sax and keyboards are brilliantly revealed. A hi-res DXD download of Mozart's *Violin Concerto No 4* in D Major benefits too with strings that almost seem to sparkle with clarity.

Spit and polish

Texturally, the polish is arguably too slick, lacking the warmth that a Class AB amp would bring to proceedings but the authority and precision of the delivery is undeniable. The bass radiator is highly adept with low frequencies. *Silent Shout* by The Knife, for example, hurtles along assuredly with verve and just the right amount of extension to balance the rest of the dynamic range.

Without wishing to contradict my earlier observation about room size, for a loudspeaker that's smaller than a shoebox the S200 has, in the right setting, size-defying scale. So, who cares what it looks like and so what if the setup guide is ridiculously hard to understand, it's simply one of the finest sounding AirPlay speakers out there and that's what counts. **AJ**

DETAILS

PRICE
£200
TELEPHONE
01268 740580
WEBSITE
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OUR VERDICT



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RHA

T10i in-ear headphones

A GOOD PAIR of headphones should ideally be unnoticeable to the wearer, blending seamlessly into the background so that you can enjoy your music without restriction or limitation. Just like wearing a good watch, comfort is a key consideration, and lightweight in-ear models are often hard to beat so long as you don't mind stuffing the buds into your ear canal.

This is the first time we've seen RHA headphones in *HFC*, but the brand has an extensive range geared for all tastes and pockets. The T10i is its most expensive model to date, but has the kind of build quality and design that is often overlooked.

The stainless steel housing is a little bulkier and heavier than many in-ears I've seen, but the metal injection moulded earpiece enclosures are finely engineered. They house a handmade dynamic driver and come with three tuning filters so that you can customise the frequency response to your liking. It's an impressive looking package that comes with a selection of 10 silicone and memory foam ear tips and an inline three-button control with microphone for iPhone or iPad users – a T10 version is available without iOS compatibility for £140. The 135cm cable is terminated with a gold-plated 3.5mm jack and a natty carry case is provided. There's no 6.35mm jack adaptor included.

Music and movement

Usefully the robust multicore OFC cable isn't affected by microphony noise, and even remains silent when I take the T10i out for a run in a nearby park. What's even better for active users is the bendy cable that starts 10cm or so before it enters the earpieces. This allows it to hook around the back of the ear and offers a far more secure fit for active wearers. It's a fiddly fitment process when you first try it out, but the act of hooking the cable over and behind the ears soon becomes second nature.

Isolation from external noise sources is very good indeed and the amount of extraneous noise that's



given out is minimal, meaning that you won't become unpopular with your fellow commuters.

The three tuning filters labelled Treble, Reference and Bass aim to tailor the frequency response to your preference, and simply screw onto the metal enclosure. This ability to tune the headphone is to be applauded, and I fit the Reference filter as this suggests it's likely to be the most neutral sounding and the best place to get a feel for the RHA's capabilities.

I am surprised by the overwhelming bass that hits my ears. Play any tune with anything approaching a bass beat, like *Happy* by Pharrell Williams, and the T10i will have you reaching for the volume control, and not in a good way. In some ways the level of bass that's on show is mightily impressive, but it's so unbalanced that it overwhelms the rest of the frequency range and very quickly becomes fatiguing.

As the frequency characteristic from in-ear headphones has as much to do with how well the ear tips couple to the ear canal, I select a slightly smaller size and less snug fitting to see if I can temper the bass levels at all, but neither the smaller silicon or the foam ear tips sufficiently reduce it, so I swap to the Treble filter to see what effect that has on performance.

With this filter fitted the frequency range achieves a much improved balance. Bass is less overblown and sounds tighter, affording more space and air around the mid frequencies that enables instruments and vocals to sound less crowded and open with a nice amount of treble detail. Unsurprisingly, the Bass filter is even more unbalanced.

Getting it right

With the bass performance a little more measured it's easier to hear the T10i's midrange frequency contouring, which gives a warm sound balance. This is particularly noticeable in the case of male voices, and David Bowie's vocal on *Where Are We Now* sounds recessed and placed a lot further back in the mix, and lacks the overall balance and detail in the presentation than I am used to hearing.

RHA gets an awful lot right with the T10i. It is easily one of the most flexible in-ear headphones I have tried in a long time. It's a superb fit for active listeners looking for pair of high quality in-ears to enjoy their beats on the move. The filters are a great idea, but further tuning is required to get a more even sound balance that will appeal to more discerning listeners. **LD**

DETAILS

PRICE
£150
WEBSITE
rha-audio.com

OUR VERDICT



Divine Audio Record Revirginizer cleaner

THERE ARE PLENTY of record cleaners on the market today to suit all pockets. They range from dry brushes and cloths to manual and automatic wet record cleaning machines that cost from tens of pounds to a few thousand. Wet cleaners are more effective of course than a dry cloth at reaching down into the groove and extracting the dirt, but if you want your records dried at the same time, then an expensive automatic cleaner has to be your only option – until now. The Record Revirginizer from Australia, available via Divine Audio in the UK, takes an original approach to record cleaning. It is, in effect, a face mask for your vinyl.

The Record Revirginizer is a pale-blue coloured anti-static viscous liquid polymer that you pour onto the playing surface of a record, leave to dry and then peel off. The

theory is that all the dirt is retained by the polymer and discarded, leaving your record in pristine condition – in fact, in even better condition than when it was new as the mould release agent residue from the manufacturing process is also removed.

Pamper your vinyl

I apply a small quantity onto a rather grubby old recording of Handel's Messiah (working out exactly how much to apply will be down to your own judgement but I recommend using only a little at a time). I then spread the viscous liquid over the playing surface, avoiding the label area and using a couple of clean fingers as per the instructions. Next, I put a little paper tab at one edge that will facilitate the removal of the polymer when dry. The drying process takes several hours – and that is just for one side of the LP! However, after

peeling off, I am pleased to see a superbly clean record. As hoped for, when I play the record, I experience a general sonic improvement with better transparency and focus.

This is indeed a very effective record cleaner that does what it claims on the bottle. However, it could easily take most of the day to clean up both sides of an LP with this 'face mask', and is a considerable amount of time to spend on caring for your vinyl. **NR**



DETAILS

PRICE
£28

CONTACT
01536 762211

WEBSITE
divineaudio.co.uk

OUR VERDICT



Analogue Studio Inner Record Sleeves

IT IS EXTREMELY important to ensure that your LPs are clean before playing – even brand new ones, which may well have residues from the manufacturing process in the grooves that will manifest themselves as surface noise when being played. However, cleaning is particularly important when buying second-hand records as you don't know how they've been treated in the past. More often than not, they won't have been rigorously cleaned before selling and the accumulated dirt will need to be washed off with a good record cleaner before playing. Once the LP has been cleaned, it should never be re-inserted directly into the old record sleeve as it will be instantly contaminated with the dirt left there. The inner sleeve should, therefore, be replaced immediately after cleaning and Analogue Studio provides an affordable solution to the problem.

Of course, many second-hand LPs are considered collectable items and you may not wish to simply discard the old inner sleeve and replace it with a new one.

Green sleeves

Happily, the Analogue Studio sleeves are tailored to fit around the record and can easily slip inside the original sleeve, as well as being used as a replacement for any old, tatty ones. They can also, of course, be used to line new paper sleeves which, in my opinion do not provide sufficient protection for a record inside the album cover on their own.

The protective inner sleeves are made from 0.038mm thick anti-static

high-density polyethylene and are supplied in packs of 50. They are thick enough not to have any tendency to ruffle up when used inside an existing sleeve or when used on their own as a replacement.

The rounded bottom edge aids insertion as there are no corners that can fold over when being slipped inside the album cover. I also find there is no static 'cling' to the vinyl as it's being inserted, and these sleeves make a great addition to a cleaned-up vinyl collection. **NR**



DETAILS

PRICE
£16 for a pack of 50

CONTACT
01733 350878

WEBSITE
analoguestudio.net

OUR VERDICT



Pro-Ac Response D20 and D30 Ribbon loudspeakers



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AC/HFN/83

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AC/HFP/80

ortofon

accuracy in sound



Q uintet

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

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

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



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Pro-Ject

Stereo Box S Phono integrated amplifier

IT DOESN'T SEEM that long ago we were being told that the LP was dead and that we should all be buying CDs. First to disappear from the shelves of record shops were the classical music LPs, which meant that the only way we could buy new recordings was to get them on CD. However, many of us felt the new digital media didn't quite match the audio quality of the tried and tested mechanical vinyl of old and we relentlessly clung on to our beloved collection. Roll forwards a couple of decades and the CD is now a legacy format (we told you so!) and downloadable digital media is the way forward. However, thanks to pressure from the buying public, LPs are still alive and kicking.

Recorded delivery

Today, there is a growing number of people with a limited budget who have grown up in the digital music era, but now want to be able to listen to the wealth of material out there on vinyl. While they may be able to get their hands on a record deck fitted with a moving magnet cartridge at a relatively low cost, how many amplifiers are being sold these days with a phono stage? This is where Pro-Ject's diddy little box of tricks comes in.

The Stereo Box S Phono from Box Design by Pro-Ject might be a bit of a mouthful, but it combines an integrated amplifier, based on the Stereo Box S, with a Phono Box design phono stage creating a compact solution for vinyl fans on a budget. Available fitted with either black or silver faceplates, its power output claims 2x 25W into 8ohms and 2x 37W into 4ohms, which should be plenty to drive a pair of standmount/bookshelf loudspeakers. Pro-Ject considers it the perfect match for its affordable Elemental, Essential II, RPM 1.3 Genie and Debut Carbon turntables.

This diminutive integrated amplifier measures 206 x 40 x 150mm (WxHxD), weighs 1.25kg and has a total of four inputs – three line-level inputs and one MM phono input. It is designed around



Pro-Ject's philosophy that less is more – something exemplified by the front panel, which has only a power switch, an input selector push-button and a volume control. The power switch is wired upside down, according to UK convention, with power-on being with the switch up!

The four inputs on the rear panel are gold-plated and there's a binding post for the turntable's earth lead, as well as gold-plated speaker terminals that can accommodate both wires and banana plugs, and the 20V DC input for the supplied external switched-mode power supply. Also supplied is a compact remote handset offering volume control, input select and standby on/off.

I connect the integrated amp to my speakers and record deck, which has been fitted with a Goldring 2400 moving magnet cartridge. Starting off with some orchestral music, I play a variety of pieces and find that the Pro-Ject delivers a full sound with plenty of bass drive, although the extreme top end is missing. Moving to some solo instruments and small ensembles provides a pleasant sound that is easy to listen to. A recording of Beethoven's piano trios played by the George Malcolm Piano Trio is

enjoyable and melodic, if not particularly sparkling. Similarly, with some jazz the performances are smooth and effortless. In particular, a stereo pressing of Miles Davis' *Kind Of Blue* (the 1960 stereo issue from Columbia Broadcasting Systems) is enchanting as always with this recording. Also, the bass is well extended and rhythmic.

Sing when your winning

Choral music can seem a little recessed at times, however, and this is consistent with a slightly unclear midrange. On a lighter note (or notes) the legendary Thelma Houston's *Got To Get You Into My Life* is exciting and not at all shrill during the loud passages. Left-to-right imaging is very good with instruments being well distributed across the soundstage, but front-to-back placement is quite compressed and flat.

Despite some sonic reservations, Pro-Ject's Stereo Box S Phono is a commendable compact integrated amplifier that delivers respectable performance. It's ideally suited to anyone who is short on space and wants to experience the magic of vinyl without breaking the bank. **NR**

DETAILS

PRICE
£200
TELEPHONE
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WEBSITE
henleydesigns.co.uk

OUR VERDICT





BUYING SECOND-HAND AUDIO EQUIPMENT

Obtaining pre-owned hi-fi can be an enjoyable and rewarding experience, but it can also be a bit of a minefield. Here we help you avoid some of the pitfalls

There is something rather exciting about going to your first audio jumble sale. Rows and rows of stalls stacked with hi-fi goodies to tempt everyone. Wading through all the equipment of yesteryear that most of us could only dream of owning is a wonderful experience.

Of course, audio jumbles are not the only source of 'preloved' equipment. Hi-fi dealers and car boot sales are the first port of call for many. Others like to use traditional or online auctions, or may scour the classified ads sections of their local paper and consult the relevant section in their favourite hi-fi magazine – see our *Reader Classified* pages (122-123). Even a browse through local second-hand and charity shops can often yield an undiscovered gem.

Dealers are always going to be the safest option as they will usually only sell items that are in working order and have been tested. They may also offer some sort of warranty. Of course, this will all come at a price, but it is certainly the best way to go if you have limited or no technical knowledge of what you intend to buy.

Some may have coveted a Revox B77 10.5in spool reel-to-reel tape deck as they are now available second-hand and at prices that are less prohibitive. Others, who have just been bitten by the hi-fi bug, may want to start investing in some serious equipment, but have a very limited budget available. What is certain is that there are bargains to be had. However, there are also plenty of

opportunities for less-than-scrupulous sellers to take advantage of the uninitiated buyer. The good news is that most of the problems can be avoided by the application of a few simple rules and some common sense.

Getting started

So you've decided to invest in a particular component. The first thing to do is to decide what your budget is going to be. This may seem obvious, but you need to know if the item you are hoping to buy is going to be within your grasp. Bear in mind that you may be able to participate in some serious haggling with a vendor if buying at an audio jumble. If auctions are your thing, it's easy to get carried away in the heat of the moment as the end approaches and you see the piece you've set your heart on slipping away before your eyes in the frenzy of last-minute bidding. Remember, it is not the only Leak Trough-Line II tuner that's going to be available and if someone else is prepared to pay a good three-figure sum for it, it may be time to walk away.

Do some research

Once you've decided on what you want and how much you are prepared to pay, it is time to do some serious research. You may have decided to buy a cassette deck, but may not be particularly fussed about the make and model. You just want a serious piece of hi-fi for an affordable price. Or, you may have set your heart on a Yamaha amplifier, for example, without having a particular model in mind. Either way,

research is vitally important. Most manufacturers have produced a model that they'd rather everyone forgot about – one with a high failure rate, a sound quality issue or a mechanical problem that was only discovered after the item was released to an unsuspecting public. All these pieces of equipment are out there in the second-hand market, nestling among the choice morsels of engineering excellence that have rightfully earned their place in audiophile history.

Of course, you may be wanting to acquire a legendary Garrard 401 record deck of your very own. But even in this case, it is well worth researching what issues to look out for. For example, the rubber idler wheel may have suffered from years of storage in the loft and perished due to the wild temperature and humidity excursions it has experienced during that time. Remember, the internet is your friend and there are plenty of bulletin boards to scour containing comments and experiences of other enthusiasts.

Off you go

Having decided on what you want and what you need to look out for, you are now ready to head off to a local car boot sale armed with a roll of crisp notes in your pocket. Before you start making offers, the first thing to do is to ask

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plenty of questions. Why is the person selling? How has it been stored or has it been in constant use since it was bought? Are you able to listen to it before finally parting with your cash? All of these queries can take you down all sorts of avenues and clearly some common sense is required.

It is also important to judge the seller as well as the goods. A classic comment from a seller is “untested but believed working”. This description may be perfectly genuine, but it can also be used by someone who is being less than honest and has checked the item and found a problem with it. Only you can decide on the integrity of the seller and it is worth asking if they offer a guarantee if the equipment doesn't live up to your expectations.

Use your eyes. It's not just the one careful owner that you need to worry about, it's the five careless users that also had access to the equipment. For example, take a close look at the cartridge fitted to a record deck. Does the cantilever look straight? You'd be surprised how many damaged cartridges that remain fitted to record decks have suffered a swipe from the tail of a passing dog.

How technical are you?

If you are the sort of person who is happy to unscrew the cover and dig around inside a piece of hi-fi, you are likely to be in the best position to pick up a real bargain. It goes without saying that you must have the required technical skills and equipment to undertake any repairs. There are many issues to watch out for and precautions to be taken, but these are outside the scope of this feature.

Do not be put off when you look inside a piece of equipment and find it full of dust. One particular Leak Trough-Line II valve tuner had been lying around for years in a spare room and a bit of attention with a vacuum cleaner was all that was needed as it worked perfectly when powered up.

Check the sockets on the rear. Dirty sockets can be easily cleaned with a good contact cleaner, like Servisol or

Caig DeoxIT. If they have corroded, however, they may need replacing. All of these observations apply equally to any piece of hi-fi that you are contemplating purchasing. However, there are some issues that are specific to particular types of equipment.

Speaker's corner

Loudspeakers usually have fewer issues than other items of equipment, but they may have suffered damage from being driven too hard, especially by modern amplifiers that can produce a ridiculous amount of power for a domestic situation. The voice coils can become misaligned and scrape the sides of the magnet when they vibrate in use. A gentle push in the centre of each drive unit will show this up as you will feel the friction when the coil moves. Alternatively, a drive unit may have completely burnt out. If you are able to hear the speakers operating, play some music quietly and place your ear close to each drive unit to see if it is operating as it should.

Dealers are the safest option as they will usually sell items in working order

Tape recorders, whether open reel or cassette, may have suffered from neglect and wear. A close inspection of the heads will show if they are likely to be worn out – look for the tell-tale horizontal lines where the edges of the tape have worn away the head. Also look at the rubber pinch roller – is it caked with tape oxide? This shiny covering can be removed with cleaning, but its presence or absence does give an indication of how well the recorder has been looked after.

Internal rubber belts of the drive mechanism can become stretched and perished, especially if the unit has been in storage. This can result in sluggish performance when trying to fast forward or rewind the tape.

ANALOGUE TAPE AND CASSETTE RECORDERS

Open reel, or reel-to-reel tape recorders and hi-fi cassette recorders are still a great medium for the enthusiast who wants to make their own recordings on a budget. Initially, open reel recorders were used for voice recording until the Philips Compact Cassette, introduced in 1963, gained popularity. Although cassettes quickly replaced open reel recorders because of their convenience, the narrow tape width and slow speed of the cassette ($\frac{1}{4}$ in and $1\frac{1}{2}$ IPS respectively) meant that they were initially unable to compete with the open reel machines that used $\frac{1}{4}$ in tape and faster speeds for hi-fi applications.

In the mid-seventies, an open reel recorder was an essential component in any system, but the dizzy heights of a Revox B77 and the like were out of the price range of most enthusiasts. Decent second-hand models are now available at more wallet-friendly prices.

Akai 4000DS

For many, the first step was the Akai 4000DS Mk II, which was in production between 1976 and 1978. This model can be picked up for a song these days. The 4000DS made a virtue of money-saving simplicity by using a brass sleeve fitted over the capstan to change the tape speed. A separate switch changed the equalization settings to suit the $3\frac{3}{4}$ IPS and $7\frac{1}{2}$ IPS speeds. Its success was due to a simple but rugged construction that resulted in a build quality beyond that of its competitors, but in the same price range, together with good recording and playback quality due to the separate record and playback 1 micron gap heads. But it was not without its quirks. When playing in the upright position, one was forced to use the push-on rubber reel retainers to prevent the spools from falling off. After a while, the retainers had a habit of popping off the spindle of their own accord, which was disconcerting when relaxing and listening to music!

Sony

In the seventies, Sony sold more open reel decks than any other manufacturer. For many, the next step up in quality from the 4000DS was the Sony TC-377. The Sony TC-377 “Three Head Stereo Tape Recorder” was fitted with Sony's Ferrite & Ferrite heads and was produced between 1972 and 1977. It had a pretty good specification for the price, considering that it was one of the Sony 'entry level' separates and you can now pick these up for a song. It was justifiably a very successful domestic machine and Sony followed it with the TC-378 in 1977 and then the TC-399, which was in production from 1978 to 1983.

For the more affluent enthusiast, there were plenty of models to choose from. For example, the TC-558, which was produced from 1973 to 1976, featured solenoid controls (instead of mechanical levers) and six heads to enable full auto-reverse operation. However, to allow for the larger 10in reels, you had to upgrade to the TC-755, TC-756 or TC-758 machines. These also had solenoid controls, but featured a dual capstan drive to keep the tape tension constant across the heads. Additionally, the TC-756 supported speeds of up to 15 IPS. At the top end was Sony's TC-765, which was introduced in 1976 and manufactured until 1982. Moving to the TC-766 offered the audiophile 30 IPS and half-track stereo (unidirectional operation) for the ultimate in sound quality. All of these machines can still be found and many in excellent working condition.

Nakamichi

Sony seemed to have it made until a little-known rival company called Nakamichi, also from Tokyo, started to challenge its supremacy. Nakamichi was founded in 1948 and by the fifties it had developed one of the first open-reel tape recorders in Japan under the Magic Tone label. The company went on to develop and market tape recorders under its own name starting with the Fidelia three-head Open Reel Stereo Tape Deck in 1957. When Philips introduced the world to the cassette, Nakamichi applied its experience to this new medium and by 1973 it was producing stereo cassette decks with such high-quality reproduction that they provided a serious challenge to the open-reel machine. The Nakamichi 700 and 1000 machines with their three heads and dual capstan drive mechanism were regarded as two of the finest cassette recorders made in the mid-seventies, but their prices were way out of the reach of all but the most affluent of audiophiles. However, Nakamichi responded to the potential demand by releasing more economical two-head models starting with the Nakamichi 500 and 600. Nowadays, Nakamichi cassettes are widely available second-hand and at prices that are easily within the reach of most enthusiasts.



Don't be put off by a layer of dust over the inner workings when you lift the lid off. This Trough-Line Mk 2 valve tuner was easily cleaned using a Hoover



Belt-drive record decks can also suffer from stretched and weak belts. Fortunately, these are easily replaced and it can be a good bargaining tool, but it is worth checking their availability before purchase.

Turntable cartridges can have all sorts of problems, apart from damaged cantilevers. The suspension may be worn and weak – this is evidenced by the cantilever almost hitting the base of the cartridge when attempting to play a record at the normal tracking force. In view of this, it is worth checking that the tracking force has been set correctly in case a dodgy seller has noticed this problem and reduced it in an effort to cover up any potential issues. Stylus wear can only be checked with a good stylus microscope and an expert eye, so you

Wherever it's possible, try to hear speakers before buying

will probably have to take the seller's word on this one. If you are prepared to take a risk, you can always send the cartridge away to be checked by a specialist company. Do remember that while a moving magnet cartridge may well have a replaceable stylus assembly, a moving coil will not.

Radio active

Analogue FM tuners can go out of alignment after years of use. Re-aligning a tuner is certainly not something that can easily be undertaken by an amateur. In fact, many such tuners have been rendered useless by someone with limited knowledge and no specialist equipment attempting to twiddle the core of an IF coil inside a tuner in an attempt to improve the stereo reception! Our message is, if the tuner doesn't work well, leave it alone.

Valve equipment has its own issues. If the equipment sounds dull, lifeless and suffers from poor imaging, it might be time to try some new valves.

They don't last forever, of course, but can be easily replaced. A small-signal valve (preamp or driver valve) usually lasts for around 10,000 hours before its performance drops to a point where it adversely impacts on the sound quality. Power output valves and other stressed valves are often thought to last 2,000-5,000 hours, but this still equates to several years of intermittent use. If you have access to a valve tester, this could save you money as you would only then need to replace a faulty valve or one that is below spec. Valves are getting easier than ever to buy these days and you can invest in some cheap ones for a few pounds to swap with a suspect one in the equipment. If this solves a problem, you can then invest in a more expensive audiophile type.

So, there you have it. You are ready to go shopping and embark on your own audio adventure. Whatever approach you decide to take, as with all things hi-fi, the most important thing is to have fun ●



THE LEAK TROUGH-LINE FM TUNER

Back in the fifties, everyone was listening to Medium Wave and Long Wave and many budding audiophiles were waiting for the arrival of Frequency Modulation broadcasts, which promised reduced background noise and better sound quality. The BBC, working in partnership with Standard Telephones and Cables Ltd (later STC plc), was developing this technology and a certain Harold Joseph Leak and his British company H J Leak & Company Limited were one of the first to develop their own tuner for this emerging market.

Most FM tuners were of the superheterodyne design and the Trough-Line is no exception. The radio frequency signal enters a mixer, along with the output of a local oscillator, in order to produce an intermediate frequency (IF) signal, which in the case of the Trough-Line is 12.5MHz. Tuning the receiver involves changing the frequency of the local oscillator, so for the Trough-Line to tune in Radio 3 at 90.7MHz, the local oscillator will be tuned to run at 103.2MHz. The output of the mixer will be the difference of these frequencies: 12.5MHz. Similarly, to tune in Radio 2 at 88.3MHz, the local oscillator will be tuned to run at 100.8MHz and the output of the mixer will again be 12.5MHz. This means that all further processing of the signal is conveniently done at a single frequency – the IF – thus no further tuning for different stations is required.

One of the difficulties of radio circuit design was to come up with a stable oscillator. Many tuners needed to be periodically re-tuned as they warmed up, or they would distort. This arose from changes in inductor dimensions with temperature resulting in significant variations in the inductors' electrical properties at the 100MHz region chosen for FM broadcasts.

Leak's solution was to design a circuit that used a tapped transmission line as the main tuning element, rather than conventional wound coils or inductors. He developed a tuner that used a quarter-wavelength section of transmission line, which was shorted at one end and so behaved as a parallel resonant circuit of very high Q. The construction he developed led to a device of great rigidity and electrical stability. Tuning across the frequency range was achieved with a conventional air-dielectric variable capacitor.

The first Leak FM tuners used a U-shaped trough as the 'concentric' outer conductor and, as a result, the tuner was christened The Trough-Line. As with the later models, the original Trough-Line utilised a Foster-Seeley discriminator circuit and a 'magic eye' EM81 valve as a tuning indicator. Two types of FM detectors were popular at the time: the ratio detector and the Foster-Seeley detector or discriminator. The Foster-Seeley discriminator has the disadvantage, compared with the ratio detector, of being affected by amplitude variations and so requires a limiter stage preceding it. It does, however, offer lower levels of distortion and that is why Leak chose to use it.

The Mk 1 only covered the range of 88-100MHz and is now more of a collector's item, rather than being suitable for hi-fi use. Later models covered the full range of 88-108MHz. One feature of all the Trough-Lines was that they were self-powered from the mains supply – unlike many British tuners of the time that needed HT and LT power from the power amplifier.

In 1960, Leak launched the Trough-Line Mk 2 (above), which sported a distinctive art deco front

panel made of Diakon in brown and gold, rather than the gold enamelled steel finish of the Mk 1. This matched its range of Varislope amplifiers. Apart from the wider tuning range, the valve complement was changed to accommodate a switchable Automatic Frequency Control (AFC) and Local/Distance sensitivity control on the front, and there were also some changes to the design of the line to reduce weight and costs. For many, this is the model that is most desirable for its looks and performance. It also features a separate output on the back panel prior to the de-emphasis circuit for connection to an external stereo decoder, making fitting a modern Phase Lock Loop (PLL) decoder very simple.

In 1964 the Trough-Line Mk 2 was phased out for the Trough-Line Mk 3. Silver and black was now the order of the day. Apart from the exterior appearance, it was identical to the Mk 2 electrically. In 1966, the Trough-Line Stereo was launched with an internal stereo decoder. Alas, this fell short of the mark in terms of quality and is best replaced with a modern PLL decoder.

By 1969, many companies looked towards the new solid-state technology and Leak was no exception. The Trough-Line Stereo was phased out in favour of a new semiconductor-based design called the Stereofetic. However, in the decades since the Trough-Line era, it's become clear that no one has ever bettered its sound. Consequently, a unit that has been fully serviced and upgraded with modern components is considered to be one of the finest sounding tuners ever made and is highly sought after today. If you are prepared to carry out the work yourself, a Mk 2 or Mk 3 in good shape can be picked up for well under £100.

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Benz Micro LP, boxed plenty of life left used
Cartridge Man Conductor Air Bearing Tonearm new
Clearaudio Innovation Compact, good condition dem
Clearaudio Unify Tonearm excellent boxed dem
Clearaudio Basic Symmetry Phono Stage boxed used
Conrad Johnson TEA 1b Phono stage used
Conrad Johnson Premier Six phono preamplifier used
Consonance Cyber 40 phono stage dem
Garrard 401, Jelco 750 12" arm, new plinth and lid dem
Graham Phantom Supreme 12", SME cut dem
Haddock 242 Export, dem
Hanns T30, mega TT, sealed box dem
Lehmann Black Cube phono stage dem
Linn Sonek, Itok, nice condition dem
Linn Sonek, Lingo, Naim Aro, superb used
Linn Sonek, Basic plus, Valhalla, VGC+ used
Linn Sonek, Grace 707, basic psu, VGC+ used
Linn Sonek, Naim Aro, Staff build Armageddon dem
Linn Lingo, excellent used
Linn Basic Plus, vgc+ used
Lyra Eborad Step up used
Michell Hydraulic Reference, Fluid arm, excellent used
Michell Tecnoarm A in black as new mint boxed used
Michell Synco/RB250/Eroica, great condition used
Michell Orbe Se, excellent boxed dem
Moth phono stage dem
Musical Fidelity XLP5V3 phono stage dem
Musical Fidelity XLP5V8 phono stage dem
Naim Aro, excellent boxed used
Naim Stageline N excellent boxed used
Pioneer PL530 Direct Drive, good condition Project Phono box SE phono stage, excellent value dem
Project RPM 9 turntable with arm and platform dem
Project Xpression mk2, arm and cart dem
Project RPM 5 Turntable/Arm boxed with Speedbox dem
Project RPM 4 Turntable/Arm with cover, great! used
Project Perspective, Speedbox SE, Shure V15mk Rega Planar 2, RB250, excellent boxed used
Rega RP3 Elys2 cartridge, excellent boxed used
Revolver Rosewood, G1022, excellent used
Roksan Xenex RB300, PSU, boxed used
Roksan TMS 2 with Reference PSU, boxed as new used
Roksan Xenex, XPS, SME Fit used
Graham Slee Fanfare Amp3 used
Graham Slee Reflex C with PSU 1 used
SME 3009/3, excellent boxed used
SME V, excellent, due in dem
SME V12, nr mint boxed dem
STD305, vgc, no arm used
Systemdek, Syrix PU2, excellent used
Systemdek IX900/RB250/AT440 used
Technics 1210, near mint boxed used
Thorens TD150, SME3009 good condition new
Thorens TD160 HD turntable used
Thorens TD160, Audio Technica arm, boxed used
Thorens TD209 turntable package dem
Thorens TD2030 Blue turntable new
Thorens TD125 c/w SME3009, excellent used
Tom Evans Groove, 0.85mm/100 ohm, excellent used
Transshend Elite Rock o/w Excalibur, boxed excellent used
Transfiguration Orpheus L, good condition dem
Trichord Dingo 2 o/w NC PSU & HP Cable dem
VDH Colibri M/C cartridge used
VDH Condor M/C cartridge used
VPI Scout, JMW arm excellent used
VTL TP2.5 phono stage (new) used
Wilson Benesch Act 1 Tonearm, nr mint superb used

Radio/Recorders

Akai GX95mk2 boxed with remote used
Arcam T61, vgc+ used
Denon TU-S10 used
Musical Fidelity A5DAB, sealed box used
Naim NAT03, excellent used
Naim NAT01 and NAPST chrome, serviced, vgc+ used
Naim NAT101 & SNAPs, excellent. £500 Naim service used
Nakamichi Dragon, excellent! used
Nakamichi CR4e, vgc used
Nakamichi DR10, excellent used
Nakamichi DR1, vgc used
Nakamichi BX2, excellent used
Nakamichi S80, near mint boxed used
Nakamichi RX505 used
Pioneer CT91a reference used
Pioneer CT8510S used
Pure 701ES DAB Tuner used
Quad FM4, late grey version, excellent used
REVOX B215s, vgc+ used
Tandberg TCD440a, superb! used
TEAC V8000s, superb used
TEAC V80030S, excellent used
Rotel RT1080, excellent used
Yamaha KX1200 excellent used
Yamaha CT7000, vgc used

Amplifiers

AMR 777 Integrated dem
Anthem Integrated 2 Valve Integrated used
Arcam Alpha 7, vgc+ boxed used
Arcam C31 preamplifier, remote excellent used
Art Audio Jota 520b, excellent used
Audio Flight Pre and Flight 50 Class A power used
Audio Analogue Bellini VB and Donizetti Cent, superb used
Audio Analogue Maestro Ref SE integrated dem
Audio Analogue Puccini SE amp. Black dem
Audio Project ap60 integrated dem
Audio Research Ref 610 Monoblocks, vgc boxed used
Audio Research LS25 mk2, excellent boxed used
Audiolab 8000Q/Ms, silver, excellent boxed used
Audiolab 8000C excellent boxed used
Call Audiolab 8000P vgc boxed used
Audiolab 8200A vgc boxed dem
Audio Research Sterling Plus KT88 Integrated boxed dem
AVI Lab Series Pre/Power, excellent remote used
BAT VK50se preamplifier, vgc+ used
Bryston 4Bsst2, excellent boxed, due in dem
Chapter Audio Couplet Power Amplifier dem
Conrad Johnson Premier 18, boxed with remote dem
Consonance Cyber 10 Integrated dem
Consonance Ref 8.8 integrated valve amp dem
Consonance Cyber 211 monos c/w Pavane valves used
Creek A50i Integrated with MC board boxed used
Cyrus XPower, excellent boxed used
Cyrus aCA7 Pre and aPA7 Monos, excellent used
DartZeel NHB108B, excellent E20+k new used
Denon PMA1500AE, excellent used
EAR 8347 Integrated, boxed excellent used
Esoteric A03 Power, boxed near mint dem
Graef GM50B Mk11 Integrated dem
Graef GM100 valve power amp dem
Icon Audio, MC34 boxed used
Jolida 211 Monoblocks, £7k new, superb used
Leema Hydra 2, vgc+ boxed used
Leema Elements Amplifier, excellent dem
Leema Tucana 2, excellent dem
LFD Integrated amp LE MK111 used
LFD L51 Inestage, reasonable shape used
Linn Majik Kontrol & 4100 Power, excellent used
Linn Celec2 Preamplifier used
Mclintosh R22 & MC275 Commemoratives, boxed used
Mclintosh MA5100, excellent! used
Meridian 501V preamp, excellent used
Meridian 501 Pre used
Micromega IA100, great integrated, boxed used
Moon W7RS, excellent used
Musical Fidelity M3i, excellent boxed, REDUCED used
Musical Fidelity A1000 Two box monster Integrated! used
Musical Fidelity A1008 Two box monster Integrated!!! used
Musical Fidelity A1 FPB Preamp and PSU, sealed box new
Musical Fidelity 550K Superchargers, sealed boxes! used
Musical Fidelity X-T100 Integrated used
Musical Fidelity Pre 8 and 2 x MA65 chrome fronted used
Naim NAP100, vgc+ used
Naim NAC82, excellent boxed used
Naim NAP250, olive excellent boxed used
Naim NAP250, very late olive excellent used
Naim NAC42.5/NAP110, vgc used
Naim NAC42/NAP110, excellent boxed used
Naim NAP250, excellent late boxed olive used
Naim NAP150, excellent boxed used
Naim NAC202 with NAPSC, boxed used
Naim NAC202, vgc+ boxed just Naim serviced used
Naim NAP180, excellent boxed used
Naim NAIT 5, excellent remote boxed used
Naim NAC152/NAP155Xs, excellent boxed used
Naim NAC90/NAP92, vgc used
Neutonia Sallis Integrated, classy Restek built used
Onix OA32 Integrated, excellent used
Onix OA25 Integrated, excellent used
Oracle Delphi, Zeta, due in used
Pathos Logos Integrated used
Placetate Audio Passive Linestage dem
Prima Luna Prologue 3 Preamplifier vgc+ used
Prima Luna Prologue 2 Integrated, good shape used
Prima Luna Prologue 3 Preamplifier, REDUCED dem
Puresound L300 valve preamp used
Quad 66 Preamp, excellent remote used
Quad 99 Pre/Power, excellent, remote, Quadlink used
Quad 405, from used
Quad 33/303, vgc, serviced used
Resolution Audio Opus 21 S80 Integrated dem
Renaissance RA02 Monos, vgc and excellent value used
Roksan Kandy K2 Power, nr mint boxed used
Sonic Euphoria PLC Passive pre used
Sugden Masterclass Monoblocks, in titanium used
Sugden A21a line Integrated used
Sugden Masterclass Pre/Monos in Graphite used
Sugden Masterclass Pre/Monos in Titanium used
Sugden Masterclass Integrated in Titanium used
Tag/McLaren 60iRV, excellent boxed used
Tact Electronics Hurricane/Tomado Pre/Power used
TEAC Distinction A1000 Integrated, ex demo used
Trio L07C and L07Ci, both good condition from used
Union Research Simply Italy Integrated dem
Union Research S2k Integrated, excellent used
Yamaha ASS00, excellent boxed used
Yamaha A-S3000, nr mint boxed dem

Digital

Arcam Alpha 8, excellent used
Arcam Alpha 8se, excellent boxed used
Arcam CD17, excellent used
Arcam CD37, vgc+, remote used
Arcam CD37, remote excellent used
Arcam Alpha Plus, excellent used
Atoll 100SE DAC new
Audio Alchemy digital transmission interface/psu new
Audio Analogue Paganini (later model) dem
Audio Synthesis Transcend CDT (Modded SONY) dem
Ayre Evolution DVD dem
Cary Audio CD306 Pro, near mint boxed used
Chapter Audio Sonnet CD & Nevo remote dem
Chord 'One' CD player dem
Chord Qute EX DAC, excellent boxed dem
Consonance CD120 Linear dem
Consonance CD2.2, new sealed dem
Consonance Droplet, vgc+ dem
Creek Destiny Integrated CD player, boxed dem
Cyrus Discmaster/Dacmaster, vgc+ used
Cyrus DAC XP, excellent boxed dem
Cyrus CDX12, mint boxed just back from Cyrus dem
Cyrus CD8, boxed remote dem
Cyrus CD7Q chip, vgc+ dem
Cyrus CD8se, boxed remote dem
Cyrus DAD3, excellent used
Denon DNP720AE, near mint boxed used
EAR Acute 3, mint boxed used
Exposure 2010CD, remote used
Goldenote Kaala, near mint boxed used
Inca Design Katana cd player (no remote) used
Kelvin Labs DAC, rare new
Leema Elements CD player sealed box new
Linn Karik 3, excellent boxed remote used
Marantz CD6003, excellent boxed used
Marantz CD110, excellent boxed new belt kit used
Marantz CD63K1, remote, boxed excellent used
Marantz CD6004, nr mint boxed dem
Marantz NA7004, nr mint boxed dem
Meridian 506/20 with MSR used
Meridian 563 DAC reasonable condition used
Meridian 500 Transport, excellent boxed used
Meridian 602/606 combo with R22 used
Micromega Leader, remote used
Moon Equinox CD dem
Musical Fidelity 3.5 CD dem
Musical Fidelity A1Pro CD new
Musical Fidelity IA100, new laser, upgraded ps used
Musical Fidelity M1 DAC, excellent boxed dem
Musical Fidelity M3i, excellent boxed, REDUCED dem
Musical Fidelity M6 black boxed dem
Musical Fidelity M3 black boxed dem
Musical Fidelity M1Clic used
Myryad Z20DAC, excellent boxed used
NAD C545Bee, excellent boxed used
Naim CDSi, excellent boxed used
Naim DAC, nr mint boxed dem
Naim CDSi, nr mint boxed dem
Naim CDS3, excellent boxed, remote used
Naim CDi, excellent boxed used
Naim CD3.5, vgc used
Naim CDX2, excellent boxed used
Peacotree DACi, excellent used
Prima Luna Prologue 8, ex demo boxed used
Quad 99CDP, excellent REDUCED used
Rega Planet 2000, excellent used
Rega Apollo R, excellent used
Rega Apollo 35th Anniversary, excellent used
Rega Io DAC, excellent used
Rega Saturn, excellent boxed used
Roksan Kandy K2, excellent boxed used
Roksan Kandy C1 Mk3, excellent boxed used
Rotel RCD965BX, excellent boxed used
Sugden Masterclass CD original version used
TAG McLaren DAC 20, excellent used
Tube Technology Fulcrum CD transport dem
Tube Technology Fulcrum DAC (inc DAC64 chip) dem
Yamaha CD-S3000 near mint dem
YBA GC-10, ex boxed, £1600 new, BARGAIN used

AV/Accessories/Cables

Audeze LCD2 excellent dem
Audeze LDXXC excellent dem
Bryston BHA-1 Headphone amplifier, superb dem
Chord Anthem (original), from 0.5m up used
Custom Design Milan, ex display used
Cyrus PSXR, excellent from dem
Elemental Audio Equipment Rack dem
Elemental Audio speaker stands dem
Ergo AMT phones with Amp 2 (£2.5k new) dem
G+W T2.6F Valve headphone amplifier, excellent used
Grado GS1000 and RA1 amplifier used
Isotek Nova power conditioner dem
Lehmann Rhineland used
Musical Fidelity M1 HPAB used
Musical Fidelity TripleX power supply new
Naim XPS DR, ex demo dem
Naim Supercap, various excellent boxed from dem
ProAudio Bono Reference Platform dem
Stax SR404/SRM0061i, stand, cover etc boxed dem

Loudspeakers

Acoustic Energy AE1 Classic new
Acoustic Energy AE1 Reference standmount new
Acoustic Energy AE 1 Mk11 in Gloss black dem
Alacritty Audio Caterhurn Classic, flightcased, £2k new used
Apogee Duetta Signature (Really rebuilt) Superb used
Art Audio Stiletto in Maple dem
Aspara Acoustics HL6 in Oak, new used
Audio Physics Tempo in Cherry, fair dem
Audiovector Si3 Super, near mintboxed dem
Aurum Cantus Music Goddess in Gloss black dem
Avalon Ascendant Mk2, mint crated, £10k new used
B&W CDM1 in black, vgc+ used
B&W CDM1se in cherry, excellent used
B&W DM601s3, vgc+ used
B&W DM602s3, vgc+ used
B&W DM602s3, vgc+ used
Call B&W XT4, excellent dem
Castle Harlech, excellent boxed used
Castle Chester vgc later versions used
Eminent Technology LFT8, some marks used
Epos M22 in Cherry dem
Ferguson HIL FH007&8 'desktop' audio set boxed used
Final 400 Electrostatics with ES400 Sub dem
Focal Electra 1008, mint boxed dem
Focal Electra 1028, mint boxed dem
Focal Electra 1038, mint boxed dem
Gallo Nucleus Reference 2, rare, superb & boxed used
Heco Celan 500 in Silver dem
Heco Celan 300 in Mahogany dem
Heco Statement in gloss black, £3k new dem
Kef Q100, brand new, sealed box used
Kudos C10, boxed vgc and cheap used
Leema Kandia Mk1 in black new
Leema Xero in Mahogany dem
Linn Index with KuStone stands, vgc+ used
Living Voice IBX R2 in stunning Zebrano, excellent used
Magneplanar MG1.6, superb, boxed used
Mark & Daniel Maximus with treble extenders E2500sh dem
Mark & Daniel Mini in Grey, inc. Marble cabinets. dem
Martin Logan Mosaic, excellent boxed dem
Martin Logan Quests, superb sound, reduced used
Martin Logan Prodigy, excellent used
Martin Logan Summit X, ex demo used
Mission 782se nr mint boxed used
Mission Freedom 5, vgc in Rosewood used
Mission 752, 2 pairs, from used
Monitor Audio BX2 excellent boxed dem
Monitor Audio RS8 excellent dem
Monitor Audio GX300, near mint boxed dem
Monitor Audio GX 5.1 Home Cinema set BARGAIN new
Monopulse Model S dem
Monopulse Model A speakers dem
Monopulse Model C dem
Musical Fidelity M66 Floorstanders, boxed vgc+ used
Naim Ovator S400, excellent dem
Naim Credo, excellent used
Naim SBL, vgc+ used
Nola KO speakers in black dem
Nola Micro Grand Reference inc stands, £15k new dem
PMC Twenty 21, excellent boxed, ex dealer demo used
PMC Twenty 22, excellent boxed, ex dealer demo used
Proac D38 in Yew, boxed used
Proac D28, good condition in cherry boxed used
Proac D18, good condition in cherry boxed used
Proac Studio 140 mk2, nr mint boxed dem
Proac Studio 110, excellent boxed used
Proac Studio 115, excellent boxed dem
Q Acoustics 1020, vgc+ dem
Quad 21L Floorstander used
Quad ESL63, Rosewood, great condition used
Quad ESL57, good condition used
Quad 11L2, excellent boxed used
Red Rose Rosebud £2.5k new with (used) stands dem
REL Sterling, black ash vgc used
Revel M22, excellent boxed used
Revolver RW45 floorstander in Cherry dem
Revolver Cynaris Gold in Black, £14k new dem
Sonus Faber Elipsa, superb boxed used
Spendor A6, in Walnut excellent boxed used
Sunfire True Sub Subwoofer dem
Tannoy Prestige Autograph Mini, ex boxed used
Thiel CS7.2, vgc, just refurbished... used
Totem Mini Signature, boxed near mint used
Totem Mite in black dem
Totem Rokk in mahogany, excellent used
Call Totem Staff, nr mint boxed dem
Usher N6311, transit damaged to clear dem
Usher Be10DM, excellent dem
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DESTINATION:

PETERBOROUGH

Inside the UK's smallest record shop lies a treasure trove of new and used vinyl. **Simon Berkovitch** meets the Smiths fan with the ultimate garden shed

Matthew Hawton, owner of Marrs Plectrum, has been asked the same variation on a theme since his unconventional store opened back in October 2014. "Interviewers have visited and said: 'Why would you want a record shop at the bottom of your garden? I mean, why wouldn't you?'" he laughs.

There's no independent vinyl retailer in Peterborough city centre any more. But escape the shopping mall, circumnavigate the ring roads on the edge of town, drag yourself from the gravitational pull of the retail parks and hit the suburbs, where Peterborough's rock and roll dream is alive and well. On the city's outskirts near Abbey Road is Fulbridge Road. At number 387, on this unremarkable street of houses, you'll find Marrs Plectrum Records – the UK's smallest record shop.

Marrs Plectrum opened its door (singular) to the public late last year, trading from a converted shed at the bottom of Matt's garden. It had previously been an online operation, using Discogs and the Marrs Plectrum website. Since cutting the red ribbon, the shop has enjoyed plenty of press, helping to spread the word about Peterborough's only independent.

"The original idea was to have a soft launch," Matt explains, "resisting everything but temptation, I pinged off a press release to a few radio stations and some music websites... and then it exploded.

"We've been in the *NME*, which was a thrill for me as I first started reading it in my teens. *Fact* magazine, a couple of radio interviews, a shout from Tom Ravenscroft on BBC 6 Music. There's my 15 minutes of fame right there."

The record shop was born out of necessity, informed by a couple of important factors. One was the prohibitive rents in the city centre, a route that Matt did investigate before deciding on this novel solution to the problem. Another important consideration was space. "Vinyl very quickly takes up a volume of room, doesn't it?" Matt observes – an issue familiar to many of us. "Also, we record collectors like

"Dusting the record, dropping the needle, examining the artwork. Digital doesn't compete"

to dig. It's mundane scanning through lists on a computer. People were asking if I minded if they popped round after work to look at the vinyl I had for sale on the website, so it evolved from there, really."

Thankfully for the family – and friendly hound Hector – access for crate diggers is no longer through the house. A little juggling of the outbuildings in Matt's back garden has opened access down the side of the main property. If the gate is closed, ring the

doorbell. This isn't to keep customers out: it's to keep Hector in. But there was also the small matter of Matt hearing what he thought was his wife returning home only to discover a stranger standing in his office/listening room at the front of the house – thankfully only there to browse some vinyl. "I'm not a fighter or anything," he says, "but your hackles definitely go up in that situation."

With a little help from my...

What is now the Marrs Plectrum Records shop "was a single brick garage-sized unit", Matt explains. "We insulated it, ran electrics out to here, fitted an alarm, put in the racks. Good to go, with the invaluable help of family and friends." Insulation was a key consideration for the project – vitally important in a space that houses delicate media such as vinyl. "It was always watertight, but a bit damp, and boiling in the summer and freezing in the winter. The insulation has been fantastic. We have an oil-filled radiator and a dehumidifier in here and it works perfectly."

Despite its compact dimensions (approximately 3m wide by 5.5m long), the conversion is home to a staggering amount of vinyl. "I reckon that there's between five-and-a-half and 6,000 records in here," Matt estimates. "We're at capacity, really – until a passing ergonomics student comes in and tells me what trick I've missed. It's



Instead of half-used paint cans, gardening tools and junk, Matt's shed is a true vision of beauty



keeping the records accessible; that's the key. Six people in and it's getting tight. Seven, eight, nine people... we've got issues, really. The most we've had in at one time is a dozen."

The shop's turntable is a demo model of the Rega RP1, on which curious customers are invited to check out anything in store. Not just a vinyl stockist, Matt also sells this deck, as well as a selection of phono stages, cartridges and styli. He offers a record cleaning service, courtesy of the award-winning VPI 16.5. "At the moment, I'm out [of the RP1]. I've three customers in the last week who've ordered RP1 standards and Rega can't make them, so I am getting them from a dealer. I find this fascinating because [Rega] must be one of the biggest turntable makers – them and Pro-Ject. If they can't match demand, then it's exciting for record dealers and record purchasers alike. Because if you're going to commit £200, £300, £400 on a turntable, you're certainly going to start getting into the software, aren't you? You're going to be buying the records."

Something for everyone

And when it comes to buying records, customers are spoiled for choice, despite the shop's size. Marris Plectrum stocks vinyl across all genres: "I think that it's important that we satisfy all tastes," says Matt. "It's not just about the records that your mum and dad played. New and relevant bands are all releasing their music on vinyl again. It's at the point where the pressing plants can't keep up with demand. That's why we're mixing new releases with the classics and collectables. I think it's important that shops just don't trade second-hand. If you're going to support the vinyl market and the record-buying market, I think you have a duty to sell contemporary releases as well."

Although classic rock reissue vinyl – the usual suspects of The Beatles, Pink Floyd and Queen, to name a few – count among the shop's biggest sellers, Matt is keen to sing the praises of contemporary acts. "With new stuff, Sleaford Mods have been fantastic [sellers]. Public Service Broadcasting as well. There's something about those two acts that have made a connection with the record-buying people. Those two bands stand out the most."

It's also been a good week for amassing used vinyl for Matt. "I used to worry about sourcing records, and that's partly why I'm introducing new stock. But people do pull up outside the

house, ring the doorbell, pop the car boot open and say: 'Come on, have a look.' And you can pull some right pearls out of there."

A recent haul of mid-nineties booty is a case in point. "This week, I shelled out the most I ever have on a collection – and it was all Britpop. All the original pressings of the Oasis albums. They went instantly. I posted them on a Facebook vinyl club. People are desperate for these records. Oasis reissued the albums on vinyl in 2014. And even those are going for £30-40 each on ebay. It's just insane."

Matt plans to take part in this year's Record Store Day. "We've just signed up. I don't feel like it's an uncomfortable pressure, but I feel

Marris Plectrum opened late last year, trading from a shed at the bottom of Matt's garden

like we should do it, to be a part of the retail community. But there's a part of me that's concerned that there's going to be a line of people out there that I haven't seen before queuing up to put the records on ebay." He's also thinking about a super-intimate acoustic in-store for the event – although if The Smiths reformed, a shop that takes its name and logo from guitarist Johnny Marr would surely be the perfect choice.

Matt's parting words are as erudite as you'd hope a fan of Morrissey and co would be regarding the enduring appeal of vinyl. "Many people believe in that beautiful, warm analogue sound," he says. "The little ritual you go through dusting the record, dropping the needle, examining the incredible artwork. Digital just doesn't compete."

"More than that, though, playing a vinyl record becomes the thing that you do – it's just you and the music. It's so easy to get distracted by other things these days. Nothing beats it." ●



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WEBSITE: marrispectrum.co.uk

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▶ ESSENTIAL SELECTION

Matthew takes us on a guided tour of what's in his racks, with a great cross-genre selection of new and pre-loved wax, but no Shed 7...



Sleaford Mods

Divide and Exit

"Last year's best seller. Filthy, arched lyrics over mechanical beats. They really stuck out as a band full of the spirit of '77 in coalition Britain. Bought by young and old."



The Decemberists

What A Terrible World, What A Beautiful World

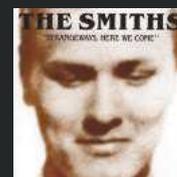
"Their seventh studio album – released in January this year – this is American indie-folk that's always had wider ambitions. Sumptuous."



Black Sabbath

Master Of Reality

"A first pressing of *Master Of Reality* recently came in worth around £300. You have to admire the production of records in this period. Finds like this keep indie shops alive."



The Smiths

Strangeways, Here We Come

"The last record of the Morrissey/Marr partnership showed huge ambition. It's Marr's plectrum from which the shop's moniker comes."



The Beatles

Revolver

"We had a father and daughter come in. The dad pulled out a later pressing of *Revolver*, but she insisted that the mono version was better. Vinyl's future right there."



Talk Talk

Spirit Of Eden

"One of my favourite records, it sounds like nothing else. As a teenager, I found that I could play this the loudest without disturbing my parents."



The Now

Development Corporations

"Peterborough punk from 1977 that often pops up in collections I buy. Fascinating that this gets bought by customers around the world."



Primal Scream

Screamadelica

"More bands are putting out limited releases exclusive to independent record shops. These usually come on coloured vinyl and get customers into the shop."



Bristol Show 2015

Hi-Fi Choice braves the half-term traffic and heads off to the 28th Bristol Show, which continues to grow and grow

THERE WAS A palpable sense of energy and excitement in the air as we strolled through the entrance on the first day of this year's Bristol Show held from Friday 26 to 28 February. The usual lengthy queue outside ran around the Marriott City hotel with plenty of enthusiastic visitors patiently waiting in what was a very chilly Severn Estuary wind for the show's doors to open, while inside there was already a warm buzz about the corridors and exhibitor spaces as demonstrators eagerly awaited visitors to show their latest products off to a discerning audience.

The show is always busy with visitors across the three-day event, with a good mix of press, trade and general public in attendance on the opening day. This year saw visitor numbers up on last year's, while the hi-fi and AV brands on display similarly increased to 197.

Despite the Bristol Show coming so soon after CES in Las Vegas (see last month's *Show Report*), there were plenty of new products being showcased for the first time and a trend towards complete music solutions for customers seeking hi-fi sound quality, but without going down a traditional separates route.

Newcomer Entotem took the one-box solution to another level with its innovative Plato multimedia system, which integrates hi-res audio, HD video and analogue sources linked around the home, while Dynaudio showed its Focus 600 XD flagship digital loudspeaker system that also has wireless multi-room capabilities. Others took a more traditional hi-fi approach as expertly demonstrated by the Pro-Ject and Acoustic Energy setup above, proving that there was indeed something for everyone at this year's show.

1 Heralding the rebirth of Acoustic Research in the UK, the UA1 hub-powered USB DAC and headphone amplifier has DSD support and is set to cost £400.

acoustic-research.com

2 Arcam shows its new FMJ A49 stereo integrated amplifier offering 2x 200W/8ohms of Class G muscle. Priced at £3,750, it comes with MM/MC-compatible phono stages and is on sale now.

arcam.co.uk



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3 Ruark Audio gives a first look at its multi-room R2 solution that allows networked music to be played through multiple R2s around the home. Available from mid-April it comes in three finishes and is priced at £400. ruarkaudio.com

4 Proudly demoing its newest speaker range in the form of its 3000 Series, the five-strong family looks set to raise the bar for performance at the price. Available now in a range of wood, gloss and leather finishes. qacoustics.co.uk

5 Visitors to the Anthem AV room got to hear models from the seven-strong Prestige series speaker lineup, while tucked away HFC got to hear a preview of the Mass Fidelity Core wireless speaker about to hit stores. anthemavs.co.uk

6 Sony has been leading the hi-res charge for the last few years and here it shows its HAP-Z1 HDD player and TA-AE1S amplifier along with its new MAP-S1 (not shown) multi-audio player system with CD, receiver and Bluetooth. sony.co.uk

7 Visitors that managed to venture down to the lower levels of the show got to experience the impact of adding a subwoofer into a stereo speaker system thanks to demos of PMC's new twenty.sub, costing £2,590. pmc-speakers.com



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8 Slightly outside the realms of hi-fi but impressive nonetheless, KEF demos its new R50 Dolby-Atmos speaker module designed to sit on top of free-standing or wall-mounted front speakers in a multi-channel setup. kef.com

9 Returning to the Bristol Show with its first hi-fi products in many years, visitors enjoy Technics new 'Premium Class' C700 system as reviewed in HFC 394, incorporating network player, amp and standmount speakers. technics.com/uk

10 Showcasing its new Focus XD line, Dynaudio manages to redefine the hi-fi system in the process. The loudspeaker range can be used wirelessly via a hub or directly connected to the speaker from a hi-res source. dynaudio.com/uk

11 Quad chose Bristol to unveil its S Series speaker line with a specially designed ribbon tweeter that will launch later this spring priced from £600, and two new hi-fi components expected to debut in the autumn. quad-hifi.co.uk

12 The Revolution XT from Tannoy boasts a new omnimagnet dual driver, offering improved soundstage dispersion. Three XT models are available now with an additional pair to follow later in the spring. Prices range from £399 to £1,299. tannoy.com



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Hi-Fi Choice Reader Classified

Welcome to *Hi-Fi Choice* Reader Classified, a free private ads service for buying and selling second-hand hi-fi components.

These pages are a must-read if you're thinking about buying used kit, or if you have hi-fi you want to sell. It's free – simply submit your ad of up to **50 words** (we will edit them if not), remembering to include your email, phone number and county.

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FOR SALE

ACOUSTIC

RESEARCH EB101 Legend turntable, Linn K9 cartridge, new drive belt, mint condition, £200 ono: **01202672998 (Dorset).**

B&W 302 speakers for sale, in perfect working order £80: **02084402513 (Herts).**

NAIM AUDIO CD5i CD player, boxed with remote

and Chord Company interconnects. Buyer to collect £150: **01132933478 (Leeds).**

LYNGDORF CD1 CD player excellent condition, lovely sound (£1,900 new) £475: **07729600847 (W. Sussex).**

MARANTZ PM6004 amp £150, CD 85 multi-bit player £100, Sony NS700

SACD/DVD player £40, Aiwa cassette deck £25, Sound Org turntable wall shelf £45, Sound Org two-shelf rack £50, Sound Style tripod four-shelf rack £45, Heybrook stands £40. Hi-Fi Plus mags 1-60 £30: **01691610589 (Shropshire).**

ATC SCM35 three-way floorstanders, cherry, tri-wired, with boxes and manuals, excellent condition, can demo, buyer collects £1,200: **01452614515 (Gloucestershire).**

DIAPASON Adamantes, pair of solid walnut speakers, plus Diapason stands. Beautiful sound, beautiful condition £1,750: **07852883778 (Bristol).**

ARCAM Alpha 10 stereo and Alpha 10P power amplifiers with factory fitted digital and centre channel modules for stereo, 5.1, DD, DTS, PCM 100WPC. Remote, manual, boxed, VGC £695 ono. PMC CB1i loudspeakers, walnut, boxed VGC £800: **01772745553 (Preston, Lancs).**

RUSS ANDREWS Power



PRO-JECT Tube Box DS phono stage, black, recommended in group test *HFC* issue 394, 8 months old, boxed, excellent condition. Reason for sale: upgrading to GSP Reflex. £310. Collection preferred: **07591899478** or email: **malc3m@gmail.com (South Oxfordshire).**



TANNOY 2 Mercury Mk2 speakers, good condition, £50 the pair, buyer collects: **01491838489** or email: **ac_maidens68@hotmail.com (Benson, Oxford).**

Pak 3 unit for Naim preamps etc (alternative to Hi-Cap), as new with signal lead £75 plus delivery: **01825722936 (Lewes).**

AUDIO-TECHNICA AT-F3/III MC cartridge only 12 hours use £69 (£189). Rothwell Attenuators one pair £20 (£39) all plus p&p: **01202515474** or email: **johnlangley17@talktalk.net (Bournemouth, Dorset).**

GARRARD 401 in excellent condition, plinth, SME 3009, Shure V15ii. Stylus retipped 2013 by expert stylus company. Additional used Shure stylus. Refurb service by Loricraft in 2008, serviced 2013. £875: **02083326181** or email: **rohan.jensen@btinternet.com (London).**

GOLDMUND-JOB 225 125WPC amplifier, mostly into MCH SACD & BD stereo amp not used. Originally cost £1,089 on sale for £895 as brand new: **07956121013 (Edgware, Middlesex).**

CYRUS PSX-R unit, black in excellent condition with user instruction £145: **01229584509** or email: **lindamarycott@btinternet.com (Cumbria/Lancashire).**

MUSICAL FIDELITY sA3.2 RDS Tuner £299 (all silver), Musical Fidelity A308cr 24-bit Upsampling CD player £599 (silver), Musical Fidelity A308cr Dual Mono preamplifier £699 (silver). All

less than 100 hours use from new, all still immaculate with original boxes, remote and instructions: **07500804700** or email: **imeldayates@hotmail.com (Cheshire).**

RUSS ANDREWS Kimber 4TC Speaker cable 3.5m pair with Kimber bananas 2 years old. £125.00 ono: **07800606892** or email: **schandler@dopag.co.uk (Worcestershire).**

QUAD 33/303, Quad FM3, Spondor BC1's with stands, Rotel 1210, Meridian MCD, Fons CQ30 with SME arm and A&R P77, Sugden A48 Amp. Original boxes. Collection only. £650: **01524272061** or email: **john_d_harley@yahoo.com (Kendal).**

TECHNICS stacking system. Amplifier SU-V300, CD player SL-PG390, cassette deck RS-BX501, turntable SL-BD22D. All v.good condition, buyer collects. Accept any reasonable offer: **01673861074** or email: **freestone175@btinternet.com (Lincoln).**

CLASS A amplifier power supply, self-contained free-standing unit, suits John Linsley Hood's 1969/1996 designs and similar amplifiers, best offer will be accepted, can post if needed: **02074998729.**

MICHELL technoarm, black, boxed £350. Pro-Ject Tubebox S phono stage, black £125, both pristine with nine months use: **01353665059**

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 bet than a brand-new product if the price is right. **DO SOME RESEARCH** on which brands have a good service back up, so if something does go wrong, you can get it fixed. Unless you purchase from a dealer, you're unlikely to get any warranty, so it's up to you to ensure the fitness of any gear that you buy. **USUALLY** speakers should be less prone to breakdown than amps, and amps should be more reliable than CD players. But any abused component could be trouble – have a proper demo and judge the seller as well as the goods!

(East Anglia).

MUSICAL FIDELITY

X-DAC V3 £250, pair 3m bespoke Silver High Breed Quintessence speaker cables, banana termination, £95 Sonus faber Concertino speakers with Sonus faber Piano Black fluted stands in excellent condition, with original boxes £570: **02476 679165 (Coventry).**

MICHELL Tecnoarm

A-11. Black, brand new, unused £350. Rega RB300 tonearm. Modified by Origin Live and extra height adjustment rings. Boxed, mint condition £250: **01505 346791 (Renfrewshire).**

DENON PMA 350 amplifier, DCD-590 CD player, TU-260L AM/FM stereo tuner with remote, Tannoy speakers in black ash with copper bi-wired speaker ports. Denon kit £200, speakers £100: **01522 810439 or email: dougberrie@gmail.com (Lincoln).**

RUSS ANDREWS special hybrid ultra purifier block including a mains zapperator plus 8 clarity mains modules installed internally. Mint condition £875 collected, £895 if posted: **01902 884694 or email: jukey39@yahoo.co.uk (West Midlands).**

ARCAM Alpha 10 amp (recently refurbished by Arcam) and 10P power amp, black, excellent condition, remote, manuals, original



TOM EVANS MicroGroove PLUS phono stage, mint condition, as new £425. Can demonstrate, call for details: **07870 912963 or email: stuardarshan67@googlemail.com (Bedfordshire).**

boxes. 100W pc, 2 speaker outs each unit. MM phono stage. £750 the pair. Would consider separate offers: **07920 101740 or email: SiLoPeRi@gmail.com.**

SPENDOR SA1 speakers. Gloss Zebrano, mint condition, boxed, little use. £525, buyer collects: **01482 853091 (Hull).**

REGA Saturn CD Player, VGC, recently serviced, new laser/disc drive, fine natural sound, will demo, photos. Remote control and manual, boxed, buyer collects, £300: **01277 219639 (Brentwood, Essex).**

YAMAHA SACD-S2000 as new. Cost £1,000, sale price £500. With manual, remote and box. Yamaha TX-761 stereo tuner, DAB/FM/AM. Cost £130, sale price £50. Buyer must collect: **01302 538027 (Doncaster).**

TELLURIUM Q Graphite interconnects, 1m XLR in excellent condition complete with packaging. £350 ono: **01303 863424 or email: john.patrick.john@**

btinternet.com (Kent).

REL Stentor 111 subwoofer, 11 years old, teak sides, piano black top, VGC £550: **01772 314151 or email: Jamesmckendrick@btinternet.com (Preston).**

MONITOR AUDIO Silver RX1 bi-wired £375. Tannoy DC6 £150. Tannoy DC4 £100. Wharfedale Diamond 8.1 Pro-active £80. Q Acoustics 10i £60. Rega Brio amp. Excellent condition £100. Monitor Audio Radius 90 speakers piano black. Excellent condition £275. Buyer collects: **01865 559737 (Oxford).**

GEEK OUT 1000 USB DAC only 2 months old, as new condition, £160: **07549 603398 or email: dave.drew@talktalk.net (East Yorkshire).**

CAMBRIDGE AUDIO Aero 6 loudspeakers in black ash, less than 6 months old, with original boxes & manual, mint condition £275 ono inc delivery: **0780 6680454 or email: aaronsmith1892@hotmail.co.uk (Northants).**

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REVIEWS Cyrus Stereo 200, Oppo HA-2 and Pro-Ject 2 Xperience SB, plus more features, Music Reviews and your hi-fi woes answered

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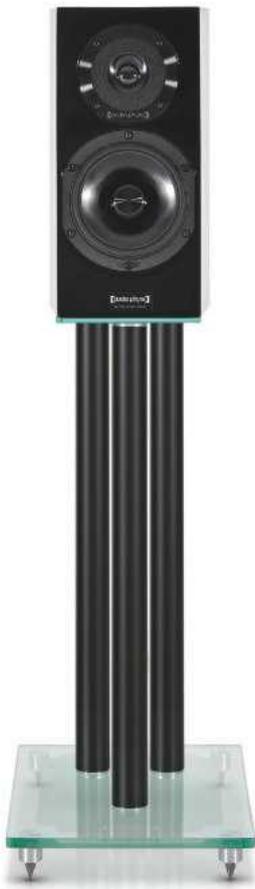
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Audio Physic : Music can put a smile on our faces, grab our attention and capture us in its web of expression when, and only when, all artists and all instruments hit the nail on the head and all of the details come together to form a great composition. This can only be achieved when even the tiniest detail makes the perfect contribution towards the overall piece and this is exactly what makes truly great orchestras, groups or individual artists stand out from the crowd.



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