

**400<sup>th</sup>  
ISSUE**  
★★★

**Look who's 40**  
Celebrating four decades  
of expert advice & reviews



**Six appeal**  
Musical Fidelity's M6  
amp & CD gets update

# Hi-Fi Choice

**PASSION FOR SOUND**

Issue No. **400**

August 2015

## Fantastic Phantom

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Moving magnet cartridges  
to upgrade your turntable

### Naim that tune

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## Music reviews



## BADGES EXPLAINED

### OUR AWARDS



**EDITOR'S CHOICE:**  
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**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!



Welcome to our 400th issue, a special anniversary edition celebrating 40 years of expert hi-fi reviews and buying advice. In putting together this issue, I have come to realise just how significantly the world of audio has changed in an amazingly short amount of time. Devialet's

Silver Phantom music system (starting on page 14) is other worldly even by today's standards, and it's hard to believe the audio developments that have taken place in just four decades and how the way in which we listen to music and its accessibility has evolved.

I was perhaps a bit too young to remember the very first issue of *Hi-Fi Choice* when it launched in its original A5 format back in 1975, but I do remember the music and sounds of the time that got me hooked, even if I was listening on a mono cassette radio recorder or my dad's 8-track tape player in the family car. For anyone wanting to recall the era, our *Year In Music* feature (starting on page 56) is just for you, and revisits 1975 with a comprehensive rundown of the bands and albums that defined the magazine's birth year.

Our six-page *Anniversary* feature (starting on page 20) journeys along the audio format timeline and hi-fi trends in a celebration of our first 40 years in print, while this month's *Opinion* pages revisit audio highlights as seen by ex-editors and our team of contributors that remember the most. Happy birthday then *Hi-Fi Choice*, and here's to the next 40 years!

**Lee Dunkley** Editor

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**400<sup>th</sup> ISSUE**  
★ ★ ★



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**Never miss an issue – turn to p18 for our latest subs offer**





## New Bronze age

Monitor Audio unveils its updated Bronze range with seven new models

**PRICE:** £160-£700 **AVAILABLE:** NOW **CONTACT:** 01268 740580 **WEB:** MONITORAUDIO.COM

**MONITOR AUDIO HAS** been busy stepping its loudspeakers up a gear, and the latest range to get some attention is its popular BX range with the next generation of models. The redefined lineup of seven Bronze speakers draws on developments further up the maker's extensive range. It carries four new hi-fi models that include the Bronze One and Bronze Two standmounts, along with the Bronze Five and Bronze Six floorstanding models. Additionally there are three models for surround

sound duties, including the Bronze Centre, Bronze FX and Bronze W10 – dedicated centre, surround and subwoofer respectively.

All models in the seven-strong Bronze line are now fitted with the company's latest 25mm C-CAM gold dome tweeter, which claims to extend frequency responses for each new model up to 30kHz. First up, the Bronze One is priced at £230 per pair and has a 5.5in C-CAM bass driver. The Bronze Two is armed with a larger 6.5in C-CAM bass driver as

well as a front-firing HiVe II port and costs £280 per pair.

The Bronze Five is the first of the two floorstanders and is fitted with a 5.5in C-CAM bass driver and 5.5in C-CAM bass/mid driver arranged in a 2.5-way configuration, operating in separate acoustic chambers with front and rear-firing HiVe II ports to provide differential tuning for efficiency and bass extension, says its maker. It's priced at £560 per pair.

The towering flagship Bronze Six (pictured above) has two 6.5in





C-CAM bass drivers operating in tandem with a further 6.5in C-CAM midrange unit housed in a dedicated chamber. As with the Five it's a 2.5-way configuration and the matching

## Bronze models are all fitted with the latest 25mm C-CAM gold dome tweeter

drivers are claimed to be tuned for different roles to deliver large-scale dynamics. It costs £700 per pair.

For multi-channel fans the Bronze Centre carries twin 5.5in C-CAM

bass/midrange drivers straddling a Bronze C-CAM tweeter, and is priced at £160. The wall-hugging Bronze FX surround speaker can be used in di-pole (diffuse) or bi-pole (direct) operation. It is equipped with a single 5.5in C-CAM bass/mid driver flanked by dual C-CAM gold dome tweeters mounted on angled side panels for a wider, more enveloping surround soundfield, says the brand. Last but by no means least, the W10 powered subwoofer has a 10in C-CAM long-throw driver and a downward-firing 10in ABR (Auxiliary Bass Radiator). It costs £500.

Vinyl finishes include black oak, walnut, rosemah and white ash.

## COMMENT

### THINGS ARE ON THE UP FOR HMV

The fact that vinyl sales in the UK are at the highest point they've been in the last 20 years has been widely reported, but what perhaps isn't so well known is that of the 1.3 million records sold last year, an impressive 325,000 came from HMV. Between 2013 and 2014, vinyl sales for the UK chain have trebled, leading to records now being stocked in every premises for the first time since the nineties.

Interestingly, the store has revealed that, Christmas aside, its busiest week of the year has been the seven days leading up to Father's Day – suggesting that most vinyl addicts are men, or more specifically dads. While the revelation that serious hi-fi is predominantly enjoyed by blokes isn't exactly groundbreaking news, this trend seems to go against the suggestion that it's just hipsters and youngsters that are buying the black stuff. HMV is so convinced in the importance of the week leading up to Father's Day that this year the store stocked a series of special releases and reissues in the lead up to June 20. As HMV's music manager, John Hirst, told *Music Week*: "In the last couple of years, due to encouragement from us, labels have started pressing more copies. They've made a lot more of their catalogue available and obviously they need an outlet for that," adding: "It's about us raising awareness that we've got vinyl in our stores again, that we're priced competitively and that the availability is good".

Interestingly, Hirst acknowledges the important part that indie stores have played in keeping the vinyl format alive, but points out: "What we do, which the indies don't, is provide [vinyl] consistently over 120 different locations all across the country. We've got to be the number one destination for vinyl on the high street. While the indies are catering to more specialist customers, we're taking vinyl back to the masses". While Hirst may be getting ahead of himself, the idea of vinyl once again becoming the format of choice for the masses is incredibly appealing. Maybe having Father's Day once a month could be the answer... ▶



Picture credit: Shutterstock/Martin Good



# Exposure 2010S2-D



2010S2 series amp gets upgraded

**PRICE:** £1,020 **AVAILABLE:** NOW

**CONTACT:** 01273 423877 **WEB:** EXPOSUREHIFI.COM

**DRIVEN BY A** demand for digital connectivity, we saw Exposure's upgraded 3010S2-D integrated amplifier in *HFC* 397 benefit from an optional plug-in DAC board. Buoyed by its success, British brand Exposure tells us that its mid-range integrated amp, the 2010S2, is also getting the same upgrade treatment.

The 2010S2-D comes with six line-level inputs and, as with the upgrade options on the 3010S2-D, vinyl fans can also have a moving magnet or moving coil phono stage fitted at a cost of £110. Power output claims 75W per channel and a preamp output also allows for a separate power amplifier to be added in case owners want to bi-amp their system. Exposure says that attention has been paid to the circuit design to extract what it calls the "best possible sound quality".

The aluminium casing features an extruded front panel and is available in black or silver finish to compliment the range's existing CD, DAC and power amplifier models.

## IN BRIEF

### ADVANCED MAINS CABLE



● The Chord Company has launched what it calls its most advanced mains product to date, the Sarum Super ARAY power cable. First unveiled at the Bristol Show 2015, the mains plug is a bespoke version of an MS Power mains plug, with silver-plated conductors, says the maker. It's also claimed that the fitting of two silicone tubes improves mechanical damping and vibration. Cable insulation is gas-foamed PTFE and the shielding is high-density silver-plated braid. The flagship Sarum Super ARAY is available at 1m long for £1,700 with additional metres priced at £450 and upgrades at £750.

**CHORD.CO.UK**

## Luxman's anniversary line

**PRICE:** £6,995 EACH **AVAILABLE:** NOW

**CONTACT:** 01480 447700 **WEB:** LUXMAN.COM

Japanese brand Luxman celebrates 90 years in the audio business with the launch of its new D-06u CD/SACD player, C-700u stereo preamplifier and M-700u stereo power amplifier.

The D-06u is fitted with a Burr-Brown PCM1792A D/A converter and supports PCM up to 32-bit/384kHz and DSD data up to 5.64MHz via the USB input. According to Luxman, the player also comes with dedicated audio player software with support for FLAC, ALAC, WAV, AIFF, MP3, DSF and DSIDIFF playback from either a PC or Mac.

The C-700u preamplifier boasts five RCA and two balanced XLR inputs and four line-level outputs while the M-700u power amp claims 120W (8ohm) and 210W (4ohm) per channel. RCA and balanced XLR inputs are offered along with heavy-duty speaker binding posts and switches for stereo/mono modes and phase inversion. Two illuminated VU meters give a guide to how hard the amp is being pushed.





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# TIBO Bluetooth speakers

New name adds wireless models

**PRICE:** £150-£200 **AVAILABLE:** NOW  
**CONTACT:** 01908 512212 **WEB:** TIBO-ELECTRONICS.COM

**FOUNDED IN 2010**, TIBO Electronics has built up a considerable product list for a new brand, including hi-fi systems, loudspeakers and home entertainment stands.

The appeal of wireless speakers has seen TIBO moving in this direction with established models already in its range. Its new Plus series active speaker system is the latest line to be added to the range and uses the latest Bluetooth 4.0 technology along with the aptX codec.

Currently there are two different models in the new series: Plus 2 (£150) and Plus 3 (£200). Each includes inputs for digital optical (Toslink), AUX, analogue 3.5mm inputs and USB for charging smart phones and tablets. The Plus 2 speaker includes a 1in soft dome tweeter and a single 4in woofer, while the Plus 3 boasts a slightly larger 5.25in woofer. Both are two-way bass reflex systems and claim power outputs of 70W and 110W respectively from built-in Class D amplification. They are supplied with a remote control and are finished in matt black.



## IN BRIEF

### HIGHRESAUDIO GETS STREAMING



● The online hi-res music provider is now offering VirtualVault, a system that allows its existing customers to stream their own music libraries

free of charge via the HighResAudio mobile home page. The system, claims HRA, works with all mobile devices (smartphone/tablet PC), desktop web browser and/or even via the web browser in your car. It caters, for wireless transmission via Bluetooth and is compatible with wireless multi-room solutions, says company CEO Lothar Kerestedian.

HRA claims to be the first to introduce Adaptive Audio Streaming (HLS/HTTP) and, depending upon the available network bandwidth, it promises to deliver sound quality that's on a par with CD. The company says its new service offers user-friendly access to music anywhere.

**M.HIGHRESAUDIO.COM/VAULT**

## Pioneer's high-end cans

**PRICE:** £1,699 **AVAILABLE:** NOW  
**CONTACT:** 0208 8363524 **WEB:** PIONEER.CO.UK

The high-end headphone market has seen major growth recently, and Pioneer is among the latest brands to enter the fray with its flagship SE-Master1, that has been tuned and tested in London by Air Studios.

Handmade in Japan and engraved with its own unique serial number, it is claimed that up to 100 individual processes are required to produce a single SE-Master1 headphone. According to Pioneer, it features 50mm driver units with an aluminium diaphragm finished in a special surface treatment called PCC (Parker Ceramic Coating), that it claims is advantageous for high frequency resolution. In addition, the company says that its PEEK (Poly-Ether-Ether-Ketone) compounding material helps to reduce distortion and achieve a smoother sound quality.

The SE-Master1's housing is constructed from a highly rigid aluminium alloy, and claims a 'specially designed low-resonance structure' to remove unwanted vibrations.

Other features include ear cups covered with a soft leather-type material. Detachable lateral pressure rods adjust headband tension for improved comfort over longer listening periods and the suede-feel head cushion can be adjusted to 14 different positions for further comfort and stability.

The tangle-free cord comes with a detachable MMCX-type connector, making it easy to replace.







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All there is. **DYNAUDIO**

# Webwatch

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



## GO Personal stereo

What if you could tailor your pocket player to suit your hearing? That's what Aumeo Audio has set out to do by mapping hearing profiles using its app and palm device via crowdfunding site Indiegogo. See it in action at: [bit.ly/1Cb1AQv](http://bit.ly/1Cb1AQv)



## Window dressing

We loved this recent tongue-in-cheek tweet from Oxford Audio Consultants, which is guaranteed to get a few knowing nods from passersby. Behind the humour Oxford Audio is a hi-fi specialist that goes the extra mile with annual events and a monthly music club. [oxfordaudio.co.uk](http://oxfordaudio.co.uk)



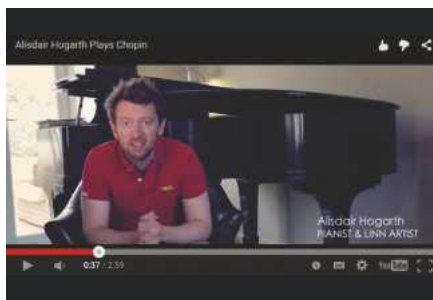
## #Sleeveface

It may sound like a bad guy out of a Batman film, but **#sleeveface** is actually the hilarious Instagram and Twitter craze involving "one or more person(s) obscuring or augmenting any part of their body or bodies with record sleeve(s) causing an illusion". Dig out your LPs and get snapping.



## New dawn for Dynaudio

With its growing range of wi-fi-controlled active speakers, it's only fitting that Dynaudio's website has been given a reboot. Packed with images, videos and product details, the site is a slick window into what drives these Danish speaker builders. [dynaudio.com](http://dynaudio.com)



## Chopin explored

In the third of its new video blog series, award-winning Linn Records pianist Alisdair Hogarth reveals the fascinating story behind Chopin's *Minute Waltz* before playing a stunning rendition himself. A highly recommended watch if you're embarking on a classical journey. [bit.ly/1Gqya4U](http://bit.ly/1Gqya4U)



## Photo Oppo

It's great to see that Silicon Valley-based Oppo digital has recently launched on Instagram in a bid to show its products in all their hi-fi glory, from headphone testing to what goes inside its award-winning universal player. Join the community at: [instagram.com/oppodigital](http://instagram.com/oppodigital)

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## CHOICE TWEETS

**AUDIO WORLD UK (@AUDIOWORLDDUK)**  
Check out the first lot of exhibitors and brands confirmed for the 2015 **#NationalAudioShow** [bit.ly/1JSbBtL](http://bit.ly/1JSbBtL) **#headphones #hifi #UK**

**FLEXSON FOR SONOS (@FLEXSON\_4\_SONOS)**  
Have a look at our brand new Desk Stand for **@SONOS PLAY:1** in action [youtu.be/GO55-1ev5xA](http://youtu.be/GO55-1ev5xA) **#flexson #tech**

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**MCINTOSH LABORATORY (@MCINTOSHLABS)**  
2014 Hi-Fi Show in **#Moscow** & amazing performance of **#AndreaBocelli** on **#McIntosh MC2KW** amps & **XRT2K** speakers. [youtu.be/WVE1ZxScWYU](http://youtu.be/WVE1ZxScWYU) **#tbt**

**THE VINYL FACTORY (@THEVINYLFACTORY)**  
The genius of Kate Bush in 10 essential songs [t.co/xwJUmQjvUB](http://t.co/xwJUmQjvUB)

**CMC PR (@CMCPR)**  
Philips launches 2015 ActionFit Sport headphones range, designed with sport lovers in mind to ensure high performance

**KEF AUDIO UK (@KEFAUDIO)**  
KEF's M500s will help you beat your personal best! **#NationalRunningDay #KEF**

**TIDAL (@TIDALHiFi)**  
What do you remember about 1995? Read up on the iconic year & hear its classic tunes now: [bit.ly/1HgOqax](http://bit.ly/1HgOqax)

**ARMOUR HOME (@ARMOURHOME)**  
Keep up to date with the latest news from Armour Home by following us on Facebook! [t.co/F8qh7Xot3P](http://t.co/F8qh7Xot3P)

**PS AUDIO (@PSAUDIO)**  
Paul's Post: The difference between amps and speakers [eepurl.com/bos1mL](http://eepurl.com/bos1mL)

**RICHER SOUNDS (@RICHERSOUNDS)**  
**#Richertips** Dented speaker tweeters can sometimes be saved by simply attaching very sticky duct tape and carefully pulling back

**HIFIX (@FRANKHARVEYHIFI)**  
Remember: Our staff are always on hand to advise with choosing the right options **#customerservice #hifi**

**CLASSICALBUMSUNDAYS (@CLASSICALBUMSUN)**  
36 Things Vinyl Collectors Love [buzzfeed.com/perpetua/things-vinyl-collectors-love#sgWzramWv](http://buzzfeed.com/perpetua/things-vinyl-collectors-love#sgWzramWv)

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# Phantom power

With space-age looks and futuristic tech that can be seen as well as heard, **Andrew Simpson** checks out Devialet's new system

**W**hile all-in-one systems come in many shapes and sizes, generally they follow a similar set of conventions with smaller scale woofers, tweeters and amps packed together under the same roof, trading levels of sonic output for greater degrees of convenience. But as we saw with its Ensemble package last year (HFC 386), following conventions is not really the Devialet way.

From the outset the distinctive Silver Phantom's egg-like case immediately challenges your

## The first thing that hits you is the surprising scale of the Phantom's sonics

preconceptions of what a hi-fi system should look like. Each one houses its own internal amp, DAC, wi-fi streamer and speakers, allowing it to fly solo as a standalone system or work alongside more Phantoms as part of a two or more channel installation through Devialet's free Spark app and Dialog wi-fi controller (£249). There's also a dedicated remote control (£109) and Branch speaker stand (£199) due for release later this summer, followed by a wall mount and carry case. At £1,690 each, the Silver Phantom's higher £300 price tag gets you a full fat 3,000W internal amp in place of the standard Phantom's already substantial 750W variant.

While the Phantom packs plenty of cutting-edge tech within its wire-free internals, perhaps the most radical part of the package is its air-moving hardware, made up of no less than four drive units, which are cleverly incorporated into its smooth skin. These include the two opposing silver domes flanking each cheek, which act

as bass drivers fashioned from 0.4mm thick 5754-grade aluminium. As well as being light and rigid, this alloy is also strong, and it needs to be to withstand much higher pressures than your average woofers thanks to Devialet's HBI (Heart Bass Implosion) system (see box out on page 16).

The Phantom's HBI-powered 110mm curved white midrange ring that surrounds its tweeter in a coaxial arrangement is harder to spot. Formed from the same type of alloy as the speaker's bass drivers, it's actually 0.1mm thinner in a bid to reduce its moving mass. While the tweeter that sits at its core is a more conventional 25.4mm aluminium dome, recessed behind a fixed metal grille. Both the tweeter and midrange ring are angled upwards at 11.5°, to give a more even sound dispersion says Devialet, especially when combined with the Phantom's sphere-like shape.

The power behind these drivers comes from more proprietary Devialet technology, which begins with its internal amp that's built around the company's firmly established ADH

### ► DETAILS

**PRODUCT**  
Devialet Silver Phantom

**ORIGIN**  
France

**TYPE**  
Modular music system

**WEIGHT**  
11kg

**DIMENSIONS**  
(WxHxD)  
253 x 255 x 343 mm

**FEATURES**  
• 3,000W internal ADH amplifier  
• Internal DAC and wi-fi streaming up to 24-bit/192kHz  
• Format support: MP3/AAC/ALAC/FLAC/WAV  
• Ethernet and optical inputs  
• Configurable for mono or stereo

**DISTRIBUTOR**  
Devialet UK

**WEBSITE**  
en.devialet.com

(Analogue Digital Hybrid) topology, which first put Devialet on the map back in 2010. This approach uses analogue Class A voltage amplification working in parallel with digital Class D current dumpers, blending the benefits of a Class A sound with Class D power. For the Phantom's dedicated ADH chip, the analogue stages of each core have been miniaturised, while four channels of ADH amplification allow the Phantom to remain compact yet extremely powerful. The Phantom's chip also incorporates Devialet's Magic Wire typology, which links the DAC (a Texas Instrument's PCM1798 24-bit/192kHz chip) to the amp while keeping noise and distortion to a minimum.

## SAM in control

The final link in the chain comes courtesy of Devialet's SAM (Speaker Active Matching), which processes the audio signal in the digital domain ahead of the DAC and power amp, tailoring it to take into account the real-world characteristics of the drive units and their acoustic load across the volume range. What's more, SAM is applied to all of the Phantom's drivers and not just the bass units, as we saw in the Ensemble package.

Unboxing the Phantom you immediately notice just how solid and heavy it feels, weighing in at 11kg, but thanks to an inset rubber base plate it is very easy to site and won't budge when parked. Alongside an IEC mains inlet, physical inputs are limited to a single Ethernet port and S/PDIF (optical) socket. We've also specified a Dialog hub for our review so that we can run two Phantoms in stereo. This also adds a USB-A output alongside its own Ethernet and optical connections. ►

**The composite body has an ABS/stainless steel shell with a glass fibre-filled polycarbonate internal skin and aluminium core**



Getting the party started is largely done in the virtual domain (the Phantom's only physical control is an on/off button) and involves first connecting the Dialog to your router, before downloading the Spark app for desktop and tablet. With the speakers powered up, the app automatically finds them on your network at launch before asking you to touch them in turn to connect. You then need to identify them within a stereo or mono setup (5.1 and beyond is in the pipeline) by dragging and dropping into 'left', 'right' or 'solo' positions on the screen and watching their bass drivers flex in acknowledgement. You can control up to 24 Phantoms across identified rooms across your home.

Alongside the ability to stream music stored on devices in your network, Spark also integrates with streaming services including Deezer, Qobuz and Tidal with more set for the future as well as Bluetooth wireless.

To play, simply drag and drop albums or songs from selected sources into your central column on the desktop app, or hit the '+' icon on a handheld device. While the app is slick and intuitive, the volume slider can be a tad slow to operate via desktop (a virtual dial would be much

more responsive) and I'd also welcome more track info including file type, bit depth and sample rate, to identify the quality of the audio.

## Sound quality

Despite its modest size, the first thing that hits you about the Phantom is the surprising scale of its sonics. Planted atop a pair of Custom Design FS 104 Signature speaker stands, positioned 2m apart and 70cm/150cm respectively from my listening room's side and rear walls, the pair of speakers is able to fill my generous 3.4m x 4.5m listening space with consummate ease.

Underpinning the sonic personality is the bass, and it's fair to say that Devialet has exceeded its objective of creating a presence on a much grander scale than a box of this size should allow by some margin. Testing the waters with a 16-bit/44.1kHz FLAC of Little Dragon's *Paris* via Tidal almost has me checking behind the sofa to see if a subwoofer has been installed while my back was turned, such is the unexpected depths that the bass reaches.

Equally impressive is the start/stop nature of the lower notes, which are controlled and without unnatural overhang. Taking this to the next

level with a 24/44 ALAC of London Grammar's *Hey Now* really gets the Phantom shifting some air, with its silver cheeks beating back and forth like wings as though the unit is preparing for lift off. Placing my hand on the casework with the music in full flight, however, reveals it to be firmly rooted to its stand. And despite the drive units getting a thorough workout that can be seen as well as heard, I can't detect any vibration bleeding into the casework. During listening sessions I regularly call on this track to aid bass tuning, as its lowest octaves can serve to highlight where natural bass extension ends and unnatural boom and/or cabinet resonance begins.

While the Phantom won't put up much of a fight at low volumes when placed close to walls, giving it as much breathing space as possible

## You can control up to 24 Phantoms in identified rooms across your home

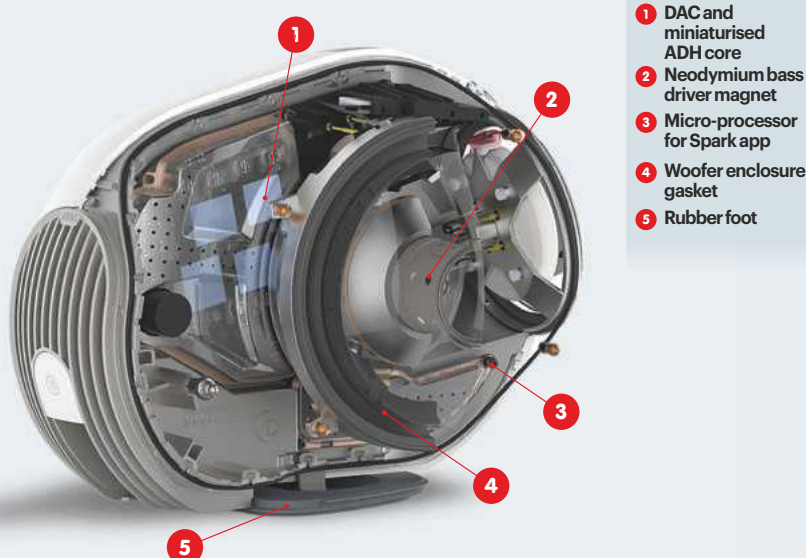
when winding the wick up pays dividends in terms of bass integration.

Moving on to a 16-bit/44kHz rip of Nick Cave's *Abattoir Blues*, the Phantom renders the hard-hitting piano notes with enough slam to take me by surprise. Each strike on the ivory keys hangs in the air with all the sinister weight Cave intended, underpinning his understated vocals, which sound dense and rich.

Despite the all-aluminium driver array – a material that can sound harsh when compared with soft dome tweeters and drivers made from non-metallic composites, the Phantom is smooth and free from bright edges, thus toeing it in slightly towards your listening position won't result in over-emphasised treble or sibilance. Having said that, the treble seems less sensitive compared with many speakers and I'm able to get the best out of it by firing the sound straight down the room, which really opens up the soundstage without sacrificing its focus.

Streaming a 16/44 ALAC rip of Björk's *Oceania* from *Medúlla*, allows her vocals and the accompanying beatbox backing to be projected around my listening space in a manner that's more akin to a top-spec omnidirectional speaker, than a traditional box design. There's a strong sense of the music not being pushed at you from a vertical plane, instead the soundstage is more three

### IN SIGHT



- 1 DAC and miniaturised ADH core
- 2 Neodymium bass driver magnet
- 3 Micro-processor for Spark app
- 4 Woofer enclosure gasket
- 5 Rubber foot

### HEART BASS IMPLOSION

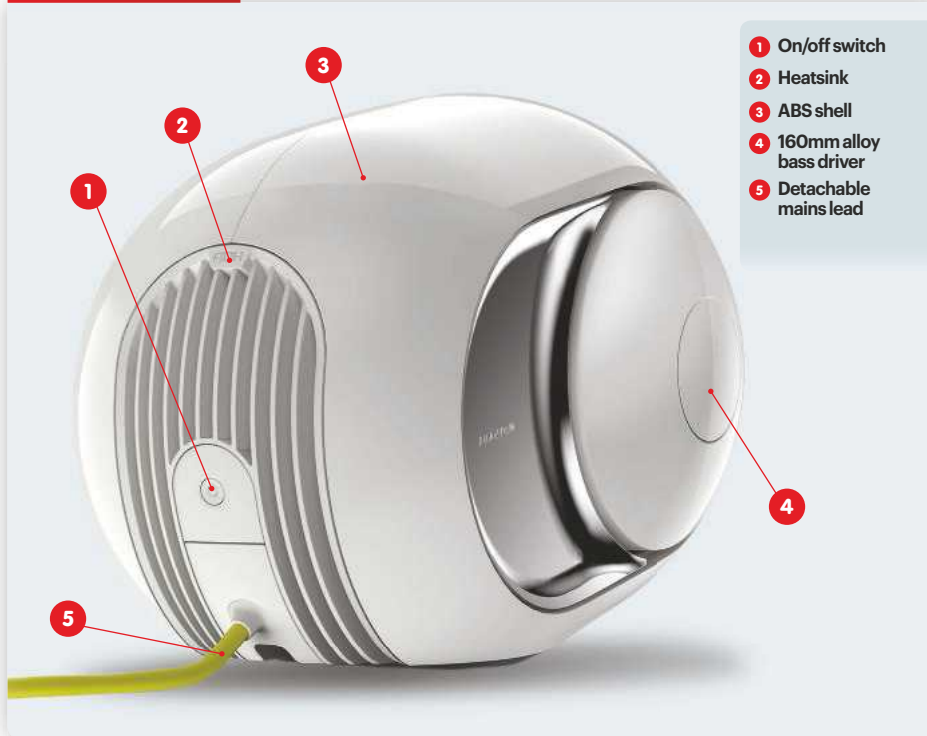
To achieve bass levels usually associated with much larger box designs, Devialet's designers have gone back to the speaker design drawing board. Instead of using a vented or more traditional sealed box, HBI works by using a sealed chamber behind each drive unit combined with a strong woofer and diaphragm with an

unusually long-throw capability, married to a very powerful amplifier. To create this technology, Devialet turned to experts from the automotive, micromechanics and pro-audio arenas. The Phantom's resulting bass drivers are intentionally opposed to reduce vibration and can generate and resist huge pressure and vacuum levels

within their 3L chambers, which accounts for their whopping 26mm of travel peak to peak. The maximum air pressure inside the enclosure is 20 times higher than that of a conventional speaker box, which is an acoustic pressure level that's more associated with a rocket launch than a hi-fi speaker!



## CONNECTIONS



- 1 On/off switch
- 2 Heatsink
- 3 ABS shell
- 4 160mm alloy bass driver
- 5 Detachable mains lead

dimensional, filling all corners of my room, which when combined with the smooth treble makes it appear less forward sounding than many, without trading clarity or imaging.

But if this suggests the Phantom possess a laid back character, the rock onslaught of Max Raptor's *England Breathes* from a 24/96 ALAC download tells me otherwise by sounding edgy and dangerous, without becoming too brash or aggressive as the volume level heads well into double figures. The music sounds raw and untamed, while at the same time my senses don't feel as though they're being pummelled into submission, making for an exciting yet fatigue-free listen. Drums have plenty of impact as they push back deep into the soundstage with a punch that's firmly articulated. With each rapid beat I get a real sense of the power, as the air is sucked from the room ready for the next strike. Nor do the drums get lost or overwhelmed in the mix as the track becomes more congested with layers of guitars and vocals, demonstrating that the Phantom can handle the pressure when the going gets tough. Even though this is the hi-res version, I've known this recording to sound a tad muddy on rival setups, especially the guitars. But with the Phantom doing the honours there's less blurring at the edges of each chord strike than I'm used to, and it is able to get inside the track and unlock the

guitar's energy as it pushes each heavy riff across the soundstage.

## Conclusion

Despite the lifestyle branding, the Silver Phantom is a genuine hi-fi proposition that's firmly rooted in high-end audio. What's more, as a complete music system that comes fully loaded with Devialet's latest technology and wi-fi streaming to boot, it's also exceptional value, especially given you could start with a single unit and add a second Phantom as funds permit. And pair them up you should, as being configured in stereo takes them up to the next level in the audio stakes, with a sound that's open, full bodied and blessed with a bass quantity and quality that really pushes the boundaries of what you'd expect from a compact system ●

## HI-FIChoice

### OUR VERDICT

#### SOUND QUALITY



#### VALUE FOR MONEY



#### BUILD QUALITY



#### FEATURES



#### OVERALL



**LIKE:** Superb build; high-end sound with genuine bass

**DISLIKE:** Lack of analogue input

**WE SAY:** Cutting-edge versatile system offering class-leading technology and features at a sensible price



At £895, Naim's one-box mu-so (HFC 391) offers a range of streaming options including aptX, AirPlay and UPnP alongside digital and analogue inputs, outputted through a Class D amp and dual three-way internal speaker system. The mu-so images well for a compact unit, albeit on a smaller scale than that of the Phantoms.

For a more full-sized stereo experience, look to Dynaudio's active Xeo range starting at £1,775 for the standmount Xeo 4, or £2,925 for the Xeo 6 tower (HFC 388). Both feature inbuilt Class D amps, room EQ settings and wireless streaming via a lightweight hub, and include analogue inputs.

## Q&A

**Pierre-Emmanuel Calmel**  
CTO and Chairman, Devialet



**AS: What was the biggest challenge you faced in creating the Phantom?**

**PEC:** Firstly dealing with so many different areas of expertise and bringing them together to overcome obstacles around acoustics, mechanics, signal processing, software, hardware, design, manufacturing, you name it! The biggest challenge was to fit the equivalent of a huge high-end system into a very compact enclosure while still keeping prices as low as possible.

**How have you achieved an extra 2,250W over the standard model?**

It was another big challenge, especially when factoring in the speakers' thermal management. We use higher temperature grade woofer magnets, more efficient thermal material to extract heat to the heatsink and specific signal processing as well as SAM. The two look similar, but the component dimensioning changes significantly to produce 99dB or 105dB.

**What's inspired the design?**

It's firstly dictated by the laws of acoustics. The best possible shape is a small pulsating sphere and it's the reason why all transducers are designed to be co-spherical. With this in mind, the designers created a compact shape without any sharp edges to avoid diffraction, with polished side-plates inspired by our Expert range. The result is a beautiful sculpture, an intriguing piece of art that can stand in your living room as an inert object. And when the Phantom comes to life its woofers' fascinating movement is guaranteed to catch everyone's eye!

**Are you considering creating a pocket device?**

We've always been focussed on keeping our products compact, as you first saw with our amplifiers, likewise Phantom is incredibly small yet powerful. Pocket devices raise additional challenges, such as battery life and weight which require lots more R&D if you are not willing to compromise sound quality. One thing's certain, we love challenges!

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# Hi-Fi Choice

## The first 400 issues

Ladies and gentlemen, raise your glasses as we celebrate 400 issues of hi-fi milestones and expert reviews in our 40th anniversary feature

**T**he year is 1975 and, as you'll see from our music feature starting on page 56, Britain was a rather different place to the one we know today. Margaret Thatcher had just defeated Edward Heath to become the first female leader of the Conservative party, a new sitcom called *Fawlty Towers* began on the TV and Queen had released a peculiar little ditty called *Bohemian Rhapsody*.

Meanwhile, late in the summer a hopeful Richard Howell was putting the finishing touches to an A5 compendium featuring 52 £100-and-above varieties of tape recorder. Its name was *Hi-Fi Choice Cassette Decks* and it was a steal at just £1. The publication departed radically from the format of other hi-fi magazines of the day, offering the reader a comparison of products designed to do the same job, with value ratings based heavily on objective testing methods. Panel listening tests were also employed and were in turn backed up by extensive lab findings to separate the good, the bad and ugly. For the record, the Best Buy overall was the Pioneer CTF 2121.

To suggest that Howell – the magazine's first editor – was pessimistic about the publication's success is something of an understatement, as he hopefully wrote: "Should you wish to receive details of future editions of *Hi-Fi Choice* please send a stamped addressed envelope. We will forward you the information as soon as it becomes available".

Sadly, the number of people that responded to the request remains lost in the grains of time, but one thing we do know is that there was clearly a thirst for all things hi-fi and the mag would be back for more. Angus McKenzie – the man responsible for testing the cassette decks returned to do the same with receivers, loudspeakers and then cassette decks again. *Hi-Fi Choice* was born.

For the first 52 issues (over the space of 12 years) the magazine appeared sporadically in its A5 format, sometimes there would be four issues a year, sometimes more. Each publication would focus on a particular area, be it turntables, racks, systems, stereo tuners or amplifiers, and each would be overflowing with tests, data, specs and opinions on the

hottest hi-fi to hunt down. But as time passed, the magazine evolved and news, features, buying guides and help all became regulars and the one thing that remained constant was the unbiased buying advice that remains as important a core value today as it was back then. The idea, as Richard explains, was to appeal to the casual reader and enthusiast alike: "My belief was that people never read anything else apart from the Best Buy and Recommended chapters, although there was a small percentage of hi-fi fanatics who would read it all".

Now some 40 years later, the number of editors has passed well into double figures, the pages have been home to the industry's best writers and have featured millions of words of authoritative buying advice about thousands of different pieces of hi-fi kit. Put simply, if it's a product worth knowing about, it will have passed through the *HFC* test lab at some stage. Join us as we look back through our past issues and remember the turntables, amplifiers, loudspeakers and CD players that have excited us the most...

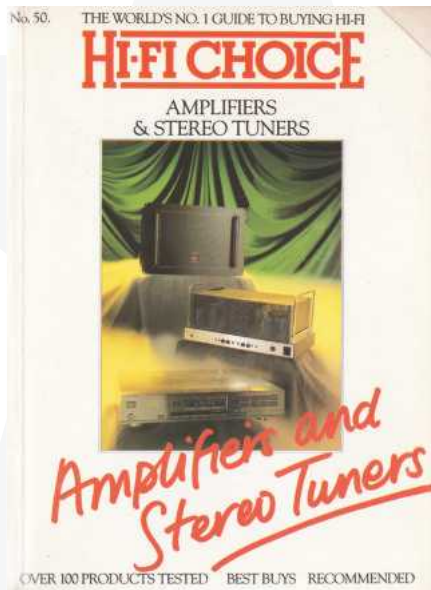


ISSUE  
50

### Issue 50, Autumn 1987

Back in these early days, *HFC* was a rather different proposition to the A4 magazine you now hold in your hands. For starters it was A5, and at 195 pages was more like a paperback novel than a mag. But the biggest difference was that each issue was themed around a specific product type, in this case amplifiers and stereo tuners. And so we got 51 three-page amplifier reviews, closely followed by 18 single-page tuner write ups and all for the bargain price of £3.50.

As then-editor Paul Messenger noted in his introduction: "A five years' perspective on amplifiers is fascinating, as the whole marketplace has shifted dramatically. In 1980 there were far fewer British models around, so there was precious little alternative to the standard, full-featured oriental offerings. The valve revival had gone into a temporary lull, and the 'high-end' market as we know it today had scarcely begun to develop. Since that time specialist models have flourished across a broad front. Imported exotics have established a foothold at prices that would have seemed absurd five years ago. There are now some half a dozen UK valve amplifier manufacturers, producing a range of



alternatives from mid-priced integrated models up to high-priced monoblocks. And UK transistor models offer steadily improving quality at steadily reducing prices". The amplifiers that made up the mammoth

roundup consist of many that will be familiar to today's readers (step forward Arcam, Naim, Cambridge Audio, Exposure, Musical Fidelity, QED, Mission and Yamaha) and some that while still around, rarely appear on our pages any more (JVC, Conrad-Johnson, Beard, Krell and Deltec). With 38 products being rewarded with either Best Buy or Recommended badges, it's hard to pick a winner as such, but Naim's Nait and Exposure's V11/V111 are certainly worthy of an honourable mention. Though at the time Naim didn't provide specifications such as output power, the Nait was believed to provide a respectable 15W per channel, while the sound was described as: "clear and crisp with a surprisingly good exposition of the depth and atmosphere present on many recordings". Meanwhile, Exposure was making its first appearance in *HFC* with its pre and power amp combo. At £300 each, the debut was seen as a success, with a "good sound with a notably punchy and dynamic character, creating a good impression of speed and power" but, the review ended on a cautionary note suggesting "audition in a system context is recommended". Now, where have we heard that before?

### 1986

The year colour was introduced to the mag for the first time and the year the first *Collection* special edition was launched.

### ISSUE 193

(September 1999) featured the world's first ever review of Sony's SACD player, the SCD-1.



**SME V TONEARM**  
Launched in 1986 the Model V set a new standard for pivoted arms and still does today.

### 1987: What else happened

Long before they were giving away their music for free to all iTunes users, U2 was considered a respectable band, and much of that was due to the excellent Brian Eno and Daniel Lanois-produced album *The Joshua Tree*. With hits including *I Still Haven't Found What I'm Looking For*, *With Or Without You* and *Where The Streets Have No Name*, it went on to win two Grammys and made the album one of the best selling of the year. At this point Bono was considered cool, who'd have thought it could all go so wrong so quickly?

Across the pond in the USA Ronald Reagan underwent prostate surgery, causing many to speculate about his ability to continue to lead the country, a cartoon called *The Simpsons* aired on *The Tracey Ullman Show* and Aretha Franklin became the first woman to be inducted into the Rock and Roll Hall of Fame. Meanwhile, the first Starbucks coffee stores to open outside of Seattle were launched in Vancouver and Chicago and French prime Minister Jacques Chirac signed the agreement to construct a 4,800 acre Euro Disney resort outside Paris.

The UK charts became obsessed with something called house music as Steve 'Silk' Hurley's *Jack Your Body* reached the number one spot, followed by *Pump Up The Volume* later in the year by MARRS. It was also a big year for music formats as both the cassette single and the CD single launched, with Whitney Houston's *I Wanna Dance With Somebody (Who Loves Me)* the first to be released on the latter. The Pet Shop Boys had the Christmas number one with their cover of Elvis' *Always On My Mind*, while Rick Astley's *Never Gonna Give You Up* and Michael Jackson's *Bad* were the best selling single and album of the year.



1987

# ANNIVERSARY FEATURE 400TH ISSUE

ISSUE  
100

## Issue 100, November 1991

No expense was spared as *HFC* celebrated its 100th issue and treated readers to a free gift of an AM CD cleaning tissue. "Despite the magic of error correction a clean disc will nearly always sound better than a dirty one, having a better focus, cleaner treble and better depth to the soundstage" our editorial wisely advised.

Meanwhile, editor Andy Benham had the thorny subject of hi-fi shows on his mind. Back then, the calendar was packed with smaller specialised shows for the hi-fi fan to sample what could be achieved if they saved their money, and the Penta, Bolton and Bristol gatherings were not to be missed. Having just returned from Berlin's IFA, however, Andy was disheartened about the contrasts between the UK and Germany's efforts. He noted how over 515,000 people visited the German show – a number that we here in the UK never came close to. "The population of Germany is only slightly larger than that of the UK, so how come we are limited to a large number of shows spread around the country and housed in hotels which could comfortably be fitted inside a single one of IFA's 27 display halls," he noted before adding: "Until we get a decent-sized show, able to attract massive



national publicity and capable of giving the general public an insight into just what is available, specialist hi-fi will remain a minority interest". We're still waiting...

Now into its eighth year, Compact Disc was starting to represent a significant percentage

of both hardware and software sales, with the UK being one of the slower growing markets in the world. Prices had dropped significantly, with budget players costing around £160, although software was still costly and a CD album would cost around twice the price of the vinyl equivalent. With this in mind, the *HFC* team set about testing some 26 models from the likes of Yamaha, Sansui, Technics, Sony and Nakamichi. There were numerous models that impressed, but the ones that won Recommended badges included Philips CD618, Kenwood's DP-5030 and Pioneer's PD-7700, while Technics' SL-PG200A, Marantz's CD-52, Pioneer's PD-8700 and Rotel's RCD-965BX all impressed and were duly rewarded with Best Buy badges.

Staying on the topic of digital audio, Paul Messenger's column on the last page of the mag asked some interesting questions about innovation and its relationship with convenience, noting: "Digital audio has more to do with adequacy and acceptability than the striving for excellence for its own sake which has always motivated hi-fi people". It's not too difficult to imagine him making the same assertions about today's low-resolution music files found on MP3 players and phones across the land.

**£1.50**

The first issue cost just £1, but by issue four the price had risen to £1.50.

It took 27 years to introduce the idea of an issue dedicated entirely to the products of the year. October 2002 (Issue 236) saw the first ever Hi-Fi Choice Awards.

## QUAD ELECTROSTATIC

Unveiled in 1957 and designed by company founder Peter Walker, its wide dynamic range and delicate transparency still amaze.

## 1991: What else happened

A mixed year, 1991 saw the outbreak of the Gulf War, the death of Freddie Mercury, Steve Marriott and Margot Fonteyn and the release of Simply Red's *Stars*, which was not only the best selling album of the year but went on to be the sixth highest selling album of all time in the UK.

In more positive news The Clash got their first number one thanks to *Should I Stay Or Should I Go* appearing in a jeans advertisement, closely followed by Cher (also enjoying her first time at the top of the UK charts) with *The Shoop Shoop Song (It's In His Kiss)* from the movie *Mermen*. Queen's *Bohemian Rhapsody* was the Christmas number one following the sad death of the aforementioned Freddie Mercury and Bryan Adams scored the best-selling single since 1955 with his catchy ditty from the movie *Robin Hood Prince Of Thieves*, *(Everything I Do) I Do It For You*, which stayed at the top of the singles chart for an excruciating 16 consecutive weeks.

Governor Bill Clinton announced his intention to seek the 1992 Democratic nomination to be the president of the United States, Boris Yeltsin began his five-year term as the first elected president of Russia and the Birmingham six were released from prison after being wrongfully accused of pub bombings in Birmingham in 1974.

In technology news, the MiniDisc and Digital Compact Cassette were launched offering opposing ways of recording and playing back music, while Tim Berners-Lee announced something called the World Wide Web project. The first website, [info.cern.ch](http://info.cern.ch), was created and closely followed by a wealth of social media sites and pictures of cats doing cute things...



Tim Berners-Lee image courtesy of Shutterstock/dsberg





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AC/HFC/86

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AC/HFC/85



ISSUE  
150

### Issue 150, January 1996

In a feature considering *HFC*'s past, ex-editor Paul Messenger (who started back on issue 9 in 1978) gazed into his crystal ball in an effort to predict what the future would hold. "The most exciting challenge facing *Choice* and the hi-fi industry is the inexorable consumer trend towards video combined with audio," he sagely wrote. "It's a sign of the times that the most significant product reviewed in 1995 was Meridian's Home Theatre system, given a most comprehensive 10-page workout". Although Paul's prophecy about the growth of home cinema came true, happily *HFC* continued to dedicate its pages to the glory of two-channel, rather than multi-channel sound.

On sale at the end of the year, issue 150 focussed on some of the best products released during 1995. Consequently, Audio Innovations' Alto, Harman Kardon's HK610, Mission's Cyrus III and NAD's 310 were named among the best amplifiers. Pioneer's PD-S504, Sony's CDP-561E, Kenwood's DP-3060 and the Onkyo DX-750 were the CD players of the day worth making your own. Loudspeaker highlights included Musical Technology's Kestrel, JPW's P1, Tannoy's 633 and 631, Rega's Ela, KEF's Coda 7, Keswick



Audio's Aria II and Mission's 733. And cassette decks still reigned supreme, with offerings from Aiwa, Denon, JVC and Yamaha recommended as the cream of the crop. Though speaker stands and cables were considered worthy of inclusion in the year's

best kit roundup, turntables were sadly conspicuous by their absence.

A quick glance at the news pages reveals that Mordaunt-Short had released an innovative approach to the issue of loudspeakers that integrate into domestic décor. Developed with the help of Dulux, the £150 CS-1 featured a cabinet that could be painted any colour you chose with regular household emulsion, while the self assembly grille could be cold-water dyed. A steal at £150 a pair and a must for budding interior designers everywhere.

One section of the magazine that was around then that hasn't survived was called Factsback. "Ever wanted to look back at a review or needed some sound independent advice to make up that Best Buy system?" the page asked, "Factsback is a new service designed to help you through the ever increasing list of available products. Now, all our reprints over the last 12 months are instantly available to you via your fax 24 hours a day. You get the review you need, just when you need it." For just 39p a minute the automated system allowed readers to call any time (day or night) using their fax to order any review from the past year. There's nothing like being able to see how the latest cassette deck fared at three o'clock in the morning...

### ISSUE 3

This was a loudspeaker special. Not only did it cause uproar by picking a Japanese speaker as one of the best (Yamaha's NS-1000), but it also attracted a libel suit from an unhappy US speaker manufacturer.

### dCS ELGAR

The first 24-bit/96kHz DAC brought dCS to the attention of the hi-fi community.

### LINN

### SONDEK LP12

Arguably the most iconic turntable ever, this 1972 deck changed the way that people perceived hi-fi.

### 1996: What else happened

At times 1996 resembled a sci-fi movie as first a computer beat the best that the humans could offer up in a game of chess, then a sheep was created in a science lab. Fortunately for chess grandmaster Gary Kasparov, the rise of the machines was short lived and he went on to defeat Deep Blue the computer that had affronted him in a tense rematch. Meanwhile in a laboratory in Midlothian, Scotland, Dolly the sheep became the first mammal to be cloned from an adult cell. More terrifying still was the work that happened somewhere in a laboratory in London that created the machine that was the Spice Girls. Consisting of a sporty one, a scary one, a posh one, a ginger one and er a baby, they went on to rule the charts in 1996 with three number ones - one of which spent the coveted Christmas spot at the top. But as one manufactured pop group started out, another went their separate ways as Take That disbanded leaving countless fans having to wait until their mid-forties before they'd see them perform again.

Across the pond someone called Steve Jobs had his company NeXT bought out by Apple Computers, the company he helped start. Its software eventually went on to become OS X and iOS platforms married to Apple's hardware. Alanis Morissette became the youngest artist to win album of the year at the Grammys, while jazz musician and club owner Ronnie Scott died.

In a bizarre turn of events, Pulp's Jarvis Cocker was arrested after climbing onto the stage and waving his bum at king of pop Michael Jackson during the Brits award show. Things got even stranger when Bob Mortimer (of Vic and Bob fame) acted as Cocker's solicitor and managed to get him released without charge.





# ANNIVERSARY FEATURE 400TH ISSUE



## Issue 200, March 2000

Fresh back from the Las Vegas Consumer Electronics Show, the *Choice* team was in the perfect position to reveal what the new millennium held for audiophiles, and the news was rather disappointing. As

our roving reporter pointed out: "By common consent, specialist audio has thinned out a little since last year's get together, and much of the action centred around home cinema and various flavours of DVD". However, in a glimpse of things that might one day take off, it was noted: "There was a lot of interest in MP3 for downloading music from the internet, but it is far from clear that this interest will translate into a true mass market..."

Before there was DVD, there was of course CD, and so we put 11 players through their paces in a £120-£900 mega test. After extensive listening, the Marantz 6000 OSE (£300) and Musical Fidelity A3 (£800) were highlighted as the best in test, both receiving Best Buy badges. The dynamic duo was

closely followed by the Cyrus dAD3 Q24, Denon DCD-655 and Onkyo DX7222, which all were rewarded Recommended badges.

Meanwhile, technical guru Paul Miller got his hands on Sharp's SM-SX100, the world's first commercial 1-bit amplifier. Though clearly impressed by the sound, Paul noted: "It is perhaps slightly unrealistic to expect the very first stable 1-bit digital amplifier to also set new subjective standards when the technological feat alone is little short of awesome". Point well made, but what ever did become of Sharp?

## 2000: What else happened

Happily, concerns about everything in the county grinding to a halt at the turn of the new year because of the Millennium bug prove unfounded and the entire British nation gathered in the Millennium Dome to celebrate. The Tate Modern opened its doors to the public in a celebration of all that is great about Britain, while the last Mini was produced in Longbridge in an illustration of all that isn't quite so great about Britain...

Musically things got weird, with The Beatles having the best-selling album of the year with 1, while the top single was *Can We Fix it?* by Bob The Builder. Screamin' Jay Hawkins, Ian Dury and Kirsty MacColl departed this mortal coil and the nation hung its head in shame as Britney Spears, Christina Aguilera and Mariah Carey were among the biggest-selling female artists.



# 2000

Pictures courtesy of Shutterstock/Featureflash (Britney), Shutterstock/Yampi (dome), Shutterstock/Fedor Selivanov (mini)



## NAD 3020

1979 budget amp that - at £80 - was better than rivals costing 10 times as much.

## ISSUE 152

HFC September 1993 became the first issue to be translated and sold in China and the Far East.



## BBC LS3/5a

From 1974, this £104-a-pair speaker was famous for its clear, natural sound.



## Issue 250, February 2004

Having suggested just 50 issues back that universal players might hold the key to success for recordable DVD, our 250th issue featured Denon's DVD-A11 on the cover with the

bold claim: "The Best Universal Player". The £1,700 do-it-all deck offered compatibility with SACD, DVD-Audio, CD, MP3, WMA, AAC as well as various flavours of DVD. Reviewer Alvin Gold saw it as a great all-rounder, making an excellent case for both DVD-Audio and SACD, which he described thus: "The Denon paints SACD in broader strokes than it does with DVD-Audio, but the sense of a breathing group of musicians playing in a real acoustic space on recordings is a revelation".

As if to underline the importance of SACD, *Choice* took time out of reviewing to sit down with Peter Gabriel, who had just remixed his *Up* album to make full use of the multi-channel ability of the format. Gabriel told us: "It is sort of a new vocabulary and as work progresses we are learning about its capacity

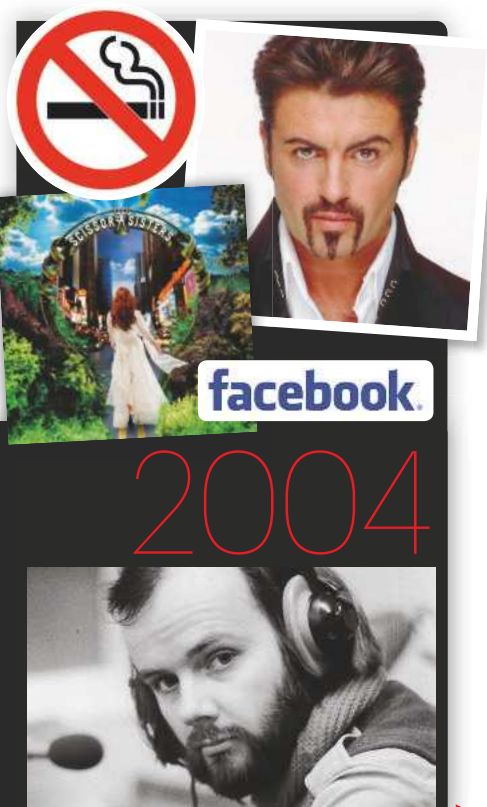
to shift sound around more. As good sound systems find their way into people's living rooms we've got a chance to do a lot more..."

This month's *Group Test* saw eight different mid-priced loudspeakers (floorstanders and standmounts costing £500 to £750) battling it out. The group consisted of Tannoy's Sensys DC2, AAD's S-5, Dynaudio's Audience 52, Mission's Volare V62, Infinity's Kappa 200, NHT's SB3, Rega's Ela and the Focal-JMLab Chorus 716S. The Rega and Focal-JMLab floorstanders ruled the day, thanks to their delicacy and subtlety and excellent voicing and fine dynamic drive respectively.

## 2004: What else happened

People finally discover a way to socialise as talking to one another and writing letters was deemed outmoded with the launch of Facebook and the world instead turned to emoticons and pictures of cute cats to express themselves. The people of the Republic of Ireland and New Zealand saw sense and banned smoking in public places. Meanwhile in the UK, over 1,000 people congregated in Bury St Edmunds, Suffolk, to pay their respects to the legend that was John Peel. His coffin was carried out to the sound of The Undertones' *Teenage Kicks*.

Following a bust up with his record label, George Michael announced that *Patience* would be his last commercially available album and that future releases would come via his website to raise money for his favourite charities. The biggest selling album of the year was the self-titled Scissor Sisters.



# 2004



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# ANNIVERSARY FEATURE

## 400TH ISSUE



### Issue 300, Awards Issue 2007

The 300th issue focused on the best products of the year. But unlike issue 150 from back in 1996, there were one or two more categories. Winning products included Cambridge

Audio's Azur 740C (best CD player up to £500), the Rega Saturn (best CD player £1,00-£2,00) and Chord's Red Reference CD (best CD player over £5,000). The Funk Firm dominated the turntable categories with its Funk and Vector decks. Naim's SuperNait won the best stereo amplifier (£2,000 to £5,000) and loudspeaker winners included Q Acoustics' 1050 floorstanders in the sub-£500 category, Bowers & Wilkins' 683 in the sub-£1,000 group and Focal's Chorus 836V at the sub-£2,000 price points.

Guest columnist Paul Messenger – who had a couple of stints in the editor's chair and spent the rest of the time as a reviewer, so who better to give his opinion of the changing face of hi-fi during this time? – came to the

conclusion that: "One reason why CD initially took off as a replacement for vinyl was because it brought full remote control convenience to the masses. Computer-based music storage and replay goes another major step along the same path, in allowing fingertip access to one's entire music library. Even though I still seek out and spin vinyl for my own personal pleasure, there's no doubt in my mind that computers and servers represent the future of hi-fi for the majority of consumers". It may have only been eight years ago, but who'd have thought it would come to pass?

### 2007: What else happened

2007 marked an interesting point for innovation with the introduction of Apple's legendary iPhone mobile phone. Meanwhile Nintendo's Wii games console trounced the Xbox 360 and Sony PS3 PlayStation thanks to its more family-friendly gameplay, and the format war between Blu-ray and HD DVD slowly rumbled on. Radiohead flipped the traditional model for releasing albums on its head with *In Rainbows*, which was available to fans initially as a pay-what-you-want digital download, with a minimum 45p admin charge.

Rihanna spent 10 weeks at the top of the charts with *Umbrella*, which was the longest stay for any artist at number one in 13 years. *X Factor* winner Leona Lewis' single *Bleeding Love* was the biggest seller of the year. Meanwhile, Amy Winehouse's fabulous *Back To Black* was the best-selling album.



### IMERGE M1000

When it was launched back in 2000 this SoundServer effectively launched a whole new world of music storage.

### ISSUE 53

HFC went monthly for the first time with the November 1987 issue. Before this it was quarterly.



### PRO-JECT DEBUT

This 1999 turntable set the template for the company's record players and helped reinvigorate the market too.



### Issue 350, October 2011

Given the rise of Compact Disc as one of the dominant digital formats during HFC's lifetime, the claim of this month's cover will have had many audiophiles quaking in their boots. "The

end for CD" the headline proclaimed as Classé's ground-breaking preamp prepared to impress Jason Kennedy and anyone else that crossed its path. Editor Dan George went on to describe a conversation he'd had with Classé's Dave Nauber in which the latter proclaimed "I'd rather have my phone and this preamp than any CD player at any price". These were bold words and an innovative new outlook that's much closer to the hi-fi landscape that we recognise today.

Jason described the CP-800 as an "immensely well-featured preamp with the power of a multi-channel processor under the lid. If you are looking for a totally futureproof preamp that can be used to not only make subtle alterations to tonal balance for those great, but poorly recorded albums, but can

also assist with room balance on a per-channel basis, then it's in a field of its own".

Meanwhile, over in his *Opinion* column, then-staff writer Ed Selley was also giving Compact Disc a kicking, pointing out: "The fact that vinyl has not only survived, but looks set to outlive its CD 'replacement' might have raised an eyebrow or two among my predecessors. The continued survival of one of the hottest products of 1975 would surely have been greeted with incredulity. Despite this, the Linn LP12 continues in production and is finding happy buyers nearly 40 years after it was first launched".

### 2011: What else happened

The world came together to celebrate the glorious union of the nation's sweethearts Prince William and Kate Middleton. And for some reason became obsessed with Kate's sister's bum.

The purpose of Twitter finally became clear and instead of meaningless dullards sharing with the world what they had for breakfast, repressed people were able to galvanise and come together with contrasting results in both the Arab Spring uprising and the London riots. Google decided to try and take on Facebook as it launched its own social media platform, called Google+.

The Stone Roses and Black Sabbath reformed, while DJ Bob Harris was honored as part of the queen's birthday celebrations. Without doubt, the standout star of the year was Adele, who had the best selling album and single of 2011.



Pictures courtesy of Shutterstock/Featureflash (Bob Harris and Kate and William)





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**Choice EXOTICA** EMINENT TECHNOLOGY LFT-8B  
FLOORSTANDING LOUDSPEAKER £2,500





# In a field of their own

**Chris Ward** is drawn to a radical magnetic hybrid linear field transducer that may look new, but is celebrating its 26th birthday

**T**his American speaker may well be new to you, but the original was launched back in 1989, and in the intervening quarter of a century its design has remained largely unaltered. Why? It works, brilliantly. Chances are, though, you've never heard them, so perhaps it's time for another curtain call...

The deep, heavy, unported base houses an 8in driver, designed inhouse by Eminent Technology. Handling a deliberately limited frequency range below 180Hz, it effectively acts as a highly focused subwoofer. Bruce Thigpen, the designer, was intent on achieving "excellent transient response with the minimum of colouration near the crossover frequency". The end result is a strongly damped, sealed

field transducer". This may look like an electrostatic panel, but differs through the use of powerful permanent magnets, front and back, instead of electrically charged stator plates to excite a thin Mylar diaphragm. This is tough but very light, with much of its agility coming from the aluminium 'voice grid' effectively being etched on to the surface of the film. And unlike electrostatics that commonly use a step-up transformer (with the potential for some slight colouration) to charge stator plates, this speaker design applies the musical signal directly to the voice grid on the film, just as a regular cone speaker would to a voice coil suspended in a fixed magnetic field. This revolutionary driver is tuned to handle frequencies from 180Hz all the way to 10kHz so

## DETAILS

**PRODUCT**  
Eminent Technology  
LFT-8b

**ORIGIN**  
USA

**TYPE**  
3-way hybrid linear  
field transducer  
floorstanding  
loudspeaker

**WEIGHT**  
41kg

**DIMENSIONS**  
(WxHxD)  
385 x 1,590 x  
710mm

**FEATURES**  
• Ribbon tweeter  
• Planar magnetic  
panel  
• 8in sealed  
enclosure woofer  
• Quoted sensitivity:  
83dB 1W/1m

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is responsible for the vast majority of musical information, without any awkward crossovers in the ranges where human hearing is most sensitive to phase issues.

The highest frequencies are delivered by a ribbon driver that resides on the inner half of each panel. These are claimed to operate from 10kHz to 50kHz, so could almost be considered a super tweeter. Evangelists of high-resolution audio take note – these speakers are designed to leave no musical information behind. Simple attenuation of high frequencies is also achieved via three tweeter settings near the bi-wireable binding posts.

Room placement is far less fussy than one might expect, and bass performance doesn't deteriorate until very close to a back or side wall. The 8in driver is partly loaded by its proximity to the floor and bass is easily fine tuned by placing different hard materials under the front spikes, as well as gently leaning the speakers back a few degrees. Gentle toe-in on the middle tweeter setting also suits my room, but I have no doubt they will work in many spaces.

## Sound quality

One might predict that such highly engineered speakers would give a sterile, analytical take on music, but the opposite is true. Playing Ben Harper's *Gold To Me* on vinyl, the opening hi-hats positively fizz with high-frequency energy, but with no

**A choice of three  
tweeter settings  
can be selected  
around the back**

## Rarely do so many smart elements add up to such a compelling whole

enclosure that creates an air suspension design, promising fast and accurate bass performance that will not disrupt the panel.

The 1in-thick panel may look lightweight in comparison to the base, but is extremely sturdy. A braced steel frame supports two separate driver technologies and is flanked with a choice of wood trims. With or without the optional front grille, these speakers might not be described as beautiful, but they have an honest, utilitarian simplicity that will sit well in many modern rooms. Build quality is excellent, but finish feels engineered rather than domestic.

Within the panel, the main air moving duties are performed by a highly evolved form of planar magnetic driver, described as a "linear



## Q&A

**Bruce Thigpen**

President, Eminent Technology



**CW: What led you to design and build this speaker?**

**BT:** I started constructing loudspeakers as a hobby in high school. None of them were any good, as parts availability was limited in the mid to late sixties. Then one day I walked into a local audio shop and they had a single Quad 57 hooked up to a receiver playing an FM radio station. To my ear it was astonishing and seemed to accurately reproduce the input signal. I set out to learn how to make electrostatic speakers.

Electrostatic drivers are relatively easy to assemble and they automatically sound good, the trick is learning how to deal with stator insulation. Yet, I wanted a planar transducer that removed any dielectric strength limitations while trying to maximise the benefits of low coloration and low distortion. Pursuing these goals culminated in the speaker you hear now.

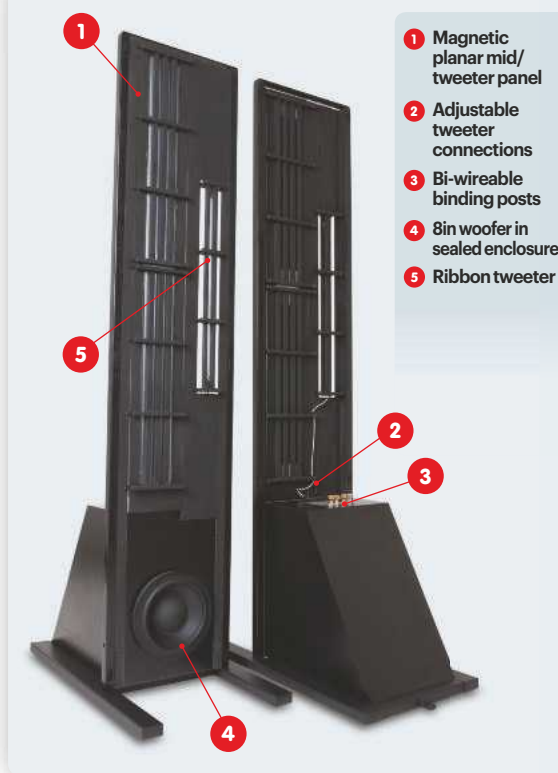
**The LFT-8b differs from many hybrids in the crossover frequencies between the drivers you use. Can you elaborate on this?**

Our hearing appears to be highly sensitive to transitions where the vocal fundamental frequency and some harmonics are handled by disparate drivers. Planar and cone transducers have very different dispersion, colouration and distortion characteristics, and our hearing can pick this out easily. In my opinion, musical instruments and voices tend to be reproduced more naturally if a single driver handles less than 200Hz to greater than 3kHz. To stay within this rule, I designed the natural frequency of the planar midrange panel to start below 200Hz and go as high as it can.

**This speaker appears to have changed very little in 26 years?**

There have been minor revisions, but this design just works. I appreciate products that have been around a long time and still have support. For example, we can still supply parts for a tonearm we made 33 years ago and I will correspond with any customer. I believe that providing continuity and service is still valued by customers.

## IN SIGHT



apparent grain. Harper's voice has real body, yet every tiny inflection comes through without a hint of dryness. The bass riff joins in with fantastic weight and infectious rhythm but absolutely no overhang or flab, revealing real detail in the leading edges of driving bass notes. Hand chimes ring cleanly and float precisely in a tall, deep soundstage. Imaging is strong, but quite sensitive to listener position and toe-in, so placement is worth fine tuning.

The agility of these speakers and their consummate ease in reproducing a large dynamic range with fast transients is underlined by playing a hi-res download of Ariel Ramírez's *Misa Criolla* – Kyrie. A seismic bass drum forcibly punches the air while ringing rim shots pierce the silence, perfectly defining the large acoustic space with every tiny reverberation. A large choir gently rises from the echoes and sets out a deep, mournful melody to the mass, the LFT-8b conveying this brooding power deep in the soundstage with calm authority. Vocals soar with power, yet plaintive intimacy high over the rich layers of massed choir and death knell-like percussion. All in all, it's a spell-binding delivery of an incredibly emotional performance.

So often speakers around this price need to make decisions about what they will and won't communicate,

with obvious design trade offs all too clear to hear. Here, compromises appear small. The LFT-8b can be a little 'beamy', giving its strongest imaging to a relatively narrow sweet spot and imaging appears to be mostly between and behind the plane of the speakers.

## Conclusion

The LFT-8b is possibly the only speaker you'll ever need. Rarely do so many smart engineering elements add up to such a compelling and natural whole, and almost never for this price. While some speakers have a soft spot for rhythmic jazz or thunderous rock, orchestral scale or intimate vocals, the LFT-8b seems utterly unfazed, adept at everything.

It enjoys amplifier power and grip, especially to make the most of the quality and quantity of bass extension available. Eminent Technology recommends a minimum of 50W, but I find the speaker a far easier load than the 83dB sensitivity suggests, especially given the benign impedance. I get excellent results with a Hegel H160 amplifier/DAC (HFC 394) with its high damping factor, but a vintage Adcom power amp and Transcription Audio 211 triode valve amplifier are similarly very impressive.

In each instance, what is apparent is just how clearly the speaker communicates the precise nature and quality of the music, source, cabling and amplification.

These LFT-8b conveys every element of a performance in a very dynamic but highly transparent, seamless and natural manner; from accurate deep bass tones through to ultrasonic harmonics. Often, the term 'revealing' can mean harsh or analytical or even a tendency for something to be spotlighted, but here it just feels like I'm lucky enough to be sat next to the studio engineer at final mix down ●



There are no direct comparisons, but around this budget you might audition another hybrid speaker in the shape of MartinLogan's ElectroMotion ESL or Magneplanar 1.7 panels. The ElectroMotion shares some of the LFT-8b's magic and is friendlier on the eye, but it can't match the bass extension or all of the dynamism and transparency of the LFT-8b speaker. The Magneplanar 1.7 boasts wonderful transparency and near holographic imaging and goes far deeper than people realise, but it cannot create all of the much-needed bass 'slam' that so much music demands. The LFT-8b is in a class of its own.

## Hi-FiChoice

### OUR VERDICT

#### SOUND QUALITY

★★★★★

#### VALUE FOR MONEY

★★★★★

#### BUILD QUALITY

★★★★★

#### EASE OF DRIVE

★★★★★

#### OVERALL

★★★★★

**LIKE:** Transparency; dynamic speed; coherence; range; price

**DISLIKE:** Utilitarian styling doesn't appeal to all

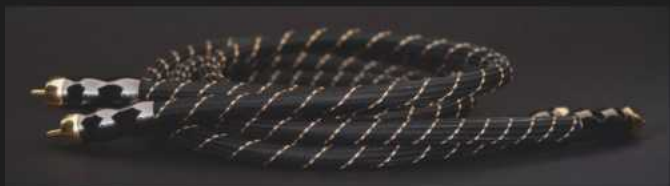
**WE SAY:** These are giant killers – highly dynamic and sublime poise at a bargain price





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# Hit for six

Musical Fidelity has been hard at work revising its M6 amp and CD player and **Ed Selley** has been sampling the results

**F**ive years is a long time in audio. Even in the much more relaxed world of two-channel, much has changed about how we consume music in that time. In the specific context of Musical Fidelity – a company that can undergo entire philosophical shifts in rather less time – five years is an epoch. Despite this fact, its M6 range has made it to now with only a minor update, a reflection that the design was essentially spot on. At first glance this new pairing appears to be more of the same.

This hasn't stopped Musical Fidelity from making some fairly serious revisions behind the superficially

identical casework, though. The M6si integrated amplifier is now built around the company's SMB circuit layout. This means although it is an integrated amp in a single chassis, there are two mono amps and a preamp all taking separate windings from the power supply. This is completely different to the previous M6 and fairly unusual at the price.

As before, the power output might be best described as 'healthy.' With 220W available into 8ohm and even more into 4, the M6si should be able to drive most speakers at anything like the same price without incident and go as loud as you might reasonably want it to. This prodigious power output is

## DETAILS

**PRODUCT**  
Musical Fidelity  
M6scd

**ORIGIN**  
UK/Taiwan

**TYPE**  
CD player

**WEIGHT**  
11.2kg

**DIMENSIONS**  
(WxHxD)  
440 x 125 x 385mm

**FEATURES**  
• 32-bit DAC  
• 2x coaxial; 2x optical digital inputs  
• 1x 24/96kHz-capable USB input  
• Stereo RCA output and XLR outputs

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then made available to one balanced and five unbalanced line inputs – one with an AV bypass – and an MM/MC capable phono stage.

The last input is the most unusual. It's a USB-B connection that works as a driverless audio input capable of receiving sample rates up to and including 24/96kHz. This means that if your preferred digital source is a laptop, there isn't any requirement for another piece of source equipment. This does work on the proviso that you have no need for 24/192 or DSD playback as there's no means of natively supporting either.

Against these wholesale revisions, the changes to the M6 CD player to become the M6scd are less dramatic but no less significant. As there wasn't a lot wrong with the Burr-Brown DAC and transport mechanism of the original, these are retained, but the number of digital inputs has been boosted. There are now two optical, two coaxial and a USB-B input, which at the price gives the M6scd a better choice than some standalone DACs.

Like the amp, the CD player has to make do without a state of the art USB input. As the Musical Fidelity is



## DETAILS

**PRODUCT**  
Musical Fidelity  
M6si

**ORIGIN**  
UK/Taiwan

**TYPE**  
Integrated amplifier

**WEIGHT**  
16.6kg

**DIMENSIONS**  
(WxHxD)  
440 x 125 x 400mm

**FEATURES**  
• Quoted power output: 2x 220W into 8ohm  
• Dual mono construction  
• 4x RCA line inputs  
• 1x XLR input  
• 1x MM/MC Phono stage  
• 1x 24/96kHz USB input

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adjustments have a rather profound effect on the overall level. The remote control handset is also something of a blunt instrument in this case and while perfectly easy to use, it doesn't quite manage to match the rather lovely finish of the main units.

## Sound quality

As there wasn't a great deal wrong with the performance of the original M6 series, any changes will have been done in the absolute certainty that there's a benefit in doing them. The good news is that the adjustments to the M6si in particular have been tremendously effective. There are some classic Musical Fidelity traits to the performance – making it sound big, powerful and with excellent bass – but there are some additional details that have moved the game on further.

The most immediately noticeable of these is that the presentation is a very clever balance of refinement matched with a sense of urgency and purpose that wasn't always there with the older model. The M6si is happier to get up and go with more uptempo material and can do so while remaining refined and able to produce truly prodigious bass. My resident Neat Momentums have never been bass light, but the Musical Fidelity seems able to extract additional heft from them without trying. If a piece of music is supposed to have impact, at anything above tick over, you can rest assured that the M6si will find it.

Thankfully, this near-seismic heft is well integrated into the rest of the frequency response and the same tonal sweetness that marks out Musical Fidelity products is well in attendance. This makes the amplifier an excellent

partner for a very wide selection of music. In the course of a lengthy listening session that begins with Ray Charles' *Genius Loves Company* meanders through various genres and ends with The Prodigy's *The Day Is My Enemy*, this duo remains entirely unfazed. There are shades of the M6si's bigger brother (the M6 500i) in the flexibility and sense of enormous power being handled in an entirely effortless way. The power output is more than just an abstract number even at low levels, giving the amplifier an authority and scale that many rivals struggle to match.

The influence of the M6scd on this is less immediately obvious, but after using both it and the Wadia di122

## They can go to truly astonishing levels without showing harshness or strain

(reviewed on page 52), the Musical Fidelity is a warmer and more full-bodied player than the razor-edged Wadia. It can still produce a rhythmically satisfying performance, but the emphasis is more on the midrange which is full, detailed and rather more analogue in presentation than the di122. This makes it less dynamic, but very easy to listen to.

When you bring the two together, though, the strengths of both combine to great effect. The warmth and fullness of the scd partners with the huge reserves of power that the M6si can deliver to produce a system that feels utterly unburstable in use. The refinement of the pairing is such that

driverless and has no class 2 mode, it tops out at 24/96kHz with no option for anything more. In a real-world sense, this is barely a limitation – we're hardly swimming in hi-res material – but it does mean that the duo has to trade a little ground to rivals here. The coaxial inputs are 24/192-capable and support use of an USB-to-S/PDIF convertor if you really need this additional functionality.

Otherwise, this is a very capable and well specified duo that should be able to handle most requirements without stress. Their appeal is aided by the build and finish. Both products are handsome, logically laid out on the front and back panels and extremely well built. The panels are thick and the gaps between them are imperceptible. The CD player display is a little small and doesn't give any information on incoming sample rate, but what it does show is clear and easy to read.

It's not all good news, though. The volume control of our M6si review sample is not an ideal partner for an amp of 220W. It has a small amount of slack in it, which makes fine adjustment tricky – and with this amount of power on tap, small

## CONNECTIONS



- 1 XLR balanced audio outputs
- 2 Optical and S/PDIF digital outputs
- 3 24-bit/96kHz USB-B port
- 4 Preamp outputs
- 5 MM/MC phono stage input
- 6 XLR balanced audio inputs

## Q&A

**Dave Waters**  
Musical Fidelity



**ES:** Given the level of internal revisions to the M6si, was any thought given to making it an entirely new model?

**DW:** It was always our intention that the M6si was a revision to the existing M6i. In fact, internally, the project was referred to as M6i Mark 2.

**Does the M6si operate fully balanced from the XLR input as befits the SMD construction?**

The M6si doesn't operate fully balanced internally. The benefits of XLR balanced connection are largely to do with preserving the signal quality through the cable rather than within the unit. For customers who desire the fully balanced connection experience, we can always offer the M8 Pre and M8 700m combination, which are fully balanced throughout.

**With the fitment of digital inputs to the M6scd, does this effectively replace the M6 DAC too?**

Although many customers will find the digital inputs on the M6scd sufficient for their needs, there are still those who require the additional ability of the M6dac. As well as the flexibility of Bluetooth with aptX support, the M6dac also supports 192kHz digital audio through its Audio Class 2 USB connection, whereas the M6scd only offers Audio Class 1 support which is limited to 96kHz.

**The M6si is sufficiently powerful, it can drive most speakers but are there any that Musical Fidelity feels are an especially effective partner?**

We have always designed our amplifiers to be able to drive virtually any speaker. As such, we don't have any favorites as far as speakers are concerned. People are able to choose whatever speaker suits their taste, happy in the knowledge that their Musical Fidelity amplifier will be able to drive it.

**At first glance the pairing looks like the previous M6, but there are big differences**



they can go to truly astonishing levels without showing a moment of harshness or strain.

The M6scd is also a worthy partner because it is unquestionably a better digital performer than the input fitted to the M6si. Although the specs of the USB inputs on both products are notionally identical, the scd manages to wring more performance from the connection and sounds genuinely excellent with both lossless and hi-res material. Where the M6si does add value, is with the phono stage, which with both moving magnet and moving coil cartridges is a great performer. The tonal balance is effectively the same as the amplifier it shares a chassis with, but the noise floor is exceptionally low and there is tremendous detail

retrieval combined with the same intrinsically forgiving presentation that the amp offers.

If you are budgeting for a phono stage, the one in the M6si is saving you an easy £400 or so over most standalone rivals, which is worth taking into account when weighing up the pros and cons of the asking price.

This same value calculation applies to the M6scd as well. Given that the player is effectively a six-input DAC (with a fixed CD input), it makes a great deal of sense as a crossover product, helping you to move from CD to other digital sources (or indeed sticking with CD and using it to take a look at hi-res). The inputs work seamlessly and manage to sound identical to the CD when the same material is being played and happy with the standard sampling rates you might use with hi-res (although it is worth pointing out that the optical inputs top out at 96kHz like the USB connection does). Although the balanced connection is not the one marked as CD, performance is best with the two devices connected in this manner with both products delivering their best results via XLR.

## Conclusion

If you have been looking at the current market and recent product arrivals have left you a little cold with streamers and digital preamps now the order of the day, the M6si and M6scd are a welcome return to more conventional products, in many ways similar to their highly successful predecessors. Where Musical Fidelity has been extremely clever is in giving both products a useful selection of additional features that give them huge capability in adding extra sources, while boosting the performance and keeping the price pegged at the same level as before. This is a fine duo and one that should be flexible enough for another half decade in a demanding market ●



**HOW IT COMPARES**

The Musical Fidelity duo makes for an interesting comparison to the Naim CD5 XS and Nait XS2. The pricing of the respective units is reversed with the extra cost of the Naim CD player being balanced against the cheaper amp. In specification terms, the M6 components have the Naim pairing blown into the weeds and the enormous power output of the M6si is more than three times that of the XS2. Sonically, the Naim holds its own, though, with a darker and more intense performance than the Musical Fidelity pairing, which may be more to some customers' liking. The sweeter presentation of the Musical Fidelity duo should also impress.

## Hi-Fi Choice

### OUR VERDICT M6scd

**SOUND QUALITY**



**VALUE FOR MONEY**



**BUILD QUALITY**



**FEATURES**



**OVERALL**



**LIKE:** Smooth, beguiling sound, excellent choice of inputs and good build

**DISLIKE:** No USB2 mode or DSD; can sound a little safe

**WE SAY:** A clever CD/DAC that makes a fine partner for the M6si

## Hi-Fi Choice

### OUR VERDICT M6si

**SOUND QUALITY**



**VALUE FOR MONEY**



**BUILD QUALITY**



**FEATURES**



**OVERALL**



**LIKE:** Massive unburstable sound; excellent features; build

**DISLIKE:** Slightly vague volume control; indifferent remote

**WE SAY:** A well thought out revision to an excellent amp that should win many new friends



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Spendor's approach is the most radical I've seen, going where no hi-fi manufacturer has gone before. D7 is extremely capable and very neutral, but most importantly it puts the music first *Hi-Fi + Dec 2013*

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SPENDOR A6R "One of the very best mid-price floorstanders around" *Hi-Fi Choice Feb 2014*



# One box to rule them all

**David Vivian** checks out this precious do-it-all box of tricks that mixes the old with the new to deliver all your music with ease...

**I**t wasn't so long ago that a once popular high street electrical store purchase – the music centre – was cited by the audiophile community as Exhibit A in the case for owning a 'separates' hi-fi system. More so than the warm 'n' woolly radiograms that preceded them, music centres got it in the neck for their inherently compromised all-in-one/built-down-to-a-price nature and were generally believed to suck sonically whereas separates...well, you know the rest.

Mutating over the years into absurdly cheap and nasty plastic toys and disco-themed boom-boxes aimed at the lower end of the mass market, the perfunctorily functional one-box solution has never really gone away. That there was never much wrong with the concept perhaps explains the unlikely occasional emergence of muscle-bound, multi-thousand-pound high-end digitally based behemoths out to tempt serious stereo heads away from their finely tweaked component combos. And let's not

## DETAILS

**PRODUCT**  
Entotem Plato  
**ORIGIN**  
England  
**TYPE**  
2TB music/video server system  
**WEIGHT**  
14kg  
**DIMENSIONS**  
(WxHxD)  
370 x 130 x 300mm  
**FEATURES**  
• Quoted power output: 2x 45W (8ohm)  
• OS: Android  
• Formats: FLAC; ALAC; MP3; m4a, PCM/WAVE; AAC (audio); .mov; mpeg2; mpeg4; H263 and H264 (video)  
• 24-bit/192kHz recording from analogue sources  
• Display: 5in TFT LCD panel  
**DISTRIBUTOR**  
Entotem Ltd  
**TELEPHONE**  
01332 291972  
**WEBSITE**  
entotem.com

forget it was the march of miniaturisation through CD and integrated circuits that saw the seminal music centre's bulky coalition of record player, tuner and cassette deck ultimately give way to miraculously space-efficient mini and micro systems that continue to enjoy a healthy existence in millions of homes to this day.

But I doubt many would have bet on the music centre as a proposition, half a century after being put in the stocks and pelted with disdain by the enthusiast elite, becoming hi-fi's next hottest property. Despite the negative baggage, 'music centre' perfectly describes the type of product whose time seems finally to have come: a merging of digital media and computer tech, of convenience and connectivity, that some say is already mapping the future of hi-fi on every level. The more fully featured examples go by the name of media servers or digital hubs – single units packing the wherewithal to process and disseminate separate audio and visual digital media strands to multiple rooms with complete flexibility, usually via a control app.





For a quartet of music-loving entrepreneurs from Derby, this wasn't far enough. They reasoned that a true music centre for the 21st century should be able to connect with the past as well as the present and the future, serving not just as a conduit for digital sources but also a place where legacy analogue kit such as a turntable or cassette deck could be

**Black is the standard finish, but other colours are available at £300 extra**

plugged in and played, allowing LPs and tapes to be copied on the fly and archived as hi-res digital files. In other words, a box that ticks all the boxes.

Which brings me to the company (Entotem) and a product (Plato) you may only just have heard of. I've lived with a pre-production Plato for a month now. Without giving too much away, and despite a few operational bumps on the way, I'll sorely miss it when it goes back.

Entotem's big claim is that Plato will revolutionise the way we use entertainment media in our homes, consolidating all media access through one simple and, for the time being, Android-powered, interface. The basic hardware, tightly packaged

## Music is delivered in such a stunningly authentic and richly textured fashion

in a plain chassis that looks a lot like a home printer, consists of preamp and 45W-per-channel Class A/B power amp (or you can connect one of your choice), 2TB hard drive, DAC and ADC for video and 24-bit/192kHz hi-res audio recording and playback and MM/MC phono stage.

As Plato connects to any network, it automatically looks up other uPnP devices and is able to access their audio/video content, supporting FLAC, ALAC, MP3, m4a, PCM/WAVE and AAC on the audio side and .mov, mpeg2, mpeg4, H263 and H264 video. The back panel layout looks clear and straightforward with four analogue and four digital inputs, two digital outputs and a pre-out to connect a power amp of choice if so desired. Plug-and-twist Neutrik sockets require the necessary

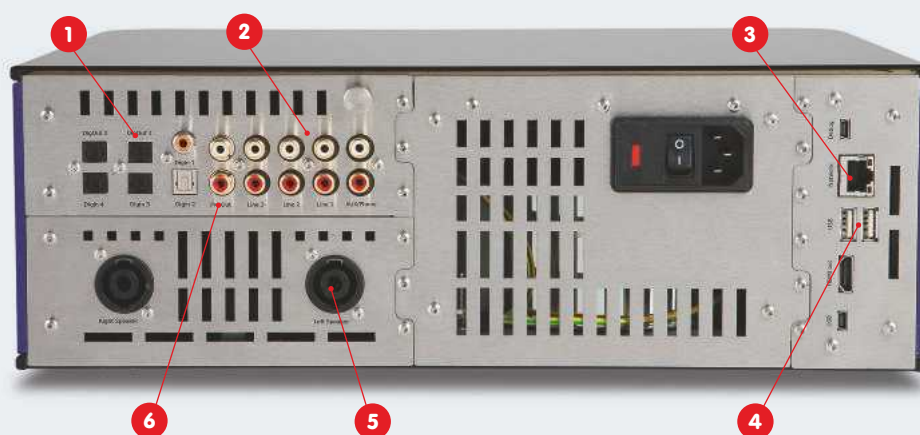
matching connectors for the speaker cables at the amp end. In addition, there are sockets for HDMI output, Ethernet and USB inputs for additional storage, plus an earthing terminal for a turntable. The front panel could hardly be less cluttered totting a tiny on/off button, a single USB in and a 5in touchscreen display.

Entotem's managing director Martin Boddy believes Plato is a truly innovative and revolutionary product, remarking that it represents more than 10 years of R&D and has the potential to be a game changer. "It complements the equipment already in the home and enables people with a record collection to enjoy their music with more flexibility and at a high resolution of far superior quality to the alternatives available," he says. "The ability also to store Blu-rays and DVDs effectively makes this a film library, and using industry-standard protocols, it is possible to stream your music and video around the home."

## Paranoid Android

I have to confess that my heart sinks a little to learn that the system is controlled by an app designed for Android, which is an OS I've never really gelled with, though iOS is slated to follow later this year. Whatever the operating system, Plato can integrate with other DLNA (Digital Living Network Alliance) kit such as Sonos to provide different music in different rooms around the house. Internet radio and Spotify can also be played and the integration of Gracenote, familiar to iTunes users, means music recorded to the system is easily accessed as the track/album artwork is displayed on the LCD display and, more conveniently the control app of whatever tablet it's installed on. Storing DVDs and other film formats requires them to be

## CONNECTIONS



- 1 Optical & coaxial digital ins/outs
- 2 Line level and phono inputs
- 3 Ethernet network port
- 4 USB ports
- 5 Neutrik speaker cable sockets
- 6 Pre outputs

converted on a PC and transferred by USB to Plato. They can then be either played through a TV using a HDMI connection between the TV and Plato or streamed to a tablet or smart TV using wi-fi.

Entotem's Ian Grostate and Dave Belcher, respectively commercial director and development director, deliver the pre-production Plato in person so we can go through the set up together and see how it sits with my particular requirements, which happen to be entirely music based and don't require the aforementioned TV or multi-room functionality. The smooth-edged review sample is very heavy for its size and has a rather fetching custard yellow paint job. Plato will ship with a black finish as standard, but other colours will be available on request. Essentially, as the hub of my second room system, I want it to 'internalise' my Pro-Ject Debut Carbon turntable with a view to straight-through listening and making a few vinyl rips, take the feed from my Cambridge Audio digital dock/iPod Classic and do a good job with internet radio. I've lined up two sets of speakers: my regular Edwards Audio SP2 (HFC 393) £1k bijou floorstanders and a £3k pair of DALI Rubicon 6s (HFC 399).

### Get yourself connected

First job is to connect Plato to my TCP/IP network router with the supplied Ethernet Cat5 cable. This physical connection is necessary because it enables Plato to play internet radio data streams and facilitates Gracenote searches. Fortunately my router is conveniently close. If it wasn't, the connection would have to be more circuitous via mains sockets equipped with two or more 'home plug' type devices.

Plugging in the turntable and digital dock is as simple as it would be with



**The touchscreen display can be a bit fiddly**

any amp/DAC. Power on, we're ready to roll – or ready to explore the control app, anyway. Ian and Dave have brought along a full-sized Samsung Galaxy tablet with it pre-installed. A small Plato icon on the home screen launches the app and, for anyone familiar with Android, finding your way around from there on should be a breeze. The 'main drawer' drop-down on the far left of the top menu bar is the starting point to access Plato's core functions: external sources, the hard disc library, internet radio, playlists and the import/export protocols.

One of the first things I want to try is ripping an LP to a 24-bit/192kHz file and storing it in the hard disc media library. At the very least it's a good exercise as it takes you through most of Plato's key features. First, select 'External Source' from the 'main drawer' drop-down menu and choose turntable from the eight possible inputs. Pressing the turntable

icon for a few seconds, rather than tapping it, bypasses the default recording settings and allows you to configure your own. The 'Now Playing' tab on the top menu bar brings up a level meter. Dave recommends adjusting the gain so there are no peaks exceeding -6dB, otherwise distortion will ensue and jazz fusion keyboardist Jeff Lorber, currently occupying the Pro-Ject's

### The Plato's ability to incorporate legacy analogue kit gives it a competitive edge

platter, won't appreciate that. The actively equalised MM/MC phono stage is pretty serious (Dave's a big vinyl nut) and can be adjusted for input impedance as well as gain. There's also a rumble filter.

Initiating the recording is simply a matter of pressing the round red 'button' on the touchscreen, which changes to a square red button to show you're on your way. While this is happening the (usually reliable) Gracenote database is interrogated at six second intervals and, nine times out of 10, the correct album cover artwork and relevant info attaches itself to the recording (this works for CD, iPod and cassette sources too, of course), ready for storage on the hard disc media library.

Apart from Gracenote's occasional fluff, the Samsung tablet's command of Plato isn't always a roaring success, the control app sometimes even refusing to acknowledge the player's existence, leaving me no option but to ▶







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## Q&A

**Dave Belcher**

Development director, Entotem



**DV: Did you consider using Class D amplification during Plato's development?**

**DB:** We did consider Class D amplification and also looked at a number of Class D modules, some of which are very well respected. However, we wanted to create our own design, which would deliver the highest possible audio quality, given the form factor. The focus of our design was to produce a wide bandwidth, high current amplifier with the most natural sound across the frequency range.

The power amplifier heatsinks are coupled to the bottom plate to increase heat dissipation and we have additional active cooling, which kicks in when party volumes are in force, although this is not something I would expect end users to even be aware of. Also, we added a lot of active power management to switch off audio circuits when they are not in use. This is something Android supports very well in software given its roots as a mobile platform, and we have continued that support in our hardware. So we are able to provide a product which over its life will be very power efficient.

**In what ways will Plato be upgradeable in the future?**

We will, of course, be offering firmware updates to the core platform and supporting app during the life of the product. Given the power and flexibility of Android as a core platform there are many, many additional features we are considering integrating into our own app.

The chassis design is modular, which means we have a very flexible platform on which to continue our product development. Each of the core components – preamp, power amp, power supply and processor node – is housed in its own module, and docks into a central midplane. In addition to that, each module is designed with a series of pluggable boards to allow for future upgrades to processor, DAC, ADC, storage etc... Of course, I cannot go into specifics, but suffice to say we consider Plato to be the start, not the end...



**Useful front panel USB port for occasionally hook ups**

poke around on the unit's small touchscreen display to get things moving – a process that can be a bit hit and miss to say the least. I'll settle for 'glitchy' as tested in pre-production form. The guys assure me all will be silky smooth for the end user.

### Sound quality

Sonically, Plato hits the ground running. Two items of good news. First, Jeff Lorber's funk has seldom sounded funkier using Plato's straight-through phono stage and amp, and the 24/192 recording is an extremely faithful copy. And secondly,

full spectrum of tonal colours and instrumental timbres.

The lower frequencies are hardly thunderous, but are endowed with fine energy, timing, good pitch and plenty of rhythmic drive. Taking its sonic cues from any truly good separates system, here's a do-it-all box that fast tracks to the core of the music. Feed it some Led Zep or Joe Walsh and the music is delivered in such a stunningly authentic and richly textured fashion, the experience will pin you to the spot.

### Conclusion

Is Plato the game changer Entotem claims? Perhaps that's a claim too far in an audio world increasingly populated with one-box solutions, but for the time being its nicely executed ability to incorporate legacy analogue kit gives it a competitive edge. Others will no doubt follow its lead, but they'll have to be on their game to match Plato's fusion of functionality, flexibility and superb sound quality at the price. A landmark product ●



**Media servers** operating solely in the digital domain are proliferating apace. Of those we've tested there seems to be a product for every pocket, with network streaming capability starting from around £300. Just £100 cheaper than the Plato, Krell's Connect (HFC 385) is a network streamer with onboard DAC that sounds extremely good while, for £1,000 more, Olive's flagship O6 HD (HFC 351) gives the Plato a good run for its money with digital audio/video features and 10in colour touchscreen, but it can't match the Entotem's all-bases-covered versatility or its sound quality.

### The Plato's DAC is special, delivering a mix of exuberance, clarity and power

while Plato sounds clean, crisp and dynamic driving the Edwards Audio SP2 floorstanders, it positively loves the big £3k DALI Rubicons, a partnership that sounds outstandingly open, transparent and revealing.

The Plato's DAC is something special, too, taking the digital feed from the Cambridge Audio iPod dock and delivering a mix of clarity, exuberance and power that belies Plato's modest 45W-a-side power output. There's plenty of air with images tightly focused and locked in place. Nor is the presentation in any sense 'hyped'. It sounds true and natural, detail meshing cogently into the larger sonic picture. Ambience is especially well conveyed, lending the necessary beauty and atmosphere to Dave Gilmour's *On An Island* with the

## Hi-Fi Choice

### OUR VERDICT

#### SOUND QUALITY

★★★★★

#### VALUE FOR MONEY

★★★★★

#### BUILD QUALITY

★★★★★

#### FEATURES

★★★★★

#### OVERALL

★★★★★

**LIKE:** Quality-first solution to making everything sound great

**DISLIKE:** Control app's teething problems; touchscreen display is small and fiddly

**WE SAY:** We've seen and listened to the future and it's not too shabby at all





# Choice Systems **at Bartletts Hi-Fi Ltd**

As featured in the June edition of the Hi-Fi Choice Dealer Systems article

## Bartletts System Price

**£2890.00**

Arcam CDS27 SACD/CD/Network player  
Arcam A19 Amplifier  
PMC Twenty 21 Speakers  
(excluding accessories)



## Bartletts System Price

**£5700.00**

Yamaha CDS2100 CD/DAC  
Yamaha AS2100 Amplifier  
Dali Rubicon 5 Speakers  
(excluding accessories)



## Bartletts System Price

**£700.00**

Project Debut Carbon Phono USB Turntable  
Q Acoustics BT3 Bluetooth Speakers  
(excluding accessories)



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# Vive la Revolution!

**David Price** samples Tannoy's latest, cleverly re-engineered dual concentric loudspeaker, the Revolution XT 6F

**W**e all know what a good loudspeaker should do, but how to do it is another matter altogether – there are many different ways of attempting this. Moving coil drive units in a wooden box are the most common and simplest type to produce, but arguably the most flawed. Still, because the concept is so old there has been plenty of time to refine it, and Tannoy came up with its own solution nearly 70 years ago. Its first dual concentric design – the Monitor Black of 1946 – was a coaxial speaker combining mid/bass and treble units in one drive unit. This was not sold in cabinets, but as research tools for

**Overall, there is nothing I can find to mark down this speaker at the price**

testing microphones, due to the exceptionally flat frequency response.

It soon found its way into hi-fi speakers, when Tannoy made a monitor for Decca recording studios. Whereas normal speakers fire sound out at you from different places on the front baffle, Tannoy's driver produces it from the same place. Think of a violin playing a single note; a standard speaker will have different parts of this (including its harmonics) coming from two or more points in space at the same time. A Tannoy dual concentric driver, however, will produce all the note's spectral components from a single place at precisely the same time. This brings great phase coherence and better off-axis response too, making the speaker image far more accurate.

The driver has been refined over the years. Indeed, this year has seen one of its most radical redesigns, with a new Omnimagnet motor and Torus

Ogive Waveguide. Both mid/bass and treble drivers now use a single shared magnet and a special waveguide integrating a donut-shaped (Torus) tweeter diaphragm and bullet-shaped (Ogive) phase plug. The tweeter has been moved forward for better time alignment and a shallower but more flared waveguide is said to give better high-frequency directivity.

The Revolution XT range is the first to debut this new driver and the XT stands for 'extra technology'. The '6' refers to its 6in dual concentric driver, which includes the 25mm PEI dome tweeter and the 150mm multi-fibre mid/bass unit, which crossover at 1.8kHz. There's an additional 150mm bass unit that works in parallel below 250Hz using a blend of paper fibres.

## Sound quality

There's something instinctively right about the sound of this loudspeaker. First impressions, when a speaker initially reveals itself, are important

## DETAILS

### PRODUCT

Tannoy Revolution XT 6F

### ORIGIN

UK

### TYPE

2.5-way floorstanding loudspeaker

### WEIGHT

16.3kg

### DIMENSIONS

(WxHxD)

269 x 1005 x 317mm

### FEATURES

- 1x 150mm dual concentric driver with 25mm tweeter
- 1x 150mm woofer
- Quoted sensitivity: 90dB/1W/1m

### DISTRIBUTOR

Tannoy Ltd

### TELEPHONE

01236 420199

### WEBSITE

tannoy.co.uk

and can decide whether it lives or dies in the showroom. From the off, the Revolution XT 6F impresses, but not in the sense of sounding dramatic or impactful, but rather because it doesn't. It presents itself as a 'mature' product for its price, devoid of the usual frequency peaks and troughs that are often deliberately – or inadvertently – engineered in.

The first track on the CD player is *Spacer*, a classic piece of disco music, performed by Sheila and B Devotion. It's a worthy test, with lots of energy at both ends of the frequency spectrum and a wonderfully sinewy rhythm that soon reveals whether it can stop and start properly. It comes over as tonally well balanced; there's no sign of lumpiness to it, although you would have to concede that the upper bass has a subtle weight that helps propel pop music along in a most pleasing way. Treble is very good too, being clear and crisp if not quite as delicate as the very best at the price. In-between this is a pleasingly open and well integrated midband with a surprising amount of clarity, both from a loudspeaker at this price and also from a Tannoy. It's certainly a touch more well defined and seems able to give a more intricate rendition of what is actually in the recording than I've heard before from a speaker in this segment bearing this great name. The result is that *Spacer* comes over in a most enjoyable way; sounding warm, smooth, expansive and yet engaging. The lead vocal is sweet and expressive.

Moving to something altogether more contemplative, and the beautiful ambient strains of The

**The Tannoy sits on chunky aluminium floor spikes and is available in dark walnut or medium oak**



## Q&A

### Dr Paul Mills

Director of development, Tannoy



#### DP: How would you say the Tannoy dual concentric has changed over the years?

**PM:** Improvements in materials and manufacturing techniques over the years and computer aided design, both mechanical and acoustical, have enabled the concept to give better performance, greater reliability and substantial gains in power handling. The use of ferrite magnets in 1978, which are common today, became the norm due to rare earth magnets consistently rising in cost, making once affordable speakers very expensive indeed. However, Alnico magnets are still retained for our high-end Prestige models.

#### Do you consider the new driver a major historical development?

The Omnimagnet system (shared magnet for LF and HF sections of the driver) allows a better optimised mechanical arrangement necessary for the new waveguide to operate, and also increases power handling. It is another significant step forward in the long history of the dual concentric; to the point that this element of the new design has been granted a patent in the UK and a patent is pending in the US.

#### What advantages does it bring?

The HF dome is Torus (donut) shaped allowing it to be placed further forward in the throat of the driver. An Ogive (bullet) shaped phase plug sits in front of the diaphragm, which assists in shortening the propagation path of HF waves. The Torus Ogive waveguide has a faster expanding flare than previous 'tulip'-shaped dual concentric waveguides, which expands wave front propagation through the cone of the bass driver. The result is a shortened acoustic path through the driver and greater phase coherence between HF and LF. This has a profound positive effect on stereo imaging, and the improved phase coherence ensures a natural and expansive sound.

## IN SIGHT



The market for £1,000 floorstanders is a tough one, and Tannoy has its work cut out to succeed against speakers like Cambridge Audio's AeroMax 6 (HFC 391). This is a very clever design, that has a wonderfully seamless sound and projects extremely well, like the Tannoy. It's a little smooth and sweeter right at the top, but it does lose a bit of 'bite' that rock fans will miss. The midband is superb. It's a little wider and less pinpoint in its imaging than the Tannoy, but is still head and shoulders ahead of the best of the rest. Still, the Tannoy has an intrinsically more lively manner and this will endear many too it, even if it isn't quite as balanced as the Cambridge Audio.

Cocteau Twins' *Lazy Calm* shows just how good the new Tannoy is at imaging. Not that this was ever in doubt of course, but still it serves up a cathedral-like expanse of sound, imaging far left and right, and also hanging back nicely. This is further underlined when I move to the Ralph Vaughan Williams stirring *Symphony No.2*, only to hear the soundstage open up still further. Indeed, the Revolution XT 6F is able to show off its even tonal balance, delicate midband and obvious ability to recreate a recorded acoustic in three dimensions. I am also struck by the fine string tone delivered on this recording; earlier entry-level Tannoy dual concentrics had a tendency to sound a little 'cuppy', but the latest drive unit is a model of openness and neutrality by comparison. It may not necessarily have been voiced as such, but the Tannoy proves an excellent choice for classical music.

One often finds that loudspeakers that score highly in traditional aspects of performance – bandwidth, smoothness, detail, etc. – fare less well in their ability to entertain and involve the listener. But not so with

the Revolution XT 6F, which again proves highly adept at extracting the music's essential rhythm from the electrical signal it is presented with. This is a highly enjoyable design that bounces along at a high rate of knots.

John McLaughlin's excellent *Love And Understanding* is a powerful piece of guitar-based jazz fusion and the Revolution XT 6F shows its excellent transient response with some dizzyingly fast strummed electric guitar strings and hi-hat work. It proves well able to get into the groove, powerfully showing up the fine rhythmic playing of the instrumentalists, as well as the dynamic accenting that makes the music sound so expressive.

In absolute terms the Tannoy isn't brilliant at dynamics – it's only a medium-sized box with three drive units after all is said and done – but it is excellent at capturing those all-important subtle nuances of the music. It also does well for its size in bass extension, having a smooth and deep bottom end that doesn't sound like it's struggling too hard with lower bass notes. Overall, there is nothing I can find to mark down this speaker at the price; it's an excellent performer with a special talent all of its own.

## Conclusion

Tannoy is going through something of a purple patch with some very strong affordable and mid-price speakers out there, all of which have garnered a reputation for musicality as much as that trademark expansive sound. To this list we now need to add the Revolution XT 6F, which performs far better than it has any right to. Add those traditional values you get from the dual concentric driver – starting with that wonderful 'point-source' imaging – to its highly engaging sound and this is likely to win many friends in an already highly competitive marketplace ●

## Hi-FiChoice

### OUR VERDICT

#### SOUND QUALITY



**LIKE:** Excellent soundstaging; smooth tonality; fun

#### VALUE FOR MONEY



**DISLIKE:** Treble doesn't quite equal the best of the rest

#### BUILD QUALITY



**WE SAY:** Talented and distinctive mid-price floorstanding speaker

#### EASE OF DRIVE



#### OVERALL







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# Naim that tune in one

Drawing on existing kit and adding some twists, this could be the most complete Naim product yet says **James Parker**

**A**mong the Naim faithful, every hint of a new product is greeted with endless speculation about what's on the way and the trotting out of well-polished wish lists often encompassing products perfect for the list-maker, but potentially of such niche appeal that they could probably never happen.

Somewhere deep within Naim's HQ, I can't help but think such speculation is often the cause of some amusement as the company seems to be able to wrong foot the guessers every time by announcing something no one saw coming, but which proves an entirely logical addition to its catalogue.

The NAC-N 272 caught them on the hop, but has rapidly established itself as not just a product coveted by those whose immediate reaction was "You've launched what??", but also the subject of some rapid myth-creation on the part of the more fanatical Naimees. The initial surprise was that the company chose to introduce another streaming preamplifier, when it already has the NAC-N 172 XS. However, soon the online gasps turned into whispered, and then ever-louder suggestions that this was the best-sounding network product in the lineup, good enough to have the flagship NDS looking nervously over its shoulder.

So what is the NAC-N 272? Well, it's a preamplifier with network music player capability that has both digital and analogue inputs plus a choice of fixed or variable-level outputs (so that you can plug it into an existing amplifier as a source component, straight into a power amplifier or as source and control for a pair of active loudspeakers). There's wired or wi-fi networking, a USB input on the front to which you can connect a USB drive or your smartphone or tablet, Bluetooth for wireless hookup of portable devices and Spotify Connect compatibility.

The main option here is an internally fitted DAB/DAB+/FM radio tuner module, if the onboard internet radio provision isn't sufficient, but there is one more typically Naim touch: like the NAC-N 172 XS, and unlike other Naim preamps, the NAC-N 272 has its own internal power supply, built around a hefty toroidal transformer with separate windings for the analogue, DAC, digital processing and control sections. It's also possible to upgrade the NAC-N 272 with the addition of an offboard power supply: Naim's XP5 XS, XPS or 555 PS can be used.

With that done, the mains power switch on the rear of the preamp can be turned off, so the internal transformer is bypassed, thus removing a possible source of vibration and adding a lower

## A fine cornerstone around which to build a streaming audio setup

impedance power supply setup with more regulation. While the effects of these upgrades are outside the scope of this review, I have tried the 272 with both the XPS and 555 PS, and concur with Naim that "the differences in performance are not subtle".

One of the main talking points will either have you thinking "At last!" or "So what?", depending on your point of view. The NAC-N 272 is the first Naim product able to play DSD files (although the capability is being rolled out to the ND5 XS, NDX and NDS network players and the SuperUniti, all of which are built around the same SHARC processor at the heart of this unit). Whatever your view on DSD, the fact is that increasing numbers of digital devices support it, and it's becoming one of those digital boxes seemingly needing

to be ticked: the Naim can do DSD64/2.8MHz, and via USB, electrical digital input or over a network (given UPnP software in your NAS able to serve DSD files to it).

How relevant is DSD? Well, there's a growing number of labels offering content either as downloads or on SACDs, with the classical labels particularly strong in the latter respect, and quite a few enthusiasts with modded 'old model' Sony PlayStation 3 consoles in use as a means of ripping SACDs to files the Naim can play. Yes, some are dismissive of DSD as an irrelevance in the second decade of the 21st century, but the fact remains there are thousands of SACD titles out there, plus that resurgence in the availability of new recordings.

Unlike some offering DSD capability, Naim has opted to do things the proper way: the DSD signal is kept as pure as possible by stripping out the digital header information, leaving only the audio to be optimised for the NAC-N 272's DAC by integer resampling it to 40-bit/705.6kHz, then feeding it to the 24-bit DAC, bypassing the digital filter.

All this is done using Naim-written software, not an off-the-shelf solution, with that SHARC processor also looking after buffering, reclocking and de-jittering of incoming digital signals, as is done in the NDS and

### DETAILS

**PRODUCT**  
Naim NAC-N 272

**ORIGIN**  
UK

**TYPE**  
Network music  
player/preamp/DAC

**WEIGHT**  
12.5kg

**DIMENSIONS**  
(WxHxD)  
432 x 87 x 314mm

**FEATURES**  
• Streaming/  
playback at up to  
192kHz/24-bit and  
DSD64/2.8MHz  
• Analogue volume  
control  
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BNC; 2x RCA; 3x  
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## CONNECTIONS



- 1 Coaxial digital inputs and BNC
- 2 Preamp outputs
- 3 RCA analogue inputs
- 4 Ethernet port for network connection
- 5 Toslink digital inputs

other Naim network players. As in those players, the digital and analogue sections are isolated and only connected optically to prevent any interference between them, with the main circuit boards floated to avoid mechanical interference, and even the wiring between the rear-panel connections and the internals designed to the same effect.

Finally there's analogue relay switching for the various inputs, completely isolating those that are not in use, and a volume control derived from the one used in Naim's £155,000 Statement amplifier, combining a resistor ladder for optimal signal purity with digital control for convenience. Again optical

isolation is used to avoid interference between the digital and analogue sections, and completing the specification is a high-quality headphone amplifier section, for driving even demanding loads.

The NAC-N 272 comes complete with Naim's simple, but functional, remote control handset, but is best driven using the company's n-Stream app, available for Android and iOS tablets and smartphones.

### Sound quality

As a preamp, it is of course impossible to test the NAC-N 272 in isolation, so Naim has supplied a NAP 250 power amp, which is one of the models (along with the less expensive NAP

200) it sees as typical partners for the new product.

Who's the 272 designed for? Well, Naim suggests it's well suited to users moving up from one of its Uniti products to build a higher end system, while it's also aimed at owners of its earlier preamps who want to add network playback capability to their system while reducing the box count by avoiding the need for a separate player and preamp (not to mention power supply for the pre they may have been using).

Of course, the Naim seems to be all about high-quality recordings in DSD64 and hi-res PCM-based formats, so it seems only fitting to start listening by blasting out some

**The design of the N 272 will be familiar to Naim followers**



## Q&A

**Jon Green**

Principal Electronics Engineer,  
Naim Audio



**JP: Was there a benchmark among your all-analogue preamps against which the NAC-N 272 was set?**

**JG:** Naim's benchmark has always been about the musical performance and if it communicates. The target for the 272 was no different. Combining a network player and preamp in one box is not easy and we are really pleased with the result.

**How difficult was it to implement the DSD capability?**

The optimisation was the main challenge: code writing and DSP code at this level is science with an element of art – it's the art that makes it interesting. The difference between great code and average code is very significant in the areas of enjoyment and engagement of music.

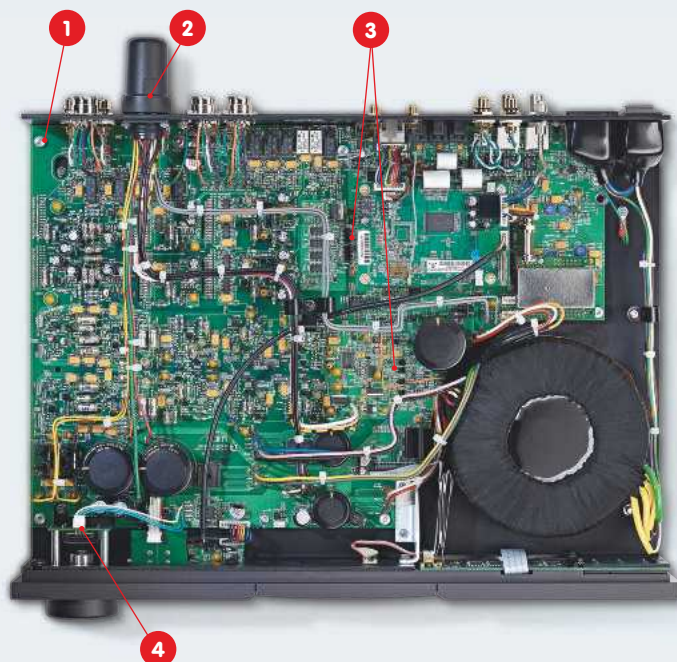
**So, beyond DSD64, where next? DSD128? MQA?**

Never say never! Although we don't see much music, we would like to listen exclusively on DSD128. MQA is interesting – let's see if it becomes a commercial reality.

**The BBC's recent 'moving of the goalposts' with regard to radio streaming caused major problems, how much work has been involved in getting the Naim range back on track with its services?**

'Fixing' the problem is not trivial, as our streamers use embedded systems optimised to run with minimum memory and CPU overhead, which is better for sound quality. It can be a problem in code writing to fit in new, sometimes more complicated, requirements that don't compromise the audio performance. But we're on it...

## IN SIGHT



- 1 Floating PCB mounts and hand-wired sockets to minimise microphonics
- 2 Burndy socket for external PSU upgrade
- 3 Galvanic isolated analogue and digital sections
- 4 Statement derived volume control

KLF at silly volume, making the most of the power of the NAP 250 and the clarity of the preamp.

So with a CD-quality rip of *America: What Time Is Love?*, all nine glorious minutes of it, hammering out of the speakers, it is clear that even when the music is in full-on attack mode, the Naim can allow striking insight into the depths of the mix. And it can do so while maintaining those traditional traits of timing, rhythm and driving musicality, not to mention thundering bass: it's glorious stuff.

Similarly with the (admittedly undemanding) rhythms of Hot Chip's wonderful *Why Make Sense?* set, in a 24-bit/44.1kHz FLAC download, the Naim makes a good job of the sting of percussion and the weight of the bass, while still bringing out good character in the vocals and lead instruments, even if the whole enterprise does tend to wash over the listener in an inoffensive blur (which is down to the music, not the system).

The sound gets even more impressive as some Roxy Music is summoned up from the NAS, in the form of *Dance Away* from a PS3 rip of the SACD of *Manifesto*. Ferry's vocal is kept focused centre stage, but most impressive is the way the Naim makes the most of that tight, clean bassline and the little touches of percussion, really bringing the track to life.

Yes, we've strayed into DSD territory here, and this player/preamp makes a very strong case for the survival/revival of the format: delve back into

the Roxy catalogue to 1972's *For Your Pleasure*, and the shuddering, juddering chug of *The Bogus Man* is revealed in all its menacing glory, while the bonkers synth break of *Editions Of You* is all about early Eno at his finest, the electronics shrieking and parping magnificently.

## Conclusion

So, is the NAC-N 272 a giant killer within the Naim range? Well, it's very good indeed, but I wouldn't go that far, although I'll withhold final judgement until I've heard what some of the pricier network players in the lineup can do when they're all DSD'd up. What is beyond doubt is that on any terms this is a very impressive solution to bringing an older system bang up to date, as well as a fine cornerstone around which to build an all-new streaming audio setup ●



**HOW IT COMPARES**

Given what it offers, from its preamp functions to its DSD capability, it's difficult to draw many direct comparisons between the Naim and other products. Yes, the more affordable NAC-N 172 XS goes some way towards doing what it does, but the 272 is in an entirely different league. Perhaps the closest competition comes from the likes of the Marantz NA-11S1 network player. Use it together with the matching PM-14S1 integrated amplifier, and you'd have the basis of a good system for under £1,000 more than the NAC-N 272.

## Hi-Fi Choice

### OUR VERDICT

#### SOUND QUALITY

★★★★★

#### VALUE FOR MONEY

★★★★★

#### BUILD QUALITY

★★★★★

#### FEATURES

★★★★★

#### OVERALL

★★★★★

**LIKE:** Flexibility; belting sound quality; upgradeability

**DISLIKE:** No USB input for computer; limited streaming service support so far

**WE SAY:** An excellent addition to the Naim range: the NAC-N 272 sounds superb





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# DAD rock

The latest offering from high-end stalwart Wadia is refreshingly affordable. **Ed Selley** finds out if the magic is still doing its stuff

**A**s one of the original purveyors of high-end digital, Wadia has traditionally been associated with the rarefied end of the market. In recent years, however, the company has moved at least some of its products back into more affordable territory and dispensed with optical drive products. The range now comprises 'Decoding Computers' and 'Digital Audio Decoders', which act as both DACs and preamps that can be partnered with matching power amplifiers or used as standalone line-level products.

The di122 sits towards the lower end of Wadia's product lineup and is yours for £1,499. The good news is that this competitive asking price doesn't seem to undermine the spec.

The di122 is fitted with five digital inputs, two optical, two coaxial and a USB-B connection. The coaxial and optical sockets are both 24-bit/192kHz-capable, while the USB implementation is able to pass 24/384kHz as well as DSD and DXD. This ticks pretty much all the format boxes one might expect and should mean that the Wadia is pretty much futureproof. Some rivals offer an AES input or Bluetooth functionality at this level, but I'd personally not want to trade off a useful number of 'normal' inputs for either of them.

Internally, the di122 is built around the popular and increasingly ubiquitous ESS Sabre chip, in this case an ES9016S. This allows for the Wadia to act as a preamp, which while all the rage at the moment is

## DETAILS

**PRODUCT**  
Wadia di122  
**ORIGIN**  
USA  
**TYPE**  
DAC/preamp  
**WEIGHT**  
3.2kg  
**DIMENSIONS**  
(WxHxD)  
254 x 80 x 356mm  
**FEATURES**  
• 2x coaxial; 2x optical; 1x USB-B inputs  
• RCA/XLR; 1/4in headphone outputs  
• Digital inputs support: 44.1kHz-24/192kHz PCM  
• USB supports: 44.1kHz to 384kHz, 32-bit (PCM), DSD64, DSD128, DXD352.8kHz, DXD384kHz  
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actually something that it has been doing with products for some time. The volume adjustment is performed by upsampling the incoming signal and then shedding superfluous information rather than via the cruder bit reduction method, which augers well for use as a preamp. The decoded output is available via RCA and XLR and a front headphone socket. In use, the volume adjustment does mean that if you set the volume to 100 percent, the output is a little high compared with a conventional line-level component and I find that backing the volume off improves the performance considerably.

This is an impressive amount of functionality, but fitting it into a relatively small and elegant chassis has resulted in some operational quirks. There are only two buttons on the fascia, which as a primary function perform input selection and standby. They also double as the volume up and down controls, but only after they have been placed in volume mode. Wadia supplies a nicely assembled remote control that gives each function its own button, but this combined with the linear way that button-operated volumes function means that the di122 doesn't feel as





The glass top lends the Wadia a real sense of visual definition

pleasant as the NAD C510 (*HFC 395*) when used as a preamp. A final quirk of the design is that the rear panel outputs don't mute on connecting a pair of headphones, which isn't the end of the world, but is a little weird.

The rest of the news is rather better, though. As well as the remote looking and feeling rather smart, the di122 is a very nice piece of industrial design. The casework is attractive and little details like the Wadia emblem engraved into the front panel make it feel a cut above many rivals. The design is really set off by the use of a glass top to the chassis that gives a sense of visual definition. A small but perfectly legible display shows volume, incoming sample rate and selected input. Everything feels extremely well assembled and thought out and while some Wadia calling cards like the curious locking optical connectors have been dispensed with, the result is a product with plenty of shelf appeal and nothing that is likely to put people off.

Set up is simplicity itself. Wadia has put the USB driver at the bottom of the di122 web page and barring the obligatory strop from my antivirus, it installs straightaway on my laptop. The USB input also works without a driver when connected to the fearsomely clever Linux-based output of the Melco N1A NAS (*HFC 397*), which serves as one of the test inputs. Beyond the slightly congested control interface, Wadia has done a fine job of ensuring that the di122 is no more demanding to use than its competitors.

### Sound quality

This user friendliness is balanced with a sound that is somewhat different to rivals at the price point. Where many recent digital products have an almost analogue warmth to the way that they make music, the Wadia is something altogether more forensic and focussed. There is a huge amount

of information that's extracted from material and it displays all of it in an exceptionally vivid and lively way.

The most noticeable aspect of this is when you listen to something with a bit of drive to it. Where some components seem almost content to let the music happen, the Wadia is committed to delivering every last facet of the performance in a manner that is startlingly vivid. Neither is this the preserve of faster, more aggressive material. With Jon Allen's lovely and languid *Deep River*, it is still determined to nail every note and nuance to the picosecond they happen.

If all of this sounds a little aggressive, the clever part of the presentation is that it manages to

### Hi-res material reveals a step up in the sheer vividness of the performance

balance this impressive sense of get up and go with a refinement that makes it a very satisfying long-term listen. With both a Naim Supernait 2 and Musical Fidelity M6si, the Wadia is a very civilised partner. It can't be provoked with anything but the poorest and most compressed material and even then, the volume has to be up at the firmly antisocial side of things. I am sure that really careless system matching might serve to exacerbate this, but a cursory demonstration beforehand should be sufficient to avoid it.

Switch to high-resolution material and the di122 doesn't change the overall presentation, but it does reveal a further step up in the sheer vividness of the performance. A 24/96kHz version of Fleetwood Mac's *Rumours* is exceptionally lifelike. There is a real sense of the

performers, their relationship to one another and the space they inhabit. This is matched by believable tonality and an impressive sense of decay to notes all underpinned by bass that is deep, fast and tonally detailed. My DSD material remains limited, but the Wadia has no issue playing any of it and save for a slightly long pause when changing sample rate or format, it makes for a compelling high-resolution companion.

Using it as a preamp and headphone amplifier does not alter the basics of the performance too significantly. The slight lack of fine adjustment to the volume still favours rival products with a rotary dial, but there is no real sense that it is anything other than a very linear performer at every increment.

The news is rather better using the di122 as a headphone amp. Not only is there plenty of power on tap – using Oppo's PM-3 headphone (*HFC 399*) only requires a whisker over 50 percent on the display to listen loud – but the comprehensive detail retrieval combined with the general refinement of the design makes the headphone socket far more than just a convenience feature.

### Conclusion

And it is this balance of convenience and capability that makes the di122 a very impressive proposition at the price. If we accept that a rotary volume dial-equipped challenger will make the best device for use as a preamp, the Wadia hits back thanks to a genuinely useful set of real-world inputs and outputs, a full house of supported formats and a sound that is consistently and genuinely exciting. There are a few operational niggles and careless system matching might not show it at its best, but the di122 is a seriously accomplished performer that needs to be on anyone's shortlist at the price point ●

### CONNECTIONS



- 1 Coaxial digital inputs
- 2 Balanced XLR outputs
- 3 Unbalanced RCA outputs
- 4 Optical digital inputs
- 5 USB-B port

### Hi-Fi Choice

#### OUR VERDICT

<b>SOUND QUALITY</b> ★★★★★	<b>LIKE:</b> Lively and powerful sound; build; features and facilities
<b>VALUE FOR MONEY</b> ★★★★★	<b>DISLIKE:</b> Slightly clunky interface; requires a little care when system matching
<b>BUILD QUALITY</b> ★★★★★	<b>WE SAY:</b> A very clever and highly capable arrival from a long-time digital master
<b>FEATURES</b> ★★★★★	

#### OVERALL



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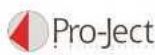
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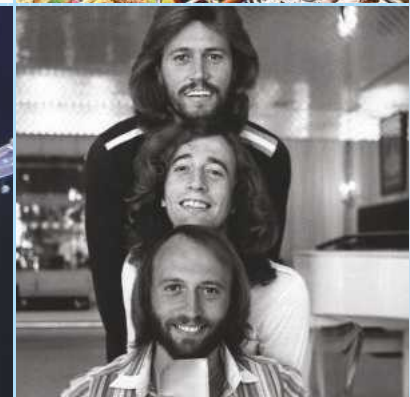
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# 1975

## A year in music

As the first issue of *HFC* rolled off the press, there was plenty to get excited about in the world of music. **Nigel Williamson** turns the clocks back 40 years

**F**ashion can move so bewilderingly fast in the world of popular culture that every year can seem like a milestone, but 1975 found music at a watershed moment perhaps like never before. The dawn of disco was upon us, prog-rock was growing flabby and self-indulgent, the Rolling Stones and Led Zeppelin were taking rock 'n' roll decadence and debauchery to new levels of excess and punk was gathering on the horizon.

It was also a year rich in symbolism as rock 'n' roll came of age – it was 21 years since Elvis Presley had entered Sun studios in Memphis for the first time in 1954. At the same time, it was the year when the last rites were finally read on the sixties, as The Beatles were officially dissolved at a private hearing on January 9, 1975, five years after the Fab Four had stopped making music together.

### Anarchy in the UK

Such portents created a suitable backdrop to the first stirrings of the punk insurrection; as did the growing embrace between the establishment and the counter-culture, forces that had once so reviled each other. The new rapprochement was epitomised by the US Embassy in London hosting a reception to promote a European tour by

Little Feat and the Doobie Brothers, the latter of who took their name from a slang term for a marijuana joint.

In America, the FBI was spying on John Lennon and seeking to deport him as an undesirable influence. In Britain, MPs stood up in the House of Commons to deplore pop's corruption of young minds and the "mass hysteria" surrounding groups such as the Bay City Rollers and the Osmonds.

### On Young Americans David Bowie embraced a new funk sound and declared rock finished

While the Sex Pistols played their first chaotic gig, a noisy thrash lasting 20 minutes at London's St Martin's School of Art in November, the New York punk scene was coalescing around CBGB in the run-down Bowery district of New York, where the Ramones, Talking Heads and Patti Smith were all making their first appearances. Smith's *Horses*, released at the end of the year, became one of the landmark albums of 1975, causing controversy with lines like: "Jesus died for somebody's sins, but not mine."

Prog-rock was in retreat, even before the punks started kicking it to death and by 1975, Yes, Emerson, Lake and Palmer, the Moody Blues and King Crimson were all on hiatus. Peter Gabriel departed from Genesis and Pink Floyd were left to stand almost alone as prog's premier flag wavers, finally following-up 1973's *Dark Side Of The Moon* with *Wish You Were Here*. Support, however, came from the likes of Supertramp and Mike Oldfield, whose *Ommadawn* was his most adventurous work and a far more rounded opus than *Tubular Bells*.

### D-I-S-C-O

But punk's true *annus mirabilis*/year zero was still a year away and the dominant new sound was disco. Stevie Wonder, the biggest name in black music on the back of a brace of Grammy-winning albums, signed a new \$13 million deal with Motown Records although he didn't release an album in 1975. Instead the field was left to a range of artists who spent the year redefining funk with a synthesised backbeat to create disco-mania.

Donna Summer teamed up with producer Giorgio Moroder on *Love To Love You Baby*, disco's answer to *Je t'aime...non plus*. Gloria Gaynor had a hit with *Never Can Say Goodbye* and the Ohio Players topped the US charts



Inflation hits 24 percent as Britain enters a double-dip recession and Britain's coal miners get a 35 percent pay rise

Muhammad Ali beats Joe Fraser for the heavyweight championship of the world in the 'Thriller in Manila'

Margaret Thatcher defeats Ted Heath to become leader of the Conservative Party

Britain votes 'yes' in a referendum to stay in the European Community

Formula One world champion Graham Hill is killed in a plane crash

CHARLIE CHAPLIN AND P. G. WODEHOUSE ARE KNIGHTED. WODEHOUSE DIES LATER IN THE YEAR, AGED 93

Films of the year include *Jaws*, *One Flew Over The Cuckoo's Nest*, *The Rocky Horror Picture Show*, *Tommy*, *Monty Python And The Holy Grail* and *Young Frankenstein*

It's a vintage year for British TV as *Fawlty Towers*, *The Sweeney* and *The Good Life* all hit our screens for the first time

The price of a pint of milk rises from 6p to 7p

The 'Yorkshire Ripper' commits his first murder

Russian cosmonauts and American astronauts shake hands in space as the Apollo and Soyuz spacecraft link up

Lord Lucan is found guilty of murder by an inquest jury in his absence and a warrant is issued for his arrest

## THE WORLD IN 1975

with *Fire*. Van McCoy went to number one with *The Hustle*, a rare achievement for an instrumental, and KC & The Sunshine Band came up with *Get Down Tonight* and *That's The Way (I Like It)*, while Earth, Wind & Fire delivered *The Way Of The World*, the disco/funk album of the year.

The success of disco was not lost on white acts. After a string of hits in the late sixties, the Bee Gees had fallen on hard times and by the end of 1974 were playing cabaret in Batley. In early 1975 they recorded *Jive Talkin'* in Miami with producer Arif Mardin. By August, the record j-j-jived its way to the top of the US charts and number five in Britain. The reinvented, Bee Gees never needed to sing for their supper in cabaret clubs again.

But the Gibb brothers weren't the only resurrection of the year. Fleetwood Mac, once a mighty blues band in the late sixties, were on their last legs after a string of crippling personnel changes when, as a final throw of the dice, Mick Fleetwood and John and Christine McVie invited the American guitarist/songwriter Lindsey Buckingham to join. He brought his girlfriend Stevie Nicks and the pair helped to reinvent the band as the ultimate Californian melodic soft rockers.

Released in July 1975, the self-titled album, which included one of the songs of the year in

*Rhiannon*, took 15 months to rise to number one in the American charts; but Fleetwood Mac were on their way to becoming the biggest-selling band of the decade. Their only rivals for the title were the Eagles, whose 1975 album *One Of These Nights* included three hit singles, *One Of These Nights*, *Lynin' Eyes*, and *Take It To The Limit*.

### New kids on the block

Amid the memorable comebacks, there were plenty of new names breaking out. Aerosmith emerged as America's premier heavy rock champions with *Toys In The Attic*, an album that included the anthemic *Walk This Way*, a funk-rock antidote to disco, which, ironically, 11 years later became a rap hit for Run-DMC.

Bruce Springsteen's first two albums had seen him touted as 'the new Bob Dylan' and hailed as 'the future of rock 'n' roll', but had failed to sell. In a last-ditch effort to recoup its investment, CBS gave him a gigantic budget to record his make-or-break third effort, *Born To Run*. A year in the making, when it was released in August it was supported by what at the time was the most expensive marketing campaign in musical history. Before his UK concert debut to promote the album, the capital was plastered with billboards proclaiming: "Finally London is ready for

Bruce Springsteen." To which one wag added: "If not CBS has blown this year's budget". It hadn't and The Boss lived up to the hype.

The most unlikely breakout of the year, though, was Peter Dinklage, whose post-*Humble Pie* solo career was drifting into obscurity until he discovered the 'talk box', a strange gizmo attached to his guitar which produced an even stranger sound as he blew through a plastic tube to 'vocalise' the guitar's notes. He used it on tour throughout 1975 and his show in San Francisco on June 14 was recorded to become *Frampton Comes Alive!*, the best-selling live album of all time, until overtaken many years later by Garth Brooks. Jeff Beck also used the voice box on 1975's *Blow By Blow*, on which he bravely moved away from heavy metal to embrace jazz-rock on a landmark album that remains the biggest-seller of his career – and which has stood the test of time rather better than *Frampton Comes Alive!*

Also making the transition to the major league in the course of the year were Queen, whose lavishly produced *A Night At The Opera* included the extraordinary *Bohemian Rhapsody*. Whether one regards the song as a grandiose pop masterpiece or simply overblown bombast, its sheer ambition makes it hard to deny its status as single of



**Blood On The Tracks** was a fine return to form for Bob Dylan

the year, although 10cc's lush *I'm Not In Love* arguably ran it a close second.

Yet perhaps the most significant breakthrough of the year was the acceptance into the rock mainstream of a charismatic dreadlocked singer from Jamaica. After years in which reggae had been regarded as little more than a novelty music appreciated mainly by skinheads, two extraordinary concerts by Bob Marley and the Wailers at London's Lyceum that summer helped to turn reggae into the hippest sound on the street and *No Woman, No Cry* – recorded live at the Lyceum – became Marley's first international hit single.

## Out with the old?

Meanwhile on the upper slopes of rock music's Mount Olympus, the old gods were starting to show their age. By 1975 the likes of Bob Dylan and the Rolling Stones had been around for a decade and more and, even before the punk onslaught, critics were beginning to dismiss the pioneering names of the sixties as old hat. Some 40 years on most of them are still going strong as rock's most revered heritage acts, which shows just how little we knew at the time.

Having abdicated his sixties role as the 'voice of a generation', Dylan's stock had sunk steadily through the early years of the seventies but 1975's *Blood On The Tracks* returned him to form on one of the finest albums of his entire career. His song writing potency reignited by the breakdown of his marriage, songs such as *Tangled Up In Blue* and *Simple Twist Of Fate* matched his greatest compositions of the sixties on perhaps the most compelling break-up album of all time.

In fact, divorce was one of the themes of the year for Paul Simon also hit a rich vein inspired by marital separation on *Still Crazy After All These Years*. The record subsequently won a Grammy as album of the year and in his acceptance speech, Simon wryly thanked Stevie Wonder – who had won it the previous two years and would win again the following one – “for not making an album this year”.

Dylan followed *Blood On The Tracks* by taking to the road with friends such as Joan Baez, Ramblin' Jack Elliott and Roger McGuinn of the Byrds in the Rolling Thunder Revue, cultivating a relaxed and informal atmosphere that was a conscious attempt to step away from the juggernaut style of rock touring exemplified by the Rolling Stones and Led Zeppelin. The Stones didn't release an album in 1975, but grossed \$10 million on a 45-date tour, flying around America in a private jet dubbed Starship One, fitted out with a grand salon and a games room.

During the tour, a preacher in Tallahassee organised a bonfire of the group's “sinful” records after a survey of 1,000 unmarried mothers showed that 984 of them had conceived to the sound of rock music.

Not to be outdone, Led Zeppelin matched the Stones step by decadent step with a

## By August, the Bee Gees' Jive Talking had made its way to the top of the US charts and No.5 in the UK

gargantuan American tour of their own and an even bigger private jet. By now the group were living in tax exile, but they snuck back into Britain to play five stupendous dates at London's Earl's Court. They also released the double album, *Physical Graffiti*, an awesome set from the sinister, thunderous riffs of *Kashmir* to the cataclysmic blues of *In My Time Of Dying* that found the group in its pomp. “What we talk about is creating something as memorable as Beethoven's Fifth,” Plant grandiosely told one interviewer. “Not just something that will be remembered in 50 years but something so mammoth it will last forever.”

In the event, *Physical Graffiti* and the Earl's Court concerts marked the end of Zep's glory days before they were beset by tragedy. On August 4 1975, with the band's next American tour due to start in three weeks, Plant broke both his legs and an arm in a car crash. It was two years before they hit the road again, only for that tour to be cancelled due to the death of Plant's five year-old son.

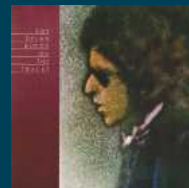
The solo ex-Beatles, having wound up their partnership, followed very different routes. George Harrison was mired in a deep depression and released the lugubrious and aimless *Extra Texture (Read All About It)*. Ringo Starr was mostly too busy getting divorced to make music. But Paul McCartney was active with Wings, releasing the

## ► 1975'S ESSENTIAL ALBUMS

In case you missed them, these are some of the finest cuts that come out that year...



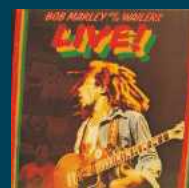
**Pink Floyd**  
*Wish You Were Here*  
Following *Dark Side Of The Moon* was never going to be easy and it took Floyd two years of angst – but the end results were eventually really rather majestic.



**Bob Dylan**  
*Blood On The Tracks*  
A staggering return to form on the classic divorce album: bittersweet, honest and direct with not a hint of self-pity in the emotional maelstrom.



**Led Zeppelin:**  
*Physical Graffiti*  
Mature and diverse heavy-rock at its most epic. Sadly, Led Zep would never sound this good again.



**Bob Marley and the Wailers**  
*Live!*  
The album that made reggae hip was recorded on an unforgettable hot and steamy night at London's Lyceum.



**Queen**  
*A Night At The Opera*  
Breathtakingly ambitious, full of musical ingenuity and theatrical flair, and rightly dubbed Queen's very own *Sergeant Pepper*.



**Joni Mitchell**  
*The Hissing Of Summer Lawns*  
Musical and lyrical sophistication, hypnotic textures and jazzy rhythms underpinning mordant social commentary.



**The Eagles**  
*One Of These Nights*  
One of those albums on which every single song sounded like a hit single.



**Elton John**  
*Captain Fantastic and the Brown Dirt Cowboy*  
A musical autobiography marrying some of Elton's finest tunes to Bernie Taupin's sharply insightful lyrics.





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**Led Zeppelin played five stupendous live dates at London's Earl's Court**



**No new music from the Stones, but like now they made a fortune touring**

follow-up to *Band On The Run* as he and the missus topped the British and American charts with *Venus And Mars*. They also embarked on a world tour, which eventually played to more than two million people but hit an uncomfortable moment in Australia when a chat-show host asked Linda McCartney if she was only in Wings because she was sleeping with the lead singer.

## Dear John...

In between fighting deportation from America, John Lennon released the covers album *Rock 'n' Roll* but by the end of 1975, following the birth of his son Sean, he had retreated into his 'house-husband' phase. There wouldn't be another album until 1980's *Double Fantasy*, but Lennon did find time to work with David Bowie, co-writing *Fame* on his 1975 album *Young Americans*, which found Bowie embracing a new funk sound and declaring that rock music was finished. "I've rocked my roll. It's a boring dead end," he declared. The record-buying public took a different view and at the end of the year a reissue of Bowie's 1969 hit *Space Oddity* topped the UK singles chart.

**David Bowie explored a new funk direction**



But the biggest-selling British artist of the year was not David Bowie, but Elton John. He topped the US singles chart first with *Philadelphia Freedom*, following it up with *Island Girl*, while *Captain Fantastic and The Brown Dirt Cowboy* became the first album to go straight to number one in the American album charts in the week of its release, an impressive feat that wasn't achieved even at the height of Beatlemania.

## The Sex Pistols played their first chaotic gig, a noisy thrash lasting 20 minutes

On the other side of the coin, 1975 was a vintage year for one-hit wonders and disposable novelties. Has anyone in the last 40 years felt the need to revisit *If* by the Kojak actor Telly Savalas, *Whispering Grass* by the *It Ain't Half Hot Mum* sitcom duo of Windsor Davis and Don Estelle or Billy Connolly's (admittedly very funny) Tammy Wynette spoof *D-I-V-O-R-C-E*? Yet all topped the British charts in the course of the year, while the biggest-selling single worldwide (although actually first released the previous year) was *I Can Help* by the American country artist Billy Swann, who was never to enjoy another major hit.

## Gone but not forgotten

Finally, we should remember those who played their last note in 1975, among them Tim Buckley; Western swing pioneer Bob Wills; bluesman T Bone Walker of Stormy Monday fame; country guitar hero Lefty Frizzell; R&B giant Louis Jordan; Al Jackson drummer from Booker T and the MGs, who was murdered; Tom Evans of Badfinger, who tragically took his own life; and the Miami Showband, three of whose members were gunned down by loyalist paramilitaries in Northern Ireland.

Those who came into the world in 1975 included Jack White, Natalie Imbruglia, will.i.am and Fergie of Black Eyed Peas, Enrique Iglesias, future Spice Girl Mel B, Lauryn Hill, Michael Bublé and Mark Ronson. But their's is a story for another day ●

## ▶ 1975'S ESSENTIAL ALBUMS

Continued...



**Patti Smith**  
*Horses*  
Brilliantly produced by John Cale, Smith's cathartic debut was challenging and often discordant, but compellingly vital.



**Paul Simon**  
*Still Crazy After All These Years*  
The master craftsman at his masterful best on the year's second great divorce album.



**Neil Young**  
*Tonight's The Night*  
Messy, drugged up and recorded in anguish in the wake of the fatal overdoses of two close colleagues. Uneasy listening at its most intense.



**Bruce Springsteen**  
*Born To Run*  
The Boss' blistering breakthrough, full of youthful zest and enduring power and still surely his finest hour.



**Grateful Dead**  
*Blues For Allah*  
Although famous for their elongated live jams, this set showed that in the studio the Dead were capable of rich invention and sophistication.



**Fleetwood Mac**  
*Rumours* two years later would be even bigger, but this was the album that marked the group's rebirth as the ultimate melodic soft-rockers.



**David Bowie**  
*Young Americans*  
The chameleon reinvented himself again as a Philly soul boy with supreme self-confidence and oodles of panache.



**Earth Wind & Fire**  
*That's The Way Of The World*  
The funk album of the year with a disco beat that danced all the way to Boogie Wonderland.



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Received an outstanding product award from Hi-Fi News magazine who described the C 316BEE as an "absolute barn-stormer of an amplifier". The C 516BEE is the perfect partner.



£1080

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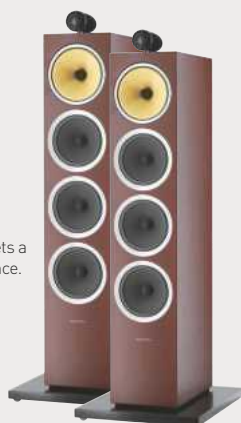




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GLOSS  
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Hi-Fi Choice

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AV Forums

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## THIS MONTH



### ED SELLEY

#### EXPERTISE: REVIEWER

Active in the industry since 1999, Ed's first record was *Boss Drum* by The Shamen. He splits his time between reviewing and protecting hi-fi kit from toddler son Will.



### NEVILLE ROBERTS

#### EXPERTISE: ENGINEER

Neville has an eclectic taste for classical baroque and jazz. His wife was forced to marry his transmission line speakers in the eighties and he collects BBC test card music.



### JASON KENNEDY

#### EXPERTISE: REVIEWER

Editor of *HFC* from 1998 to 2001, Jason's first turntable was Rega's Planar 3 and Elvis' *40 Greatest Hits* was his first vinyl, so don't go stepping on his blue suede shoes.



### DAVID PRICE

#### EXPERTISE: REVIEWER

DP two-finger typed his first hi-fi review some 25 years ago. Since then he's edited *Hi-Fi World* and *HFC*. He describes himself as an "unreconstructed analogue addict".



### CHRIS WARD

#### EXPERTISE: REVIEWER

Like his first kiss, Chris will never forget the sound of his first amp – an Aura Evolution VA-100. *War Of The Worlds* and Fleetwood Mac's *Rumours* were his first records.

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## ✂ Stop start stop

I really enjoy your *Dealer Systems* feature, in particular the February issue. I visited *Analogue Seduction* last October, which despite a four-hour round trip was well worth it. Terry and Gary could not have been more helpful and The Manor House is amazing. Needless to say, I had a lovely time auditioning amps before settling on Exposure's 3010S2. I now have the system I always promised myself.

So far so good; except for one recurring irritation. When playing my latest CD, at a reasonable volume, everything came to an abrupt halt, followed by several more stop starts in quick succession. The effect was not unlike listening to Norman Collier performing the faulty microphone sketch.

This does happen with other CDs, always the same place on a particular track. I am

struggling to see how they can be the cause of my problem. I have on occasion played them in the car (without any issues), but I am wondering if this has somehow corrupted them. Or could the fault lie with my CD player (Audiolab 82000, three years old). Or is it something to do with the electricity supply (Tachima mains conditioner, six years old)?

Your advice as always, would be appreciated  
*Chris Barker, Colchester*

**NR:** Hi Chris, I assume from your description of the problem that the music carries on from where it left off, rather than the sound cutting out but continuing to play 'silently' until it comes back on? That sounds like the CD player is mis-reading the disc for some reason. It could either be dirt on the playing surface, such as a fingerprint, or contamination on the laser in the player. Some CD players are more tolerant of dirt

than others. Obviously, clean the discs using a CD cleaner and if that doesn't help, clean the laser with a proper lens cleaner (never try and poke the mechanism with a cotton bud, as I understand people do). Failing that, it looks like your Audiolab 82000 is in need of a professional service. Rest assured that you are very unlikely to have damaged the CDs by playing them in the car

## My CDs keep stopping and starting. What's the cause?

and the fault is not symptomatic of a power supply problem.

**JK:** That's a strange one. If you can't see any damage to the discs concerned it might be an idea to get the Audiolab player looked at by your dealer or Audiolab, as Neville suggests. If it's only happening with a couple of

albums I would put it down to the discs themselves, but if it's more than the player is most likely the problem. A mains conditioner fault would have the player turning off or flickering off.

## ✂ LP to HD

I am considering how best to archive vinyl to hard disk. I already own an Olive 04HD on which I have all my CDs (as FLACs) and also numerous downloaded files. The quality and convenience is quite outstanding and I feel it is certainly the way to go for multi-room access. The rest of the system is: Rega 25, Creek phono, Rega Elicit and PMC twenty.23s.

I would like to carry out this task at 24-bit depth and either 48 or 96kHz.

I have already created a few files using a Pro-Ject USB V phono stage, but when I bought it, I did not realise that it was limited to just 16-bit sampling frequency.

**Chris has problems with his Audiolab 8200CD. Thankfully help is at hand...**





Gain on Box Designs' Phono Box USB V can be adjusted using Audacity

I have heard about the Terratec Aureon xfire 8.0HD – which almost seems too good to be true for the price. However, I can find no decent reviews and have questions about its functionality (for example can you control gain when recording?) as well as a slight worry about using a 3.5mm jack input.

The Furutech ADL GT40 at £400 also looks very interesting and a new model (the Alpha?) is apparently due

## Can you suggest a good sub-£500 analogue-to-digital converter?

soon with sampling up to 192kHz. I have also looked at the Furutech Esprit, but I do not particularly want or need another phono stage, just a good – but not expensive – analogue-to-digital converter.

Any thoughts please – with a maximum budget of £500, but much less would obviously be good if possible.

Mark Eley, by email

**NR:** Hello Mark, I know what you mean – audiophile-quality ADCs seem to be surprisingly scarce, seeing that there are many folk nowadays who would like to digitise their vinyl collection. The ones that are available all seem to be intended for making CD copies and so are 16-bit/44kHz. A great example of this was the Xitel Inport, which incorporated opto-isolators to avoid hum loops, but it's no longer available. My slight concern with the Terratec Aureon xfire is that it seems to be marketed as a computer sound card, rather than a hi-fi accessory, but I may be doing it an injustice. There is also a FubarIO-MKII that supports up to 24-bit/96kHz and offers a USB DAC + ADC (but, strangely, not at the same time) at

a very good price of €159. However, the Furutech ADL GT40a looks to be a very good option.

**JK:** You are right there is definitely room for more decent analogue-to-digital convertors with all the interest in archiving these days. You are also spot on about the ADL GT40, which now has an Alpha suffix and does work at up to 24-bit/192kHz. Having reviewed this in the past, I concur with Neville and can highly recommend its sound and functional quality. The only alternative I can find is the Box Designs Phono Box USB V that you mentioned. This has variable analogue output, but USB is fixed. Gain can be adjusted using software such as Audacity.

## Top of the Classé

I wrote recently asking for some upgrade advice and mentioned that I had a Roksan Caspian power amp that was free for bi-amp use with my main Classé CA-101 power amp. Of course, this is a non-starter as both power amps have different output power – I just needed to absolve myself of that momentary bout of brain dysfunction. As it happens I got a tempting deal and bought a new Townshend Allegri to upgrade my Classé CP-35, then added a MCRU linear power supply and Audiolab M-DAC via Chord Prodac to my Squeezebox Touch, but still find this

Naim's NDX is a good option for those looking to buy hi-res discs



combo slightly below the performance of my CD replay. While the Allegri has improved transparency it also highlights a slight weakness in the musicality of my Naim CD3.5/Hicap combo. Now I'm wondering if you think a CDP upgrade to CDS or CDX range player would improve musicality of my source, or would I get the same improvement with fringe benefits by swapping out all my source components for a Naim NDX, which is tempting as the music I favour (rock and indie) is starting to become sporadically available in 24-bit resolution? Also, what speaker cable would you suggest to upgrade my CSS-122 please?

Jim, by email

**DP:** A number of different issues here, Jim. First – to my ears at least, the high-end Naim CD players sound better than the NDX when playing 16/44 rips from CDs. In terms of absolute fidelity, you'll do best with either of the two Naim silver disc spinners you suggest; both will yield a grippier, punchier and more dynamic and propulsive sound than your CD3.5/Hicap, especially when you upgrade the power supply of the higher end designs. Frankly though, you need to think if you're likely to repurchase your CD collection in hi-res 24/96 or 192 format, or stick with CD. If the former, it may be a good time to switch to an NDX because there are only going to be more hi-res albums coming out. The problem is that the world is – as ever – in a constant state of flux and no one is quite sure how the formats are going to play out. Do you bet the farm on something that plays high-speed DSD really well, for example, or stick with 24/192 or

## TWITTER QUERIES

**Conor @CMonteith95**  
@HiFiChoiceMag need some #hifihelp looking to upgrade my iPod to something better sounding, cheap alternative on a budget? (I'm a student!)

**Hi-Fi Choice**  
@CMonteith95 don't worry #hifihelp is at hand as we've tested 6 pocket players across a range of prices in July's mag [pic.twitter.com/Ft2dE4dV2B](http://pic.twitter.com/Ft2dE4dV2B)

**Conor @CMonteith95**  
@HiFiChoiceMag great! Are there any under £300?

**Hi-Fi Choice**  
@CMonteith95 yep: @FiiO official X5, @Hidizs AP100 & @SonyUK NWZ-A15 all within budget, starting at £169 for the Sony, #hires bargains!

**Conor @CMonteith95**  
@HiFiChoiceMag thank you. Are they as easy to use as the iPod?

**Hi-Fi Choice**  
@CMonteith95 yes, none are too complex to get to grips with. @SonyUK NWZ is probably the slickest, check our review [pic.twitter.com/zXwUOYvE8p](http://pic.twitter.com/zXwUOYvE8p)

**Conor @CMonteith95**  
@HiFiChoiceMag @SonyUK great! I'm off to the newsagents now! Top #hifihelp

go for something that does both? It's hard to give any kind of definitive answer to this, because once again the audiophile music world is full of possibilities, but so far only hi-res PCM has gained any sort of foothold.

**JK:** Hi Jim, the Allegri will do that, it's extremely revealing of source components in both good and bad respects. If you want to hear your CDs at or very near their best I would recommend a Rega Saturn-R player/DAC, this is by far the most musical disc spinner around at a sensible price ▶



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Chord's Hugo will even make CDs played on a laptop sound great

and has a decent selection of digital inputs too. The NDX route is also appealing, it won't beat the Saturn-R on musicality but does open up the world of hi-res streaming as you suggest. Whether this would actually increase your enjoyment is debatable, with rock music timing is the most important thing, dynamics coming a close second and no streamer I have heard beats the Rega in this respect. When it comes to speaker cables, I recommend Townshend Isolda DCT.

### LETTER OF THE MONTH

#### ✉ Girls aloud

Here I am. The only female audiophile in the country! I'm sure that's not true, but I have to say that in the two plus years I've been reading your fine mag I have never seen any correspondence from a female or even seen an interview or comment from a woman on hi-fi issues. Women seem to be rather patronisingly referred to as "her indoors" or "she who must be obeyed". It's all very annoying.

As for myself, I have long since suffered from the audiophile virus. I spend most of my free time with music and hi-fi, and can honestly say a good-looking interconnect not to mention the sound can make me happy for days! Surely I'm not the only female that appreciates the sound that a good setup can offer?

Anyway, I have a question which I'm hoping you can help me with. Do you think it's really necessary to play CDs on a dedicated player if you've got a first-rate DAC? I'm using the wonderful Chord Hugo. Initially I put it through a Cyrus SE transport, but when that broke down I just used my laptop to play CDs on. I found that the sound through the Hugo was better using the laptop than the transport. What are your thoughts on this?

India Kirby

**NR:** Hi India, thank you for hopefully starting to redress the balance and encourage more female audiophiles to write in. Undoubtedly, your laptop CD

connected to the Hugo will offer sonic improvements over the inferior DAC built into the computer's sound card, which will not be of audiophile quality. This is partly down to the Hugo's sophisticated error-correcting circuitry that will help to correct timing issues and jitter from the laptop's CD/DVD player. A dedicated CD player will be of better quality than the one in your laptop and will produce less jitter and noise for the Hugo to correct and this will further improve sound quality, so I'm guessing the laptop sounded better because there was a fault with your Cyrus SE.

**CW:** With the preface to your question I feel you have indirectly asked an extra question. Visiting a number of hi-fi shows, you will be heartened to know more and more women are attending. Yet, I'm still confused. Music is patently as popular with women as with men, yet the value of reproducing it well doesn't always appear equal. I don't buy the notion that women only like small systems and speakers because of a natural interior design gene. Instead, maybe we are just playing out some

### Surely there must be more women interested in hi-fi than just me?

imbalanced nature/nurture issues from our culture, potentially from an early age. I predict that the gender gap will close first on elegant, well-engineered portables playing hi-def audio. And once that gap is closed, all other hi-fi will start to normalise faster. Roll on the day.

But to answer your question, in my experience computers are weaker transports for CD because of poorly damped internal vibrations, inferior power supplies and a far noisier electrical environment. Furthermore, by taking a digital output from a computer to a quality DAC, it is still probably going through the computer's budget DAC or having fingerprints left on it by poorly optimised media software. The complexity of lasers reading microscopic data pits, re-reading

### HINTS & TIPS

#### BURNING IN NEW INTERCONNECTS

It is generally considered that cables do not sound their best until they have been run in. This is especially true of silver cables, which can sound a little harsh until they have settled down. Some companies will have already burnt-in your cables for you, saving you the trouble. Others will provide this service for you at a cost. However, you can do this yourself if you are prepared to take the time to do so.

Cables need an absolute minimum of 10 hours of use and will carry on improving during the following 70-100 hours. If you don't have burn-in equipment, you need to connect your cables to a source, such as a CD player or FM radio. Remember, you don't need the power amplifier on during this time, so you don't need to hear anything! They do need to be connected at the other end to provide a path for the signals. Then all you do is put your CD player on repeat and either play a cable burn-in CD on repeat or a CD containing a variety of music. Another trick is to use an FM radio tuned between stations with the muting circuit disabled as this is an excellent source of pink noise - ideal for burning-in cables!



#### CONNECTING A PHONO CARTRIDGE

You've just taken that shiny new cartridge out of the box and fitted it into your headshell. Now, you are confronted with four pins at the rear of the cartridge and four colour-coded plugs dangling from four very fragile wires! What is the best way to connect them up and minimise the risk of breaking a wire?

Firstly, make sure that the tonearm is securely clamped onto the deck. Then, using a very small pair of needle-nose pliers or tweezers, gently grasp each plug body in turn. Under no circumstances grasp the wire in an attempt to push on the plugs! Then, working from the outside of the deck, start with the top inner pin (furthest away from you) on the cartridge and push on the appropriate plug. Repeat with the bottom inner pin, followed by the top outer pin and finally the bottom outer pin. The position of the connecting pins at the back of the cartridge varies between manufacturers, but the pins are either colour coded (if you are lucky) or marked with letters on the cartridge body. The colours are white = left channel positive, red = right channel positive, blue = left channel negative and green = right channel negative. If there is a fifth black wire, it is for an earth connection from the cartridge body to the tonearm body. Sorted!

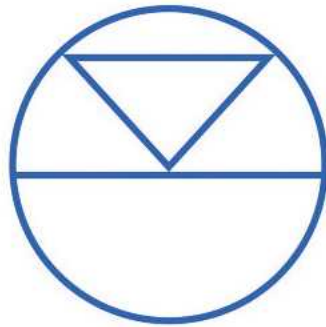


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*For me the best placement was dead center top, in line with my tweeters, and at a level depth, flush with the front baffle of the main speakers.*

*With cables, connections and positioning all satisfied I spun my first critical tune and sat down for a listen..*

*..Wow.. The sound had changed, and not a tiny change either, quite a discernible change. The sound stage has grown, the whole sound has matured not just at the high frequency range but across the whole range! Vocals sound fuller and more correct, breaths on wind instruments were real, violin and strings in general sounds as real as I've heard on my system to date and atmosphere on live recordings were more perceptible. Without exception one of the best purchases I have made within Hi-Fi. If I could compare Hi-Fi to food it would be like adding a little bit of salt to the food, the flavour was always there, but the salt just makes the flavours stand out more and adds a further dimension to the complete flavour.*

*That's what the Maximum Supertweeters have done for my set up. Just as a well set up subwoofer adds to the fullness and roundness of the sound, the Supertweeter does the same also, just tailor the level to your preference and system matching and away you go.*

*Removing them after a few days has made the sound dull, flat and even two dimensional. Was that really what I was calling decent quality Hi-Fi a couple of weeks ago?! What I had thought was a pretty good sound was now without the Supertweeters only mediocre in terms of sound quality. The difference was a night and day one. So obviously they were welcomed with open arms and re-instated into the system once I had established there was a "gap" without them. On first play the smile returned to my face and I earnestly started to rummage through my*

*music collection to get another playlist together.*

*At which point I should also tell you that I found the effect was still there even at night time listening levels, but it does need a few decibels to be "magical".*

*My 15W per channel Leak valve amps had no problems with the load on top of my speakers and when using full range "horn" speakers, these Supertweeters are simply a must have item and being quite minimal in operation they don't seem to destroy the single driver sound of a good Lowther or Fostex, rather adding to it to give a fuller sound so long as you are careful with the volume level. Discretion is the key, and blending without over exuberance or understatement is a must and worth taking the time to tune in and get right because when you do, the sound is simply stunning...*

*...In conclusion, my humble opinion can only be used as a guide because we all hear differently and we all like a different sound. The Townsend Maximum Supertweeters are well executed, well made, capable, very discrete super tweeters. In my opinion in terms of user friendliness and sound they are the best passive super tweeters I have heard on the market today and the fact I have purchased a pair with my own hard earned money is testament to how good they are and the impact they have had on the sound of my system. I am not going to get into the "snake oil" debate because they work within my hearing range and with all of the formats I use. Lossless on the MacBook, DAB, Cd and analogue, vinyl and tape cassette all benefit from a fuller more emotional sound.*

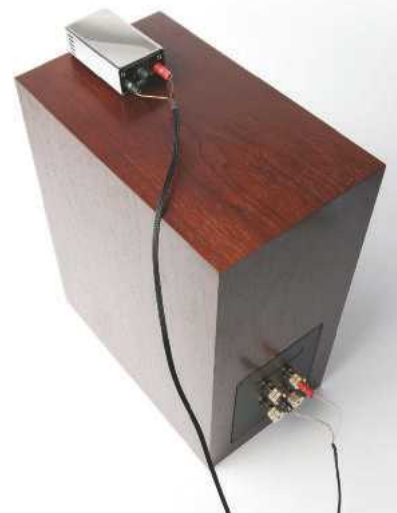


*Science is great, and will one day crack cancer and HIV but it struggles to quantify certain things in life and one of those things is emotion. I'm sure my hearing doesn't extend much above 16kHz or so and yet the super tweeters work and work well for me.*

*I think transients, atmosphere, detail, attack and sustain all benefit as does timbre between instruments, sounds and especially vocals within the hearing range due to less distortion, less smearing and better definition at frequency extremes. Definitely not snake oil in my opinion..*

*..A worthwhile investment and I will not be returning them or selling them on.*

*Many Thanks and keep the music musical.  
Patrick Thomas.*



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maybe, checking errors, buffering, up-sampling maybe and passing some critically timed zeroes and ones to a DAC to be perfectly resynchronised and reconverted back to an analogue signal always make me feel giddy and lucky we hear anything at all! But, if you are vexed by this, then the issue is further compounded when we stop spinning any CD at all and just play 'bit-perfect' ripped files through USB rather than optical or coax! And then from a memory stick instead of an internal disk! And then as a FLAC rather than ALAC...

### ► **Downsize time**

**I used to live in a open-plan flat, and my late-nineties all-Arcam Alpha setup, driving a brand new pair of Monitor Audio BX5s, suited the space wonderfully. The speakers had room to breathe, and I didn't know what boom was. And then I moved house.**

**Our new place is a tiny 19th-century cottage, and boom is most definitely our housemate. I've since swapped the Arcam gear for a pair of ancient Naim shoeboxes (the NAC 62 and the NAP 90), but I can't tolerate the bass. It depends what I'm listening to, but even at low volume, with some genres of music the whole room throbs in a most unpleasant way.**

**So I need to downsize. I want something small that is unfussy about placement – especially if they can go close to the wall, but hopefully something that doesn't feel**

**lightweight at low volumes too. Any advice you can give me would be appreciated.**

**Andy Barratt**

**DP:** Ah yes, room acoustics, don't ya just love 'em? This is a good moment to reflect on the fact that while this magazine spends thousands of 'man hours' a month doing its best to bring you a definitive set of equipment reviews, obsessing on the subtleties between products, we rarely speak of the acoustics in a room – which can be a whole new world of pain. If you're getting boom, then your speakers obviously don't suit the dimensions and/or shape of your lounge. In the case of the BX5s they're a bigish box that's not – if we're honest – particularly rigid (by the standards of more expensive floorstanders) and this will be aggravating the problem, along with the reflex port and the internal cabinet dimensions which are open to the outside world. The answer, of course, is

### **I've moved to a small cottage and my speakers sound 'boomy'**

to move the speakers around as much as you can, experimenting with placement and trying to damp the room as much as possible. Things like thick curtains, deep carpets and rugs and lots of soft furnishings will help here. If this brings little improvement then you should take this as a sign that you need some high-quality standmount speakers, because your floor



### **COMPETITION WINNER**

Back in the May issue we ran a competition offering you the opportunity to win Musical Fidelity's amazing Merlin system. We received a mountain of entries and plucked a winner at random. So, it's huge congratulations to Dave Bloom from Lancashire. Your prize should be on its way to you soon.

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## What are you doing about old sound in your room?

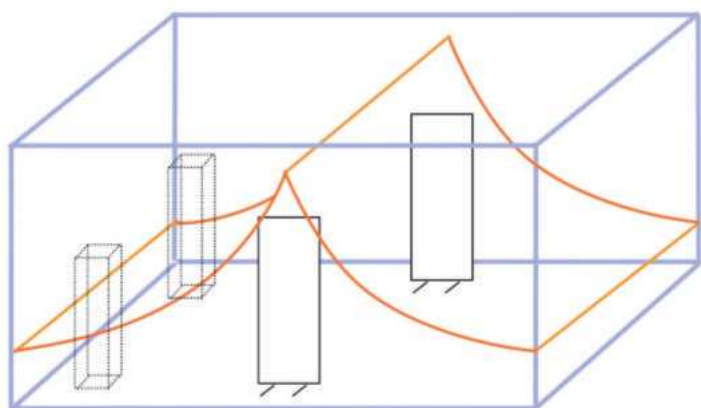
**"Wow" and  
"That's amazing"**  
LISTENERS SAY WHEN  
WE DEMONSTRATE  
THESE PANELS

**Basically it's slopping around, interfering with what you're trying to listen to and destroying clarity and detail.**

As you play music "old" sound waves slop between the walls in your room – like water in a fish tank – but absorb that energy with special panels and your music will blossom.

Your speakers project new sound into space still resonating with music from a few milliseconds earlier. New and old clash and **intermodulate**. Result: *your room destroys an amazing amount of fine detail.*

You are propagating "new" music signals into "old" air. Think of the interference between fresh waves that break on a beach and meet the previous retreating wave.



*Air movement reaches peak velocity in the middle of the room where the panels absorb energy across the **full audio spectrum**, not just at specific frequencies. They make the room quieter.*

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We hear air *pressure* changes as excess bass at the room boundaries, where the air is at zero *particle velocity* and maximum pressure change. It reaches maximum velocity (and zero pressure change!) in the centre of the room where the perforations create **aerodynamic drag** and the panels absorb this velocity energy into an internal honeycomb.

There's a similar micro-perforated lining in the air intake on Airbus jet engines to cut down compressor noise from the front fan.

Aerodynamic drag removes unwanted energy *across the whole audio spectrum* and is far more effective than conventional foam-filled panels that work only selectively at narrow frequency bands.

Significantly, *aerodynamic drag increases with the square of the velocity – when the velocity doubles, drag increases four times!*

In this way, the LeadingEdge panels are "reactive" – the more loose energy bouncing round the room, the more effective they become.

At shows and in their homes listeners have been truly astonished at the changes brought by the panels, revealing greatly more musical realism.

Every time we hear reactions like "Wow" and "That's amazing!"

Panels are available in different sizes and three standard finishes: Cherry, White, and Light Oak though almost any finish can be ordered to match décor.

Panels may be free-standing and moved away when not required or fastened to the walls and made into a feature, perhaps finished in an exotic high gloss veneer.

An ideal solution is to place panels on the ceiling, where they absorb energy from all directions. In this room with 60% glass windows and hardwood floors the panels are a feature, with recessed lighting.

**The result is a quiet, comfortable room despite all those hard surfaces.**

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*Thousands of micro-perforations create aerodynamic drag and absorb energy into the internal honeycomb*



**Digital:** Aurender, Bel Canto, CEC, dCS, Vertex AQ dac. **Vinyl:** Graham, Spiral Groove, Transfiguration.

**Tuners:** Magnum Dynalab. **Amplifiers:** Bel Canto, GamuT, Sonneteer, Storm Audio, Vitus, VTL.

**Loudspeakers:** Avalon, Kawero!, NEAT, Totem. **Cables:** Chord Co., DNM, Nordost, Siltech, Tellurium, Vertex AQ. **Mains:** Aletheia, Vertex AQ.

**Supports:** Arcici, Black Ravioli, Hi-Fi Racks, LeadingEdge, Stands Unique, Vertex AQ. **Room acoustics:** LeadingEdge

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standing speakers are too big for the room. Monitor Audio PL100s (£2,750) or Audiosmile Kensai (£1,524) are an excellent choice if you have the funds, and would make a fine sonic match for your Naim amps. Both are small and can be used close to a wall, but still have a good punch and a wonderfully detailed and incisive sound. The latter would work better if space is very limited, the former will give stronger bass and a bigger, warmer sound, but both are excellent small speakers.

**JK:** I would recommend you avoid ported/reflex enclosures and bigger speakers too, but that sounds like a necessity. Given the relatively low power of your amplifier I would suggest a pair of PMC twenty.21 bookshelf/standmounts, these are fast, revealing and open and the transmission line bass is far better controlled than most. A sealed box design like the ATC SCM 7 would also work in the room, but really needs more power than a NAP 90 can manage.

➤ **Amp confusion**  
Last year (HFC 379) I asked for your kind advice about upgrading my amp (Onix A65). You suggested the highly acclaimed Destiny 2, but when I went to purchase it I knew it was going to be discontinued, due to the incoming Evolution 100A so... I'm still using my old amp!

The Evolution 100A got the Editor's Choice award, but so did both the Exposure 3010S2 D and Roksan K3. The latter, in my opinion, appeared to impress David Price much more than the others, so I'm still confused about the right choice.

**Would you, please, explain the differences between the amps I've mentioned?**

**I love a detailed, yet smooth sound that's just a touch on the warm side with a deep and wide soundstage – my DAC is Arcam's irDAC, the speakers are B&W CM8s.**

*Roberto Bini, Italy*

**DP:** Hi Roberto, all three candidate amplifiers are excellent; the Creek Destiny 2 would have fitted the bill well but it is now discontinued, as you mention. Its replacement, the Evolution 100A is a little tauter and tighter, with more punch and a less diffuse sound, but it's also not quite as euphonic – it may make your B&W CM8s sound fractionally forward. It's an excellent amplifier but possibly not tailor made for your speakers. The Roksan K3 is also superb, and definitely – to my lugholes at least – the most musically engaging. It seems able to take a prosaic piece of music and make it passionate and intense like no other rival at the price, and yet fascinatingly it doesn't do this simply by giving a tonally forward sound. If anything, it's just a little rich and full bodied compared with the others. I think it would make your B&Ws sing. The Exposure is fractionally less involving, but has a beautifully rounded character that is great at everything, but not outstanding in any special respect. It would give a full, muscular and musically satisfying sound, but doesn't quite have the propulsive feel of the Roksan.

I would opt for the one that best suits your taste, backed up by a demo at a dealer using your own front end and speakers.

**DP reckons Roksan's K3 will make Roberto's B&W speaker sing**

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# Search for perfection

Once bitten by the hi-fi bug **David Vivian** knew there would be no turning back. Consequently, he's spent the last 40 years trying to get his system 'just right'

**W**hen *Hi-Fi Choice* first hit the newsstands I was 19. Although writing about cars was about to become my job, I wanted hi-fi to be the soundtrack to my life. I didn't consume much of it back then, but the aching desire to do just that very much consumed me. Perhaps if I'd spent less of my meagre disposable income on magazines I could have bought an incrementally better system than the one I owned and treasured 40 years ago. But that was hardly the point.

Hi-fi was an adventure, a way to get closer to the music I loved, and I don't regret that my nascent passion was steered by the recklessness of youth. If I'm honest, I was just as hooked on the mysterious alchemy it represented, the possibility to achieve something that added up to more than the sum of its component parts. In short, I loved 'kit' and the chemistry of amalgamating source, amplifier and speakers. And that meant tracking the ever-shifting sands of an evolving black art, specifically and unsurprisingly (given my feeble buying power) the idea of 'budget esoterica', a pursuit that has informed a personal reviewing perspective that persists to this day.

By 1975, the march of subjectivism had already revitalised the magazines that wrote about hi-fi. There were plenty of them. *What Hi-Fi*, *Hi-Fi For Pleasure*, *Hi-Fi Answers*, *Hi-Fi News*, *Practical Hi-Fi* and, of course, the distinctively A5-sized *Hi-Fi Choice* – more of a hardware

**I find it impossible not to recall that early kit with deep affection**

bible than a conventional magazine in its first incarnation. I didn't read all of them, but as many as I could. I wanted to immerse

myself in the culture, the tech, the jargon, the descriptions of sound. It reinforced my belief that anything worth knowing came from between the pages of a glossy journal and not a fusty text book.

During those early days, my personal state of wellbeing was roughly aligned to that of my system. I couldn't go to bed if I felt there was something amiss with the hi-fi or a tweak I'd made earlier in the evening hadn't 'come off'. Just as keen drivers feel that a car is a mechanical glove that heightens experience, owning a well-functioning system had a similar existential dimension for me.

'Well-functioning' meant something then, too. Whereas today pristine, hi-res music can be summoned by the merest caress of a smartphone's touchscreen, interacting with a high-quality turntable required dedication, patience and steady hands. For those of us who continue to use and enjoy turntables it still does, of course. But now it's a



**David's Pioneer A-400 brought new detail and transparency to his system**

choice, not a necessity, and by and large, today's decks are easier to use and maintain. However, I can't help feeling it was because my early vinyl spinners were a world of tweaky trouble that they were so satisfying to listen to when everything, finally, was 'just so'. I remember a French-built ERA, that made a Linn Sondek seem about as pernickety as a Rega Planar 2, but I loved it all the same.

I find it near impossible not to recall that early kit with deep affection, not least because it represented a learning curve, something I doubt today's younger consumers, more used to instant gratification, could be bothered with. When I married, I developed a thing for small speakers, and not just because my wife took an instant dislike to the hulking Richard Allan Pavanes that 'came with me'. The sonic differences between the Mk 1 Linn Kans, original Wharfedale Diamonds and Royd Edens I worked my way through over the space of a couple of years were so vast, the experience was thrilling and perplexing and, to be honest, I hadn't the faintest idea which was closest to being 'right' or which I found most musically rewarding.

## Finding 'the sound'

Shockingly stark contrasts were just as evident with the integrated amps that graced our tiny lounge. I thought I'd discovered 'the sound' when I chopped in my Creek 4140 for a Naim Nait 2 but my head was turned again when I heard a Pioneer A-400 which, although not as colourful and bouncy as the Creek and Naim, sounded altogether more detailed and transparent. When I had it upgraded to GTE spec by Tom Evans it became my integrated of choice for a number of years. I wish I still had it.

Hi-fi has witnessed a revolution since then and, for some, its indulgence has become an irrelevance. Sound quality that would have been considered miraculous when *HFC* set up shop 40 years ago can now be purchased straight off the shelf hassle free and perfectly formed. For people who like to listen to music, that has to be a good thing. The great thing about real hi-fi, though, is that it's still an adventure pushing the boundaries. And it always will be ●



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# A golden age of hi-fi

**David Price** dusts down his old seventies records and remembers a time when UK and Japanese hi-fi went through exciting changes as *Hi-Fi Choice* was born

1

1975 was another country – it all seems so different now. In Britain it was hard to miss the turbulent politics of the period, but it was the music that indelibly stamped itself through me. I loved ABBA and 10cc and who could not resist all that sweet American soul music seeping into the charts from the likes of Isaac Hayes? I was entranced every Thursday at 7pm, sitting in front of my family's shiny new colour television set watching *Top of the Pops*. I was beguiled by Slade and T Rex, getting into The Carpenters and Elton John, and in love with Electric Light Orchestra. Oh for such strength in depth in the charts now!

I hadn't quite got into hi-fi by 1975 – that would come just a year or so later – but I knew what stereo was, and I knew I wanted it despite never actually having heard one. The first album that I would buy was ABBA's *Arrival*, which was being recorded in the autumn of this year. Upon its release, I experienced stereo for the first time and marvelled at the sense of space compared with my Philips mono cassette recorder, handed down to me from my uncle. Stereo sure was for me, and I could think of few more fun things to do than listen to it.

1975 was a pretty good year for hi-fi too. Hi-fi was coming of age, and we were beginning to see new technology and thinking that would transform the audio world. We also saw

## Firebrands in flairs epitomised a new generation with a love of fine sound

whatever it was, there was the sense that things were ratcheting up and pushing forward. The world knew that hi-fi was great, not least because the music was so special and we wanted to hear it in all its finery.

The UK was witnessing the beginning of the 'changing of the guard', with the emergence of Linn Products, Naim Audio and Boothroyd-Stuart Meridian. These were being run by bright young British things who dressed and spoke nothing like the rather formal, old-fashioned captains of industry such as Raymond Cooke's KEF and Peter Walker's Quad. Firebrands in flairs with floppy hair, they epitomised a new generation of slightly 'hippy' entrepreneurs who shared a love of rock music and fine sound, man!

Over the sea and far away, something else was happening that was transforming the world hi-fi scene – the rise of Japan. The country was fast rebuilding itself, and specialising in micro-electronics. It just so happened that Japan really rather suits small things – with its high

some bold ideas that would go nowhere, of course, and some fairly established technologies getting better, cheaper and more accessible. But

population density and tiny houses – so the advent of the transistor was a gift horse. Japan also had a new wave of highly industrious entrepreneurs, such as Akio Morita of Sony and Nozomu Matsumoto of Pioneer, who built up their companies to mass produce things in a way that only the Chinese have achieved since.

The difference was that, unlike these days of Californian design and Shenzhen manufacture, when something said "Made in Japan", it was designed there too. The Japanese were brilliant at taking pre-existing concepts and production engineering them with a level of precision that was – and still is – breathtaking. You need only look at the transport mechanism from a 1975 Nakamichi 600 cassette deck for evidence of this. Japanese hi-fi was right on the cusp of destroying much of our own. Swindon-made Garrard SP25 turntables were being replaced by Kawasaki-produced Pioneer PL-12Ds. Venerable British brands like Leak were now beginning to get their hi-fi separates made in the land of the rising sun. Perish the thought!

## Leading the way

Sony, Pioneer, Toshiba, Sharp, Hitachi and others were all fast becoming household names – and the Japanese weren't content to copy as they had been a decade previous. Technics had perfected the art of the direct drive turntable; Sony along with Panasonic and Teac had invented an entirely new tape format called Elcaset, which was an audiophile's dream. Smaller Japanese companies like Nakamichi were taking Compact Cassette to a level that the format's inventor Philips never imagined, and Supex was making stunning-sounding moving coil pick-up cartridges. We saw V-FET power amplifiers from Sony and Yamaha, Beryllium drive units from Yamaha and carbon fibre coned speakers from Sony. It was an exciting time.

Born at this moment, *Hi-Fi Choice* magazine went on to chronicle this, and now those early issues have become fascinating historical records of the huge breath and depth of interesting products of that time. Happy birthday then, and here's hoping there is plenty more excitement ahead ●



You can blame ABBA's *Arrival* for DP's interest in stereo hi-fi



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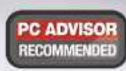
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# Set the record straight

The hi-fi scene has changed a touch since the late eighties when **Jason Kennedy** first started on the mag, but his love of vinyl has remained constant

**W**ow 400 issues, that makes me feel old! I joined in 1987 when *HFC* made the transition from a quarterly A5 publication to a monthly A4 not entirely unlike the one you're reading now.

Back then, CD was being feted as the answer to all audio ills and the slayer of crude analogue technologies like cassette and vinyl. I was not entirely convinced, being the owner of a Roksan Xerxes turntable I knew how good vinyl could sound and it was sometime before a CD player could divert my attention. In the early days I was swayed by the allure of valve amps and high sensitivity speakers, I used an Audio Innovations Series 500 integrated amp with Snell Type J speakers, the source being provided by a Systemdek II. This was a fabulously live sounding and open system with which to play Van Halen, Talk Talk and Prince records (music wasn't a strong point in the eighties).

Eventually I started to hear CD players that were tolerable, even enjoyable on a good day. One of the first breakthroughs was when Trichord upgraded the clocks on Pioneer stable platter players, the ones with a turntable like platter where you put the disc in upside down. This modification improved the timing aspect of CD playback to such a degree it was uncanny. It was around the time that people were beginning to appreciate that "perfect sound forever" could do with a bit more perfecting, especially when it came to an insidious form of distortion called

## CD never quite produced musical magic like a good record player can

hard-edged but exciting sound from something like a Rega or Naim and a smooth but dull sound from a Meridian or JVC. You could almost have your digital cake and eat it.

We continued to fly the flag for vinyl throughout the dark days of the nineties, and thankfully there were enough readers to keep turntable companies in business. I was particularly taken by the SME Model 20A, the A suffix indicating the presence of the mighty Series V tonearm. This was one of the first high mass designs I encountered and I was smitten by its calm, powerful and wide bandwidth sound. It made the undoubtedly excellent Voyd sound as if it were adding a lot of its own energy in order to make a more exciting sound. The SME 20 revealed that less is more, a good audio component should get out of the way and let the signal shine through and this is what that venerable design did then and still does now in its 20/3 guise. I should know, I still use one.

jitter. By reducing jitter the Trichord clock made silver discs a lot more engaging and you no longer had to choose between a

By this point my musical tastes while taking in contemporary acts had taken a turn toward the prog side. I was a bit of a latecomer to Peter Gabriel-era Genesis and Bill Bruford in Yes then King Crimson. I also rediscovered my passion for classic acts like Led Zeppelin and Steely Dan, the latter's mid period albums proved

itself to be phenomenally good when given the chance to shine on a decent system, played at a decent level.

This was the era when the first Bowers & Wilkins 800 series loudspeakers were launched off the back of R&D work done for the Nautilus. I had the 802s and when combined with a decent power amplifier like the Gamut D200 and the aforementioned SME turntable with a van den Hul Condor cartridge feeding a Tom Evans Microgroove phono stage, a lot of hours were lost to rediscovering more of the inner workings of my favourite tracks. By the late nineties I was using a Tom Evans fully loaded Acoustic Precision-branded Pioneer CD player, a machine that could give many high-end models a serious run for their money.

## The power and the glory

ATC entered the system around this time as well and this was my first experience of serious active loudspeaker technology and I liked it a lot. The control and power that you get when there's nothing between an amplifier and a drive unit is a wonder to behold. I ended up running SCM150ASLs as my main speakers for several years, these are about the size of a small fridge and have 15in bass drivers, so I suspect my neighbours knew all about them too, but it was top light entertainment. My tenure on the magazine ended in 2001 when I passed the editor's chair onto Tim Bown. It was a great era for hi-fi, one in which CD's flat response forced turntable makers to do a better job and helped to make loudspeakers more neutral and revealing, but somehow they never quite produced musical magic like a good record player can ●



**King Crimson's *In The Court Of The Crimson King* summed up how many felt about early CD players**



**JASON KENNEDY**  
Spin doctor

ANTHONY GALLO  
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# Tough at the top

During his 11 years on the magazine, **Dan George** worked his way up to the hot seat and witnessed the changing face of both the industry and *Hi-Fi Choice*.

**I**t was a great privilege to work on this fine magazine, a publication that I dedicated 11 wonderful years to, the last few of which, in the hot seat as editor until 2011. It's a big chunk of time, of course, and I witnessed the rise and fall of brands, the coming and going of trends and the incredible collective experience of our big-name contributors at the time.

I was fortunate to soak up a huge amount of knowledge from the diverse panel of experts we commissioned on a monthly basis: Paul Messenger, Jimmy Hughes, Richard Black, Paul Miller and Alvin Gold. From *Jimmy's Tweaks* (which some readers may recall made it to a two-part cover-mount booklet) to the intricacies of product design, there was plenty to learn by an eager twenty-something. Much of it has stayed with me, of course, but some things were more pronounced than others.

One pearl that I became particularly drawn to, is the notion that the most influential link in the chain is the loudspeaker. Yes, there are opponents to this belief, the source-first brigade, junk-in-junk out *etc.*, but more than a decade spent testing, group-testing and editing tests on loudspeakers convinced me first-hand, that speakers can make or break sound quality.

Speakers were our most popular subject and our most regular *Group Test*. There were (and still are) so many to choose from. With so many different design approaches and configurations, it was our duty and responsibility to help guide readers away

**It was bitterly disappointing to see the promise of hi-res music fade**

from the lemons and towards the gems, and this remains the mag's core objective today.

Of course with the best will in the world, we would never try and tell readers what to buy. *HFC* has always presented its findings confident that they are conclusive, while always advising readers to use their own ears after reading our conclusions to create audition shortlists. And here's where the speakers-first notion really comes into play, because it's not just the speaker but the way it interacts with the room that's really significant when it comes to sound quality.

Dealers become more important than ever at this point. The very best ones have more than just good demo facilities and stock, but the willingness to let customers (having left a deposit), take products home. This is, I believe, the ultimate way to buy. Find a dealer who does this and make him your lifelong friend – his foresight will both save you a fortune and help earn him a living.

Trends came and went. Big speakers. Standmounts. 2.1 and 5.1. DAB, CD-R/RW and MP3. Perhaps the most valuable product during my tenure, was the universal disc player. In fact, I'm confident that *HFC*, under the editorship of Tim Bower, can rightly claim the term 'universal' (to describe what were then known as multi-format players), as its own.

The concept was a player that had the ability to ride the middle ground during the DVD-A/SACD format war, play both hi-res stereo and multi-channel music and CDs to a high standard. Over time, a range of players to suit all pockets emerged. But it was the Japanese brands that really dominated, offering both great sound quality and value for money. With so many good universal players, it became increasingly difficult to recommend one-trick-pony CD players, especially at more provocative price points and with new hi-res disc formats tipped to be the future.

Testing universals – with performance to critique across multiple formats – wasn't easy. And group testing them was a nightmare! In the end, the popularity of both formats faded and it was bitterly disappointing to see the promise of high-resolution music for the enthusiast fade.

## Hi-res for all

Happily the holy grail of widely available hi-res audio is becoming a reality, thanks to today's streaming services and downloads. Ironically, digital music files, which accelerated the demise of 'traditional' hi-fi towards the end of my tenure and for many years were dirty words, have now spawned a renewed interest in high-performance audio equipment. Innovative headphones, portables and DACs are enabling us to embrace studio-master-tape-quality audio at last, without breaking the bank.

There's a new generation coming into the hi-fi industry and it's the best possible news for anyone who's passionate about sound quality. One day, I expect 'generation headphone' will migrate to loudspeakers regardless of how their music is stored and played back. And *Hi-Fi Choice* will still be here to help someone much younger than me once again avoid the lemons and find the gems ●

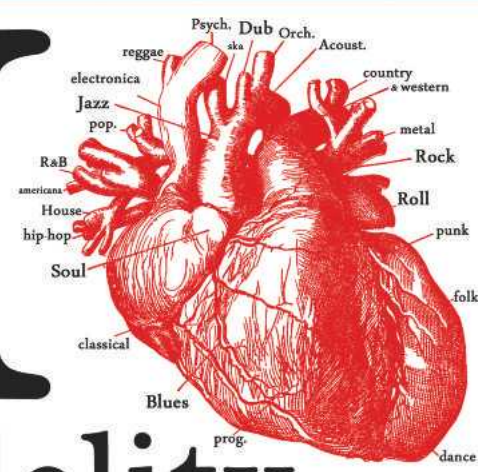


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## "Frankly I was not expecting much... but – Ouch! – there was a difference and it was not small..."

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Martin Colloms, Hi-Fi Critic, Jan-Mar 2009

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# A question of quality

It wasn't so long ago that the combination of components that made up your hi-fi dictated what you listened to on it. **Jimmy Hughes** is glad those dark days are no more

**H**i-fi has changed a lot in the past 40 years. In particular, the number of formats we use to access music has increased dramatically. But fundamentally are things really that different? Actually, couldn't you argue hi-fi has changed very little?

We still play vinyl LPs and listen to tube amps with horn-loaded speakers. So, how have things moved on? I'd say today's hi-fi is better balanced with a much wider tolerance of recordings, good and not so good.

Back in the sixties and seventies, hi-fi enthusiasts were keenly aware of big differences in recording quality. The very best recordings might sound magnificent, technically speaking, but anything less could (and so often did) disappoint. You invested in good equipment to make your favourite music sound better, but improvements in clarity, detail and dynamics came at a price. Hi-fi was a double-edged sword. It could just as easily ruin your enjoyment as much as it could enhance it.

Good recordings might sound impressive, but technically less well-recorded material might be poor – to the point where you wouldn't want to listen. It wasn't that the sound was painful to listen to; just dull and flat – in a word, uninspiring. This became increasingly so as transistors replaced tubes, and small bookshelf speakers became the norm. After about 1976 – when moving coil cartridges (like the Supex 900) started to take over from MM types – the gulf between good and not so good recordings grew even wider.

Then everything changed in 1975. My first encounter with a Supex 900 in a Grace G-707 arm and Linn LP12 turntable was a revelation. I'd never heard such detail and dynamics from an LP – it was astonishing. It seemed as though a whole new era in high fidelity had begun. But had it?

MC pick-ups delivered greater tonal colour, plus a wide dynamic and frequency range, but these benefits were not apparent on every LP. While some discs were transformed, others sounded flat, thin, and muddy, rather than rich, vibrant and immediate. The result? You noticed more of what's wrong with a recording, than what's right with it. Your hi-fi dictated the kind of music/recordings you listened to. That was certainly my experience. Sure, my system sounded great on the right recording – but utterly uninspiring on others.

For me, the last 40 years have been about trying to find a combination of components that lets me enjoy the music I want to without recording quality being a decisive factor.

Recording quality varies considerably. But it shouldn't be a barrier to your enjoyment. A recording that isn't top class should still sound okay to listen to. You shouldn't want to switch off just because the sound is less than stellar. In this respect modern hi-fis are much better at coping with a wide range of recorded material than their counterparts of 20, 30, or 40 years ago. Compared with my younger self, most enthusiasts today seem less fazed about whether a recording is mono or stereo, analogue or digital. I don't believe we've become more tolerant or less discerning; it's simply that it matters less than it used to. Today's hi-fi is less 'source dependent' than older equipment – maybe because the rest of the chain is pulling its weight more...

For classical music in particular, quality and technology used to be a key selling point. Stereo was a massive advance, and then came digital and compact disc. With each new breakthrough, the basic repertoire would need to be re-recorded.

## Re-record, not fade away

Why did Herbert von Karajan record three cycles of the 9 Beethoven symphonies for Deutsche Grammophon? Well, partly because his views on the music changed, but also because studio technology improved. The earlier recordings no longer measured up, sonically.

When I bought Karajan's 1977 Beethoven cycle on LP as a new issue, the sound seemed immeasurably better than his 1963 set. There was no comparison. But now, when I listen to both via CD, the technical benefits of the later set seem less obvious, less clear cut.

I now find listening less of a roller-coaster ride. This is good; it means I enjoy the music more. At the same time, sometimes I worry that things aren't a little too consistent. The low points aren't as low, but are the highs as high?

Even with hi-res digital the sonic gains over CD are often not as big as you might expect. 16-bit/44.1kHz CD might not sound as good, but it's not so far behind. Being happier with our systems – we feel less need to upgrade. That's good for music – but bad for sales of equipment! ●



**Herbert von Karajan re-recorded Beethoven's 9 due to the improvements in recording tech**

**Today's hi-fi is so much less 'source dependent' than older equipment**



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\* Bordeaux finish shown



# Everybody hertz

Pity **Chris Ward** after he learnt about a global conspiracy from a shady character in Oslo. Will music ever sound the same and will he be 'disappeared' for spreading the truth?

**E**verybody remembers where they were when Kennedy was shot and what they were doing when an aircraft flew into one of the twin towers. So mark today down in your diary as you're about to learn a shocking new truth that could rock your world to its very foundations...

I was in rainy downtown Oslo last month, listening intently to a promising new amplifier with some other journalists. At a quiet moment I was approached by a shady character (let's call him Mr T). In hushed tones he discretely asked me if I "had ever heard music?". I responded with polite British reserve that as a reviewer I had probably heard more than most. His eyes went steely, and leaning in closer he rephrased more conspiratorially, "No, have you ever heard real music?". This felt like the scene in *The Matrix* – whether to take the red pill or the blue pill; to ask him what he meant, or busy myself with a vol-au-vent and shuffle away. I took the red pill, and I now know how deep the rabbit hole goes.

Mr T told me that in 1939 a suspicious decision was taken that meant we have never heard music since. I now offer you the same red/blue pill decision. Stop reading now and you will wake up and everything will be as it should.

Still with me? During the 17th century, musicians tuned instruments to a whole host of random frequencies, mostly dictated by personal preference and instrument makers. Then in 1701 a physicist called Joseph Sauveur proposed that

all instruments were tuned to a *son fixe* (fixed sound) of 100Hz, pre-dating the metric system by a century. After further research Sauveur revised his proposal in 1713 recommending that C should be 256Hz with A being 432Hz, calling this 'philosophical pitch', and based upon the purest mathematical relationship between notes and harmonics. Neither proposal was adopted.

We jump to 1874 and Giuseppe Verdi, annoyed that orchestra tuning is creeping ever higher insists his *Requiem* is tuned to an A of 435Hz. Then rediscovering the work of Sauveur and contemporaries he adjusts this to 432Hz, the more natural and highly divisible frequency from which to arrive at all others. Verdi won the day on his own music, but it didn't become a standard for all orchestras.

In 1910, the Rockefeller Foundation issued a grant to the American Federation of Musicians promoting the concept of tuning A to 440Hz. This didn't catch on, but in 1939 the BSI (British Standards Institute) officially adopted the tuning



we recognise today of A at 440 Hz. This wouldn't be newsworthy until we consider that the BSI was supposedly finally persuaded by Joseph Goebbels and the Nazi government, just as Britain went to war.

This story now becomes a conspiracy theory with the powers that be being accused of deliberately preferring a standard of frequency tuning that is naturally dissonant with nature and the natural physiology of human beings; with the effect of keeping us permanently on edge, paranoid and ready to be aggressive and manipulated by leaders with agendas. A quick internet search around 432Hz will reveal all manner of scientific insights and woolly bunkum.

So, when relaxing to Verdi are you listening to what he wrote, or are you hearing something that is '1.8 percent off', intended to keep you subliminally anxious and ready to be annoyed by pressing issues like illegal immigrants, house prices or the price of butter?

## Time for change?

Maybe a new 'musical pitch treaty' should be the first EU reform that David Cameron tables ahead of a referendum? Or maybe doctors could prescribe specially 'detuned downloads' to stem the mental health challenge on the NHS? And surely comrades in hi-fi, we can lead this revolution? But we music lovers and audiophiles know that one cannot simply slow music down to adjust its frequency, as this will change the tempo too. However there are now many software programmes available that can 'pitch shift' your digital music to adopt this supposedly more natural 432Hz standard. I've tried it and the effects are curious, especially with prolonged listening. At first, things just sound a little flat but maybe this is what it would feel like the first time you unplug from the matrix?

Maybe you would like to explore this and share your experiences? And if Mr T or I go missing or have curious accidents while walking under suspended pianos in the coming weeks, you'll have wished you took the blue pill! ●

**Will you take the blue pill and stay in the dark or will you have your mind blown by the red pill?**

## When listening to Verdi are you really hearing what he wrote?



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# Stick to what you know

OK, so **Nigel Williamson** might not be tuning into the latest grime cuts or down with One Direction, but that doesn't mean he's not listening to new music, does it?

**N**obody likes to admit to being unhip or behind the times. But three questions for you. When did you last listen to new music? Do you know who was on the cover of *NME* last week? Does your iPod feature Hozier, ASAP Rocky, George Ezra, Royal Blood and the Vaccines or is it crammed with Pink Floyd, REM, Stevie Wonder, the Rolling Stones and Bob Dylan?

The reason I ask is because a recent survey of Spotify users found the average music lover stops listening to 'new music' at the age of 33, whereupon they revert to the musical heroes that soundtracked their misspent youth.

The authors of the survey reported: "While teens' music taste is dominated by incredibly popular music, this proportion drops steadily through people's twenties before their tastes 'mature' in their early thirties." They went on to conclude that by the time fans hit the age of 33 "mainstream music represents a smaller and smaller proportion of their streaming... and listeners are returning to the music that was popular when they were coming of age, but which has since phased out of popularity."

The findings provoked a social media meltdown as an army of perennially hip 50-somethings indignantly insisted they still had their finger on the pulse of musical innovation. Perhaps they do; but the protests sounded rather sad, like men with a middle-aged paunch trying to squeeze into

skinny jeans. Or like Gordon Brown saying his favourite band was the Arctic Monkeys when he couldn't name any of their songs.

## The alternative is to look in different places for your musical thrills

Sure, some middle-aged men (and possibly women, too) still pump iron and run marathons; but it doesn't mean that those of us of a certain age who have given up such strenuous exercise should feel guilty about it. And in terms of following the fads and fashions of mainstream rock and pop music, there is a certain inexorable logic about the 33-years old cut-off point. By then you've probably got a spouse, children, a mortgage and a demanding job and the new bands on the block are likely to be at least a decade younger than you, with little to say about your newly mature life and responsibilities.

The marketplace realised this long ago and it's why magazines such as *Mojo*, *Uncut* and *Classic Rock* seldom feature new artists on their covers and thrive on a diet of re-heated stories around canonical artists such as Hendrix, Pink Floyd and Neil Young and why reissues of classic albums have been one of the record industry's most lucrative money spinners in recent years. Indeed, for a



while my brief as a record reviewer for *HFC* was limited to reviewing reissues, a stricture that has happily been relaxed under the current editor who's given me licence to review all kinds of music, both old and new.

Yet if anyone bothered to read the Spotify report properly, it was far more nuanced than the coverage suggested, for the authors identified two factors driving the mid-thirties transition away from contemporary pop music. One was the nostalgic reversion model, which grabbed the headlines. But the second factor – almost totally ignored – found that "listeners discover less-familiar music genres that they didn't hear on FM radio as early teens from artists with a lower popularity rank."

## Broadening horizons

In other words, it isn't strictly true that our curiosity for 'new music' automatically lapses at the age of 33. We might cease to follow the latest teenage sensation because we've heard it all before; but at the same time discerning music lovers are broadening and diversifying their listening tastes into "less familiar music genres". Giving up and going back to the comfort of the music of one's youth is not the only choice facing the average 33-year old. The alternative is to expand your horizons and look in different places for your musical thrills.

I'd guess that most readers of this magazine who have passed the 33-year watershed have opted for the latter course. Some will have traced the musical timelines back to the jazz and blues masters of a pre-rock 'n' roll era. Others will have ventured into the more exotic climes of world music. Some might have discovered that the classical music they found 'difficult' in their youth now offers rich musical rewards. And on that basis, there is no reason why our musical curiosity cannot remain sharp and inquisitive until our turntables have spun their last – whether that be at 33, 45 or 78 ●

**Just because you're not listening to music like One Direction doesn't have to mean you're not open to new sounds**



# Hey big Spondor!

Developed with Britain's national broadcaster, Spondor's BC1 was a giant of seventies speakers, says **David Price**

**B**ack in the mists of time I misread an article about Spondor's first speaker and thought it was called the BBC1. Although a silly mistake, it wasn't completely implausible because of the company founder's intricate relationship with the BBC's Research Department. Of course, the Spondor BC1 got its appellation from its pioneering use of a bextrene cone, but could just as well be thought of as the best BBC speaker that never was.

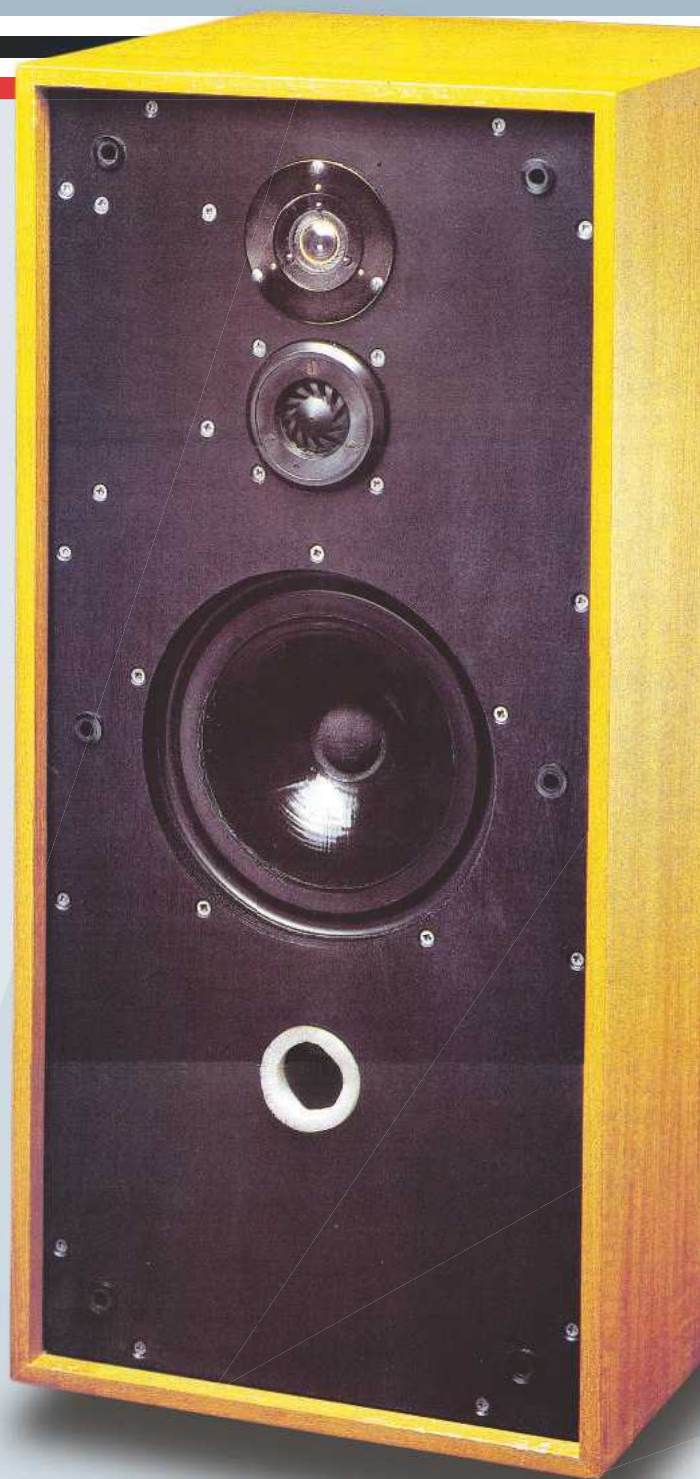
It harks from a time when the Corporation was a real force behind acoustic design. Its world-class Research Department developed a number of high-quality broadcast monitors under the stewardship of Dudley Harwood in the sixties and seventies. The tiny LS3/5a compact near-field monitor is the most famous, but many more came forth. As a laboratory technician, Spencer Hughes was intricately involved in the process of plastics research and development, and found himself working with a type of polystyrene called bextrene, which was thought to be a better alternative

to then ubiquitous paper pulp bass units. This material first appeared in the BBC LS5/5 studio monitor.

## Taking work home

Hughes was so taken by bextrene that he decided to make an 8in drive unit at home. He wrote how, "with the aid of an electric fire, a compressor working in reverse and an old iron bedstead, the first vacuum former was built". It may sound like something from *Wallace and Gromit*, but he ended up with what became the first commercial bextrene driver. This unit was the heart of the BC1, along with the Celestion HF1300 tweeter. He offered it to the BBC which declined, as the power handling wasn't seen as sufficient.

Hughes continued to work privately on the design, increasing the cabinet size, while working on an official BBC variant called the LS3/6. This speaker was eventually offered to Rogers to manufacture, when under the control of Jim Rogers. The BC1 continued evolving; a version was produced with an amplifier mounted in the back



## The story behind the BC1

1969

Spondor forms as a company and the BC1 is born – the same year as Led Zeppelin's eponymous album



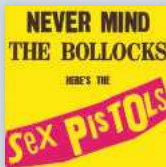
1975

The white PVC cone surround is changed to black. To celebrate band members from Slade appear in the movie *Flame*



1977

A new magnet is fitted, upping the power handling to 55W, meanwhile the Sex Pistols release their album



1994

As Britpop takes over the world, it's a sad day for Spondor as production of the BC1 ends. Oasis tops the album charts with *Definitely Maybe*





panel and a Coles 4001 G super tweeter was added. This brought improved dispersion characteristics and made it a more accurate broadcast monitor. Spondor was born, and the BC1 with it, in 1969.

Recognising the work that Hughes had done while still at the BBC, every loudspeaker sold included a royalty payment to his erstwhile employer. The company name was an amalgam of his first name and his wife Dorothy. The new speaker met with great critical acclaim and put Spondor on the map as a purveyor of a technically advanced, high-end British speaker with that all-important BBC Research Department provenance. The bextrene cone was thought to be immensely impressive and gave a different sound to rival paper cone models.

### BBC to the core

The BC1 is about as close as it is possible to get to a BBC loudspeaker without the 'LS' prefix, and shows a lot of the (then) best practice at the corporation's Research Department. Electrically, it is from another era altogether. Power handling was quoted at 55W, which was high then but is poor today. The sensitivity is even worse – just 84dB – and maximum sound pressure level is quoted at 101dBA, which means it needs at least 40W RMS of power – and even when it gets it, won't go that loud. Claimed frequency response was 50Hz to 15kHz, which was good for the time, with that bextrene bass driver crossing over to the Celestion HF 1300 tweeter at 3kHz, which crossed over to the Coles 4001 G super tweeter at 13kHz. Nominal impedance was 8ohm.

The BC1 ran from 1969 to 1994, and 27,024 were made in teak, walnut, rosewood and black oak finishes. During its life, it benefitted from some changes. The white PVC cone surround changed to black at serial number 7,396 in the middle of 1975. An updated magnet was fitted from 13,000 in June 1977, which raised the power handling to 55W – and this is denoted by the new magnets being finished in red rather than blue. From 20,600, new Ferrite magnets were fitted. The speaker also came in a couple of variants; there was a rare active version with the choice of a 25W or 50W amplifier (called the BC1A). Later on it was offered as the BC1/3 with a 38mm tweeter/midrange driver and a 19mm supertweeter. There was a special limited edition anniversary BC1/69 based on the original specification,

which reportedly cost £75 in 1973, the same as a Quad ESL57 electrostatic.

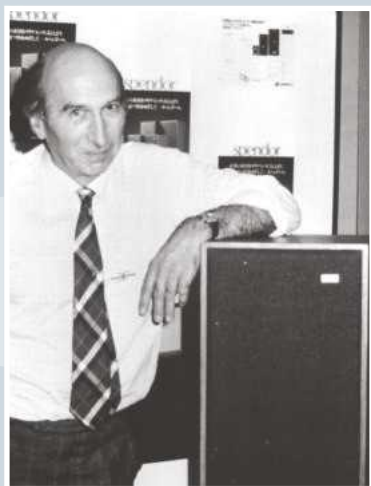
It's fascinating to hear a well preserved BC1 in 2015, some 45 years after it first appeared. The best way of putting it is that it sounds 'clean'. Many contemporaries had a very distinctive sound, one that was down to the compromises in the drive unit(s), but the BC1 doesn't sound so coloured.

Feed it with a good modern recording, via a powerful but smooth solid-state amp, and it gives a fluid and balanced sound. There's good detail and strings have a nice timbre. Bass is reasonably taut and tuneful – the thin-walled but well-damped cabinet doubtless helping here, and the treble is decently extended but a

### When the first issue of *HFC* came out, the BC1 was regarded as state of the art

little soft and diffuse. The listener is drawn to the midband, which is tidy and well controlled, and has a pleasant tonality to it. The speaker works well as a package, and offers a soft but enjoyable rendition of whatever music it is asked to play. Unlike many modern loudspeakers it doesn't throw anything at you, and instead serves up a surprisingly wide and spacious acoustic that generally hangs back behind the plane of the speakers.

By today's standards, the BC1 is compromised in its speed; those olde world drive units are a little slow, and this tends to soften the impact of the leading edges of notes. It's also unable to truly carry the weight of dynamic peaks, tending to compress the loudest parts of a symphony, for example. And yet there is still a very pleasant and



Spencer Hughes  
possesses with the  
mighty BC1

### PLASTIC FANTASTIC

The BBC Research Department at Kingswood Warren began to do research on plastic drive unit cone materials in the mid sixties, under the leadership of Del Shorter. Dudley Harwood (latterly of Harbeth Acoustics) was second in command and Spencer Hughes was the laboratory technician. Two years were spent making cones in a variety of shapes and sizes, and results were positive. The main benefit was consistency; the cone was more repeatable and the high-frequency response was superior. The bextrene was coated with a plastiflex damping compound to remove colourations from 1,500 to 2,000Hz, so the process was never completely automated.

During the seventies, polypropylene began to take hold, again with pioneering work by the BBC Research Department. It performed similarly to bextrene but didn't need to be coated due to its better self-damping properties, and was also lighter too, increasing sensitivity. By the middle of that decade, a number of highly impressive sounding speakers used bextrene, not least because KEF produced a very capable (by the standards of the day) 110mm midband driver using this material. By the end of the seventies, the Mission 770 was the first big speaker to popularise polypropylene. It's fair to say that it, and its bextrene precursor, revolutionised a whole generation of loudspeakers.

cohesive sense to the way it makes music. Like a classic car, the Spondor may not be as accomplished as a modern one in absolute ability, but is certainly no less enjoyable to hear.

This isn't the sort of thing to buy if you're looking for a modern sound on the cheap; it's not going to usurp anything from the company's current range of loudspeakers – or indeed anyone else's. But it is still a historically important speaker that – at the time that the first issue of *Hi-Fi Choice* came out in the mid-seventies – was regarded as absolutely state of the art. It gave hitherto unheard levels of clarity and freedom from distortion, and the technology went on to make its mark on a whole generation of loudspeakers that followed.

Although a great many were made, surprisingly few BC1s come onto the second-hand market. Perhaps that's because owners love them and hang on to them; they do what they do very well and never fail to make a nice noise. Those wanting a classic BBC 'monitor' sound, best attuned to classical music, still love them and may find modern designs a little gauche by comparison. Out of over 2,000 BC1s supplied to the professional market, a surprising number are still in use – in contrast to its BBC LS3/6 variant of which very few were made. BC1s do crop up from time to time, at prices from £200 to £600 depending on condition. Happy hunting! ●

# Home grown

Basing a dealership in a domestic property is tricky, but **Ed Selley** meets the pioneer that has made it work

**I**n the fragmented world of retail in 2015, the idea of a hi-fi dealer working out of a domestic property is far from unusual – indeed some very memorable visits have featured such dealers. When Alistair Gardner was looking into the requirements of founding a dealership in 1993, the market was a very different place. Having rejected a more conventional commercial property, he founded Signals and decided to run it out of his house. While he faced a degree of resistance, the store soon began to win over converts and is now sought out by customers from all over the UK.

One of the reasons for this popularity is that Signals has assembled a deeply impressive brand lineup that balances big names with less well-known products. This gives it a flexibility in system creation that combined with the pleasantly relaxed environs of Alistair's house allows customers to feel more confident about how the system will work in their own home. Assisted by colleague Andy Heavens, Alistair has been putting some impressive levels of thought into his three systems and expectations are high as we move to the smaller of the two demo rooms to start the session.



## THE EXPERTS



### Signals UK Ltd

6 St Mary's Park, Bucklesham  
Ipswich, Suffolk  
IP10 ODY  
01473 655171  
signals.uk.com  
naimaudio.com  
kudosaudio.com  
pmc-speakers.com  
linn.co.uk  
rega.co.uk  
russellk.co.uk



### System test music



**FLEET FOXES**  
*Helplessness Blues*  
CD



**PUBLIC SERVICE BROADCASTING**  
*The Race For Space*  
Vinyl



**UNDERWORLD**  
*Everything*  
16-bit/44.1kHz FLAC



## System 1 – Special K

**THE FIRST SYSTEM** is ironically the one that has put Alistair through the most mental gymnastics as there are a number of candidates in the Signals lineup that are suitable for the task. The result is a popular British brand combined with a less well-known speaker to form a system that delivers the Signals ethos.

As a brand, Rega needs little introduction. A mainstay in affordable British audio for over 40 years, recently the company has been unusually prolific and rather successful. The R versions of the Elicit amp and Saturn CD player take two products that were already deeply impressive and proceed to go over their designs with a fine tooth comb in the hunt for an improved performance. This means that the amp increases power to 100W per channel via a pair of Darlington output transistors. Meanwhile the Saturn CD player is the same high quality combination of Wolfson DAC and Rega's distinctive and highly effective transport mechanism, but with a significant set of digital inputs allowing it to handle digital signals from other sources.

### Spin doctor

It wouldn't be a Rega system without a vinyl front end and the fearsomely capable RP8 fronts the system. This innovative 'semi skeletal' deck has appeared on these pages before, but this represents the first outings for its two supporting cast members. The first is the Aria phono stage, designed to sit between the affordable Fono and high-end Ios. It might seem a curious addition to an amp with a very good internal phono stage, but it's needed as the RP8 has the Apheta 2 moving coil cartridge derived from the original Apheta.

While it would have been possible to go all Rega and finish with the company's excellent speakers, Alistair has substituted a speaker from a company hitherto unknown to me. The Russell K Red 100 standmount is the first release from the UK-based company and uses some very distinctive technology. The cabinet is comparatively thin and internally braced to reduce flexing. No internal damping is fitted and it is chambered so that only bass energy is vented via the port with its abnormally low 35Hz tuning. In the red finish, it is a near perfect visual match for the Rega electronics.

Starting with the deceptively simple *Consequence of Sounds* by Regina Spektor on CD, instantly shows that this system has some impressive talents. For starters, it is startlingly immediate. Spektor's mildly bonkers lyrics are delivered at a mile a minute and the Rega and Russell pairing is able to keep up with these rapid-fire syllables in a way that can elude more expensive and complex speakers. This speed would be as nothing if the tonality wasn't convincing, but this is also entirely believable and possesses surprising scale considering the relatively small size of the speakers.

Step up the scale of the music with Fleet Foxes' *Helplessness Blues* and the system responds admirably to the challenge. The rather 'thick' nature

### The RP8 extracts detail and emotion from material that is endlessly impressive

of the recording is well handled and there is plenty of the slightly fraught and emotional context of the lyrics. The additional power of the Elicit-R comes into its own not so much in terms of the absolute volume levels that it displays – the Red 100 seems to be usefully sensitive – but in terms of the way it keeps the drivers under complete control.

Switching to the RP8 keeps the same tonal balance as the Saturn, but this exceptional deck and its supporting ancillaries manages to extract detail and sheer emotion from material that is endlessly impressive. With the magnificent *The Race For Space* from Public Service Broadcasting, the outstanding track *The Other Side* elegantly demonstrates the system's ability to go from near silence to full



The Russell K is a relative unknown but a sublime sonic performer

bore almost instantaneously and suggests that the Apheta 2 maintains the speed and vivid presentation of the original, but adds the slightest civility to the sound that helps it do justice to a wider variety of material. All the little details of great vinyl playback – rock-solid pitch stability, low noise floor and solid channel separation – is delivered with the effortlessness of a company that knows digital inside out. And when you add in the equally talented digital showing and those very singular speakers, this system delivers a serious helping of musical bliss.

1	RUSSELL K RED 100 SPEAKERS	£1,249
2	REGA SATURN-R CD PLAYER	£1,598
3	REGA ELICIT-R INTEGRATED AMPLIFIER	£1,598
4	REGA RP8 (WITH APHETA 2)	£2,298
5	REGA ARIA PHONO STAGE	£798
TOTAL		£7,791

### The Rega components combine with the Russell K to stunning effect





## System 2 – Quart in a pint pot

**THIS SYSTEM IS** intriguing for two different reasons. For starters it represents a combination of brands that I have never heard. It then sets a number of subconscious alarm bells ringing at the sight of what is a rather large and potent pair of speakers set right back into the corners of the small listening room.

The most significant clue to this system being a little different to the norm is that the electronics come courtesy of Linn. Currently engaged in one of its more iconoclastic phases – only days after this visit came the announcement that it was to call time on the analogue preamp – the Akurate DSM has featured in *Dealer Visit* before, but this unit features something new. Having launched the seriously impressive Exakt system, Linn has been trickling this tech into its other products. This has resulted in a clever piece of software called ‘Space Optimisation’.

Unlike a ‘true’ Exakt system, this setup does not rely on an active speaker with the signal staying digital for as long as possible, but instead sends a signal with the specified level of ‘optimisation’ (Linn strenuously avoids use of the word ‘correction’) from the DSM player and preamp to a four-channel power amp that provides the required grunt. Although the system is not quite as compact as a true Exakt setup as it needs an extra box, this is still a fairly discrete pairing of electronics – one with a significant number of inputs in addition to the UPnP-streaming front end.

### Twenty-twenty vision

This compact duo is partnered with PMC twenty.26 floorstanders. As previously alluded to, this is not a combination I have ever heard anywhere else and the placement of the speakers in room leads to a moment of concern. As the flagship of the twenty series, the twenty.26 is a three-way floorstander that makes use of two of PMC’s trademark features – a soft dome midrange and transmission line to achieve a truly expansive sound. This means that it prefers a little space to breathe. Can Linn’s digital wizardry really subvert the laws of physics?

In short, yes. The most important and most vital part of the impressive performance is that at no stage does any aspect of Space Optimisation make itself felt in an immediately

obvious way. The processing is serving to simulate the speakers being pulled in from the corners and away from the back wall and if you close your eyes and ignore the visual information, the position of those big PMCs is very definitely not where your eyes say they are. This means that with the deep thudding bass notes of Air’s *The Vagabond*, the PMC has exceptional depth and the characteristic tightness of the brand, but there is no sense of these sizable speakers over-driving the room.

With the speakers reined in but not subdued, the significant qualities of this system start to manifest themselves. The tonally even presentation of the Linn combined with that rather wonderful soft dome midrange on the PMC gives a presentation that is rich and lush, but firmly anchored in reality. You are treated to a vast and believable

### This might be a rather unexpected combination, but it is a successful one

soundstage that lavishes incidental detail on performers, but never loses the cohesion of the overall piece.

Don’t think for a second that the optimisation has taken away any of the power or impact either. A quick go on the magnificent live Underworld album *Everything Everything* shows that there are still huge reserves of power and impact on tap and tying everything together is a sense of fun that is pure PMC. The twenty.26 has studio heritage running through it like veins in stilton, but this is tempered with the ability to deliver the emotional content as well as warts and all detail. This is perfectly judged and the refinement and accuracy of the Linn duo really helps it deliver on these seemingly conflicted goals.

This might be an unexpected combination, but it is a spectacularly successful one. It also shows Linn relaxing its somewhat all-or-nothing approach to system building to its advantage. I don’t doubt for a second that a pair of Linn speakers would have sounded very good in the same situation, but what this system so ably demonstrates is that the relentless innovation coming out of Glasgow is suitable for a far wider collection of speakers than just its own.

**Jammed into this tiny space, the PMC twenty.26’s performance is incredible**



- 1 **PMC TWENTY.26 SPEAKERS**  
£5,750
  - 2 **LINN AKURATE DSM WITH EXAKT LINKS** £5,850
  - 3 **LINN AKURATE 4200 POWER AMP (BI-AMPING)** £4,850
- TOTAL** £16,450

**This Linn duo is the perfect match for the PMC speakers**





## System 3 – Big hitters

**SINCE THE ARRIVAL** of the extraordinary Statement pre and power amp, Naim's 500 Series isn't the flagship of the range any more but still finds itself in pretty rarefied territory. It is joined by the ultimate streamer in the company's arsenal and the whole ensemble is finished by a pair of speakers enjoying a fitting swansong.

The front end comes courtesy of an NDS streamer. To maximise performance, there's an off-board power supply, and this particular NDS is equipped to make use of Naim's top-of-the-tree 555PS power supply. While the NDS is priced in such a way as to sit astride the 300 and 500 ranges, the rest of the system is all 500 Series. The NAC 552 preamp and NAP 500 power amp manage the neat trick of being unmistakably Naim, but at the same time clearly a step up from the rest of the range.

### Clash of the Titan

Partnering the electronics is a speaker from a brand that seems to have a particular affinity with Naim. The Titan T88 has been a Kudos range topper for some years, but stands to be replaced presently by the new 808. At the same time, tying the system together is Naim's latest and greatest Super Lumina cables making this an intriguing blend of old and new.

The way that this system takes control of the listening room's space and exerts near total control over it without once over driving or dominating the room is truly incredible. I revisit Air's *The Vagabond* and discover a visceral masterpiece that manages to capture the delicacy of the picked guitar and Beck's shuffling vocals, while delivering seismic low-end extension and a level of presence that is the preserve of only the most superbly sorted systems.

Pick up the pace and return to the fury of the Underworld album, and this system delivers at every level. *Everything Everything* is deceptively complex with a genuine sense of

front-to-back layering with the audience, performers and the PA system itself having an appreciable relationship to one another, and it is easy to lose sight of this relationship with lesser systems. Not here, this setup takes you from a sofa in Suffolk to the centre of an arena in Osaka without breaking sweat. You can then instantly switch to something totally different – in this case, *Blue Jean Blues* by ZZ Top – and the arena vanishes to be replaced by a stifling Texas studio almost certainly smaller than the room I'm listening in.

The collective performance of the system is such that picking apart the roles and responsibilities of the individual components is difficult and largely pointless. I can't for instance, hand on heart tell you what the not inconsequentially priced set of Super Lumina speaker cables brings to the performance, but I can tell you that it contributes to a setup that I covet more than almost any other *Dealer System* I can remember. It isn't exactly compact, but neither is it impossible to accommodate in a normal lounge – a fact elegantly borne out by it being located in one. When you throw in the beautiful build, impressive functionality and the ability to transport you to any musical moment, you have something truly captivating and quite a way to end my day at Signals.



- 1 KUDOS TITAN T88 £13,500
- 2 NAIM NDS £7,690 PLUS NAIM 555PS POWER SUPPLY £5,980 (RIGHT)
- 3 NAIM NAC 552 PREAMP £19,755
- 4 NAIM NAP 500 POWER AMP £18,695

FULL SET OF NAIM SUPER LUMINA FOR INTERCONNECT/PRE-POWER/7M SPEAKER CABLES £8,950

TOTAL £74,570

This high-end setup delivers an awesome performance

### Naim leads the way in this system



It's easy to understand why Alistair met with some resistance from brands when he looked to set up Signals from a domestic property, but my day just strengthens my belief that it is an approach which – if done properly – offers huge benefits for the customer.

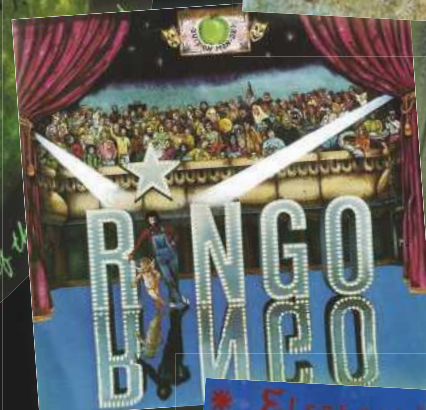
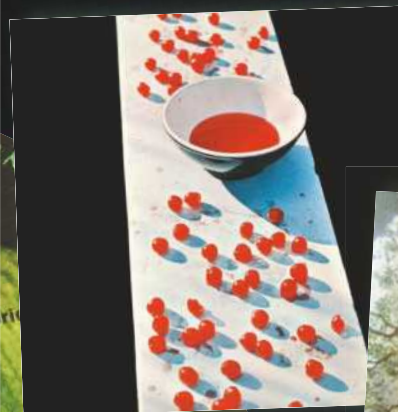
Not only do I have a handle on how these three systems perform, I also know what they can offer in a room like my own.

This would be irrelevant if the brands being shown couldn't deliver, but they provide a tremendously capable portfolio that at multiple price

points over multiple formats works exceptionally well in domestic settings. It might seem incongruous that people are beating a path to a house in Suffolk from all over the UK, but when you sit down and experience what Signals can do it makes a great deal of sense.



# APPLE RECORDS



Now that Lennon's on sale again, **Simon Berkovitch** heads to the core of the Fab Four's record label, launched on a wave of sixties optimism

**W**ith the news that Universal is releasing a box set of eight remastered LPs of John Lennon's post-Beatles solo material through its Sound of Vinyl imprint, it's time to drop the needle on the grooves of the Fab Four's own Apple Records. Founded in 1968 as a division of Apple Corps Ltd, the label's aim was to release records from The Beatles and solo projects from Lennon, McCartney, Harrison and Starr, and to nurture up-and-coming talent spotted by the quartet. Notable early signings included virtuoso keyboardist Billy Preston (most famous for his appearance on the *Get Back* 45), Welsh folk singer Mary Hopkin, a pre-fame

James Taylor and power-pop combo The Iveys, soon to be relaunched as Badfinger. When it came to design, Apple took a leaf out of the Pop Art sketchbook: most single and LP labels featured a Granny Smith on the A-side, while the flip showed the fruit sliced in half. Already imitated musically by their contemporaries, The Beatles' new business venture was swiftly aped: The Stones (Rolling Stones Records), Deep Purple (Purple Records) and The Moody Blues (Threshold Records) followed with their own labels. The initial remit for Apple was ambitious, encompassing sitar master Ravi Shankar, under whom Harrison had studied; soundtracks to cult films such as

Alejandro Jodorowsky's far-out *El Topo*; and a short-lived experimental music and proposed spoken word subsidiary, Zapple. But by the mid seventies the label had, by and large, become the vehicle for ex-Beatle solo albums. Apple's distribution contract with EMI for the Fab Four's releases also came to an end in 1976, effectively leaving the label without its golden goose. Following the settlement of a lawsuit against EMI in the late eighties, Apple's revival began with The Beatles projects *Live At The BBC* and *The Beatles Anthology* series, paving the way for remastered reissues of the group's back catalogue. After another lengthy, newsworthy

legal action – this time between Apple Corps and Apple Inc – The Beatles' EMI recordings were finally available for digital consumption via iTunes. The Fab Four grab the headlines in whatever context they appear, and their vanity label is no exception. Solo recordings of Lennon, McCartney, Harrison and Starr (pictured above) are inevitably the most famous additions to Apple's discography – and include evergreen gems such as *John Lennon/Plastic Ono Band*, *McCartney* and *All Things Must Pass*. So, for the purposes of this primer, we focus on The Beatles' A&R ears, showcasing some of the other excellent artists signed to Apple Records.



## Badfinger

The 'next Beatles' had the tunes to be contenders, but success was ultimately not to be

**T**he name Badfinger may not be as well known as the band deserves, but one composition by the songwriting team of Pete Ham and Tom Evans is famous: the much-covered *Without You*, performed by artists as diverse as Lennon's drinking buddy Harry Nilsson and Mariah Carey.

Formed as The Iveys in the early sixties, the Welsh group were discovered by The Beatles' roadie Mal Evans. Demos were cut that impressed the Fab Four so much that The Iveys – with a name change to Badfinger – were the first signing.

Two of the group's four international hit singles were produced by The Beatles: super-catchy, upbeat debut *Come And Get It* was written and produced by Paul; *Day After Day* had George at the helm.

Badfinger's first album (1970) for Apple was the partial soundtrack to *The Magic Christian*, starring Peter Sellers and Ringo Starr. Second album

*No Dice*, emerging the same year, was home to the aforementioned mega-hit (but not for Badfinger) *Without You*, a composition that subsequently earned Ham and Evans an Ivor Novello award.

Despite the involvement of Todd Rundgren (producer of 1971's excellent third album *Straight Up*) and The Beatles themselves, success eluded the

### Two of their four hits were produced by The Beatles

group, dogged by unflattering comparisons to the Fabs from day one. The patchy *Ass* (1973) was their last album for Apple.

But living in the shadow of The Beatles was the least of the group's worries: drowning in legal woes, they imploded in 1975 with the suicide of Pete Ham. Tragically, the co-writer of *Without You*, Tom Evans, followed suit a few years later.

The group's debut album features the fab McCartney-penned single *Come And Get It*



## Yoko Ono

The multimedia artist's collaborative and solo albums are some of the tastiest fruit from the Apple tree

**D**espite over six decades' of art and activism under her belt, Ono is still unfairly known as Lennon's widow or the woman who broke up The Beatles. Sweeping generalisations aside, her contributions to Apple's discography are arguably the greatest on the label.

Before meeting Lennon, Ono was already schooled in piano and had studied with John Cage. Hooking up with the Beatle as an artistic collaborator, the pair released three challenging albums on Apple: *Unfinished Music No. 1: Two Virgins* (1968), complete with controversial nude cover; *Life With the Lions* (1969), one of only two albums released on Zapple (the other being George Harrison's *Electronic Sound*), and the lavishly packaged *Wedding Album* (1969).

As a member of Plastic Ono Band, she appears on concert album *Live Peace In Toronto 1969* – an uneasy union of rock and

roll standards and feedback-heavy Ono compositions.

Yoko recorded four fantastic solo albums for Apple in the early seventies. Of the quartet, the first two are the most rewarding: *Yoko Ono/Plastic Ono Band* (1970) is the companion

### Recorded four fantastic solo albums for Apple

piece to Lennon's confessional debut solo album, featuring both her husband and saxophonist Ornette Coleman, and *Fly* (1971) is an ambitious double that contains the Krautrock-tinged classic *Mind Train*. *Approximately Infinite Universe* (1972) and *Feeling The Space* (1973) sees seventies rock refracted through Ono's unique prism.

Now 80, Yoko Ono reformed Plastic Ono Band in 2009 with her son Sean Lennon.

Double album *Fly* see Ono simultaneously at her most experimental and accessible



# John Tavener

The classical composer who was hugely admired by The Beatles

**B**ritish composer John Tavener's pathway to Apple was more accident than design. His younger brother, Roger, was doing some construction work for Starr and interested him in Tavener's cantata *The Whale*.

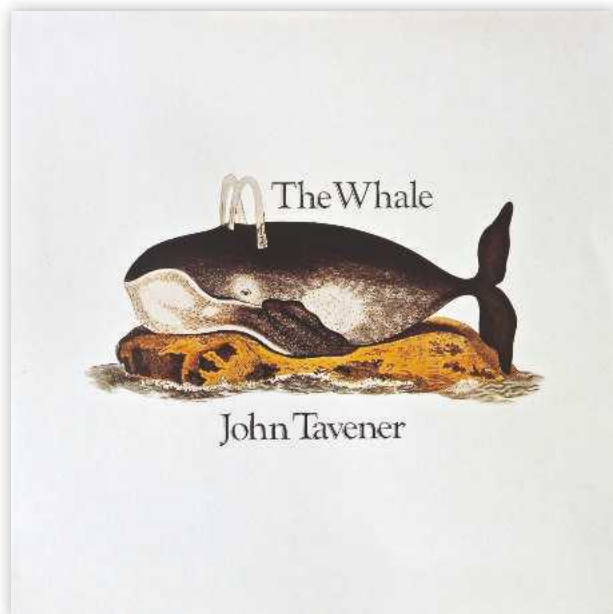
Based on the Biblical story of Jonah and the whale, the work was recorded in 1970 for Apple Records, featuring choirmaster Tavener on pipe and Hammond organ.

Starr's unlikely promotion of modern classical music is a good illustration of how wide Apple's musical net was cast in its formative years. Starr was still taken with the piece in 1977, as it was re-released on his Ring O'Records imprint.

*The Whale* was paired with 1971's eerie *A Celtic Requiem* (*Requiem For Jenny Jones*) – Tavener's second and final recording for Apple Records – for a 2010 CD, part of the recently reactivated label's

extensive reissue programme. John Tavener is best known for his haunting *Song For Athene*, which was sung at the Westminster Abbey funeral of

Princess Diana in 1997, which consequently brought his work to a much larger audience. After a long, prestigious career, he died in 2013.



# Radha Krishna Temple

Arguably the most esoteric signing to the often-adventurous label

**S**hyamsundar Das of the International Society of Krishna Consciousness (ISKCON) made contact with George Harrison in 1968. Harrison was taken with the devotees' uplifting communal chanting, accompanied by percussion and harmoniums, assembling the group in Abbey Road studios to record the Hare Krishna mantra for release as a 45. The resulting *Hare Krishna Mantra* single was a surprise smash, peaking at number 12 in the UK. With the uplifting *Prayer To The Spiritual Masters* on the flip, the single made the movement a worldwide hit overnight.

In early 1970, a second single (*Govinda*) was also a top 30 fixture. Featuring both singles, the album of Sanskrit hymns that followed, *The Radha Krsna Temple* (1971), was again produced by Harrison and arranged by Temple member

Mukunda Das Adhikary and featured George playing dobro. Advertisements for the US release made a memorable claim for the

album: "These eternal sounds of love release the hearer from all contemporary barriers of space and time" – in keeping with the mood of the times.



## ► SHOPPING LIST

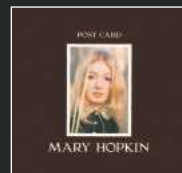
A mixture of mega-rarities and almost-hits comprise this month's bulging Beatle-endorsed collection that's well worth hunting down.



**The Beatles**  
*From Then To You*  
Scarce long-player that rounds up the Fab's super-rare Christmas flexi-discs that were issued to lucky fan club members.



**Brute Force**  
*King of Fuh*  
The first of our 7in single oddities, this infamous, intentionally obscene 45 enjoyed a run of just 2,000 copies.



**Mary Hopkin**  
*Postcard*  
There are no less than three Donovan covers on the first of two Apple LPs from the *Those Were The Days* singer.



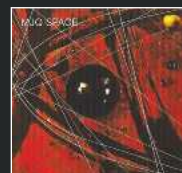
**Billy Preston**  
*That's The Way God Planned It*  
The keyboard player's fourth LP followed his contribution to The Beatles' *Get Back* 45.



**Alejandro Jodorowsky**  
*El Topo*  
A US-exclusive soundtrack to the Chilean auteur's surreal Western – a favourite of John Lennon's.



**Ravi Shankar & Ali Akbar Khan**  
*In Concert 1972*  
Two virtuosos of Indian classical music at the Philharmonic Hall, New York, on this excellent album.



**Modern Jazz Quartet**  
*Space*  
The prolific MJQ was signed to Apple for the release of *Under The Jasmine Tree* and this jazz cut.



**Hot Chocolate Band**  
*Give Peace A Chance*  
Errol Brown and crew's first outing was a 1969 reggae cover of the peacenik anthem.





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twenty:22 - Awards '12



twenty:22 - Awards '12



twenty:22 - Awards '13



twenty:22 - Awards '14



twenty:23 - Awards '12



twenty:23 - January '13



twenty:23 - Awards '13



twenty:26 - June '14



twenty:26 - May '14





**100 London Afrobeat Collective**  
Food Chain



**100 Binker and Moses**  
Dem Ones

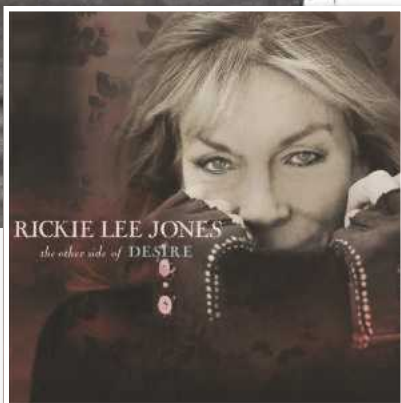


**101 Funeral For A Friend**  
Hours/Live at Islington Academy

# Musicreviews



**ALBUM  
OF THE  
MONTH**



## **Rickie Lee Jones** The Other Side Of Desire

★★★★★

CD **Thirty Tigers**

**BACK IN HER** day, Rickie Lee Jones cut an alluringly bohemian figure, a cross between Joni Mitchell and Tom Waits (with whom she once had an affair); all "beret and badass bravado", as she colourfully put it. Idiosyncratic and restlessly creative, she burst onto the scene in 1979 with the jazz-tinged *Chuck E's In Love*, which remains a radio staple to this day, and her first two Warner Brothers albums were singer-songwriter classics.

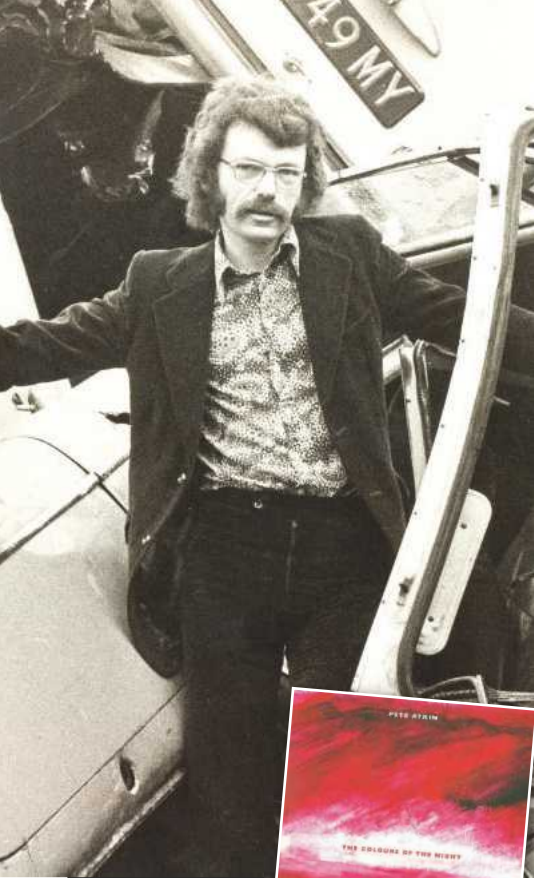
After that, her career took a somewhat mercurial path, punctuated by long periods of silence. Following 2003's *The Evening Of My Best Day*, writer's block seemed to take permanent hold and she resorted to recording albums of cover versions. Happily the creative juices are flowing again and her first collection of new songs in a dozen years ranks alongside her best, inspired by a move from Los Angeles to New Orleans.

She now lives on the street made famous by Tennessee Williams' *A Streetcar Named Desire* – an address celebrated in the album's title – and the spirit of the city's proud musical heritage and its scuffed-up post-Katrina humanity permeates the songs. If in the past Jones has often resembled a musical character actor, at 60 she's shed the role-playing and is no longer playing a part, but writing and singing from the heart.

Accustomed to generous major label recording budgets and notorious for spending painstaking months in the studio, Jones crowdfunded this album. It only goes to show that less can sometimes be more; produced by John Porter (Roxy Music) and Mark Howard, long-time sidekick to Daniel Lanois, the sound is crisp and sparkling where rewired and in other places gauzily textured, moulding a compelling set of ripe and mature

songs into an arrestingly ambitious musical journey, rich in sonic adventure and detail.

The opener, *Jimmy Choos*, is a classic Jones narrative about a woman in distress, sung with palpable warmth and compassion over a simmering, rootsy rhythm. *J'ai Connais Pas* is a Waitsian bar-room tale that taps deep into the musical genes of New Orleans with a Fats Domino piano riff. *Blinded By The Hunt* is a slinky slice of secular southern gospel, on which she sounds like Alabama Shakes' Brittany Howard. *Infinity* glistens with a Blue Nile-style shimmer and *Feet On The Ground* is an achingly beautiful minor key meditation on damage and loss, but leavened by a heavenly Philly-soul chorus. The album ends with a half-sung, half spoken poem, *A Spider In The Circus Of The Falling Star*, her voice eerily multi-tracked over a haunting sousaphone. Exquisite. **NW**



## Pete Atkin

The Colours Of The Night

★★★★★

CD

Hillside

**BACK IN THE** early seventies before Clive James became a TV star, his first gig was writing lyrics for the singer Pete Atkin. They collaborated on half a dozen albums and the Atkin-James team for a while rivalled the Elton John/Bernie Taupin partnership, which emerged around the same time. Terminally ill with leukaemia, James – who describes their songwriting partnership as: “The most fruitful artistic venture I’ve ever known” – has now reconnected with Atkin on one final, farewell collaboration.

## An eclectic set of arrangements ranging from jazz rock to Tin Pan Alley pop nostalgia

James’ literate lyrics, about subjects such as obsession, divorce and mortality, boast a strong narrative element, setting up a situation and exploring it like a series of three and four minute novellas. Accompanied by a chamber combo that includes Chris Spedding on electric guitar, the music animates James’ words with an eclectic set of arrangements ranging from folk to jazz-rock and Tin Pan Alley pop nostalgia. **NW**

## MUSICREVIEWS



### Richard Thompson Still

★★★★★

CD

Proper

**STILL GOING STRONG** almost half a century after inventing English folk-rock with Fairport Convention, Thompson’s 25th solo album is being promoted as an adventure outside his comfort zone, a leap into the unknown recorded in Wilco’s Chicago studio with that band’s main man Jeff Tweedy taking over the production. Yet despite Tweedy’s deft touches, you’d barely notice anything has changed. Thompson’s fluid lead guitar lines and the carefully crafted songs – full of quiet dignity and determination and a very English introversion – all sound reassuringly familiar. Which is, perhaps, just as it should be. **NW**



### London Afrobeat Collective Food Chain

★★★★★

CD

Movement Records

**THE LAC IS** a group of musicians inspired by the work of Afrobeat pioneer Fela Kuti, and the sound they produce is some of the funkiest, most enthusiastic and all-round joyous music you’re likely to hear. Funke Adeleke, the only member who can claim Nigerian descent, is a powerful voice up front and the musicians give it plenty of oomph. They don’t have the great man’s presence or mystique, but they do have his political sloganeering. They could be accused of being a Fela tribute band, but by taking Kuti’s ethos and rhythms as their starting point, they’ve managed to stake their own claim to the Afrobeat lineage. **DO**



## Nick Cave and Warren Ellis

Loin Des Hommes

★★★★★

CD

Goliath Enterprises

**SOUNDTRACK ALBUMS BY** the chuckle brothers of indie rock are rarely cheery affairs, but even by their standards this is grim stuff. What it lacks in pace and humour, it more than makes up for in atmosphere. Themes are teased out slowly and given time to develop and this moody, introspective series requires a little patience to settle into its sedate rhythms. Once you’re there, you can almost smell the acrid air and feel the creeping menace of this revenge tale. Beginning with loops from Ellis’ violin, the pair augment the plaintive tones with light, minimalist touches of organ and electronics to create a spare, doom-laden atmosphere that comes close to being a masterpiece. **DO**



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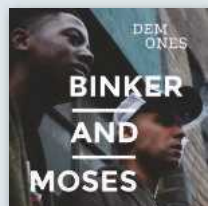
## AUDIOFILE VINYL

★★★★★

### Binker and Moses Dem Ones

180g vinyl

Gearbox



#### BINKER GOLDING

**AND** Moses Boyd are a saxophonist and a drummer respectively. They’re young, come from London and have a lot of confidence. When

was the last time a sax and drums album was made in this country? Even in the heyday of the free jazz style that they skirt around it was quite a rare thing, a bassist is and always was considered a vital element.

Binker’s heroes appear to be John Coltrane, Charles Lloyd and perhaps Pharoah Sanders, he

can play hard, fast and intense but is also very adept at a melody, and both styles are on show on these six improvised tracks.

Moses is adept at mixing the rhythm, keeping it on track without letting you get too comfortable, and his tonal palette is almost as broad as Binkers’ in terms of dark and shade. The recording was made using Gearbox’s vintage Studer tape recorder and the vinyl mastered on a 1967 Haeco Scully lathe, with barely a transistor in the chain. As a result it sounds vivid, direct and extremely clean in the grainless, natural and dynamic style that only very straight signal paths achieve. The influences and the recording may be old school, but this is very much a record of the moment. **JK**

HOT PICK



## HIGH RESOLUTION DOWNLOADS


**Carol Kidd**  
*I'm Glad We Met*


FLAC 16-bit/44.1kHz

Linn Records

**REISSUED AS PART** of Linn's ECHO series, the Brit jazz singer's sophomore album from 1991 is a joy. She imbues this collection of standards with a sheen of class, partly from the purity of her voice, but also from the deliberateness of her phrasing, which is articulate, but never forced. Supported by her piano trio and occasional string arrangements, it's an intimate affair with highlights including *Hang My Tears Out To Dry* and *I Wish I'd Met You*. **DO**


**Will Gregory Moog Ensemble**  
*Undercurrents*


FLAC 24-bit/48kHz

B&amp;W Society of Sound

**WILL GREGORY IS** the other one from (Alison) Goldfrapp and his Moog Ensemble is an experiment in re-evaluating some of the classic synthesisers. He's gathered a group of musicians and taking Bach's *Brandenburg Concerto No.3* as their starting point, they use the often monophonic and other technical limitations of these analogue instruments as inspiration for a set that mixes new music with the very old – and includes some great tunes. **DO**

## DEMO DISCS



**Pete Eason**, Customer Experience manager at Entotem Ltd, reveals some of the music that was used to develop Plato (page 38)


**John Lee Hooker**  
*The Healer*

A serious groove covering a wide range of frequencies. Trademark over compressed Santana lead guitar riffs and sparkling percussion.


**Shostakovich**  
*2 piano concertos/24 preludes Op. 34*

A recording full of atmosphere and excitement. The simplicity shines a spotlight on any system.


**Person To Person**  
*High Time*

Superb production that showcases a bombastic kit sound, aligned to the rather punchy yet warm tones of a Steinberger bass.


**Claire Martin**  
*Secret Love*

A slow burner with the purest of vocals, emphasising clarity of diction and sonic detail across the mix. All underpinned by a really lush-sounding baby grand.



The Blu-ray disc sounds smoother and more open

HOT PICK

## Handel

*Messiah*  
 Soloists and choir of Christ Church Cathedral, Oxford, Christopher Hogwood



2 CDs/Blu-ray Pure Audio disc

Decca

**HOGWOOD'S WAS THE** first recording of *Messiah* on period instruments, and it created a stir when released on three LPs in 1980. With some of the best singers of the day and inspired direction from Hogwood, it's hardly dated. I found the recording very holographic on LP, but difficult to track. Here we have a new 24-bit/192kHz remaster on two CDs, plus the complete work on a Blu-ray Pure Audio disc. I still have my original CD, but comparing it to these remastered ones I can't hear much difference. The Blu-ray sounds smoother and more open, with less peakiness on the boy's voices. Nevertheless, I still don't hear that lovely 'see-through' depth and spaciousness I recall from my old LPs. **JH**


**Mahler**  
*Decca - The Mono Years 1944-56*


53-CD box set

Decca

**THIS SUMPTUOUS 53-CD** box set restores many classic Decca recordings, using the original sleeve designs to create a collector's dream. Among many gems is Decca's first LP of Stravinsky's *Petroushka*, conducted by Ernest Ansermet. Several omissions are surprising, but the selection is a good mix of well-known and rare material. The recordings for the most part carry their years lightly, sounding sharp, open and remarkably clear. Clarity and focus were always 'mono' trademarks, and the ear soon adjusts to the lack of stereo spread and depth. There's also an interesting book with some wonderful vintage photographs. **JH**

## BLU-RAY DVD ★★★★★

## Funeral For A Friend

Hours/Live at Islington Academy

DVD/CD

End Hits Records



HOT PICK

FFAF were something of a phenomenon in the early to mid noughties with their blend of grunge/thrash that was dubbed screamo and morphed into emo. Last year they toured their 2005 album *Hours* in full, dropping in other hits and a few new numbers for good measure. This London show reveals just why they were so successful early on, the sound is precisely focussed energy of the emotionally intelligent variety. Quality is limited by Dolby Digital so a bit flat, but it can't keep this much well honed energy from reaching out and dragging you into the mosh pit. **JK**

## HI-RES HIGHLIGHTS

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



Linn Records (linnrecords.com) has a real treat for classical music fans with the SCO, Baldini and Elizabeth Watts' take on Mozart's *Opera Arias and Overtures*. Over at HDTracks (hdtracks.co.uk), Richard Thompson's deluxe edition of *Still*, Waylon Jennings' *Classic Album Collection*, Dave Douglas' *High Risk* and Emmylou Harris and Rodney Cromwell's *The Travelling Kind* are all worth hunting down. Finally, High Res Audio (highresaudio.com) has Leon Bridge's glorious *Coming Home*, Drones by Muse, The Paul Butterfield Blues Band's eponymous album and Bon Jovi's *Slippery When Wet* for anyone that fancies a bit of hair metal.

# Minitest

MOVING MAGNET CARTRIDGES £79-£120

## Get into the groove

Turntablist **Neville Roberts** looks at four cartridges to discover which is best for breathing new life into your record player

One of the many good things about a turntable is the ease with which you can change elements to achieve noticeable improvements in sound quality. An obvious candidate for upgrade is the supplied cartridge. Although simple in concept, the moving magnet cartridge is an electromagnetic generator with many precision parts. Firstly, there is the stylus assembly, which in the case of moving magnet cartridges is usually

removable to facilitate replacement when worn. Then there is the suspension, which supports the cantilever onto which the stylus is fitted. This suspension must allow the cantilever to move to allow the stylus to follow the modulations of the record groove, but also be firm enough to transfer the tracking force onto the stylus so that it can track the record. A tiny magnet attached at the other end of the cantilever from the stylus sits within a pair of coils in the

body to form the generator itself. All of these components will make a significant contribution to the sound.

For this review, the cartridges are fitted to an upgraded Jelco SA-750 tonearm with a Alpha Design Labs GT40a (HFC 399) acting as the phono stage. The test music includes *The Cuckoo* from Handel's *Organ Concerto No 13* in F major, Simon and Garfunkel's *So Long*, Frank Lloyd Wright and Pierre Gossez and his Jazz Quintet playing *Caravelle*.

### Shure M97xE

PRICE: £79 TELEPHONE: 01992 703058 WEBSITE: shure.co.uk

#### DETAILS

**PRODUCT**  
Shure M97xE

**ORIGIN**  
Mexico

**TYPE**  
Moving magnet cartridge

**WEIGHT**  
6.6g

**FEATURES**  
Compliance: 25cu; tracking force: 0.75-1.50g, 1.25g recommended; low mass, heat treated, tubular aluminium alloy cantilever

**DISTRIBUTOR**  
Shure Distribution Ltd

**ALTHOUGH IT HAS** been around a while, the Shure M97xE seems to have stood the test of time well and is now the flagship model in its hi-fi range of cartridge, since it stopped making the almost legendary V15.

The M97xE employs Shure's Type II low-mass thin-wall aluminium alloy stylus cantilever to which is fitted a precision-made, finely polished elliptical diamond tip. Uniquely, the cartridge is fitted with a 'dynamic stabiliser' brush mounted on the front of a foldaway stylus guard. The brush can be used while playing or clipped out of the way. The purpose of this is to stabilise the stylus under less than perfect playing conditions, as well as reducing static charge during play.

The M97xE's staggered connecting pins at the back are colour coded and all four have letters printed in the body by each pin. It is a high compliance cartridge and will definitely be a good partner to low mass tonearms. There is a pretty

comprehensive range of accessories bundled, including a selection of screws, screwdriver, stylus brush, headshell weight and headshell leads.

#### Given the brush off

I start off playing Handel and engage the stabiliser brush. The performance is full and rounded. In particular, the strings are beautiful and smooth, but I find the orchestral soundstage a touch flat and two-dimensional. I then flip the brush out of the way and this instantly improves the soundstage. Also, the strings become clearer and altogether more nimble, the organ notes are richer, and the bass response

well extended – a fantastically balanced and mature performance.

I really like the vocals on the Simon and Garfunkel track as they are involvively smooth. Once again, the music has more depth with the brush flipped out of the way. This is also true of the Pierre Gossez with the detail being slightly better without the brush and the cartridge sounds smooth, fast and well balanced ●

#### VERDICT

All-round performer that takes all musical styles in its stride, and comes at a great price

★★★★★





## Talk Electronics

### Zephyr C200

PRICE: £120 TELEPHONE: 01344 844204 WEBSITE: [talkelectronics.com](http://talkelectronics.com)

#### DETAILS

**PRODUCT**  
Talk Electronics  
Zephyr C200

**ORIGIN**  
Japan

**TYPE**  
Moving magnet  
cartridge

**WEIGHT**  
6.5g

**FEATURES**  
Compliance: 25cu;  
tracking force: 1.5 -  
2.0g; lightweight  
aluminium alloy  
cantilever;  
Samarium cobalt  
magnet

**DISTRIBUTOR**  
Talk Electronics Ltd

**MADE IN JAPAN** by Nagaoka and based on its own MP110 cartridge, the Zephyr C200 has been specifically tweaked for Talk Electronics. It has a specially selected body to offer a better channel balance than the MP110. The connecting pins are colour coded and the two pairs of pins are also marked with an L and R on the cartridge body. A recommended tracking force is not specified, so I set it at 1.8g, which is just above midway in the recommended range.

The C200 makes use of a lightweight aluminium alloy cantilever, which has a superfine polished elliptical diamond stylus bonded to it. The internal generator uses a samarium cobalt magnet that is fixed outside the vibrating system to produce a strong magnetic field to magnetise the vibrating end of the cantilever. The cylinder housing the pole piece is made from carbon fibre reinforced plastic and the shield casing is made from a special permalloy. The stylus

tip is an elliptical bonded diamond. This is a high compliance cartridge.

#### Happy talk

Lowering the Zephyr C200 onto the Handel record instantly impresses me with the full and expressive sound of the orchestra. When the organ takes over, the richness and character of each note is excellent, although the top end is a little recessed relative to the midrange and bass. However, the instrument focus is quite reasonable.

The vocals on the Simon and Garfunkel track are relaxed and clear,

demonstrating very good reproduction in the midrange. The instrumentals are laid back and easy on the ear.

With the Pierre Gossez recording, the bass performance is good and full, but the extreme top end is once again a touch restrained when the hi-hats start up, but this balance may well be preferred by many jazz enthusiasts ●

#### VERDICT

A relaxed and smooth sound with a full and extended bass is impressive, but it costs more



## Audio-Technica

### AT120Eb

PRICE: £100 TELEPHONE: 01132 771441 WEBSITE: [audiotechnicashop.com](http://audiotechnicashop.com)

#### DETAILS

**PRODUCT**  
Audio-Technica  
AT120Eb

**ORIGIN**  
Japan

**TYPE**  
Moving magnet  
cartridge

**WEIGHT**  
6.5g

**FEATURES**  
Compliance: 10cu;  
tracking force:  
1.0 - 1.8g, 1.4g  
recommended;  
vector-aligned, dual  
magnet design;  
paratoroidal signal  
generator

**DISTRIBUTOR**  
Audio-Technica Ltd

**THIS OFFERING FROM** Audio-Technica has a flip-up stylus guard fitted to the removable assembly. The cartridge connecting pins at the rear are colour coded to facilitate connection to the headshell wires. It also features Audio-Technica's vector-aligned dual magnet design and paratoroidal signal generator, which is composed of a unified, laminated coil core wound with a single piece of wire. Two coil cores are used, which are separated from each other by a central shield plate designed to improve the high frequency response and reduce crosstalk. The cantilever is an aluminium pipe design and the stylus has a nude, round shank with an elliptical tip. This cartridge is low-mid compliance and should suit higher mass arms well.

The full orchestra of the Handel concerto is reproduced very well, with a very real and convincing recital. Imaging is well defined and

the organ is full and rich. The very low organ stops are a little restricted, but that doesn't detract from the believability of the performance.

#### Art of noise

Moving on to the Simon and Garfunkel piece, the emotion in Art's voice is very well conveyed, although a little sibilant at times. To be fair, this recording is a real test of sibilance, which is why I chose it. Having said that, both the vocals and the backing orchestra are crisp and clear, with excellent detail and imaging.

Switching to Pierre Gossez's *Caravelle* demonstrates great pace and timing. All of the excitement and vitality is conveyed really well indeed and, again, there is really good imaging. In particular, the tinkling of the harpsichord is fantastic, being both fast and sophisticated at the same time ●

#### VERDICT

Despite sibilant vocals and light bass, the detail and imaging are the real strong points here



## Goldring Elektra

PRICE: £95 TELEPHONE: 01279 501111 WEBSITE: goldring.co.uk

### DETAILS

**PRODUCT**  
Goldring Elektra

**ORIGIN**  
Japan

**TYPE**  
Moving magnet  
cartridge

**WEIGHT**  
4.2g

**FEATURES**  
Compliance: 16cu;  
tracking force: 1.5 -  
2.5g, 2.0g  
recommended; low  
mass cantilever

**DISTRIBUTOR**  
Armour Home

### THE DIMINUTIVE GOLDRING

Elektra is the big brother to the well-known Elan cartridge. Although the Elektra's stylus assembly shares the same, striking magenta colour, the Elan has a spherical stylus and the Elektra is fitted with an elliptical one. The Elektra has a low-mass cantilever assembly and has been designed to be compatible with a wide range of tonearms and turntables. The correct connections to the four pins at the rear are indicated by the colour codes and the two pairs of pins for the left and right channels are marked with an L and R on the body.

The Elektra is a medium compliance cartridge and should therefore feel at home with a wide range of tonearms. It is the lightest of all the models reviewed here and I have to switch to using a lighter counterweight to achieve the correct tracking force.

A lightweight in mass it may be, but the Elektra certainly turns in a

heavyweight performance. After dropping the stylus onto the Handel LP, I am greeted with a rich and full sound. The bass response is really good and well extended. The imaging is also impressive and has superb detail, with all the components of the orchestra reproduced with great clarity. On occasion, I do find the strings a little brittle during the crescendos, but this does not really detract from a very commendable all-round performance.

### Ear for detail

The Simon and Garfunkel presentation is close up and intimate

with nice detail and good imaging. Given the comment about a slight brittleness with strings, I expect to hear some sibilance with the vocals, but there really is hardly any.

The jazz of Pierre Gossez is realistic and clear with a good balance between the instruments with excellent definition. In fact, there is nothing in the performance that I can highlight as something to criticise ●

### VERDICT

A full, dynamic and intimate performance with a great balance between different instruments



## Mini test verdict

**EACH OF THE** four cartridges were easy to fit into my headshell as they all have the standard 0.5in mounting and come supplied with fixing screws. All are designed for the standard 47kOhm load from the phono stage and none of them have any problems with the Alpha Design Labs GT40a phono stage. Therefore, they would all fit the bill as a worthy replacement or upgrade to a moving magnet cartridge supplied with a hi-fi starter turntable like those covered in *HFC* 398, but when you start to focus on the subtle nuances of each, a ranking does emerge. In fourth place is the Audio-Technica AT120Eb, which is the lowest compliance cartridge of the group, although it may better suit a tonearm with a higher effective mass than the Jelco SA-750. It is let

down by slight sibilance on the vocals and a light bass response, but its strong points are great detail, pace and imaging.

Third place goes to the Talk Electronics' Zephyr C200, which impresses with its mix of rich and full sound with good instrument focus. Its smooth dealing with jazz music will doubtless endear it to many listeners.

It's very close between the Shure M97xE and the Goldring Elektra, but ultimately the Shure takes the number one spot.

The mid-compliance Goldring manages to combine a full and dynamic response with an element of intimacy when required and is really well suited to vocals, jazz and music with a good bass line. The Shure cartridge

is clearly comfortable with a wide range of musical genres, which in the end tips the scales in its favour at the price.



The Shure M97xE is superb value for money. Its excellent all-round performance and sophisticated handling of the complexities of full orchestral music set it ahead of rest here. In this test setup, it performed better with the dynamic stabiliser brush clipped out of the way, but this can easily be engaged if desired.



Replacing a cartridge is quite a straightforward process. Firstly, fit the two screws through the slots in the headshell, but note that you will need to slide and twist the cartridge in the slots to align it later. Now connect the leads. With the cartridge roughly in position, set the tracking force to zero and adjust the tonearm counterbalance weight so that the arm is perfectly horizontal and then set the tracking force according to the cartridge

specification. Next, align the cartridge in the headshell using an alignment protractor, which involves sliding it forwards or backwards and twisting it in the headshell so that it lines up with the calibration marks on the gauge. This is usually done at two points on the gauge and you repeat the process until the cartridge is lined up at both. Finally, re-check the tracking force, ideally using a stylus balance, and you're ready to go.



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# Audio-Technica

## ATH-CKR10 in-ear headphones



**THIS IS THE** latest arrival in Audio-Technica's range of in-ear headphones and acts as the flagship, although at £240 it is comparatively reasonably priced judged by recent trends. As a brand, Audio-Technica has never shown much enthusiasm for armatures and the ATH-CKR10 is a dynamic driver design albeit with some significant differences to conventional dynamic models. Each enclosure actually mounts a pair of 13mm dynamic drivers placed in a counter firing arrangement. In order for them to be able to make noise they are out of phase. A-T claims that this reduces distortion while improving the bass response.

To reduce the effect of the excess energy that the drivers can generate, each opposed pair is placed in what Audio-Technica with perhaps a taste for the comic book describes as an "iron yoke" – in reality an open-ended cylinder that is closed at either end by the drivers themselves. This reduces magnetic flux and keeps the drivers fixed in place. The chamber that they are placed in is then tapped at one end with the tube that mounts the earbuds.

### Grand designs

This is in keeping with A-T's design practise in this regard, although it does make the ATH-CKR10 look a little unusual and decidedly less sleek compared with some rivals. Another trademark design feature is that the cable mount is partially separated from the driver housing, which further increases the overall mass of the headphone. The ATH-CKR10 does break with some previous designs in that it relies purely on the ear canal for fitting and doesn't make use of the pinna, which the majority of people will find more conventional.

Slightly lumpy appearance aside, the ATH-CKR10 is well assembled and the four sizes of earbuds supplied should fit most ear canals well providing both a decent seal to the outside world and reasonable levels of comfort while it does so. The only slightly bum note is that the carry case, while very smart, is



a little on the large side to fit in your pocket and there is no inline remote control included on the cord.

Audio-Technica earphones have been a little insensitive in the past, but the unusual driver arrangement here doesn't seem to be hard to drive. Neither does this relatively complex design show any obvious signs of shortcomings in terms of cohesion and coherency. At no stage does the ATH-CKR10 ever sound like a pair of drivers fighting it out, instead managing to sound commendably neutral and very open with a smooth and even frequency response from top to bottom.

In comparison with some similarly priced armature designs, it can lose a little fine detail in some tracks, but hits back with an impressive bass response that is largely beyond anything that armature designs can manage. Not only is this bass deep, detailed and commendably fast, it is also well integrated with the rest of the frequency range and it lends the Audio-Technica a scale and authority that some earphones lack.

This scale and heft is also balanced with a commendable sense of drive. Give the ATH-CKR10 something with a little speed to it – like the driving beats of UNKLE's *Caged Bird* – and

there is a real sense of attack to the way that it goes about this dense and aggressive piece. This is usefully balanced by a slight smoothness to the top end that makes poorer-recorded material easier to listen to without adversely affecting better-mastered material. This means that the ATH-CKR10 shares the Audio-Technica house sound that manages to balance refinement with reasonable neutrality.

### Forgiving nature

With very compressed material, the presentation can become a little scratchy and thin, but only under duress and the ATH-CKR10 is far more forgiving than a number of similarly priced rivals.

The ATH-CKR10 makes good use of the distinctive technologies that it incorporates and Audio-Technica has managed to make an earphone that is still very recognisably a product of its design ethos – and happily it has done so without some of the more curious design features from its older models. The result is an extremely capable all rounder and a very easy earphone to live with. There is no shortage of competition at the price, but the ATH-CKR10 is a very impressive earphone. **ES**

#### DETAILS

**PRICE**  
£240

**TELEPHONE**  
0113 2771441

**WEBSITE**  
eu.audio-technica.com

#### OUR VERDICT



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## Analogue

Aesthetix Rhea MM/MC multi input phono stage dem  
Aesthetix Rhea Signature, as new new  
Albany MCA11, battery MC step up, excellent used  
Aphason Xenon with Audio Origami rewired dem  
Audiolici phono stage and line preamp dem  
Avid Acutus Ref power supply dem  
Avid Volvere SP turntable, sealed box new  
Bakoon EQA111r phono stage, near mint boxed used  
Benz Micro LP, boxed plenty of life left used  
Clearaudio Innovation Compact, good condition dem  
Clearaudio Unity Tonearm excellent boxed dem  
Clearaudio Basic Symmetry Phono Stage boxed used  
Conrad Johnson Premier Six phono preamplifier used  
Garard 401, Jelco 750 12" arm, new plinth and lid used  
Graham Phantom Supreme 12", SME cut dem  
Hadam Slee Fanfare Gramamp 3 used  
Haddock 242 Export, boxed dem  
Inspire Full on Technics 1210/Plinth/PSU/SME M2 arm used  
Linn Sondek, Heed PSU, vgc boxed used  
Linn Sondek, Ittok, Troika, boxed new lid used  
Linn Sondek, Ittok, boxed new lid used  
Linn Sondek LP12, Khan, Rubicon, Ittok, excellent used  
Linn Sondek LP12, Khan, Rubicon, no arm excellent used  
Linn Sondek, Grace 707, basic psu, VGC+ used  
Linn Sondek, Naim Arm, Staff build Armageddon used  
Linn Basic Plus, vgc+ used  
Logic DM101 c/w Alphason HR100s and MC15 super used  
Lyra Erosion Step up used  
Lyra Skala, excellent boxed used  
Michell Gyro Export, SME 309, QC PSU, boxed used  
Michell Gyro Export, Rega arm, Gyropower, boxed used  
Michell Tecnoarm A in black as new mint boxed used  
Michell Synco/RB25/Eroica, great condition used  
Michell Hydraulic Ref c/w Fluid arm, superb used  
Moth phono stage dem  
Musical Fidelity XLP/SV8 phono stage dem  
Musical Fidelity XLP-S phono stage, due in used  
Naim Arm, excellent boxed used  
Naim Stageline N, vgc used  
Oracle Delphi, Zeta, due in used  
Project Phono box phono stage, great entry level MM/MC box used  
Project Phono box SE phono stage, excellent value dem  
Project RPM 10 turntable with arm and platform dem  
Project Tube Box DS, excellent boxed, used  
Project Xpression mk2, arm and cart used  
Project RPM 4 Turntable/Arm with cover, great! used  
Project Perspective, Speedbox SE, Shure V15mk used  
Project Phono box S, excellent used  
Rega RP1, excellent boxed used  
Rega RP3/Elys 2, excellent boxed dem  
Roksan TMS 2, with Reference PSU, boxed as new used  
Rothwell Riato Phono MM/MC stage c/w PSU boxed used  
SME 3009 improved, vgc+ used  
SME 3009/3, excellent boxed used  
SME V, excellent, boxed, due in used  
SME V12, nr mint boxed dem  
Technics SL110 with SME 3008 used  
Thorens TD170 Audio excellent boxed dem  
Thorens TD150, SME3009 good condition new  
Thorens TD160 HD turntable new  
Thorens TD160, Audio Technica arm, boxed used  
Thorens TD160, Rega arm, replinthed, lovely! used  
Thorens TD209 turntable package dem  
Thorens TD2030 blue turntable new  
Thorens TD125 c/w SME3009, excellent used  
Tom Evans Grove, 0.85mV/100 ohm, excellent used  
Toshmend Elite Rock c/w Excalibur/Merlin/Cover used  
Transfiguration Orpheus L, good condition used  
VDH Colibri M/C cartridge dem  
VDH Conant M/C cartridge dem  
Voyd, Voyd, split phase psu and RB900 used  
VPI Scout, JMW arm excellent used  
Wilson Benesch Act 1 Tonearm, nr mint superb used  
Zeta Tonearm, excellent used

## Radio/Recorders

Arcam Alpha 10DAB tuner, excellent used  
Arcam T61, vgc+ used  
Denon TU1800DAB, excellent boxed used  
Musical Fidelity ASDAB, sealed box used  
Naim NAT03, excellent used  
Naim NAT01 and NAPST chrome, serviced, vgc+ used  
Naim NAT101 & SNAPS, excellent £500 Naim service used  
Nakamichi DR10, excellent used  
Nakamichi CR7e, excellent used  
Nakamichi Dragon, B&W service 2013 excellent used  
Nakamichi B2, excellent used  
Nakamichi S80, near mint boxed used  
Pioneer CT91a reference used  
Pure 701ES DAB Tuner used  
Revox PR99, rated used  
Tandberg TCD440a, superb! used  
TEAC VB800s, superb used  
TEAC X1000, serviced, superb used  
TEAC X10R, serviced, superb used  
Technics RS1500 in flightcase near mint used  
Rotel RT1080, excellent used  
Yamaha KX1200 excellent used

## Amplifiers

Albany AP11 and M608 monos, excellent! used  
AMR 777 Integrated dem  
Arthem Integrated 2 Valve Integrated used  
Arcam A85, vgc+ used  
Arcam Alpha 8P, vgc+ boxed used  
Arcam Alpha 7, vgc+ boxed used  
Arcam Alpha 10 Integrated, boxed remote, vgc used  
ArtAudio Jota 520b, excellent used  
Audio Flight Pre and Flight 50 Class A power dem  
Audio Analogue Bellini VB and Donizetti Cento, superb dem  
Audio Analogue Puccini SE amp. Black dem  
Audio Analogue Class A Integrated - HUGE! dem  
Audio Project ap60 integrated dem  
Audio Research Ref 610 Monoblocks, vgc boxed used  
Audio Research SP9 Preamplifier, VGC+, MM phono used  
Audiolab 8000Q/MS, silver, excellent boxed used  
Audiolab 8000MS, UK versions, vgc used  
Audiolab 8000P vgc boxed used  
Audiolab 8200A vgc boxed dem  
Audion Sterling Plus KT88 Integrated boxed dem  
Auralic Taurus Preamplifier, excellent boxed used  
AVI Lab Series PrePower, excellent remote used  
BAT VK50se preamplifier, vgc+ used  
Bryston B100st excellent boxed used  
Cambridge Audio 840a, excellent used  
Chaper MT 34L Valve Integrated, excellent boxed used  
Cayin Audio Couplet Power Amplifier dem  
Chord Electronics CPM2650 Integrated, ex boxed used  
Chord Electronics CPA3200/SPM1200E used  
Consonance Cyber 10 Integrated dem  
Consonance Ref 8.8 integrated valve amp dem  
Consonance Cyber 211 monos c/w Pavane valves dem  
Creek OBH21, excellent used  
Cyrus Smartpower, excellent boxed used  
Cyrus Power, vgc+ used  
Cyrus XPower, excellent boxed used  
Dartzeel NHB108B, excellent £20+k new used  
Decware Mini Tori Amplifier used  
Denon PMA1500AE, excellent used  
Graaf GM50B Mk11 Integrated used  
Graaf GM100 valve power amp used  
Jolida Envoy 211 Monoblocks, £7k new, superb, vgc used  
Lavardin C62/AP150 pre/power and interconnects used  
Leema Hydra 2, vgc+ boxed dem  
Leema Elements Amplifier, excellent dem  
Leema Tucana 2, excellent dem  
LFD LS1 linestage, reasonable shape dem  
Linn Majik integrated, excellent bargain used  
Marantz PM4 Class A Integrated, in superb condition used  
Marantz SM7, great retro power used  
McIntosh C22 & MC275 Commemoratives, boxed dem  
Meridian 501 preamplifier, excellent used  
Meridian 501V preamp, excellent 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! dem  
Musical Fidelity X-T100 Integrated dem  
Musical Fidelity Pre 8 and 2 x MA66 chrome fronted dem  
Musical Fidelity F15 Power with recent MF Upgrade new  
Naim NAC82, excellent boxed dem  
Naim NAP250, olive excellent boxed used  
Naim NAP250, very late olive excellent used  
Naim NAC42.5/NAP110, vgc used  
Naim NAP250, excellent late boxed olive used  
Naim NAP150, excellent boxed used  
Naim NAP180, excellent boxed used  
Naim NAIT 5, excellent remote boxed used  
Naim NAC152/NAP155XS, excellent boxed used  
Naim NAC90/NAP92, vgc dem  
Naim NAP250, chrome bumper dem  
Neutonia Salis Integrated, classy Restek built dem  
Onix OA32 Integrated, excellent used  
Onix OA25 Integrated, excellent used  
Pathos Logos Integrated dem  
Pioneer Spec 3 Preamplifier, vgc used  
Placenter Audio Passive Linestage dem  
Prima Luna Prologue 3 Preamplifier vgc+ dem  
Prima Luna Prologue 3 Preamplifier, REDUCED dem  
Puresound L300 valve preamp dem  
Quad 99 Power, excellent used  
Quad 405, from used  
Quad 33/303, vgc, serviced used  
Quicksilver 8417 Monos with spare valves used  
Resolution Audio Opus 21 S80 Integrated dem  
Renaissance RA02 Monos, vgc and excellent value dem  
Roksan Kandy K2 Power, nr mint boxed dem  
Sansui AU-999 Integrated - fab! 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  
TalkMcLaren 60iRV, excellent boxed used  
Talk Electronics Hurricane/Tomado Pre/Power used  
Tannoy TA1400, excellent boxed used  
TEAC Distinction A1000 Integrated, ex demo used  
Trio L07C good condition used  
Union Research Prelude Integrated, excellent boxed used  
Union Research Simply Italy Integrated dem  
Union Research S2K Integrated, excellent dem  
Yamaha A-S3000, nr mint boxed dem

## Digital

Arcam Alpha 8, excellent used  
Arcam Alpha 8se, excellent boxed dem  
Arcam Alpha 9, vgc remote, recent laser used  
Arcam CD17, excellent used  
Arcam CD73, vgc+, remote used  
Atoll 100SE DAC, excellent boxed new  
Ayon CD 07 excellent boxed new  
Audio Analogue Crescendo, end of line new  
Audio Analogue Paganini (later model) dem  
Audio Synthesis Transcend CDT (Modded SONY) dem  
Ayre Evolution DVD dem  
Bryston BDA1 DAC, excellent boxed dem  
Burmester 061 CD player, excellent boxed used  
Cambridge Audio Stream Magic used  
Cary Audio CD306 Pro, near mint boxed used  
Cayin CD50-T HD/CD player, excellent dem  
Chaparral Audio Sonnet CD & Nevo remote dem  
Chord 'One' CD player dem  
Chord Qute EX DAC, excellent boxed dem  
Chord DAC 64 mk2, excellent boxed used  
Consonance CD2.2, new sealed new  
Creek Destiny Integrated CD player, boxed dem  
Cyrus Discmaster/Dacmaster, vgc+ used  
Cyrus CD7Q chip, vgc+ used  
Cyrus DAD3, remote, vgc+ used  
Cyrus CD6 se2 boxed with remote used  
Denon DNPT20AE, near mint boxed used  
EAR Acute 3, mint boxed dem  
Esoteric X03Se, near mint boxed used  
Goldenote Koala, near mint boxed dem  
Kelvin Labs DAC, rare used  
Leema Elements CD player sealed box new  
Linn Majik CD, just factory serviced, excellent! used  
Linn Karik 3, excellent boxed remote used  
Linn Sneaky Music, unopened used  
Marantz CD6003, excellent boxed used  
Marantz CD17, remote, excellent used  
Marantz CD63K1, remote, boxed excellent used  
Meridian 506/20 with MSR used  
Meridian G08, remote boxed used  
Meridian 563 DAC reasonable condition used  
Meridian 500 Transport, excellent boxed used  
Meridian 602/606 combo with remote used  
Meridian 500/563 with MSR excellent used  
Micromega CD30, excellent boxed used  
Micromega MyDAC, excellent boxed used  
Micromega Lateral, remote used  
Musical Fidelity 3.5 CD dem  
Musical Fidelity KW SACD, new laser, upgraded ps used  
Musical Fidelity M1 DAC, excellent boxed used  
Musical Fidelity M1 CDTB dem  
Musical Fidelity M3 black boxed dem  
Musical Fidelity M1Clic dem  
Musical Fidelity XDac, excellent new  
Mynrad Z20DAC, excellent boxed used  
Naim DAC, nr mint boxed dem  
Naim CD53, excellent boxed, remote used  
Naim CDI, excellent boxed dem  
Naim CD3.5, vgc used  
Naim CD5, recent new laser, upgradeable used  
Naim CDX2, 2009, excellent boxed dem  
Peachtree DAC1, excellent dem  
Prima Luna Prologue 8, ex demo boxed dem  
Project Stream Box, excellent boxed dem  
Quad 99CDP, excellent REDUCED used  
Rega Planet 2000, excellent used  
Rega Apollo R, excellent used  
Rega Apollo 35th Anniversary, excellent used  
Rega LO DAC, excellent used  
Rega Saturn, excellent boxed used  
Roksan Caspian Mk1, vgc used  
Sansui WLD201 Streamer, mint boxed used  
Sugden Masterclass CD original version used  
TAG McLaren DAC 20, excellent used  
TEAC CD3000, excellent boxed dem  
Tube Technology Fulcrum CD transport dem  
Tube Technology Fulcrum DAC (inc DAC64 chip) dem  
Yamaha CD-S3000 near mint dem

## AV/Accessories/Cables

Audeze LCD2 excellent dem  
Audeze LCDX excellent dem  
Beyer Dynamic T1, vgc boxed used  
Bryson BHA-1 Headphone amplifier, superb dem  
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  
Grado GS1000 and RA1 amplifier used  
Musical Fidelity M1 HPAB dem  
Musical Fidelity TripleX power supply new  
Naim Naxo 2-4 used  
Naim XPS DR, ex demo dem  
Naim Flatcap XS, excellent boxed used  
Naim HiCap, various used  
ProAudio Bono Reference Platform dem  
Quadraspire racks various dem  
Stax Electret B4 package, boxed used  
Stax SR404/SRM006ii, stand, cover etc boxed used

## Loudspeakers

Acoustic Energy AE1 Classic new  
Acoustic Energy AE1 Mk11 in Gloss black dem  
Apogee Duetta Signature (Reality rebuit) Superb used  
Art Audio Stiletto in Maple dem  
Aspara Acoustics HL6 in Oak new  
Audio Physic Tempo in Cherry, fair dem  
Audiovector Si3, near mintboxed dem  
Aurum Cantus Music Goddess in Gloss black dem  
Avalon Ascendant Mk2, mint crated, £10k new used  
B&W 805s in cherry, excellent used  
B&W CDM1se in cherry, excellent used  
B&W CDM1nt boxed, excellent used  
B&W DM601s3, vgc+ used  
B&W DM602s3, vgc+ used  
B&W 803 Matrix Series 2, vgc boxed used  
Davone Ray, vgc in walnut, great! used  
Dynaudio Audience 52, vgc used  
Edwards Audio Apprentice, excellent boxed used  
Eminent Technology LF78, some marks used  
Ferguson Hill 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  
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 new  
Kef LS50, excellent boxed used  
Kudos C10, boxed vgc and cheap used  
Leema Xandia Mk1 in black new  
Magneplanar MG1.7 mint boxed dem  
Mark & Daniel Mini in Grey inc. Marble cabinets. dem  
Martin Logan Quests, superb sound, reduced used  
Martin Logan Motion 15 bookshelf as new dem  
Martin Logan Prodigy, excellent used  
Martin Logan Summit X, ex demo dem  
Mission 782se nr mint boxed used  
Mission Freedom 5, vgc in Rosewood used  
Mission 752, rosewood excellent used  
Monitor Audio RS8 excellent dem  
Monitor Audio GX300, ebony near mint boxed new  
Monitor Audio BX5, nr mint boxed dem  
Monitor Audio Studio 50, vgc boxed used  
Monopulse Model S new  
Monopulse Model A speakers new  
Monopulse Model C new  
Musical Fidelity MC6 Floorstanders, boxed vgc+ used  
Naim Ovator S400, excellent dem  
Naim SBL, vgc+ used  
Naim SBL mk2, vgc+ used  
Nola KO speakers in black dem  
Nola Micro Grand Reference inc stands, £15k new dem  
Paradigm Studio 10, excellent boxed used  
PMC PB11, boxed, best walnut finish used  
PMC Twenty 21, excellent boxed, ex dealer demo used  
PMC Twenty 22, excellent boxed, ex dealer demo used  
PMC Twenty 23, excellent boxed, used  
Proac D38 in Yew, boxed fair used  
Proac Tablette 2000, vgc+ in cherry 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  
Proac Studio 125, great boxed - sonic bargain! used  
Quad 11L2, excellent boxed used  
Quad 9AS Active speakers, excellent boxed used  
Red Rose Rosebud £2.5k new with (i) stands dem  
Rega RS3, vgc+, boxed dem  
Rega RS1, vgc+, boxed dem  
REL T2 Subwoofer, vgc+ used  
Revolver Music 1, excellent boxed used  
Revolver RW45 floorstander in Cherry dem  
Revolver Cygnis Gold in Black, £14k new dem  
Sonus Faber Ellipsa, superb boxed used  
Sonus Faber Cremona Auditor, boxed used  
Spendor A6, in Walnut excellent boxed used  
Sunfire True 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  
Totem Staff, near mint boxed new  
Usher N6311, transit damaged to clear dem  
Usher Mini Dancer 1, excellent boxed dem  
Vandersteen Quattro, accessories, transformers etc used  
Velodyne DD18 sub in black dem  
Veritas H3 (Lowther drivers) in gloss black, 100db dem  
Wilson Audio Duette, excellent dem  
Wilson Benesch Actor floorstanders dem

## Special system deals

Consonance Ping CD/AMP dem  
Linn Klassik Movie 05, excellent boxed dem  
Linn Unit 24/192, excellent used  
Orelle EVO CD and Amp was £2700 used  
Yamaha CXA5000/MXA5000 as new boxed dem

**Tel: 01642 267012 or 0845 6019390 Email: choice@2ndhandhifi.co.uk**



# Chord Company

## Cadenza Reference RCA interconnect



**FOLLOWING THE LAUNCH** of its Crimson, Cobra and Chameleon entry-level cables back in 2013, the Chord Company has unveiled Reference versions of its three most popular mid-priced interconnects. Identified by the 'Reference' suffix, the heavily redesigned Cadenza Reference replaces the existing model and introduces performance-enhancing features.

The range of Reference-level interconnects features the high-performance VEE 3 plug, which was first seen on the Crimson, Cobra and Chameleon cables. The new Cadenza Reference has been completely redesigned to bring further gains in detail, dynamics and musicality. The cable utilises a twisted-pair configuration with heavy-gauge silver-plated OFC signal and return conductors and low-signal-loss PTFE insulation.

### Silver service

The Chord Company's silver-plated conductors, in combination with PTFE insulation, are designed to improve signal transfer and signal speed at frequency extremes, with the aim of producing outstanding dynamics and coherence. The over-extruded vibration-damping PVC conductor surround is intended to further minimise mechanical noise. It uses a high-density 93 percent coverage woven braid, combined with a heavy-gauge over-wrapped foil shield to offer effective signal protection across an extended bandwidth.

A fully floating dual-shield configuration is there to improve micro-dynamics and micro-detail levels, and a vibration-damping protective outer jacket minimises vibration-induced noise from external sources while preventing impedance changes to the cable.

As an alternative to the silver-plated VEE 3 RCA plugs fitted to the review sample, the cables can be terminated with Neutrik XLR plugs or as a custom configuration with one of each fitted at either end.

The Cadenza Reference cables are nicely presented in a wooden box



and need to be burnt in for several hours before they can reach their full potential. Silver can sound a little on the brittle side straight out of the box, but this usually disappears after a few hours of use. For this purpose I use Atlas' Burn-In and Demagnetizing CD, which can be left on repeat during the running-in process. The disc contains a 10 minute track of assorted noises that cover the whole frequency band ranging from low-frequency single sine waves to multiple tones and strange noises in order to electrically stress a cable by passing through it every complex waveform that it is likely to encounter. Due to the nature of the sounds produced, I recommend turning the volume right down on your amplifier.

After running in, I find that the interconnects exhibit all of the desirable qualities that I have come to expect from silver-plated cables, namely speed, attack and transparency of the sound. In addition, I find that they exhibit a well-controlled bass response and a great clarity with vocals. The latter is clearly demonstrated when listening to Vivaldi's gorgeous *L'Oracolo In Messenia*, performed by Fabio Biondi and Europa Galante. The excitement of the music and enthusiasm of the performers is fabulously conveyed

and the vocals are clearly set out in front of the vibrant performance.

Next up is Nigel Kennedy's *Recital*, which I had the pleasure of hearing him perform live and so have something to compare the recording against. Kennedy's unorthodox approach to Dave Brubeck's *Take Five* spans from a slow, ethereal introduction to an almost discordant explosion of sound – a real test for any system. The Cadenza takes it all in its stride and the violin sings out with no edginess or brashness.

### For the record

I switch the interconnect to the output of my phono amplifier to test them out with some vinyl. I am keen to try them with a full orchestra and choose a brilliant Telarc digital master recording of Bizet's *Carmen* played by the Saint Louis Symphony Orchestra. Everything is there – the rush of adrenaline as the musicians race through the *Prelude* followed by the enchanting harp and flute melody of the *Intermezzo*.

The Cadenza Reference is quite clearly a fantastic performer and reveals itself to be comfortable with a wide range of musical styles. The price may be on the high side, but I am unable to find anything else to make me shy away. **NR**

### DETAILS

**PRICE**  
From £225 for  
a 0.5m pair

**TELEPHONE**  
01980 625700

**WEBSITE**  
chord.co.uk

### OUR VERDICT



# KLE Innovations

## Absolute Harmony RCA plugs



**KEITH LOUIS EICHMANN** of KLE Innovations has released a fourth member of his Harmony series of RCA plugs. This new entry slides in above the previous top-of-the-range plug, the Pure Harmony. The range is a replacement for the legendary Eichmann Bullet that Keith designed over 15 years ago, which also features a single-point earth return contact.

As with the Pure Harmony, the Absolute's signal and earth pins are made from solid silver that has >106 percent IACS conductivity (relative to a 100 percent standard of conductivity). However, the Absolutes utilise an even higher spec KLEI PureSilver metal – the details of which are a closely guarded secret. The Absolute Harmonys also have a couple of other proprietary changes (again hush hush), but they retain the

same high melting point thermoplastic polymer housing assembly that snaps into place on a socket. The housing employs two grub screws and a small rubber collar to retain and secure the cable. Inside are the tag-shaped connections for the signal and earth for soldering and an anti-shortening shield to maximise the distance of the wires from each other, minimising inductive, capacitive and EMF effects.

### Absolutely fabulous

I have been impressed by the Pure Harmony in the past, but will I be able to detect any improvements with the Absolutes? I make up a set of interconnects using the same wire as with the Harmonys. After running them in, I am greeted with the excellent imaging, bass control and dynamics that characterise the Harmonys. I swap back to the Pures and although to my ears they sound

the same as the Absolutes in terms of describable metrics, I don't experience the same level of enjoyment that I do with the Absolutes. Listening to Beethoven's *Ninth Symphony*, the final movement sounds more rousing with the Absolutes and the choral segments are a tad more exciting. If you're into making up your own interconnects, these new plugs absolutely deserve to be placed at the end of your cables. **NR**

### DETAILS

**PRICE**  
£120 for a pack of four  
**TELEPHONE**  
01332 342233  
**WEBSITE**  
blackrhodium.co.uk/klei/

### OUR VERDICT



# Lindy

## Cromo IEM-75 dual-driver earphone

**EARPHONES ARE TRICKY** things to get right and manufacturers have quite a challenge to find a design that suits all ears. The Cromo IEM-75 is Lindy Electronics first pair of in-ear monitors and features dual drivers for superior performance. It also has an ergonomic design to offer excellent weight distribution for greater in-ear comfort over longer periods of use.

The dual-driver design has been developed to deliver a more spacious and defined sound. Each earpiece contains a 7mm driver for the high frequencies and a 15mm one to handle the bass and midrange. These are tuned within an acoustic chamber with the aim of delivering a high-quality and accurate sound. The earpieces are housed within a black chrome aluminium enclosure to provide a rigid structure for them to operate, free of unwanted external influences. Included in the package

are three exchangeable super-soft ear tips so that users can pick the right size to obtain decent sound isolation from the outside world.

The earphones have a 26ohm impedance and an attached 1.2m cable, which is terminated with a 3.5mm gold-plated stereo jack plug. Also included is a pouch to protect the Cromo IEM-75 when not in use.

### Choose your side

After my usual struggle to find the correct set of ear tips that suit the apparently unique layout of my auditory canals, the IEM-75 stays in place satisfactorily for my listening tests. There is no indication which is for the left and right ear as they are both-handed earpieces and I clearly get it wrong the first time around. After rectifying my mistake, I find that the IEM-75 produces a reasonable sound, with a good bass response.



The bass line on Todd Rundgren's *Wailing Wall* is clear and enjoyable, as are the vocals. The Cromo IEM-75 sometimes struggles with a full orchestra and I find the peaks in some Beethoven symphonies can make it get a bit muddled. **NR**

### DETAILS

**PRICE**  
£65  
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### OUR VERDICT





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# NuForce

## HA-200 headphone amplifier

**IT MAY BE** a relatively new name on these shores, but we've seen several of NuForce's products recently. The California-based company has been rattling the bars of the audiophile cage stateside for some time now with a raft of cutting-edge products with highly alluring price tags. The HA-200 is a single-ended design Class A headphone amplifier with RCA stereo phonos. The trick it has up its sleeve is the ability to drive headphones in balanced mode, although it can't manage it on its own due to its topology and hence it sports only a single XLR input. You need to buy a second HA-200 in order to run each XLR-connected channel discretely and you will require a special balanced cable adaptor to connect the headphones. Balanced connections cancel out RF interference, resulting in exceptionally low noise and a more accurate sound and in this dual-amp scenario, voltage is doubled and power output is quadrupled.

### Hot water

A minor hurdle to overcome when using two discrete amplifiers with separate volume controls for each channel is that setting the gain is like using separate hot and cold taps to fill a bath rather than a mixer. In other words, you have to set each channel's volume separately.

For this test I only have one amp so use the RCA inputs in two setups. One with a transport and the other on a desktop with a NuForce  $\mu$ DAC3 DAC (HFC 399) connected to a computer playing hi-res files.

Design-wise the HA-200 is, like most of NuForce's products, alluringly compact. It's just 217mm wide and 2.2kg in weight, with a durable, minimalist finish, rounded edges and a simple rotary volume dial that is perfectly engineered. The one aesthetic blemish is the ugly plastic tab that covers the single XLR out next to the 6.3mm headphone jack. Peak power output is quoted as 937mW per channel at 32ohm with an output impedance of 5ohm and 10Hz to 20kHz frequency response.



One slight disadvantage that Class A amplifiers have is that the transistor bias current must be set such that the output transistor continually operates in the midpoint between its fully-on and fully-off limits. Therefore, regardless of the actual audio power being used, Class A amplifiers continuously consume their full-rated output power and dissipate that in the form of waste heat. In other words, they get hot and remain so when switched on, so there is no standby mode, just an on/off rocker switch on the rear.

Partnered with a pair of Oppo PM-2 headphones, the HA-200 delivers a pleasing combination of clarity and substance regardless of source. Its soundstage is broad and dynamic, with plenty of headroom, and it reveals itself to be especially adept with higher frequencies.

The cacophony of Frankie Goes to Hollywood's *Two Tribes* on SACD is served up with real gusto and a sense of scale that gives the vocals an extra edge, allowing them to rise above the distraction of the heavy guitars.

With the computer as source, the piano in Beethoven's *Piano Concerto No.5* in E flat major is focused and well defined, but not teeth-grindingly sharp, retaining a pleasing degree of texture. It's a finely balanced act that the HA-200 pulls off throughout the

dynamic range, allowing each layer of sound to be heard distinctly in more complex passages so that the strings, wind instruments and percussion are delivered with aplomb. Removing the HA-200 from the equation and using just the  $\mu$ DAC3 robs the piece of some much appreciated warmth and control, and shows just what the headphone amp brings to the party.

### Flame on!

Spinning the Flaming Lips' *Yoshimi Battles The Pink Robots* on CD perfectly encapsulates the HA-200's capabilities. The mesmerising vocals are elevated wonderfully, yet remain smooth and rounded. Guitars and keyboards mesh nicely and are dynamic, while the synth at the start of *In the Morning Of The Magicians* is stunning. In terms of bass, the extension pulls up a tad short but the timing is spot on and the lower end always feels muscular and tight.

Whether used in a desktop rig or with traditional analogue sources the HA-200 acquits itself admirably. It's a simple and straightforward headphone amp that has a well balanced and beautifully revealing sound. The option to use it in a balanced configuration is handy, but you'll need to splash out on a second unit to run both channels. **AJ**

### DETAILS

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### OUR VERDICT

★★★★★

# CABLES

## PART 2: Speaker, interconnect and power leads

In the second part of our look at the importance of cables in a hi-fi system, we let analogue connectors take the spotlight

**O**ver the years there's been a lot of discussion on the subject of cables – both mains and interconnects. Some maintain that they make a huge difference to the quality of the sound and others think they don't. In a letter published in *HFC* 396, a reader challenged the theory that analogue interconnects are directional by pointing out that audio signals produce alternating currents in a cable. This sparked off much debate over whether they make a difference

**It is only with better quality systems that you are likely to hear any improvements**

to sound quality, so here we attempt to clear up some of the confusion.

Those who analyse the evidence from a purely engineering point of view may argue that cables do not affect sound quality as there is little electrical difference between one set of wires and another. There are plenty of excellent articles that explain the importance of the electrical characteristics that we can measure like capacitance, inductance, characteristic impedance and so on.

However, although these things are very important, they don't explain the whole picture.

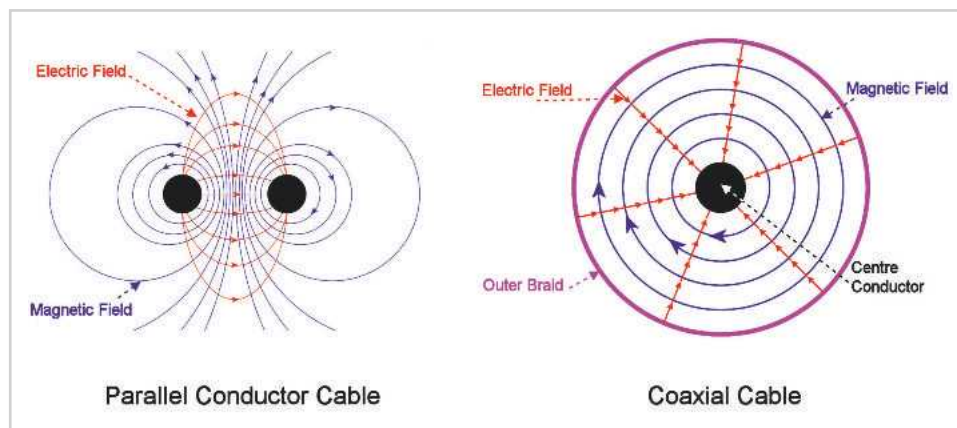
### The bigger picture

With direct current (DC), a cable is simply two conductors of electricity that are insulated from each other to prevent shorting. The electric and magnetic fields resulting from the current flow soon stabilise into a fixed pattern around the conductor. The conductors need to offer negligible resistance to the current flowing within them in order to avoid wasting power through heat generation. Oxygen-free copper has splendid properties, but when it comes into

contact with the air or is subjected to high temperatures during the process of applying the insulation, it doesn't stay oxygen-free for long. Silver, silver-plated copper and silver and gold wires are really good, but also more expensive as would be expected. The metal can be cryogenically treated to modify its crystalline structure which, if done correctly, can produce noticeable audible improvements.

However, as soon as we start to send alternating current (AC) through cables we need to consider other issues. Apart from the DC electrical resistance of the wires, whether they are audio interconnects, loudspeaker

**This diagram shows the fields in a cable**





cables or mains ones, the reactive elements of the cables come into play and these in turn will affect the impedance and the phase characteristics of the signal. The electric and magnetic fields around the conductors will be constantly changing, and that in itself will have the potential to induce undesirable signals. Furthermore, the dielectric properties of the insulator play an important part in modifying the electric and magnetic fields around the conductors.

The best dielectric is air, with a Dielectric Constant close to 1.0 (that of a vacuum). However, air would not be a good choice for several reasons, not the least of which is the lack of support for the conductor. Teflon with a Dielectric Constant of 2.1 and polyethylene at 2.3 are better choices, but even these have an influence on the fields around the conductor.

Not only are the choices of material important in the design of cables, but also in their construction. Coaxial cables have the benefit of containing the electric and magnetic fields within the cable to help to screen out interference from outside sources. They are, therefore, the design of choice for audio interconnects. Mains and loudspeaker cable construction ranges from simple parallel wires to complex weaves of individually insulated wires.

### Socket to me

Of course, one must not forget the two ends. Plugs and sockets will all play an important part in maintaining the physical layout (such as the use of RCA phono plugs to maintain the coaxial structure). Low contact resistance is extremely important in order to avoid such issues as a connector becoming a point-contact diode, changing its resistance depending on the direction in which the current is flowing.

Another complication is interference from outside sources. This can be in the form of electrical interference from the mains transformers or radio frequency signals, such as those generated by mobile phones. It can also be physical interference caused by external vibrations or even internal vibrations from the cables themselves, all of which will induce unwanted signals in the cables.

So, it is fair to say that the issues affecting cable performance are complex, to say the very least.

There is a wealth of audio interconnect cables on the market to suit all pockets. A fine example of this is the VEE 3 range from Chord. The

VEE 3 (Vibration Eliminating Enclosure) RCA phono plugs that are fitted to these cables are made from precision-machined medical-grade acrylic, the design of which has been influenced by Chord's flagship cables. The cables themselves are the Crimson, Cobra and Chameleon VEE 3 (HFC 379). The Crimson's utilise multi-strand oxygen-free copper conductors, the Cobras have more strands and add silver plating to the conductors and connectors, and the Chameleons have a twin return semi-floating conductor configuration and improved shielding. Chord's Epic

**Chord Company's C-Line interconnect**

## A cable is simply two conductors of electricity insulated from each other

Twin (HFC 388) loudspeaker cable is also worthy of consideration.

There are some great medium-priced cables available from Black Rhodium in the form of its Tempo interconnects. These use silver-plated copper wires encased in silicone rubber insulation to minimise distortion due to dielectric absorption effects. Incidentally, Black Rhodium addresses the cable directionality issue in the manufacturing process by marking the direction of manufacture of the wires and having the signal and earth return wires laid in opposite directions within the cable.

Also worthy of consideration are the CU and CUX solid core interconnects from Fidelity Audio (HFC 394). These are surprisingly flexible considering they contain solid core conductors. Both cables use gold-plated solid core high-purity copper conductors and are

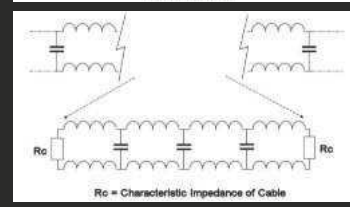
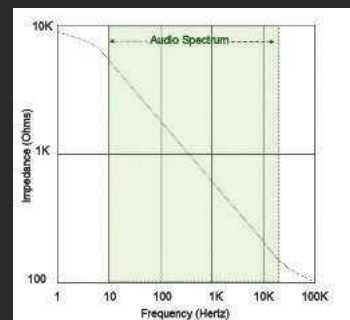
**Main Cables R Us' No.5 mains power lead**

### PROPERTIES OF A CABLE

A cable of any length and configuration can be viewed as a network of series inductors and parallel capacitors. Each of these elements is a little inductance-capacitance (LC) filter, which has an impedance that varies with frequency. This is insignificant at low frequencies, but starts to become important as frequency increases. The actual values of inductance and capacitance will give a particular cable its character. As inductance causes the current to lag the voltage (and capacitance has the inverse effect), cables will cause minute phase errors between current and voltage, which are frequency dependent.

At higher frequencies, a cable can also be considered to be a transmission line with a defined characteristic impedance, and, therefore, we must also consider its wave propagation properties. Many would argue that even with frequencies of 100kHz or higher, the transmission line effects are not relevant. A rule of thumb is that this only becomes relevant in cables longer than a 10th of the wavelength of the signal - that's about 300m long at 100kHz. So, why are the transmission line properties of a cable important for audio? A cable has a defined characteristic impedance, which is the impedance of an infinitely long length of the cable at a particular frequency. For the sake of argument, let's consider a standard 75ohm coax cable (the same discussion will apply to any cable design). Being infinitely long, there is nothing to reflect the signal back along the cable. If one then removes a finite section from the cable, say a 1m length, the two pieces left are also infinitely long, by definition, and each has a characteristic impedance of 75ohm. Therefore, our 1m length of coax would have seen 75ohm at both its ends and, as previously mentioned, there is nothing to cause reflections of the signal within the cable. So, if this cable is terminated at each end with a 75ohm load, then it is said to be perfectly matched with no reflections to attenuate or distort the signal. This is great for radio frequencies and, in any case, has no relevance at audio frequencies - right? Well, actually, no...

If we look at a graph of the variation of the characteristic impedance of a cable with frequency for a standard 75ohm coax cable, the greatest variation occurs between 5Hz and 50kHz, which happens to be right across the audio spectrum. This is going to give rise to unwanted reflections, albeit tiny, within the cable that vary with frequency and this may well adversely affect the sound that we hear.



fitted with the KLEI Copper Harmony RCA plugs (HFC 388). The conductors of these hand-made cables are sheathed in an anti-microphonic material in order to reduce mechanical vibration, which can pollute the audio signal. Each of the CU interconnects employs two conductors, whereas the CUX use four.

One must not overlook tonearm interconnects that have a 5-pin tonearm connector at one end and RCA plugs at the other. Such a cable is the Linear Flow 2 (HFC 368) from Origin Live. The phono plugs are high-quality WBT-0102 Cu and have pure copper signal conductors, which are gold plated. The DIN plug also has gold-plated sockets.

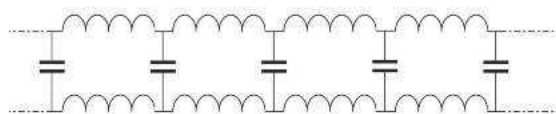
## Fight the power

Many would argue that a mains lead can't possibly affect the sound as any undesirable signal will be filtered out by the power supply before it gets to the amplifier. However, given that filters have different effects at different frequencies, it is unlikely that the components of a power supply will remove all unwanted mains-borne signals. Especially with a Class A amplifier, where the power supply is effectively in series with the signal, it is highly probable that noise and non-linearity effects coming into the equipment from the mains will find its way into the audio path.

The No.5 mains power lead from MCRU employs 4mm-thick individual OFC conductors to deliver a high current as rapidly as possible to power hungry components. The cable is also screened with an active earth shield to prevent pick up of RFI. It is terminated at each end using high-quality Furutech connectors, which have undergone a cryogenic treatment process to improve conductivity. Both connectors are fitted with filters in the form of ferrite rings over the wires, which is an effective way of suppressing RFI by dissipating it in the ferrite ceramic.

Another fine cable to consider is the TCI Temple Constrictor from True Colours Industries, which features 16 individual cores of PTFE-insulated silver-plated copper and one 2.5mm PVC insulated copper earth wire. The multiple PTFE-insulated conductors are braided together and sleeved in a halogen-free polyolefin insulation. They are then wrapped in a tough but flexible polyester braid, which is constructed from flame-retardant materials, thus making it suitable for permanent installation.

Of course, not every piece of audio equipment is fitted with an IEC 3-pin



**A cable can be represented as a network of series inductors and parallel capacitors**

connector. Some require a cable fitted with a 'figure-of-eight' plug, otherwise known as a shotgun connector due to its distinctive appearance. The Kimber PowerKord-8 from Russ Andrews can also be supplied fitted with a figure-of-eight connector. It is based on the Russ Andrews Classic PowerKord and uses the same Kimber woven cable technology, incorporating eight of Kimber's hyper-pure copper conductors woven in a unique pattern. It is insulated with Teflon and housed in a flexible braided protective sheathing. The company has perfected a new technique for attaching a figure-of-eight plug onto the cable at one end and at the other there is a high-quality UK mains plug fitted with a Russ Andrews 13A fuse.

## Getting it right

As we improve our systems, other more subtle changes become apparent. Crudely put, if you spend £20,000 on a high-end audio system, you are very likely to hear the improvements that good-quality interconnect cables make. Conversely, a cheap system purchased from your local supermarket is unlikely to show any benefit from a cable upgrade.

It is only with better-quality systems that you are likely to perceive the subtle improvements offered by one cable above another, such as better clarity and realism, a greater involvement with the performances and a lower noise floor. This applies to any cable, whether it be an audio interconnect, a mains cable or even a loudspeaker interconnect.

A cable sceptic will highlight the apparent irrelevance of typical steady state measurements and will point out that the calculated frequency effects of the inductive and capacitive values of

## CRYOGENIC TREATMENT AND BURNING IN CABLES

Cryogenic treatment of cables is a fairly common process applied to metallic alloys to improve their mechanical properties through stress relief and the formation of micro-precipitates, a technique that can also be applied to cables and valves. The physical changes to the metals are clearly evident, which is why some musical instruments are subjected to cryogenic treatment. The view is that they experience improved tonal performance due to the altered physical and mechanical characteristics after treatment. It is also suggested that tympanic instruments will resist cracking and sliding parts will resist wear and last longer as a consequence of this treatment. In addition to modifications to the physical properties, cryogenic treatment causes the crystal boundaries and the impurities in the metals to be changed and, in some cases, the properties of the dielectric insulators can also be modified. Whatever the reasons, independent tests, such as blind listening panels, have shown that this can improve the sound.

As with cryogenic treatment, opinions differ concerning the value of burning-in cables. Some say that it is a complete waste of time. However, many people have experienced permanent changes in sound quality once a cable has been used for a period of time. Burning cables in can be done by continually playing music (or pink noise) for at least 100 hours using the new cables before making a final decision. You can download a modified pink noise file created for this very purpose from: [hagtech.com/media/frybaby.mp3](http://hagtech.com/media/frybaby.mp3).

any normal audio cable at normal lengths are much higher than any audible frequency, including the all-important harmonics. This simplistic argument implies that such delicate, complex and highly variable sonic qualities demonstrated by different cables such as imaging, soundstage depth, clarity and ambience can be completely explained by simple frequency attenuation. While it is easy to define the "first order" effects of LC filters and how these affect frequency attenuation, the indirect effects of phase errors and time delay of the audio signal on our perception of the more subtle aspects of sound reproduction cannot be so easily defined.

Understandably, many people are sceptical about claims of the sonic benefits of cables, which they consider to be unsubstantiated since they can't completely be backed up with scientific proof. However, that's like saying that bumble bees couldn't fly until around 2005 when scientists figured out how they actually do so. We live in a world where new, unexplained issues arise. Maybe one day, as with the bumble bee, we will be able to explain all of the ways in which cables affect sound, but in the meantime, perhaps it is good enough to simply enjoy the unexplained ●

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## DESTINATION:

## NEW MILLS

Fancy listening to Kate Bush while reading *Wuthering Heights* or some Led Zep to go with your Tolkien? **Simon Berkovitch** has found the perfect place

**T**his is the ultimate job for me; a dream come true," says Gareth Kenyon, record shop manager of one of Derbyshire's best-kept secrets: proudly independent High Street Books in New Mills, 15 miles from Manchester. The vinyl enthusiast is as fine a representative of the new wave of record shops as you'd hope to meet – affable, knowledgeable and passionate about the format he peddles.

For a bibliophile and vinyl junkie like me, High Street Books – Books, records and CDs: bought, sold and found – instantly hits the spot. Stepping inside, you're in that glorious comfort zone in which time slows and the pressures of the everyday world recede into insignificance. Shoot the breeze with friendly owners Adam and his partner Northe, eyeball the tempting orange, green and blue spines of a wall of vintage Penguins and Pelicans, head to the back of the shop and make the steep descent into Gareth's fiefdom – an inviting, light-filled basement packed with glorious black wax, in the hand-built racks and on the walls; pre-loved and shrinkwrapped; old favourites and those waiting to be discovered. Two Technics SL-1210 turntables – always a good indication of a promising vinyl emporium – form the listening post. A professional-quality record cleaner is behind the counter. Band T-shirts hang on the back wall. Music books lurk under the racks. Home sweet home.

"Over the last four and a bit years, with tremendous help from our brilliant volunteers Gary and Adnan, we've transformed an overcrowded cellar into a fully fledged record shop, stocking a large selection of second-hand and new LPs and 7ins of all genres, CDs, comics, graphic novels, sheet music, music books and badges," Gareth explains.

Before Adam and Northe took on High Street Books nearly five years ago, the shop was an entirely different proposition. On the ground floor, instead of tastefully presented and logically ordered sections, divine disorder reigned supreme – shelves treble-deep in some

**"I like to cherry pick a collection [of vinyl] that helps compliment the stock that we have"**

cases. The basement was even more extreme – boxes and boxes of unsorted LPs waiting for a dedicated crate-digger such as Gareth.

A chance conversation led the way to the ultimate find. "Every week, my best friend and I meet up and spin records," Gareth explains. "His dad mentioned this great little bookshop in nearby New Mills that had new owners and he'd heard, but never actually seen, that it had a cellar full of unsorted records. The following morning I grabbed my car keys and headed in

search of the Holy Grail; an untapped vinyl collection." On arriving, Gareth quizzed Northe about the mystery of the cellar: enthusiastically, she led Gareth downstairs. "What I was greeted with blew my mind," he recalls. "There was hardly room to move. Every wall was covered; crates piled to the ceiling. I spent six hours unearthing boxes to go through. It was the ultimate dig."

### Can you dig it?

Gareth returned frequently over the following weeks, helping to excavate the treasure trove of vinyl and buying plenty of great records along the way. "While digging away, Adam and I had conversations about the potential of the stock and the space, and before long I had signed up to the cause of turning the cellar into a record shop."

The shop has a loyal and ever-growing customer base, locally and further afield. "It's amazing how far word of mouth can travel, coupled with a basic understanding of social media," says Gareth. "Apart from having being listed in the back of *Record Collector* magazine as we're a stockist, we don't advertise. We once had a chap from Japan call into the shop. The language barrier was a little difficult, but we shared the language of records. He was using the shop guide in the back of the magazine as a travel guide, working his way around as many shops on his visit to the UK as he could manage."





Gareth (right) is the custodian of a vinyl treasure trove in the basement of this brilliant book shop



Gareth has also created his own travel guide with a work-in-progress Facebook page, Record Shops UK. "Searching social media, it's difficult to find any information on other record stores without already knowing the shop's name. On Record Shops UK, each shop is listed using a photograph of their shopfront in an album folder named after the area they're in. You simply click the Derbyshire album, for example, and in that folder will be every current trading record shop in the area. In the description of each photograph I list the shop's address, phone number and links to their Facebook page and website. Simple.

"Record Shops UK is becoming a quick reference travel guide when visiting an unfamiliar town. We all know that most record shops over the years have been pushed off the high street and down onto the side streets where they have become harder to find. Searching local council listings or town centre maps is usually a fruitless task."

The page also acts as notice board; an extra news outlet for the shops listed. "Most shops like us try to post regularly about new things coming into the shop or an upcoming event etc. I share those shop statuses onto our own newsfeed as a way to help extend their reach and hopefully gaining them more exposure and potentially new customers."

## Web of wonder

Like many emerging and established vinyl emporia, online sales – via ebay, Amazon and Discogs – account for the large majority of the shop's income. "We're in a very small town with limited footfall," Gareth explains. "Having the internet as a selling tool is invaluable. The online catalogue we've amassed also acts as an extension to the shop stock – and if we don't have it in the racks there's a good chance we may have it in our warehouse. Having the online catalogue allows us to keep the stock fresh. If anything sits around for too long, we catalogue it online and replace it with fresh new stock to keep the loyal locals with new treats to discover."

Over the last 12 months Gareth has added an eclectic mix of new LPs and 7ins to the mix, ranging from repro Northern soul 45s to Krautrock reissues and many genre points in

between. "We don't have a large selection, preferring second-hand vinyl, but I like to cherry pick a collection that helps compliment the stock we have. Some albums are rare or very expensive and out of reach for the average buyer, so reissues make perfect sense. And who doesn't enjoy breaking the seal on a brand-new record and treasuring that feeling of fighting the static when pulling the record from its inner sleeve that first time?"

## Community spirit

There's a vibrant community of musicians in New Mills and High Street Books is keen to champion them. Gareth has cassettes, vinyl and merchandise from local electronica artists in pride of place in the cabinet and on the walls; Northe has organised sell-out gigs in the local arts centre, including those from award-winning folk artist Bella Hardy and a forthcoming appearance by Eddi Reader.

"Being in a small shop, we don't have the space for instores, so being able to organise local events such as Bella's fantastic gigs helps to scratch that itch," Gareth explains. "We like to offer shelf space as a free platform to help promote local authors and artists. There are plenty of innovative musicians living round here, many already signed to labels. We are always willing to sell their music and merch and believe in not taking a penny for doing so. I mean, if you can't rely on your local record shop to help you out, who can you? If truth be told, they are doing us the real favour by coming in and buying records."

"As well as selling things to help artists, we also give up wall space for anything local to be advertised. You can always rely on the pin board to inform you what film is on at the next community cinema meet or the theme of the next [Glossop] record club gathering. It's important for the shop to become a hub for the local community to use." ●



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## SHOPPING LIST

Gareth rummages through the racks and pulls out eight most-essential new and pre-loved releases currently in stock at High Street Books



### Various artists

**Eccentric Soul: The Dynamic Label**

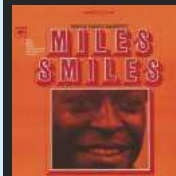
"The Numero Group is my favourite label right now, each time releasing records compiled from long-forgotten, small-town American labels."



### Sonic Youth

**Dirty**

"This original 1992 LP is a must-own for anyone who appreciates brilliant lyrics and innovative guitar stylings. Nobody else blends distortion and melody so seamlessly."



### Miles Davis Quintet

**Miles Smiles**

"This album is a cool slice of quintessential sixties modern jazz. The second of five albums released by Miles' second quintet, featuring the great Herbie Hancock on piano."



### Paul Orwell

**You're Nothing Special**

"The second 45 by the contemporary psych/beat artist. We're giving away this single online soon and Paul's limited edition album *Blowing Your Mind Away* is out this summer."



### Howlin' Wolf

**Moanin' In The Moonlight**

"My favourite artist and album ever. The Wolf was the real deal – raw, distorted and energetic. Originals are pricey, so we always have an affordable reissue in the racks."



### Bering Strait

**Archive O**

"A fantastic, limited double cassette by local artist Jack Lever, AKA Bering Strait. Prepare to be swept away by waves of soothing drones. The cover is printed on sandpaper!"



### The Fall

**458489 A Sides**

"The Fall has produced some of the best guitar music of the last 30 years. This is a perfect entry point for newcomers. They weren't John Peel's favourite band for nothing."



### Lou Reed

**New York**

"Backed on a couple of tracks by his old Velvet Underground bandmate Maureen Tucker, this 1989 LP is a return to brilliance for one of rock's great artists."


**WIN:**

# UPGRADES FOR YOUR SYSTEM

We've got seven very special accessory bundles to give away

**G**etting the very best performance from your hi-fi system is a difficult balancing act. But once you've splashed the cash on the highest quality turntable that money can buy, the king of amplifiers, the cream of the crop when it comes to streamers and the best that the CD world has to offer, where do you turn next? The answer lies in accessories, or more precisely the cables and interconnects that you choose to hook up all your beloved equipment.

While shopping around for wires isn't exactly the most glamorous of ways to spend your time, it's a vital part of squeezing that extra last drop of quality out of your setup. The good news is that we've taken some of the hard work out of the job for you with this month's competition prizes, which we like to think of as a first aid kit for your system.

Speaking to some of our contacts in the industry, which include the very best cable manufacturers and accessory providers, we think we've come up with the perfect prize for the hi-fi enthusiast who has everything, well nearly everything. So we've got together with our good friends at The Chord Company, Ecosse and Roksan and gathered up the best Ethernet cable, interconnect and electronic stylus balance that money can buy.

## Cream of the crop

When we reviewed The Chord Company's excellent C-Stream Ethernet Cable (*HFC* 386) back in 2014, we were impressed by its superior construction to the usual all-plastic RJ45 plugs that are so often fitted to Ethernet cables. More importantly, it was the subtle improvement in spatial positioning of instruments that really won

us over and we didn't hesitate to award it five stars and give it one of our coveted Recommended badges.

Though we've not put Roksan's Electronic Stylus Balance and Ecosse's Reference Cable 'The Baton' interconnect through quite the same rigorous testing procedure as we have the Ethernet cable, we are impressed with the quality that they both bring to the table and believe that you too will notice the difference they'll make to the performance of your turntable and hi-fi. But don't take our word for it, find out for yourself by entering the competition and bagging one of these special prize bundles. With a value of £234 each, they're certainly not to be sniffed at.

To be in with a chance of winning one of the seven bundles on offer, answer the simple question, stick it in the post to us and keep your fingers crossed. Good luck!





### The Chord Company C-Stream Ethernet cable

Designed to bring sonic benefits to Ethernet-enabled streaming audio components, the C-stream is a high-spec cable with OFC conductors and low-density polyethylene insulation. Each of the twin conductors are precisely twisted; the pair featuring an overlapping foil shield and the four pairs are then wrapped in a further foil shield. It has gold-plated signal contacts with a moulded plug surround, making it the perfect upgrade.



### Ecosse Reference Cable "The Baton" Interconnect

This sensational interconnect from Ecosse Reference Cables uses top-quality silver-plated, ultra high-purity oxygen-free copper conductors, precision wound in a double helix around a central core. The sophisticated dielectric comprises a polyethylene primary insulator with secondary low-loss air-foamed polyethylene insulation. The cable is supersoldered to premium plugs and offers a spacious, detailed and smooth sound.



### Roksan Electronic Stylus Balance

The Roksan Electronic Stylus Balance is a compact digital stylus gauge and an essential accessory for those vinylistas that want to get the most from their beloved record collection. Able to measure tracking weight to an accuracy of 0.001g, you can set your cartridge up with the utmost precision. This compact digital gauge is the most precise stylus balance tool available, is ridiculously simple to use and will give your records a new lease of life.

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How precisely can the Roksan gauge measure tracking weight?

- A) 0.001g
- B) 0.0001g
- C) 1g

### TERMS & CONDITIONS

1. Entrants must be over 18 years old and resident in the United Kingdom. 2. Employees of My Time Media and companies supplying competition prizes are not eligible to enter. 3. Proof of posting will not be accepted by the magazine as proof of delivery. 4. No responsibility will be accepted for entries lost, damaged or delayed in the post. 5. No alternatives, cash or otherwise, will be offered to the winners as prizes. 6. The editor's decision is final. 7. The closing date is 5th August 2015.

### HOW TO ENTER

Write your answer here to win:

This coupon should arrive by 5.30pm on 5th August 2015 addressed to: Accessory Bundle Competition **Hi-Fi Choice**, c/o Data Europe Limited, 12 Regent Street, Haslingden, Rossendale, BB4 5HQ

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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.

The simplest way to send your ad is via email to: **letters@hifichoice.co.uk** or mail: **Reader Classified, Hi-Fi Choice, AVTech Media Ltd, Enterprise House, Enterprise Way, Edenbridge, Kent, TN8 6HF.**

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## FOR SALE

**ARCAM** CD73 CD player, excellent, with manuals and remote £140. Arcam rLink DAC £50. Two Sony minidisc decks, one immaculate, the other used but working £40 and £20. Atlas Element digital connect £15. Atlas Equator phono pair 1m £40 and £20: **07710256440** or email: **eadmike@gmail.com** (Sussex).



**FOCAL** Electra 1027 speakers (burgundy), excellent condition with original boxes. £1,950 ono. Buyer to collect: **07913236601** or email: **farrow\_jim@hotmail.co.uk** (Essex)

**MUSICAL FIDELITY** A308cr dual mono preamplifier £600. A308cr 24-bit upsampling CD player £500. A3.2 RDS tuner £300. All items have had one owner and less than 100 hours of careful use. They're unmarked, in their original boxes and have been racked and dust protected from new: **07500804700** or email: **imeldayates@hotmail.com** (Cheshire).

**NAIM** phono stage, Moving Coil, Stageline-S. Together with Russ Andrews Power Pak 3. £195 the pair: **02392453382** or email: **alanmacleod1@virginmedia.com** (Hants). **AUDIOPHILLO 2** Advanced 24/192 USB-S/PDIF converter with Pure Power Supply £445-00 (£900-00): **01202515474** or email: **johnlangley17@talktalk.net** (Bournemouth, Dorset)

**AMPS** World Audio Design 300B Monoblocs Built by One Thing Audio. Superb condition. Can be auditioned £900 the pair:

**01202481386** or email: **rodwaymichael43@yahoo.co.uk** (Christchurch, Dorset). **UNISON RESEARCH** Unico CDE, 1 year old, black, mint, unmarked condition. Very little use, complete with remote, user manual, power cable and all original packaging £1,500 ono: **02033803618** or email: **halmarick@me.com** (South London).

**QUAD** 606 power amp, upgraded to Mk2 specification by Quad, in good condition, owned from new, with all paperwork and original packaging; offers around £380. Collection only: **01295721399** or email: **Philip.miles10@gmail.com** (North Oxfordshire).

**EAR** 834p phono stage MM/MC perfect working order £550. Tascam DA-20 mk2 DAT machine plus 20 tapes £85: **07729620621.**

**AUDIOLAB** M-DAC, black £395. Roksan K2 120W integrated amp, black and silver £395. Dynaudio DM2/7



**DENON** TU-1800 AM-FM/DAM stereo tuner In black, excellent condition, with manual. Upgrade forces sale. £50 ono, buyer to collect: **01909489684** or email: **Brian.boldero@sky.com** (Nottinghamshire/South Yorks border)

standmount speakers, black £295. Boxed with remotes and instructions and all in excellent condition. £995 for the lot: **07956959032** or email: **waynebtully@gmail.com.**

**KIMBER** KCAG 0.5m interconnect with ultra plate phono plugs, deep cryogenic treatment, super burn in enhancement and a mini zapp filter attached. (RRP £740) £295 cash if collected, £310 cheque posted: **01902884694** or email: **jukey39@yahoo.co.uk** (West Midlands).

**GARRARD** 401 original condition, wooden plinth and arm, stored for 30+ years. In working order, £500: **07947067045** or email: **david@hammondarchitect.co.uk** (Oxford).

**CYRUS** 6 CD player ex, with remote control £250. Mission 752 floorstanding speakers ex. Buyer to collect: **07730477564** (West Midlands).

**AKG** Q701 Quincy Jones Signature Line headphones, in white, mint condition, boxed, only light use (£340 RRP) £100: **07905348812** (Watford)

**COPLAND** CSA28 valve and transistor integrated amplifier, excellent condition, boxed with instruction manual and RC 101 system remote control. Cost £1,249 new. For sale at £575 ono: **01179070947** or email: **selmanalan@hotmail.co.uk** (Keynsham Bristol).

**MONITOR AUDIO** BX 6 floorstanders in black, mint condition (RRP £650) £350. Buyer to collect: **01942234713** (Lancashire).

**FOCAL** Electra 1028 BE 3-way, 4 speaker floorstander

with Beryllium tweeter, dark wood finish, only light use, mint condition, boxed (£5,075 new) £2,500: **07905348812** (Watford).

**PIONEER** A400 integrated amplifier, recent overhaul £400: **01270238783** (Somerset).

**CHORD COMPANY** Chameleon 1m interconnect £50, 3m pair Odessa 2 speaker cables with banana plugs, hardly used £50: **01132933478** (West Yorkshire).

**PIEGA** TS5 slimline column loudspeakers, superb aesthetics and sound quality, mint condition, buyer collects £575: **07944594705** (West Yorkshire).

**ARCAM** Alpha 10 power amp, perfect, low use £250 including safe dispatch: **01556680314** (Castle Douglas).

**WANTED** Celestion Ditton 25 speakers, JVC JA-S11G amplifier, Garrard TA MkII turntable in good/excellent condition please: **01344413719.**

**ONKYO** ES-HF300S headphones, hardly used £150. Albarry S508 power amplifier in very good condition £250. Musical Fidelity X-PSU V8 power supply unit, mint condition £275: **07708431963** (Cheshire).

**LINN** Klassik, excellent condition, can post £250. Rogers LS55 floorstanders, tidy. Buyer collects £100: **01233661556** (Kent).

**MERLIN** mains cables from £25. Black Widow etc £70. Missing Link Orbit mains cable (£130) £60 each: **01475529216.**

**MUSICAL FIDELITY** M6i amp with black finish. In

**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!



pristine condition and little used. Comes fully boxed: £1,200 ono: **07791529128 or 0207 2528122.**

**REL** Q100 Sub in great condition powder blue. Variable slope filter and volume ensure great integration, high or low-level inputs. Infinite baffle design £120: **07793749178 or email: kingjuancho@yahoo.com (London)**

**MARANTZ** CD6000KI signature CD player £100. Arcam Alpha 6 plus amp with phones and phono amps £100. Cambridge Audio DacMagic £100. KEF Coda 8 speakers £30. All in lovely condition: **01727 842769 or email: alanmeagher@yahoo.com (Hertfordshire).**

**ATLAS** Elektra interconnect (i/c), 1m pair £150 (£450). Chord Cadenza i/c with VEE plugs, 1m pair £90 (£200). van den Hul The First Ultimate 2i/c, 0.6m pair £100 (£250). All RCA, vgc and in original packaging. Audioquest CV-6 (with 32V dBS battery) speaker cable (s/c), 10 ft pair bananas £140 (£400). Chord Odyssey 2s/c, 2.5m pair bananas-to-spades £85 (£150). Wireworld Polaris 5 s/c, 2m pair bananas-to-spades £195 (£500): **07772 711432 or email: richard.schofield@kcl.ac.uk (High Wycombe, Bucks).**

**STAX** SR-407 Earspeakers and SRM-006TS valve driver/amplifier, immaculate condition and rarely used. Personal import from Japan

bought on impulse. Superb sound, 100V transformer inc in sale £900 ono: **07902 494835 or email: rowland.fraser@icloud.com (Inverness).**

**MUSICAL FIDELITY** AI CD Pro. Philips Pro 2 mechanism, lead-free version. 24-bit/192kHz DAC, toploader +PUC. Buyer collects, excellent condition £700: **07969 531763 (North London).**

**MICHEL** Tecnoarm all black, new, unused £350. Rega RB300 tonearm modified by Origin Live and extra height adjustment rings, boxed, mint condition £250: **01505 346791 (Renfrewshire).**

**250** Hi-Fi magazines for sale. *Hi-Fi Choice, Hi-Fi News, Hi-Fi World, etc.* £80 ono: **01484 427426 (Huddersfield).**

**ROKSAN** Kandy L3 power amp. Great sounding, 125W per channel 8ohm or 185W 4ohm, little used, world favourite £250: **07793 749178 or email: kingjuancho@yahoo.com (London).**

**BANG & OLUFSEN** Beolab 9 active speakers for sale. 700W per speaker VGC £2,600. Collect and demo: **01923 829354 or email: michaelhardy10@btinternet (Middlesex).**

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**AUDIO INNOVATIONS** S800 Mk1 power amp. Service/modded (email for details) £450. Postage possible. Pair Elipson Planet L standmount speakers, gloss black, 3 months old. One grille slightly dimpled otherwise VGC £225 (RRP £600). Buyer to collect: **07595 701774 or email: cawarra@tiscali.co.uk (Flintshire).**



**ONKYO** A-9010 UK amplifier, black, as new, only used once £150 ono: **01889 575434 or email: fisherkpf@aol.com (Staffordshire).**

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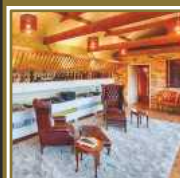
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