



Star turn

EXCLUSIVE: Elipson's debut vinyl spinner



Arcam irDAC-II

Super converter adds Bluetooth



Hi-Fi Choice

PASSION FOR SOUND

Issue No. 412

July 2016

Mini marvels

Six multi-room speakers for wireless music streaming around the home

Top turntables

Five best-buy decks and how to make your LPs sing

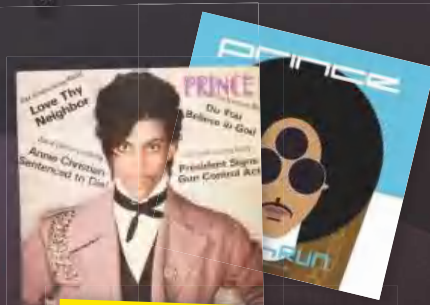
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PRODUCTS ON TEST:

Audio-Technica, Chord, Rega, Sonos & Yamaha

BEAUTIFUL SYSTEM

Spendor and Devialet delight



MUSIC LEGENDS

A celebration of Prince and his purple reign



Viva Reva

Wharfedale's latest gem builds on Diamond series



Sweet music

Belles Aria integrated amp hits all the right notes

JULY 2016
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PRINTED IN THE UK
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criterion audio



Criterion Audio is a premium hi-fi dealer in Cambridge. Whether you are an established turntable enthusiast or a new convert to the vinyl revival, there has never been a better time to listen to records. We have complete turntables to suit every budget as well as a wide range of tonearms, cartridges and phono preamps. We also offer leading turntable service expertise to help you get the most out of your existing system. Come visit us, relax and enjoy some vinyl magic.

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GRAHAM SLEE



AND MANY,
MANY MORE



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Audio-Opus
Opus 1



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Audio-Technica
ATH-A2000Z

Musicreviews



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Kris Kristofferson
The Complete Monument & Columbia Album Collection

BADGES EXPLAINED

OUR AWARDS



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



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



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



It's always good to know that people are paying attention to what goes into the magazine, so we've been pleased to receive several letters in our postbag concerning the rise of vinyl and what some readers have described as our favouritism for the format over any other media.

It's true, *Hi-Fi Choice* has long supported vinyl even in the slump years, and the last six months have been an interesting time for the format as record sales continue to grow beyond all expectations and the number of turntable models coming to market is also steadily on the rise. As editor, I am proud of our 'passion for sound' tag line and strive to reflect real-world hi-fi market trends and the most interesting new audio products to share with fellow hi-fi fans. Vinyl is no longer a revival format, it's back, and as demonstrated by the variety of different turntables on show at the Munich High End Show – see our *Show Report* on page 10 – is appealing to audio fans on all kinds of budgets looking to reconnect with music in a tangible way that can seemingly only fully be achieved with the vinyl format.

Of course it really isn't *all* about vinyl, and reviews of digital sources are on their way as soon as the products arrive. Like you, we simply enjoy listening to music in the best quality available. With this in mind, it would be interesting to know the music sources you favour. Write to us at: letters@hifichoice.co.uk or look out for our online poll and tell us what formats you enjoy.

Lee Dunkley Editor

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Never miss an issue – turn to p64 for our latest subs offer



Air supply

Celebrating 25 years of domestic and studio loudspeaker design, British brand PMC introduces twenty5 series at Munich's High End Show

PRICE: £1,870-£6,995 **AVAILABLE:** NOW **CONTACT:** 01767 686300 **WEB:** PMC-SPEAKERS.CO.UK

FORMULA ONE MOTOR racing and loudspeaker design might seem worlds apart, but a clear understanding of aerodynamics and the effects of air turbulence and drag is one of the key considerations in the design of PMC's Advanced Transmission Line bass loading, found in its new twenty5 series of loudspeakers. PMC's head of design, Oliver Thomas, has some experience in the motor sport, and has used his knowledge to develop an

aerodynamic Advanced Transmission Line (ATL) bass loading Laminair vent that's employed in the five-strong loudspeaker series to reduce resistance and increase efficiency.

Additional innovations incorporated throughout the new series include a new long-throw mid/bass driver with woven glass fibre cones, as well as refinements to its established Sonolex fabric dome tweeter to improve dispersion for a wider soundstage,

says PMC. As with previous speakers from the company, the new series has slopping front and rear baffles.

Room service

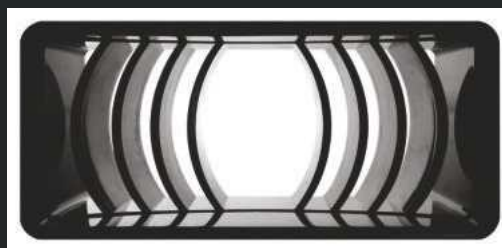
Launched at the High End Show in Munich last month (see our full *Show Report* on page 10) to mark the company's 25th anniversary, the series includes models designed for different-sized listening rooms and comprises two standmount and three



floorstanding loudspeakers. The two-way twenty5.21 (£1,870) and twenty5.22 (£2,450) models incorporate a 27mm tweeter partnered with a 140mm and 170mm long-throw mid/bass driver respectively. The twenty5.23 (£2,970) and twenty5.24 (£4,250) floorstanders are also two-way designs and share the same tweeter and mid/bass drivers found on the 21 and 22 standmounts. The flagship of the series is the three-way twenty5.26 floorstander (£6,995), which has the same 27mm tweeter partnered with a 50mm midrange driver and 177mm bass driver.

All models are available in a choice of oak, walnut and amarone real-wood veneer finishes plus a high gloss black option. The cloth speaker grilles have magnetic fixings, and a matching twenty5 series speaker stand is available, costing an additional £295.

**Aerodynamic
ATL Laminair
vent developed
from Formula
One know-how**



COMMENT

IS HISTORY REPEATING ITSELF?

Cast your mind back to the early days of CD and you'll no doubt be able to remember that the key stumbling block for the format wasn't related to the high price of the players, the fact that early adopters were slow in coming forward or that people were determined to stick with vinyl, but it was down to the scarcity of software. The take-up of CD was surprisingly swift and people across the UK were keen to try out the new indestructible (ahem) music technology that they'd seen being demonstrated on *Tomorrow's World*. But the difficulty came in finding anything decent to play on it. Many labels regarded CD as an audiophile format and so wrongly assumed that it was only suitable for classical recordings. Incredibly, even after Dire Straits became the first album on CD to outsell vinyl, the music industry was surprisingly sluggish in jumping onto the bandwagon.

Skip forward some 30-odd years and the landscape has changed significantly (ironically vinyl is back on the rise), but the story remains the same, only this time you can substitute CD for MQA. For those that haven't been paying attention, Meridian's MQA performs the magic trick of squeezing a quart into a pint pot, using Meridian Lossless Packaging (MLP) to produce hi-res-quality files that don't take up as much space as rivals. The technology is deeply impressive, but as compact disc proved (almost to its detriment), if the software isn't available it doesn't matter how good the technology is. The good news is that despite a slow start to its life since its launch in December 2014, MQA finally appears to be on the up. In the last month hi-res music download site HighResAudio (highresaudio.com) has joined the list of MQA music providers (with 30 albums made available initially and more to come), while Nordic Label 2L has added to its MQA catalogue with a series of classical music releases. But without doubt the big news for the format is that Warner Music Group has become the first major to throw its hat into the ring. With artists as diverse as Prince, Madonna, The Rolling Stones, Frank Sinatra and Kylie Minogue to name but a few, MQA may finally have received the shot in the arm it so richly deserves. ▶



WARNER MUSIC GROUP

Smart multi-room start

Norwegian brand Ixion announces new wireless streaming audio system

PRICE: £1,099 **AVAILABLE:** NOW
WEB: IXIONAUDIO.COM

JOINING THE WORLD of multi-room music systems, Ixion is a new company from Norway. The Maestro is the first model to come from the luxury audio brand, and is touted as an all-encompassing music centre with Tidal, Spotify and Apple Music streaming services supported. It's hand built in Oslo and is 220 x 220 x 220mm (WxHxD), with two 2.75in front speakers and a 5.5in subwoofer. Users can connect via wi-fi, LAN, Bluetooth, USB, digital Toslink, analogue stereo RCAs or 3.5mm jack inputs, while internet, DAB/DAB+ and FM radio options are also on board. It claims support for up to 24-bit/192kHz music file playback, and MQA format support is apparently on the horizon. The Maestro is sold exclusively through Harrods and is available in grey, blue, white and red finishes.

Ixion's multi-room capabilities come into play when the Solo:2 speaker (£299) launches this summer. Up to eight speakers can be linked to the Maestro, all uniquely networked via a power line rather than over wi-fi.



IN BRIEF

ENTRY-LEVEL TANGENTIAL



German hi-fi brand Clearaudio brings linear tracking to more vinyl fans with its new TT5 Tangential tonearm technology, priced at £1,750. Many vinyl fans will be familiar with the benefits of this kind of tonearm, but for anyone that needs a refresher the arm is designed specifically to mimic the vinyl cutting lathe as closely as possible, maintaining a constant 90° angle to keep the cartridge parallel to the groove from the beginning to the end of a record.

Tracking force and azimuth are finely adjustable, but if you want the ability to swing the arm out when loading an LP you'll need to add the optional swing base at an extra £250. soundfoundations.co.uk

Cyrus ONE reimaged

PRICE: £699 **AVAILABLE:** NOW
CONTACT: 01480 410900 **WEB:** CYRUSAUDIO.COM

Getting its first official showing at the High End Show in Munich last month (see *Show Report* starting on page 10), Cyrus unveils its new ONE integrated amplifier. It's not the first time that the Huntingdon firm has given the '1' model name to an integrated amplifier, and the original Cyrus 1 some 30 years ago provided the footprint for its compact range of components that continue today.

The reimaged ONE has a distinctly contemporary aesthetic with two large front panel controls for source selection and volume

level control. Internally it offers a claimed 2x 100W maximum power output and utilises the third generation of the company's hybrid Class D technology with automatic Speaker Impedance Detection (SID) circuit to instantly measure the speaker impedance connected to its bi-wire-compatible speaker binding posts and to adjust the amplifier to suit.

There are four line-level inputs including AV bypass and a built-in moving-magnet phono stage input. Bluetooth connectivity with aptX is also on board as is a Class

AB headphone amplifier. Additional features include LED dimming to match the brightness of the front panel indicators to the environment and any firmware updates are catered for via the micro USB port on the rear of the chassis.

Cyrus tells us that the new ONE is aimed at what it calls: "a group of enlightened consumers that are design lead, feature and interface driven, interested in brand reputation and listen to music in a personal manner".

It's available now in a textured and high-gloss black finish.



MUSICAL FIDELITY

M6 ENCORE 225



Intuitive Operation, Huge Connectivity, Internal 1TB Upgradeable Hard Disc Drive

The Encore 225 is a complete audio solution allowing you to keep all your music in one place. It accepts almost any conceivable analog or digital audio source.

Experience it for yourself at your local Musical Fidelity dealer.



High End 2016

HFC visits the show that's considered by many to be the highlight of the hi-fi calendar, and where audio meets art

The High End Show is a true celebration of state-of-the-art hi-fi, held this year from 5 to 8 May in the heart of Munich. Mighty global brands and small hi-fi specialists come together from far and wide to showcase exactly what they can do. Running over four busy days, the show is a Mecca for those wanting to be the first to see and hear the cutting edge of hi-fi as well as enjoying weird and wonderful ways to recreate music. With true German efficiency, the doors open exactly on time and excited visitors pour through the four enormous, airy and light exhibition halls and atrium rooms to check out over 500 exhibitors. Vinyl is in abundance with many 'uber' high-end turntables needing a crane to move them and a very understanding bank manager to afford them. Ultra modern high-resolution audio abounds alongside ancient glowing

valves and huge horn loudspeakers tower over the most rarefied of electronics and appreciative listeners.

Shows are usually challenging places to hear quality sounds, but Munich High End 2016 has rooms that leave you spellbound for the high level of sound quality exhibitors manage to achieve. Sound of the show? Truly exceptional sounds come from less well-known brands like Leedh and Volya Audio, but Audio-Technica's AT-ART1000 cartridge with moving coils located at the very tip of the cantilever, is also remarkable.

Dealers and distributors come from all over the world, as well as hi-fi fanatics and music lovers and even local families out for a weekend to experience the spectacle and enjoy local beer, music and Bavarian delicacies in sunny courtyards. Here are a few show highlights that caught our eyes and ears.

1 Celebrating its 90th birthday, ELAC launches its Concentro flagship speaker. At 1.7m tall and 140kg each, it makes quite a statement and is set to cost c.€50k. elac.com

2 Showcasing a step up for the Q Acoustics Concept range, the flagship 500 floorstander has new drivers and cabinet design and will cost £2,500. It launches in September. qacoustics.co.uk



5



6

3 The Cyrus ONE (a name last used in 1984) is a 2x 100W (claimed) integrated amp with speaker impedance sensing, moving-magnet phono stage, Bluetooth aptX plus headphone amp for £699. cyrusaudio.com

4 German engineering at its most beautiful. The Transrotor Tourbillon FMD is 60kg of precision engineering and serious eye candy for vinyl lovers. €28k for the turntable and €8.5k for the stand. Hydrangeas extra. transrotor.de

5 One of the busy rooms at the show, Divine Audio owner Tim Chorlton keeps visitors entertained with demonstrations of AnalogueWorks turntables, Rogue Audio electronics and EgglestonWorks loudspeakers. divineaudio.co.uk



7



8

6 Audio-Technica's landmark AT-ART1000 cartridge has moving coils located at the very tip of the cantilever and promises a revealing and very dynamic sound. It costs around £4,100. eu.audio-technica.com

7 More anniversary treats from ELAC. The Miracord 90 Anniversary turntable has a decoupled motor, silicone feet and a carbon fibre tonearm. It's priced at £1,600 and broadens the brand's appeal as a one-stop solution. elac.com



9



10

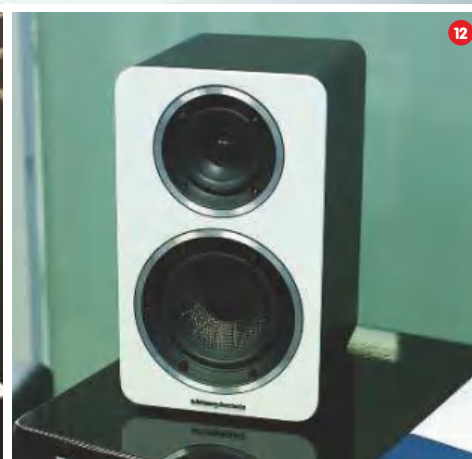
8 Arresting looks and 18 drivers firing in all directions with 8,200W of claimed power, the radical Beolab 90 comes with Active Room Compensation and Beam Width Control and costs around £27k per speaker. bang-olufsen.com

9 The extraordinary Universum three-way Mk II from hORNS has a downward-firing active 15in bass woofer (at the base of the banana) integrated with a Beryllium midrange driver and tweeter mounted in their own horns. horns.pl

10 Audiolab shows the 8300N network player (top) due for release this summer. Based around a class-leading ESS Sabre chipset, it promises high performance alongside wireless convenience. Price is still to be confirmed. audiolab.co.uk



11



12

11 Unveiling its Mohican CD player, Hegel is poetically suggesting this may be the last and ultimate silver disc spinner you'll own, and implements the Norwegian's patented SoundEngine technology. hegel.com

12 Wharfedale's Diamond Active A1 speaker has a small separate hub that takes coaxial, optical and RCA inputs along with Bluetooth, and communicates with both speakers via an uncompressed wireless signal. wharfedale.co.uk

13 Popular with recording studios, Harbeth's Monitor 40.2 three-way speaker seems to define the term 'reference' and delights visitors with its communicative performance. It's available in four high-quality wood finishes from £10,595. harbeth.co.uk

14 Volya Audio Systems from Ukraine shows off its hand-painted speakers. The masterly lacquering combines with ceramic, diamond and ceramic/Kevlar sandwich drivers to create unique design and impressive sonics and brings new meaning to flower power! volya.audio

15 Also celebrating its 90th anniversary, Luxman shows off a sumptuous array of components. On show here is the MQ-300 single-ended triode stereo amplifier (top), D-05 Super Audio CD player (below) and L-550AX Mark II integrated amplifier. luxman.com

16 Marantz showcases its Premium 10 Series products. The SA-10 SACD player also has a USB port to handle hi-res audio and the PM-10 integrated amp is actually dual mono with separate power supplies for preamp and power sections. Prices are to be confirmed. marantz.co.uk

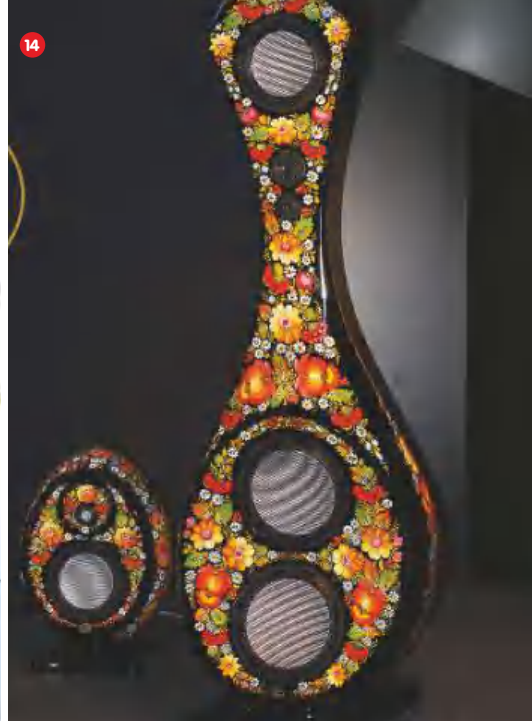
Rooms leave you spellbound for the high sound quality exhibitors achieve

17 Celebrating its 80th birthday, Quad joined in with a one-box solution, displaying the Artera One. An all-in-one CD player, amplifier and network streamer with digital and analogue inputs alongside Bluetooth and UPnP wireless connections. quad.co.uk

18 A true heavyweight, the Sprocket turntable from Tone Tool is fitted with a Dereneville DTT O2 tangential tracking tonearm that constantly measures its exact position with a laser. It's like no other turntable we've seen before and can be yours for €230k. tonetool.de

19 With Italian styling that wouldn't look out of place on a Ferrari, the Extreme Audio Sigma Acoustics MAAT reference speaker seems to redefine a full-range loudspeaker. Taller than onlookers, it claims 100dB sensitivity and an ability to cover 16Hz to 30kHz. extremeaudio.it

20 Each Trafomatic Elysium mono tube amplifier looks like a precious exhibit housed in a museum case. The Tune Audio Anima horn speakers weigh in at 75kg and boast 109dB efficiency. extremeaudio.it; tuneaudio.com



A close-up, low-angle shot of a Dynaudio Emit speaker driver. The driver is a circular, metallic component with a central tweeter and a larger woofer section. It is mounted on a dark, possibly black, metal frame. The lighting is dramatic, highlighting the metallic surfaces and the intricate details of the driver's construction. The background is dark, making the speaker stand out.

Emit.

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Visit www.dynaudio.com to find your nearest authorised Dynaudio retailer.

Listen to the new Emit Series.

DYNAUDIO

Webwatch

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



YouTube Bargain hunt
In its latest Record Sweep challenge, which gives contestants 10 minutes to spend £100 on vinyl, The Vinyl Factory gets Scottish post-rockers Mogwai hunting high for 12in treasures at Vinyl Pimp. See the band's basket at: youtu.be/-vPatV5oc0s



Facebook freebie
Headphone expert Sennheiser teamed up with intimate, invite-only gig specialist Sofar Sounds last month to give music lovers the chance to win free gig tickets in London, plus a pair of Momentum cans via Facebook. You can find out more here: solarsounds.com/comp/sennheiser-1



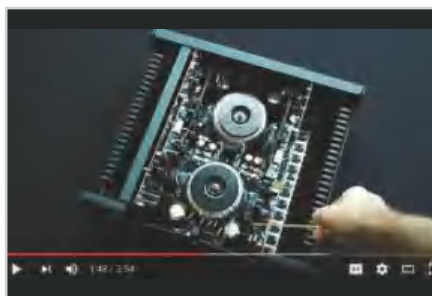
Martin's musings
Norwich-based Martin's Hi-Fi certainly has got plenty to talk about and its regular blogs are always a good place to point your browser for latest news, opinion and thought pieces ranging from the challenges of acoustics to preamp and CD player shootouts: martinshifi.co.uk/blog/



Facebook New move for Moorgate
Sheffield's Moorgate Acoustics has been exciting its social media followers with its new store opening, and this picture of retired company founder Keith Hobson, who launched the retailer back in 1981, warmed our hearts: bit.ly/1Xxo6QG



Twitter Crafting cables
Maine's Transparent Cables lived up to its name last month by sharing this short Twitter video, which provides a behind-the-scenes glimpse of the modules for its Transparent Reference cables being machined before assembly, ready for high-end audio action: bit.ly/1ZOatbv



YouTube Lifting the lid
New Zealand's high-end amp specialists PureAudio is so proud of its Duo 2 Class A power house that it's released this insightful video, which takes an indepth look under the hood to talk through its carefully configured internals. See for yourself at: youtu.be/jN5LGYACe0A

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CHOICE TWEETS

SOUND FOWNATIONS (@SOUNDFOUNDTATION)
Some nice photos of our event at The Audiobarn just over a week ago! Big thanks to Jack Satchfield & Toby fb.me/4pDqXaoJI

SUGDEN AUDIO @SUGDNAUDIO
The #Sugden A21 & #BBC licensed LS3/5a's, in continuous production for over 40 years bit.ly/25m8eXf

KEF AUDIO UK (@KEFAUDIO)
For @AudioTPreston @AudioTgroup Saturday 14th May was no ordinary day - it was KEF REFERENCE 3 unboxing day

LOUD & CLEAR GLASGOW (@LOUDCLEARHIFI)
We have the stunning YG Acoustics Carmel 2 speaker on dem. The high-end in a small footprint yg-acoustics.com/category/carmel-2

OXFORD AUDIO (@OXFORDAUDIO)
@KogAudio has just delivered our brand new Stillpoints range. Amazing what they can wring out of a system! bit.ly/20CcjA1

B&O PLAY (@BEOPLAY)
Read how #BeoPlay creates aesthetic Active Noise Cancellation for music lovers beoplay.com/musicloversANC

THE SOUND GALLERY (@THESOUNDGALLERY)
Rare 40 year old @RegaResearch #turntable serviced and ready to rock. #madeforvinyl bit.ly/247NNYh

MUSIC MATTERS (@MUSICMATTERSLTD)
Forty years ago. Friday flashback. A&R Cambridge A60 amplifier. Arcam Of Cambridge musicmatters.co.uk fb.me/75NxyHfiE

HENLEY DESIGNS LTD. (@HENLEYDESIGNS1)
NEW: The Classic by @ProjectAudioSys Retro style meets modern technology. henleydesigns.co.uk/The-Classic-p1513

BOWERS & WILKINS (@BOWERSWILKINS)
New to Society of Sound this month is the remarkable debut album from @thebreathmusic b-w-social/3SH1

GRADO HEADPHONES (@GRADO)
Mahogany + maple = our first hybrid wooden Grado, the GS2000e: t.co/rvFHMnCzoS

MUSICAL FIDELITY (@MF_HIFI)
@AudioTgroup Cardiff listening to the MF Encore #streaming #hifi #tidal system with @BowersWilkins & @HIFIRacksLtd

STONEAUDIO.CO.UK (@STONEAUDIO)
Sonus faber introduce a brand new family of entry level stereo & AV loudspeakers. Meet Principia! #highend2016

O'BRIEN HI-FI (@OBRIENHIFI)
@Simaudio Moon ACE has finally arrived and it's worth the wait. A fantastic integrated amp!

twenty5 series

THE DEFINITION OF PERFORMANCE

A quarter of a century of research, obsessive design and craft has produced the **twenty5** series – loudspeakers that deliver all the passion of the original performance, conveying every nuance. The range refines our **ATL** bass-loading concept with new drivers, new materials, and **Laminair**, a revolution in audio dynamics. With its natural musicality, vivid audio picture and rich, enveloping bass at all levels, the **twenty5** series lets you feel the music, not simply hear it.

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Platinum
twenty year warranty



twenty5.23
in Walnut



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www.pmc-speakers.com

ATL[™] 
FEATURING **Laminair[™]**

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supreme clarity, timing & speed



Diamond heist

What happens when you take a budget gem and reimagine it as a glossy premium standmount? **David Vivian** finds out...

Trickle down. An expensive, cutting-edge product lends key aspects of its design and tech to a much more modest, affordably constructed and priced item, raising its performance/price ratio and gifting the brochure copywriter some useful ammo to spin-up a nice little cachet halo. It's certainly an efficient and logical way of doing business and routine practice for many loudspeaker manufacturers.

But with its new premium Reva range, Wharfedale seems to have turned the whole idea on its head. The aspirational datum point isn't the

The Reva-2 delivers a 'being there' ambience, which is truly immersive

company's reassuringly pricey heritage-based designs, nor the awowedly A-game 'audiophile' Jade lineup. Wrong direction. Try the Diamond 200 series, Wharfedale's long-evolved entry-level best seller. You might feel tempted to insert a big 'huh?' here. Let me explain.

Instead of 'trickle down', say hello to the 'what if?' school of speaker design. As in, what if we took all the great ideas that went into making the Diamond 200 range such a price-point star and executed them with a relaxed budget and up-market brief? And that's what Reva is – arguably the world's first gravity-defying 'trickle up' speaker. It's not quite that neatly contrary, of course. Part of what makes the Diamond 200 range so capable is the woven mid-bass driver tech handed down from the Jade series models. But there is a number of features previously unique to the Diamond that inform Reva's design: the sandwich cabinet construction and 'Slot-Loaded Distributed' bass reflex port to name but two.

The newcomers sit in the upper echelon of Wharfedale's these days quite extensive speaker portfolio, below the Airedale, Denton and Jade, but above everything else. There's also an intriguing inhouse rival. At £600, the Reva-2 – the larger of the two standmounts in a range that additionally includes two floorstanders and a centre for home cinema systems – is exactly the same price as Quad's S-2 (HFC 408), which also resides under the corporate IAG umbrella and has a common design boss in Peter Comeau. But where the Quad has an advanced ribbon tweeter, all the Revas use the same 25mm textile soft dome tweeter, accompanied by one or more woven glass fibre mid-bass drivers – in the case of the Reva-2, a single 125mm unit. A fourth order Linkwitz-Riley precision crossover handles the handover between the drivers. Both types are designed and built at Wharfedale's factory in Huntingdon with the obvious advantages that brings to

► DETAILS

PRODUCT
Wharfedale Reva-2

ORIGIN
UK/China

TYPE
2-way standmount loudspeaker

WEIGHT
7.8kg

DIMENSIONS (WxHxD)
204 x 357 x 275mm

FEATURES

- 25mm soft dome tweeter
- 125mm glass-fibre weave mid/bass driver
- Quoted sensitivity: 86dB/1W/1m

DISTRIBUTOR
IAG Group

TELEPHONE
01480 447700

WEBSITE
wharfedale.co.uk

Woven glass fibre mid-bass driver with aluminium surround

integrating the mechanical and acoustic elements of the speaker. It's claimed that a significant element of the Diamond 200 series' sonic success is down to the sandwich construction of its cabinet panels. Wharfedale's engineers spent a lot of time getting this right, finally settling on layered particleboard and MDF of differing densities as the best defence against panel resonance 'hot spots' and the resulting 'hear-through' colouration caused by the cabinet singing along. Reva literally builds on this technique by adding more layers to the sandwich, which is then bonded together in a heated press to form the tapering curves of the side panels, so fashioned to banish internal standing waves. So fashionable, too.

Some like it slot

A direct lift from the Diamond 200 series is the so-called 'Slot-Loaded Distributed Port'. Instead of a hole in the back or the front of the cabinet, the Reva, like the Diamond, has a narrow, full-width slot delineated by the base of the actual cabinet and its plinth. According to Wharfedale's engineers, this type of reflex loading allows a smoother transition between the pressure variation in the cabinet and the low-frequency output into the room. The claimed upshot is greater efficiency and less distortion than would be the case with more typical ported bass reflex arrangements leading to a deep, articulate and well-integrated bass response, qualities that are retained even if the speakers are placed close to a wall.

As you'd hope, the Reva-2 rocks more of an uptown look than any



standmount in the Diamond 200 range. It also feels solid, weighty and meticulously crafted. The cabinets are hand finished with multiple layers of piano lacquer, each layer polished before the next is applied. Aluminium driver surrounds – anodised and abrasively blasted for a matt finish – also promote the premium message. By any standards, the Reva-2 is a well-made and turned out transducer and, predictably, appearances are kept up round the back with chunky, knowingly OTT bi-wire terminals.

Sound quality

I think we're all familiar with what could be termed the 'modern standmount signature sound'. Designed for immediate showroom appeal, it's the kind of presentation where openness, clarity and detail are pushed to the fore and, with some nifty port tuning on board, bass can seem quite fulsome and punchy, too. All told, not a bad compromise for most types of music, albeit a little 'contrived'.

Well, you'll be either delighted or disappointed to hear that the Reva-2 isn't like that at all. It doesn't really matter what you kick off with – I've chosen a little up-tempo Gregory Porter from his new *Take Me To The*

Alley CD – there isn't the slightest trace of superficial hype, and you'll notice that if you put socks on when you got out of bed, you're still wearing them. I doubt you'll be dazzled. This isn't meant as a negative criticism, just a first impression. But, here's the thing. As auditioning progresses, what had initially seemed a little lacklustre becomes good. Then better still.

Rather than attempt to snare your interest with a bit of sonic showboating, the Reva-2 plays the long game with a much more measured and careful interpretation of what it is being fed. With each passing track, its slower-burning style summons greater musical traction and emotional pull than speakers that set out to be more overtly 'transparent' but can end up sounding rather bright and pernicky. Rather, it feels comfortable in its own skin. Mr Porter's alluring vocal fusion of warmth and grit comes across as rich and full-blooded, with the Reva conveying just the right amount of edge with a convincing sense of dynamic ease on the few occasions he squares his shoulders and opens up. And although not quite as spacious-sounding as the KEF R100



Were we to re-run our recent *Group Test* of £600-£800 standmounts (HFC 408), I don't think there's much doubt the Reva-2 would be vying for top honours. Looking back at that test, it strikes me that the Wharfedale's major strength would have been to combine the best qualities of some of the other models – in particular marrying the effortless, room-filling scale and power of the £650 Monitor Audio Silver 2 with the smooth, unflagging presentation of the £600 KEF R100 and much of the all-embracing musicality of the test-winning, but £795, Quadral Chromium Style 2. The closest call, maybe predictably, would have been between the Reva-2 and the identically priced Quad S-2, the latter's ribbon tweeter giving it the edge in clarity and resolution but the Wharfedale possessing the more satisfying overall balance.

I have to hand (HFC 408 also £600), there's a solid, three-dimensional believability to the imaging the smaller KEF simply can't match.

These are not, by any stretch, lean-sounding speakers stripped out for speed and rhythmic impact. Timing is good without drawing attention to itself. Foot-tappingly good for sure, but there's no need to leap behind the sofa to avoid a volley of well-aimed rim-shots. The Reva-2 doesn't exaggerate for effect, doesn't trip over itself trying to sound impressive. But instruments and performers do sound almost tangibly believable. There's a fine sense of cohesion top-to-bottom, too. If it doesn't quite manage to reproduce the subtlest of micro-dynamic nuances like my reference standmount (Elac's ribbon-equipped BS263 – HFC 401 – admittedly twice as expensive), it doesn't miss by much. Just as important, detail is conveyed with a degree of naturalness and harmonic richness that really brings out timbre and texture.

The Reva-2 also has plenty of presence and authority, in part thanks to its excellent bass performance. Some ported standmount boxes give you plenty of bang for your buck

Reva is arguably the world's first gravity-defying 'trickle up' speaker

while largely glossing over shape, timing and texture, making all-important lower frequencies sound amorphous and undifferentiated. Not so here. Smooth extension, well-defined pitch and realistic dynamics are all in evidence and, once more, swat any lingering notion that the Reva-2 is merely a pair of souped-up budget boxes. It aims much higher than that and, accordingly, is voiced more in the manner of a high-ender. The days of boom and tizz are thankfully over, but the absence of manipulative emphasis here is in itself striking. Without sounding in any way forward or forced, the midband has focus, dimensionality and transient accuracy, while treble is extended and silky and does very nicely without the help of spray on sparkle.

Also very grown up is a talent for proportion and scale – a feeling of spatial coherence that can bring a sense of venue alive as much as the performers themselves. My favourite benchmark test in this regard is Al Jarreau's superbly realised *Tenderness*



Substantial bi-wire speaker cable terminals

IN SIGHT



- 1 25mm textile dome tweeter
- 2 Bi-wire speaker terminals
- 3 Slot-Load Distributed reflex port
- 4 125mm glass-fibre weave mid/bass driver

DREAM WEAVER

Although the principle of woven mid/bass driver cones is carried over from the Diamond 200 series, the materials used are different. For Diamond it was Kevlar, for Reva it's a proprietary glass-fibre weave specifically engineered to match the acoustic properties of the multi-layered 'sandwich' cabinets with their curved side panels. The finely knit cross-weave pattern is said to produce an ultra-rigid yet lightweight diaphragm, which is able to react to the smallest musical transients with great accuracy. Eschewing the trend for

smooth, unbroken cone surfaces, the Reva-2 continues with a traditional phase plug to control the output from the centre of the diaphragm, a method that claims to avoid frequency cancellation and enables a smoother crossover to the tweeter. A cast alloy chassis has been chosen to provide dynamic rigidity. The Reva's 25mm tweeter sports a new, fine-weave textile dome, critically damped with a special coating and powered by a neodymium magnet fitted with a finned heat sink to reduce dynamic compression.

CD, a 'live studio' recording with an invited audience. Admittedly, it makes most speakers sound good but the Reva-2 delivers a 'being there' ambience, which is truly immersive. So – grace, balance and resolution. Not a bad skill set. And, yet again, there's a lesson here most of us have probably learned over time. Real rewards are seldom those that gratify immediately. The Reva-2 is woefully short of razzle-dazzle. But if you appreciate genuine insight and effortless musicality, it most definitely makes the cut.

Conclusion

The IAG Group's vast experience, expertise and resources have clearly paid huge dividends with the Reva-2. Having the nerve to take the already audaciously talented but nonetheless unequivocally 'budget' Diamond 200 and turn it into a sophisticated, high-class standmount is quite something. It certainly makes a refreshing change from the usual trickle-down conventions. Praise also has to go to the sheer physical quality of the speaker. I wouldn't pretend that

£600 isn't a tidy sum, but the Reva-2 looks and feels like a significantly pricier item, weighing over 7kg apiece and the piano lacquer finish is especially impressive. Alongside IAG's identically priced, Comeau-designed Quad S-2, the Quad isn't quite so big or nicely finished and, from memory, I think it tends to sound a little more transparent and open. But I don't think it would match the Reva's scale, authority or ease of delivery. Warmly recommended ●

Hi-FiChoice

OUR VERDICT

- SOUND QUALITY**
★★★★★ **LIKE:** Great musical insight; fabulous build; superb finish
- VALUE FOR MONEY**
★★★★★ **DISLIKE:** Some lack of soundstage width
- BUILD QUALITY**
★★★★★ **WE SAY:** Much more than a Diamond in a fancy box, the Reva-2 consistently delivers on all fronts
- EASE OF DRIVE**
★★★★★

OVERALL



Q&A

Peter Comeau

Director of acoustic design, IAG



DV: It's unusual to mine design features from a budget speaker to incorporate in a premium range rather than the usual 'trickle down' process from costlier products. Why have you done it this way?

PC: The fundamental principles of loudspeaker design remain consistent across different price bands; higher price points allow more sophisticated materials and engineering techniques to build better enclosures, drive units and so on, thus improving both sonic and aesthetic qualities. Trickle down technologies from more expensive ranges makes a good marketing story, but often leads to compromise when costly technologies are implemented more cheaply. In some respects it's more practical to develop core elements at lower price points, then improve on them further by raising the budget.

In the case of the Diamond 200 Series, we incorporated a number of highly effective design elements that we knew could be further enhanced with less rigid cost constraints. For example, the Slot-Loaded Distributed Port design was originally developed for the Diamond range in order to prove its efficacy in a popular model and to ascertain acceptance of this new technology. We have now worked with this technique over a number of years and are able to refine its performance using various techniques. As a result, it makes sense to also incorporate it in more advanced products where we can use higher quality materials to enhance this technology.

Quad's S-2 is also an IAG design that sells for the same price as the Reva-2. How do the goals differ?

We have a number of different brands under the IAG 'umbrella' and are well aware of the 'character' of each brand and the specific customer requirements based on the brand heritage. As a result, you'll find a significant differentiation between the sonic signature of these loudspeakers, and the specific technologies used to achieve it, which allows the customer to choose based on their preferences.



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How we test

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

Unique group tests

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

MULTI-ROOM SPEAKERS GROUP TEST

TESTING OF THE six speakers takes place in two distinct phases. Before any listening is undertaken, all models are checked for the latest software versions – three models require updates. Then for an absolute test of sound quality, each model is connected via an Ethernet connection to a closed network that has a Melco N1A NAS drive (HFC 397) attached as the music source. This allows all speakers to bypass much of their setup procedure and to avoid being subject to any limitations of the wireless network. Each speaker is placed on a Quadraspire QAVX equipment rack (HFC 395) and listening levels are set using a 44.1kHz FLAC pink noise test tone and SPL meter.

The lack of fine adjustment on the app-based volume controls makes achieving the listening level a bit crude, but all models are within 1dB of each other.

With the absolute sound quality testing out of the way, each speaker is connected to a wireless network to test its setup procedure as well as the numerous extensive features and facilities that it has to offer. The main control device used with each of the apps is a Google/LG Nexus 5 Android smartphone running the latest version of Android. This also acts as the aptX-capable Bluetooth source where applicable. An iPad 3 is additionally on hand as backup, but all devices run successfully on Android.



BLIND LISTENING TESTS

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

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

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

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

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

REFERENCE SYSTEM

SOURCE
Melco N1A NAS
SUPPORT RACK
Quadraspire QAVX
CONTROL DEVICES
Google LG Nexus 5
Apple iPad 3

TEST MUSIC

YELLO
Baby
Rubberbandman 16/44.1kHz FLAC



JOSEFIN ÖHRN AND THE LIBERATION
Horse Dance
Take Me Beyond 16/44.1kHz FLAC



THE ROY HARGROVE QUINTET
Earfood
Starmaker 16/44.1kHz FLAC



DAFT PUNK
Tron: Legacy
Outlands 16/44.1kHz FLAC



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Group**test**

MULTI-ROOM SPEAKERS £350-£500

Music everywhere

Want your music to follow you around the house?
Ed Selley has the answers

AS A HI-FI magazine it's difficult to fully endorse the sonic virtues of a single-box speaker over full-range stereo speakers driven by powerful amplification and dedicated source components. But let's face it, most of us enjoy hearing music in other areas around the home. OK, there are plenty of mini systems to choose from, but if you're looking for a smart setup that can link wirelessly to other speakers in other rooms and play the same track or even different music from the same source, then a multi-room speaker system is the ideal solution.

Stream of consciousness

Gone are the days when installing a multi-room system meant trailing wires all over the house. Multi-room speakers are now essentially plug 'n' play, allowing you to stream music seamlessly from one room to another controlled by a smartphone or tablet. Some speakers can be partnered to form a stereo pair, and all are equipped with sophisticated amplification and DSP technology to achieve attention-grabbing performance levels that defy the laws of physics.

These six models use various wireless connection systems – some hook into your wi-fi, others create their own network, and many also use Bluetooth.

ON TEST



Bluesound Pulse Mini £420 **p27**

One of the smaller Bluesound speakers, the Pulse Mini is a three-way active speaker with 24-bit/192kHz music file support and a strong selection of streaming services including Qobuz, Tidal, HDTracks and HighResAudio.



Cabasse Stream 1 £500 **p29**

The largest and most expensive speaker here, the versatile Cabasse can be placed flat or upright and supports playback of resolutions up to 24-bit/96kHz. Streaming service support includes Spotify, Tidal, Qobuz, Deezer and vTuner radio.



Musaic MPI0 £370 **p31**

The largest of only two Musaic speakers currently in the range, the MPI0 is able to stream files up to 24-bit/192kHz, but additionally has the ability to interface with lighting and home control systems for extensive smart home integration.



Sonos Play:5 £429 **p33**

The largest of the Sonos standalone speakers, the Play:5 is limited to 16-bit/48kHz resolution but counters this with an extraordinary number of supported streaming services, effective Trueplay room tuning and stereo-pairing capability.



Sony SRS-X88 £350 **p35**

It may be the smallest and the most affordable multi-room speaker here, but the Sony offers high-resolution audio capability as well as access to Spotify. It also has dedicated software to improve the sound of compressed files.



Yamaha Restio ISX-80 £400 **p37**

The most striking-looking multi-room speaker here, the Yamaha has full hi-res 24-bit/192kHz audio support and is part of the company's extensive MusicCast product range. It offers streaming support for Spotify, Deezer and Juke.



4
:55

SONOS



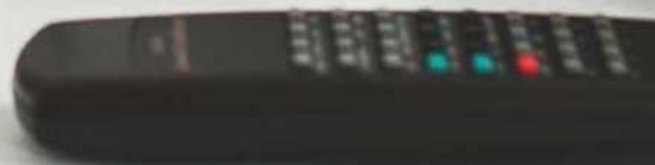
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Bluesound Pulse Mini **£420**

Canadian brand Bluesound cleverly adds flexibility to multi-room, but how does this small speaker stack up?

DETAILS

PRODUCT
Bluesound Pulse Mini

ORIGIN
Canada/China

TYPE
Wireless multi-room speaker system

WEIGHT
3.6kg

DIMENSIONS
(WxHxD)
335 x 172 x 155mm

FEATURES

- Quoted power output: 60W Class D
- Supports up to 24-bit/192kHz
- AptX Bluetooth
- Streaming service support: Spotify; Tidal; Qobuz; Deezer
- Internet radio: TuneIn; iHeartRadio

DISTRIBUTOR
Sevenoaks Sound & Vision

TELEPHONE
01732 740944

WEBSITE
bluesound.com

The Pulse Mini is one of four all-in-one speakers that Bluesound makes as well as standalone server, streamer and amplifier options. The unit itself comprises a pair of 50mm speakers placed in separate chambers that flank a single 89mm bass driver that has its own bass port at the rear of the cabinet. Power output is quoted at 60W of Class D amplification.

As well as network and streaming options, the Bluesound is fitted with aptX Bluetooth and a solitary line input on the rear panel. Bluesound also fits the Pulse Mini with a USB-A connection for reading memory sticks and charging mobile devices. The casework is nothing to get terribly excited about, but it is well built and the touch panel controls on the top of the unit are well thought out and extremely easy to use.

The Bluesound eco-system is an extensive one and second only to the Sonos in this test. As well as the ability to create a whole house of

Bluesound products (see box out), it currently has support for 12 different streaming services and control app support for iOS and Android devices. The app proves totally stable and is clear and easy to use.

Setup is fairly straightforward with the loudspeaker generating a temporary wireless network that can then be used to place the Pulse Mini on the main household network. Like the Sonos, the Bluesound app wants to create its own database of your library rather than depend on the NAS drive to generate it. This is fine as far as it goes, but does mean that the Pulse Mini is slower to get started than some of the other models here and your library must be rescanned every time you add to it.

Sound quality

The Bluesound does not have to work especially hard to hit the test volume level and doesn't sound in any way stretched. With *Rubberbandman* by Yello it does a fine job of sounding bigger than its external dimensions suggest. There is plenty of bass extension and furthermore it manages to find plenty of incidental details in the mix as well. Vocals are well handled too, the muddled lyrics are almost intelligible and integrate well with the supporting instruments.

Upping the speed a touch with the Josefin Öhrn track doesn't upset the Bluesound, but it does reveal that there is a thickness and congestion to the upper midrange that muddies the detail and clarity of the higher registers. This leaves it sounding

KIND OF BLUE

The Pulse Mini is part of a much more extensive system of components than simple all-in-one speakers. While there are four standalone speakers to choose from (see *HFC 402*), there is also a 2.1 speaker system in the form of the Duo as well as streaming front ends with and without their own amplification. Where Bluesound really differs from the rest of the systems here is in the provision of ripping and server facilities. As CD drives slowly disappear from computers, this could become very handy for many users.

In terms of multi-room, the Bluesound loudspeakers can support eight components wirelessly and up to 34 on a wired installation. The app is well thought out and each speaker can be named and configured to make its use in a wider system straightforward and easy to control.

punchy and fast, but lacking the clarity and space to sound truly convincing. This slightly thick presentation is also readily apparent with the Roy Hargrove Quintet track *Starmaker* that makes the trumpet lack the presence that some of the other models here manage. It is a shame because once again, the tonal consistency is very good and manages to sound larger than you'd ever give the small chassis credit for. No adjustment of the EQ settings eliminates this characteristic, leaving it needing a little more sonic oomph to match its excellent flexibility and supporting hardware.

The Bluesound's good sonic qualities are more readily apparent on the *Tron* track *Outlands*. Whether it is a quirk of the recording or the frequencies it makes use of, the thickness is much less apparent and this allows the Pulse Mini to show its speed and punch to good effect ● ▶

HifiChoice

OUR VERDICT

SOUND QUALITY
★★★★★

VALUE FOR MONEY
★★★★★

BUILD QUALITY
★★★★★

FEATURES
★★★★★

OVERALL
★★★★★

LIKE: Excellent selection of features; powerful and lively sound; good app

DISLIKE: Slight thickness to the upper midrange; slow to create album database

WE SAY: A talented and well thought-out multi-room speaker





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Cabasse Stream 1 £500



For the largest speaker here, the Cabasse is a fairly basic model that does many things extremely well

DETAILS

PRODUCT
Cabasse Stream 1

ORIGIN
France/China

TYPE
Wireless multi-room speaker system

WEIGHT
5kg

DIMENSIONS
(WxHxD)
325 x 460 x 137mm

FEATURES

- Quoted power output: 10/20W Class A/B
- Supports up to 24-bit/96kHz
- AptX Bluetooth with NFC
- Streaming services: Spotify, Tidal, Qobuz, Deezer
- Internet radio

DISTRIBUTOR
The Multi-room Company

TELEPHONE
01242 511133

WEBSITE
cabasse.com

Better known for its range of more conventional loudspeakers, Cabasse has been dabbling in wireless multi-room for some years now and has an extensive range of different components. The Stream 1 is the only all-in-one speaker system in the range, which is intended to make use of the company's existing speaker line-up (see box out).

It is built around a four-channel Class A/B amplifier, which supplies a claimed 10W to a pair of coaxial drivers that feature a 29mm tweeter and 80mm mid/bass driver. Around the back (or underside dependent on placement) is a single 170mm driver that's powered by a claimed 20W amplifier. It may have one of the lowest power outputs in the group, but it doesn't seem to place the Cabasse at any great disadvantage.

The design of the Stream 1 is interesting in that it is the only model here that can be placed 'flat and deep' or 'tall and shallow', and it can even be wall mounted – although this does place the larger driver very close to the wall. Available in black or white, this is a handsome piece of design that's finished to a high standard.

In functionality terms, the Stream 1 is one of the more limited devices in the group when it comes to features. What it does have, however, are 24-bit/96kHz support over UPnP and aptX Bluetooth with NFC as well as internet radio and support for four popular streaming services.

The control app is something that Cabasse has been working on and the result is smooth and stable if not as flexible as some others here. Setup is a breeze, especially if you have a WPS-enabled router, but even without it's still logical and the Stream 1 has no trouble finding the relevant music libraries in my setup.

Sound quality

Lowest power output or not, the Cabasse has no issues hitting the test level and has plenty in reserve. As both the largest and most expensive unit here, it has something to prove and its additional bulk clearly helps its sonic performance. With the Yello track, it has bass impact that no other speaker in the group can match. As well as useful levels of extension, it manages to be detailed and tonally well balanced, too.

This means that with the Josefin Öhrn track, the Stream 1 is genuinely entertaining. It sounds big and engaging with the bassline starting and stopping quickly and Öhrn's vocals sounding clear and extremely believable. The top end is clear and uncongested, but even when pushed hard doesn't tip over into sounding harsh or bright. This gives the trumpet in *Starmaker* a realism and



STREAM ON

The Cabasse multi-room options are limited to a maximum of four speakers, but the product range is flexible with a 2.1 system, standalone streamer, amplifier and TV sound plinth models all featuring. The app allows for control of each room individually, or they can be slaved together in party mode.

While it might not be as expansive as some other systems, the Cabasse has some clever features. The first is that the USB input on the Stream 1 and other members of the family can read files, which can be played on the main unit and also made available to any Cabasse streamer on the network. The second is that the Stream Amp (HFC 403) uses an on-board DSP to take into account the speakers being used and their position in the room in order to produce the best overall results.

richness that really helps the track to come alive.

Used in the upright position in particular, it does a fine job of producing a wide image that goes some way to sounding like stereo. This lends it an authority and scale with the *Tron* track that is comfortably in advance of what the other speakers here can achieve. The strings sound potent and free of any feeling of compression and individual instruments are distinct rather than sounding like a single orchestral mass. The low-end extension is equally useful, serving to fill out the midrange and produce a sound that is sizeable and powerful. Increasing the volume beyond the test level also presents no problems and it has to be pushed very hard indeed before it sounds strained. Compared with some models here it's a little basic, but there is no arguing with the levels of performance that it offers ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY
★★★★★
LIKE: Big, powerful sound; solid build

VALUE FOR MONEY
★★★★★
DISLIKE: Limited multi-room and streaming support

BUILD QUALITY
★★★★★
WESAY: Lacks some of the software sophistication of rivals, but it looks good and sounds excellent, even considering the price

FEATURES
★★★★★

OVERALL





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Musaic MP10 **£370**



If your interests in multi-room go further than audio, the MP10 has some unique talents

DETAILS

PRODUCT

Musaic
MP10 Music Player

ORIGIN
UK/China

TYPE

Wireless multi-room
speaker system

WEIGHT

2.6kg

DIMENSIONS

(WxHxD)
412 x 146 x 115mm

FEATURES

- Quoted power output: 60W Class D
- Supports up to 24-bit/192kHz
- AptX Bluetooth
- Streaming service support: Spotify; Napster; Rhapsody
- Internet radio: SomaFM; AllPlay Radio; DAR.fm

DISTRIBUTOR

Musaic

TELEPHONE

0207 5588984

WEBSITE

musaic.com

The MP10 is the larger of two speakers from the Musaic range, although in the context of the group it is one of the smaller speakers here. As a relatively new arrival to the market, Musaic has chosen to include functionality not replicated anywhere else in the test to differentiate itself (see box out), but it hasn't ignored the basics while doing so. This is a 24-bit/192kHz-capable UPnP streaming device with aptX Bluetooth and a selection of streaming services.

Internally, the MP10 is built around a pair of 45mm drivers that sit on either side of a single 90mm bass driver. Power is supplied by a Class D amplifier with a claimed output of 60W. The speaker uses a tweaked version of HDSX processing to give as wide and immersive a soundstage as possible. Externally, it is a pleasing piece of industrial design with silver accents helping it to look less anonymous. The touch-panel buttons on top are usefully responsive and allow for a reasonable degree of control without the app. The styling is rather pedestrian, but the overall fit and finish is of a good standard and very respectable at the asking price.

Musaic has developed Android and iOS apps for the platform and these prove to be completely stable and fast to respond to inputs over the test period. The app does not compile its own database like the Bluesound or Sonos models do, but does manage to do a better job of showing the album list rather than the other apps that rely on the server. The setup procedure is also fast and effective. The number of streaming services supported is lower than some rivals, but Tidal support is on the cards and Musaic is committed to adding more services in the future.

Sound quality

The MP10 has to use a greater proportion of its output than some of the speakers here to hit the test level, but still has a fair amount in reserve and doesn't show any signs of being under any strain. Instead, its performance of *Rubberbandman* is punchy and rhythmically engaging in a way that gives it an advantage over many of the speakers in the group. The impressively deep bassline is delivered with a speed and assurance that pulls you into the performance.

This same speed and sense of timing is present with the Josefín Öhrn piece, but the more rough and ready nature of this recording does show that the upper registers are not quite as forgiving as the lower frequencies. There is plenty of detail and the Musaic handles Öhrn's vocals well, but the high guitar notes have a slightly hard edge to them, which isn't necessarily present elsewhere. This

LIGHT FANTASTIC

With only two products on the market (although more are planned), Musaic doesn't offer the breadth of system possibilities that some rivals do, but counters with functionality beyond home audio. The MP10 and smaller MP5 are compatible with third-party lighting systems that integrate with the control of the speakers, giving the Musaic 'smart home' potential.

Perhaps even more interesting still is that the company is the first of its type to offer integration with IFTTT (If This Then That). This is open-source software that allows it to perform a given action if another compatible piece of equipment performs a specific function. This can include adding tracks to a Spotify playlist if you like them on the MP10 or being able to sound an alarm in the room if a compatible smoke alarm is triggered in the house, for example.

appears to be more to do with the tonal balance of the MP10 than the volume level as even when used a little more quietly, it can still be on the bright side.

With better recordings, though – like the Hargrove piece – this ceases to be an issue and instead allows it to sound genuinely impressive for such a small speaker. The piano in the opening bars is handled with weight, texture and a tonal accuracy that leaves some of the other speakers here sounding a little artificial in comparison. It can't work miracles – with both this and *Outlands*, it never really sounds like anything other than a single source rather than a stereo one – but the Musaic consistently delivers a sound that balances accuracy and detail with a willingness to have fun. When you consider the low price and the potential offered by its additional functionality, this is a very strong offering indeed ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY

★★★★★

LIKE: Punchy and engaging sound; well thought out app; price

VALUE FOR MONEY

★★★★★

DISLIKE: Won't flatter poor recordings; limited model range and streaming service support

BUILD QUALITY

★★★★★

FEATURES

★★★★★

WE SAY: Strong sonics and unique functionality

OVERALL

★★★★★



PM-1



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Hi-Fi Choice July 2014



Headphone Amplifier & DAC

HA-1

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oppodigital.co.uk



Sonos

Play:5 £429



Does the biggest name in multi-room have what it takes to stay on top with this sophisticated model?

DETAILS

PRODUCT
Sonos Play:5

ORIGIN
USA/China

TYPE
Wireless multi-room speaker system

WEIGHT
6.4g

DIMENSIONS
(WxHxD)
364 x 203 x 154mm

FEATURES

- Power output not quoted, Class D amp
- Supports up to 16-bit/48kHz
- Extensive streaming service support

DISTRIBUTOR
Sonos

TELEPHONE
0808 2346596

WEBSITE
sonos.com

When Sonos entered the market it didn't so much have the multi-room category to itself, but an entire market segment to create. The system has grown into an impressive range of extremely flexible and well supported components of which the Play:5 is the largest standalone speaker that it currently produces. Internally, it features six drivers – three mid/bass drivers in a row with a trio of tweeters mounted above. The power output is undisclosed.

The Play:5 is a more conventional looking design than previous models and is available in black or white. It isn't exactly striking, but the use of soft-touch plastics and the excellent fit and finish of the casework do help it stand out from the crowd. The build is extremely good and details like the capacitive controls on the top are a very nice design feature and convenient, but only provide volume level and play/pause controls so it is still very dependent on the app.

Here the news is a little mixed. As one of the longer-running brands in the multi-room game, Sonos has plenty of experience and both the Android and iOS versions of the app are extremely stable and slick. But in some regards, it is overshadowed by other control apps here. It is the only one that fails to connect to the wireless network at the first time of asking and the requirement to type the physical address of the NAS drive in to find it is rather archaic.

Like the Bluesound, the Sonos builds its own database for stability, which makes it slower to get up and running. The database can't identify hi-res files either, which isn't a problem as it can't play anything more than 16-bit/48kHz resolution.

Sound quality

Thankfully for the main name in the category, the Play:5 manages to claw back a fair few points on the strength of its audio performance. It has no problem reaching the test level and has plenty left in reserve. Once up and running, it gives a punchy and authoritative rendition of *Rubberbandman* with plenty of surprisingly deep and well-defined bass that doesn't overshadow the upper registers. Vocals have a pleasing weight and texture to them and are well defined against the supporting instruments.

This separation is also useful for *Take Me Beyond*, although the quicker tempo of this track does highlight a very slight tendency to sound a bit confused with faster-paced material.

PAIRING UP

Sonos is synonymous with multi-room and the Play:5 is part of a very comprehensive line of products. It offers three standalone speakers, all of which can be paired with a wireless subwoofer and additionally paired with a second speaker to form a wireless stereo setup. If you need more power than this, it also offers the Connect series of products that are designed to get your existing electronics and speakers working as part of a Sonos system. Home cinema components are available, too.

No review of Sonos' ecosystem would be complete without mentioning the variety of services that the company supports. More than twice as many third-party services are available compared with its closest competitor and it has a strong track record of being first to support any new arrivals.

The issue is never serious, but compared with the equally punchy Cabasse Stream 1 (page 29), the Sonos never sounds quite so assured. The treble, however, remains extremely clear and impressively refined throughout. It does a fine job with *Starmaker*. The slower pace of the track sees it on happier ground and the instruments have a rich and appealing tonality to them.

Possibly as a result of the design being something you can use as a stereo pair (see box out), the Play:5 is one of the more focussed-sounding speakers in the test. It never tips so far over into sounding narrow, but it doesn't really seek to produce a believable stereo image from a single speaker. This means that *Outlands* sounds beefy and tonally good, but never really gives the sense of a full orchestra. But its impressively refined top end works wonders and it sounds far bigger than it has any right to ●



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY
★★★★★

VALUE FOR MONEY
★★★★☆

BUILD QUALITY
★★★★★

FEATURES
★★★★★

LIKE: Powerful and detailed sound; great build; extremely flexible

DISLIKE: Some quirks to the app; no hi-res support

WE SAY: An extremely capable speaker that's up against increasingly stiff competition

OVERALL



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YOUR NEW BEST PAL

The Sony is able to communicate with other products from the same family via the company's SongPal app. This is similar to the other apps here in that it will bring up the available devices on the network and these can be selected individually or grouped together in party mode. One clever touch is that the app will show the selected input and status of the devices on its 'front' page. Sadly, paired stereo operation is not available here.

There are some interesting additions to SongPal. It supports distributed Bluetooth, where a product connected to a Sony device on the network is made available to all of the other speakers. SongPal also has a setting for all the music to follow you around from room to room rather than having to have multiple speakers working at once.

Sony

SRS-X88 £350

It might be the smallest model in the group, but this Sony punches well above its weight

DETAILS

PRODUCT
Sony SRS-X88

ORIGIN
Japan/China

TYPE
Wireless multi-room speaker system

WEIGHT
2.7kg

DIMENSIONS
(WxHxD)
359 x 111 x 103mm

FEATURES
● Quoted power output: 90W Class D
● Supports up to 24-bit/192kHz
● AirPlay, LDAC
● Bluetooth with NFC
● Streaming service support: Google Play Music; Spotify

DISTRIBUTOR
Sony UK

TELEPHONE
0207 3652810

WEBSITE
sony.co.uk

Multi-room audio has not been a huge priority for Sony until comparatively recently, but now the company has a small range of self-contained wireless speakers of which the SRS-X88 is the middle model. In the context of this test, this is the smallest and most affordable speaker here, narrowly edging the Mosaic out on both counts. Small it may be, but the Sony still manages to cram a pair of 20mm tweeters, two 40mm midrange drivers and a 69mm bass driver into that compact chassis. Power is quoted at 90W, although it isn't explained how this is shared among the drivers.

In specification terms, this is an interesting product. It is the only model here that can be used as a USB DAC and as well as 24-bit/192kHz support, the SRS-X88 is also able to handle DSD files. Bluetooth with aptX support is fitted as well as an especially effective implementation of the NFC touch-to-pair system. While the looks of the SRS-X88 are nothing to get excited about given that it is almost completely devoid of styling, the build and finish are good and it comes with a remote control.

The news isn't exclusively positive, though. This speaker supports the lowest number of third-party streaming services of any of the models in the test, although it has masked this quite cleverly by allowing you to set up services to connect via Bluetooth from your controlling device within the app. The app itself is stable and quick to load, but doesn't feature a quick scroll function while some of the more useful features like the EQ settings are buried away in sub menus. Setup is commendably simple, however, with the speaker using its Bluetooth system initially to get up and running.

Sound quality

It might be the smallest model here, but the SRS-X88 has no trouble hitting the test level and has lots left in reserve. Not only is there plenty of grunt, but the small size doesn't seem to be an impediment to the amount of bass it produces. *Rubberbandman* is powerful, well defined and manages to sound consistently lively and exciting. Detail retrieval is also extremely good with the vocalised effects behind the main vocals being especially well captured.

The caveat to this detail retrieval is that the tonal balance is the brightest here. At the relatively high test level, it is undoubtedly exciting, but also a little fatiguing to listen to and winding the volume level back doesn't ever completely correct this. As a result, *Take Me Beyond* can sound a little aggressive in parts although once again, the performance has an

impressive sense of scale and space to it. Adjusting the EQ settings in the control app helps to smooth off the upper registers, but at the expense of some of this airiness.

The high-quality recording of *Starmaker* ensures that it sounds a little more refined and relaxed, but even here there is an edginess to high notes from the trumpet that can leave you reaching for the volume control at times. Once again, though, the low-end impact and sense of scale the Sony manages from that small chassis is deeply impressive with the piano and bass having real scale and presence. This is mirrored with the way it handles *Outlands*. The string section is big and convincing and there is plenty of bass weight too. It even manages to create a slight sense of stereo while doing so. The SRS-X88 has a number of very likeable traits, but it sounds a little aggressive to be considered a true star ●



HIFIChoice

OUR VERDICT

SOUND QUALITY
★★★★★
LIKE: Excellent bass response; good build; some useful features

VALUE FOR MONEY
★★★★★
DISLIKE: Can sound a little bright; limited third-party streaming services support

BUILD QUALITY
★★★★★

FEATURES
★★★★★
WE SAY: Interesting features and strong performance, but it lacks all-round ability

OVERALL





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Macclesfield, Cheshire: 01625 264666

Hi-Fi Sound

Stockton-on-Tees: 0845 6019390

Peak Hi-Fi

Sheffield, Yorks: 01226 761832

The Audio Room

Hull, East Yorks: 01482 891375

Audio Destination

Tiverton, Devon: 01884 243584

Audio T

Cardiff, Wales: 02920 228565

Audio T

Portsmouth, Hamps: 02392 663604

Doug Brady Hi-Fi

Warrington, Cheshire: 01925 828009

Inspire Hi-Fi

Chesterfield, Derbys: 01246 472222

Rayleigh Hi-Fi

Rayleigh, Essex: 01268 779762

The Listening Suite

Dublin, ROI: +35316750974

Vickers Hi-Fi

York, Yorks: 01904 691600

Audio Lounge

London, W1: 0207 4874080

Audio T

Cheltenham, Glos: 01242 583960

Ceritech Audio

Cinderford, Glos: 01600 716362

Hi-Fi Gear Ltd

Hereford, Herefs: 01432 354921

KJ West One

London, W1: 0207 4868262

The Audiobarn

Nr. Bishops Stortford: 01279 454860

The Music Room

Glasgow, Lanarks: 01413 339700

Zouch Audio

Ashby-de-la-Zouch, Leics: 01530 414128



Yamaha

Restio ISX-80 £400

The Yamaha majors on a compact and refined solution to multi-room audio

DETAILS

PRODUCT
Yamaha Restio ISX-80

ORIGIN
Japan/Malaysia

TYPE
Wireless multi-room speaker system

WEIGHT
3.3kg

DIMENSIONS
(WxHxD)
302 x 302 x 65mm

FEATURES

- Quoted power output: 15W Class D
- Supports up to 24-bit/192kHz
- AirPlay; Bluetooth
- Streaming service support: Spotify; Juke
- Internet and FM radio

DISTRIBUTOR
Yamaha Music UK

TELEPHONE
01908 366700

WEBSITE
uk.yamaha.com

Having been an early adopter of wireless multi-room (perhaps a little too early), Yamaha has been content to let other companies forge ahead and has recently returned with its extremely ambitious MusicCast system. The ISX-80 is one of the smaller standalone members of the range and is also part of the 'Restio' lifestyle series. It can talk to other identical speakers as well as other components in the MusicCast family (see box out).

It is built around a pair of 30mm tweeters and 80mm mid/bass drivers placed in a square chassis when viewed from the front, but it only measures 65mm deep. It is clearly designed to be wall mounted although a stabilising screw-in metal foot is supplied for desktop placement. This is the most overtly 'styled' of the multi-room speakers here, and if the purple finish of our review sample isn't your thing, silver and black versions are also available.

Specification wise, the ISX-80 is a 24-bit/192kHz-capable UPnP player with AirPlay, Bluetooth and internet radio. A limited number of third-party streaming services is also supported – Yamaha matches the Sony in the number of options made available. The control app comes in iOS and Android flavours and is stable and logical enough to use, even if it doesn't feel as slick as some of the rival offerings in the group. The multi-room aspect is well worked out, though, and the means of assigning and naming products is extremely good. Provided you have location services on, setup is also painless.

Sound quality

Of all the products here, this is the one that has to work the hardest to hit the test level and it doesn't have a huge amount left on the volume dial having done so. Given that it only has 15W to play with, a small internal volume and no form of bass port, this is perhaps to be expected. What is perhaps more surprising, however, is that even though it's being driven quite hard, the ISX-80 remains impressively refined and free from strain or harshness.

This means that *Rubberbandman* lacks a little low-end impact, but the midrange and treble are smooth and completely free of harshness or aggression. The Yamaha still manages to find plenty of fine detail and handles vocals particularly well. This refinement is especially useful with the more rough and ready recording of *Take Me Beyond*, which still keeps a

CAST OF THOUSANDS

As well as a number of dedicated all-in-one products like the ISX-80, significant numbers of Yamaha's stereo amplifiers, sources, sound projectors, AV receivers and lifestyle systems have also been fitted to work in a MusicCast system. This means that a home full of MusicCast components could include a serious collection of electronics.

In addition to this, some products in the range are fitted to act as MusicCast Hubs. These can work in exactly the same way as other MusicCast components, but can additionally share sources connected to them to other MusicCast products. While there is no ripping option in the range like the Bluesound, these capabilities and the sheer number of products available means that MusicCast is a seriously flexible and capable option for multi-room use.

degree of urgency and speed to it, but manages to smooth off some of the rough edges in the upper registers. OK, it's not the most exciting sounding speaker, but it's never slow or languid. Once again, doing a fine job of handling Öhrm's vocals as well.

With the sumptuously recorded Ray Hargrove piece, the ISX-80 is in its element. It sounds full and rich with enough bass extension to be convincing and Hargrove's trumpet is impressively convincing. It also manages to sound wider and more expansive than some of its rivals, which results in a more convincing soundstage. While the absolute limits of the power output do catch up a little when it is asked to play *Outlands*, it retains a level of refinement and tonal richness that ensure that it remains entertaining to listen to. Ideally suited to smaller rooms, there is much to like about the way that the ISX-80 makes music ● ▶



HIFIChoice

OUR VERDICT

SOUND QUALITY
★★★★★

VALUE FOR MONEY
★★★★★

BUILD QUALITY
★★★★★

FEATURES
★★★★★

OVERALL
★★★★★

LIKE: Refined and detailed sound; elegant design; flexible multi-room options

DISLIKE: Limited volume and bass extension; number of supported services

WE SAY: A listenable speaker with good multi-room options

Group test verdict

Having spent days moving from room to room in search of the perfect multi-room music solution, **Ed Selley** is ready to reveal the final results


THE QUALITY OF products in this test is a clear indicator of just how important this category is becoming for manufacturers. The ranking is judged on the thinnest of margins, but it is the Sony and Bluesound that have the most significant impediments. The SRS-X88, is a punchy performer that delivers more scale and impact than you would ever give its compact dimensions credit for, but the partnering options are limited and it can sound bright. The Pulse Mini – conversely – has exceptional multi-room options, great service integration and good build, but never

shakes that thick top end, which affects its overall sonic satisfaction.

The Yamaha belongs to another excellent family of products with a huge range of options for building a network of music components around the home. There is no hiding from the fact that the Restio ISX-80 is a little underpowered in this company and it lacks some of the streaming options that rival models offer. Service integration, on the other hand, is something that Sonos excels at and the Play:5 has a very strong sonic performance, but the quirks in setting up NAS drives and the ongoing lack

of hi-res support means that it has to be content with third place.

At the moment, the Mosaic system is the most limited in hardware terms and if you need to listen to every streaming service there is, it will have some gaps. At its core, though, the MP10 is a very good product to listen to in its own right and one that consistently sounds big and exciting. The additional smart options that Mosaic is offering also put it on another level of smart home integration to its rivals, making this the one to watch.



WINNER

The Cabasse Stream 1 may lack some of the support of rivals and cost the most here, but it consistently produces the best sound. It's part of a well thought-out family of multi-room products that can grow into a very capable sound system to fill the rooms in your home.




Make/model	Bluesound Pulse Mini	Cabasse Stream 1	Mosaic MP10	Sonos Play:5	Sony SRS-X88	Yamaha Restio ISX-80
Price	£420	£500	£370	£429	£350	£400
Sound	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Value	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Build	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Features	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Overall	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
	A talented and well thought-out multi-room speaker with plenty of flexibility	Lacks multi-room and streaming support of rivals, but sound quality is excellent	Engaging sound with well thought-out app and some unique functionality	A very capable speaker that's up against increasingly stiff competition	Strong performance and interesting features, but lacks all-round ability	Enjoyable sound, but lacks bass and volume; flexible multi-room options

Key features	Bluesound Pulse Mini	Cabasse Stream 1	Mosaic MP10	Sonos Play:5	Sony SRS-X88	Yamaha Restio ISX-80
Streaming	24/192	24/96	24/192	16/48	24/192	24/192
Control app	iOS/Android	iOS/Android	iOS/Android	iOS/Android	iOS/Android	iOS/Android
Radio	Internet	Internet	Internet	Internet	Internet	Internet/FM
AirPlay	No	No	No	No	Yes	Yes
Bluetooth	Yes (aptX support)	Yes (aptX support)	Yes (aptX support)	No	Yes (LDAC support)	Yes (aptX support)

TRY WITH THESE

MUSIC DOWNLOAD SERVICE:
Tidal **£20 per month HFC 396**

There are numerous online music stores providing hi-res streaming. Each has its own focus and you may need to hunt around for a particular album, but our favourite to explore is Tidal.



HI-RES PORTABLE PLAYER:
Sony NW-ZX2 **£950 HFC 405**

The Sony's Android interface isn't cutting edge, but it can run the Cabasse app perfectly well, offers NFC Bluetooth to work with the Stream 1 and sounds great as a source when you're away from home.



DIGITAL MUSIC HUB:
Cabasse Stream Source **£400 HFC 388**

The Source is a capable UPnP streaming front end that can tie your main system into a Cabasse multi-room setup offering Spotify and Tidal integration, and it sounds good while it does it.





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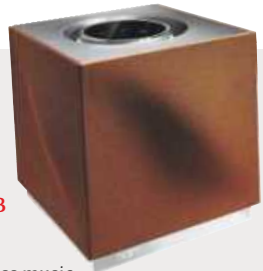


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BEST HOME CINEMA SYSTEM 2

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Time to enjoy vinyl collections with extraordinary quality! With a minimalist design, the C 556 turntable offers accurate reproduction by using performance-focused parts and components that put music first.

£249
OR LESS

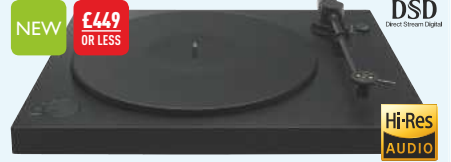


FLEXSON • VINYLPLAY • DIGITAL TURNTABLE

Gives the best-of-both-worlds: an excellent record player that's easy to use and can be simply integrated into a streaming system.

NEW

£449
OR LESS



SONY • PS-HX500 • USB TURNTABLE

The PS-HX500 is equipped with a high-quality A/D converter. So just connect it to your PC with a USB cable and record your vinyl as High-Resolution Audio tracks. This is a great way to backup your precious vinyl collection.

£209
OR LESS



WHAT HI-FI?
AWARDS 2015

PRO-JECT • ESSENTIAL II • TURNTABLE

Entry-level "plug n play" two speed turntable with single piece aluminium tonearm and pre-fitted Ortofon OM5e cartridge.

£575
OR LESS



PRO-JECT • 1 XPRESSION CARBON UKX • TURNTABLE

With its Carbon armtube and supplied Ortofon 2m Silver cartridge, the 1 Xpression Carbon UKX sets new standards in its price range.

£949
OR LESS



PRO-JECT • 2 XPRESSION DC ACRYL • TURNTABLE

Based on the 2 Xperience with upgraded motor control and a high-end 9cc Evolution carbon fibre tonearm for improved performance.

£595
OR LESS



£995
OR LESS

ARCAM • FMJ CDS27 / FMJ A29 • CD / AMPLIFIER

Introducing Arcam's audiophile Class G integrated amplifier and SACD/CD player with Network streaming up to 192/24 for class leading sound quality.

£899
OR LESS



£999
OR LESS

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The 8300CD improves upon its illustrious predecessor and delivers even better performance while the 8300A includes radically redesigned circuitry and a high-performance phono stage.

NEW

£399
OR LESS



NEW

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OR LESS

MARANTZ • CD6006 / PM6006 • CD / AMPLIFIER

Replaces the award-winning 6005 models. The amp gains an additional digital input along with a fully shielded digital section while the matching CD player features an improved circuit layout.

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SAVE
£50

5 YEAR
WARRANTY



£199
OR LESS

SAVE
£50

NAD • C 516BEE / C 316BEE • CD / AMPLIFIER

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.

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£2965
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CD5 XS uses developments from Naim's more costly CD players and when combined with the SUPERNAIT 2 it simply delivers dynamic, detailed and engaging music that can't fail to move you.

£1299
OR LESS



£1249
OR LESS

ROKSAN • K3 • CD / AMPLIFIER

New integrated amplifier with aptX Bluetooth, a phono input plus five additional line inputs for other sources. The K3 CD Di player is the perfect match for the K3 amplifier. Three finish options available.

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Save £200 when you trade
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£1499
OR LESS



ARCAM • SOLO MUSIC • CD/DAB STREAMING SYSTEM

Featuring a SACD/CD drive and 160W of amplification in a stylish, low-resonance enclosure, the Solo music provides high-quality room-filling sound.

NEW

£399
OR LESS

DSD
Direct Stream Digital

WHAT HI-FI?
AWARDS 2015
PRODUCT OF THE YEAR
Audi & Gen. UK & E

**ASTELL & KERN
AK Jr
PORTABLE HI-RES AUDIO PLAYER**

The AK Jr gives everyone the opportunity to comfortably listen to high resolution audio, supporting 24bit/192kHz and DSD files while fitting comfortably in your pocket.



Hi-Res
AUDIO

**B&W • P7
HEADPHONES**

£329
OR LESS



**GRADO • SR325e
HEADPHONES**

£299
OR LESS



WHAT HI-FI?
AWARDS 2015
Best over-ear headphones
under £300
Sound & Vision

£2055
OR LESS

Hi-Res
AUDIO



**NAIM • UNITI LITE WITH BLUETOOTH
ALL-IN-ONE STREAMING SYSTEM**

Combines an integrated amplifier, CD player, DAB/FM tuner, internet radio, iPod dock, digital-to-analogue converter and high resolution 24bit/192kHz capable network stream player. Features TIDAL, Spotify Connect and Bluetooth aptX connectivity.

NEW

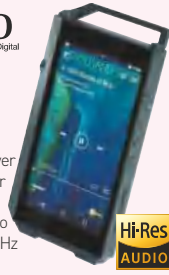
£499
OR LESS

MQA

DSD
Direct Stream Digital

**PIONEER • XDP-100R
PORTABLE HI-RES AUDIO PLAYER**

The Hi-Res XDP-100 digital audio player from Pioneer is the right travel partner for demanding music fans. It plays Hi-Res WAV and FLAC files with Studio Master resolutions of up to 24bit/384kHz and DSD files of up to 11.2 MHz.



Hi-Res
AUDIO

**NAD • VISO HP30
HEADPHONES**

£169
OR LESS



**SENNHEISER
MOMENTUM 2.0
WIRELESS HEADPHONES**

£379.95
OR LESS



WHAT HI-FI?
AWARDS 2015
Best wireless headphones
under £400
Sound & Vision



BOWERS & WILKINS • 685 S2
At home on a stand, wall or bookshelf, the versatile 685 S2 is ideal for stereo and home theatre uses in most rooms. And performance is enhanced with the addition of a Decoupled Double Dome tweeter.

£499
OR LESS

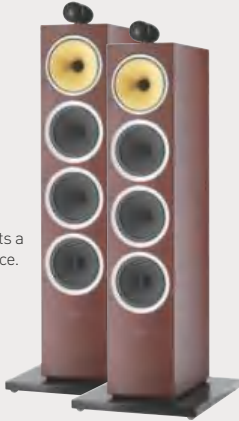
Price excludes stands

WHAT HI-FI? AWARDS 2015
PRODUCT OF THE YEAR
SPEAKERS
Best overall value for money
Bowers & Wilkins 685 S2

BOWERS & WILKINS CM10 S2

The flagship floorstanding speaker of the CM Series sets a new standard for performance. It combines technologies taken from across B&W's ranges. The result simply sounds and looks beautiful.

£2999
OR LESS



KEF • LS50

An innovative concept derived from the legendary LS3/5a. Rarely the case in such a compact design, the LS50 monitor delivers a rich, multi-dimensional 'soundstage experience' that is out of all proportion to its size.

£799
OR LESS

WHAT HI-FI? AWARDS 2014
BEST MONITOR
KEF LS50



PMC • TWENTY5.23
Arguably the most elegant model in the range, the twenty5.23 takes the speed, transparency and sophistication of the twenty5.21 and adds greater bass extension and power. And yet its slim-line form doesn't mean it can't move you.

NEW **£2970**
OR LESS

MONITOR AUDIO GOLD 200

Amazing scale and impressive dynamic control are available from this slender three-way design, comprising ribbon tweeters, twin 5.5" bass drivers and a 4" mid-range driver, which is housed in a dedicated enclosure.

£2299
OR LESS



MONITOR AUDIO BRONZE 2

The Bronze 2 builds on the strength of its predecessor's audiophile credibility with a neutral tonal balance and high detail resolution combined with high overall efficiency and power handling.

£279
OR LESS

WHAT HI-FI? AWARDS 2015
SPEAKERS
Best overall value for money
Monitor Audio Bronze 2



Q ACOUSTICS • 3050
The flagship 3050 is the perfect speaker for larger rooms, boasting ultra-low levels of distortion, typically found of speakers costing three or four times its price.

£499
OR LESS

3050 Standard finishes • Premium finishes £649

WHAT HI-FI? AWARDS 2015
SPEAKERS
Best overall value for money
Q Acoustics 3050

PSB IMAGINE X1T

A deceptively slim and discreet floorstanding design, the Imagine X1T has wide bandwidth and high SPL output capabilities that defy its modest size. Features identical 5 1/4" woofers plus a one-inch pure titanium dome tweeter.

£749
OR LESS

5 YEAR WARRANTY



Q ACOUSTICS 3020

Replacing the award-winning 2020i speakers, the 3020 incorporates numerous improvements including a revised cabinet with wool fibre damping plus new bespoke drive units.

£189
OR LESS

Standard finishes
Premium finishes £249



NEW

£499
OR LESS

PODSPEAKERS • MIINIPOD BLUETOOTH • SPEAKERS

Ideal for large areas or where volume is required to make an impact, the MiniPod can be placed on a desk or shelf using the supplied spikes or wall mounted with the optional bracket.

GLOSS RED
GLOSS BLACK
GLOSS WHITE
MATT BLACK

Bluetooth

WHAT HI-FI? AWARDS 2015
Multi-room systems
Best multi-room system under £500
Sonos

SONOS

THE WIRELESS HI-FI SYSTEM

The Sonos Wireless HiFi System delivers all the music on earth, in every room, with warm, full-bodied sound that's crystal clear at any volume. Sonos can fill your home with music by combining HiFi sound and rock-solid wireless in a smart system that is easy to set-up, control and expand.

PRICES FROM £169

£399
OR LESS

Hi-Res AUDIO

WHAT HI-FI? AWARDS 2015
PRODUCT OF THE YEAR
DAC
Best overall value for money
Chord Mojo

CHORD • MOJO • DAC/HEADPHONE AMP

Mojo stands for Mobile Joy and Chord is justifiably proud to say that Mojo is a true reference-quality mobile DAC and high-level headphone amplifier.

£249
OR LESS **HALF PRICE**

NAD • VISO 1AP • WIRELESS SPEAKER SYSTEM

The Viso 1AP offers Wi-Fi network capability and supports Apple AirPlay, as well as high fidelity aptX Bluetooth. Includes a USB input and a 24/96 capable optical input.

Bluetooth **AirPlay**

£499
OR LESS

B&W • ZEPPELIN WIRELESS SPEAKER SYSTEM

Introducing the Zeppelin Wireless. The instantly recognisable silhouette may be the same, but every element of the speaker has been redesigned to deliver superlative audio performance; once again redefining what is possible from a single speaker system.

Bluetooth **AirPlay**

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SEVENOAKS
SOUND & VISION



Belles of the ball

Chris Ward takes a look at the US brand's most affordable integrated amplifier and enjoys its old-school design approach

American brand, Belles (Power Modules Inc.) is not one we come across often in these pages despite it being around for some 36 years – in fact the last time we saw anything from it was back in issue 325. David Belles has been behind a host of sensibly priced, high-quality amplifiers since 1978, both under the Belles brand and as a talented hired gun for other leading hi-fi companies. His prowess with electronics even played a part in the space race at mission control a little while ago, so he knows all about important signals getting through correctly. Previous amps have included refined preamplifiers and highly regarded and powerful Class A power amps

that could double up as Chevy engine blocks. So the creation of this brand new, smaller and more affordable integrated is highly anticipated.

Unboxing the new Aria reveals a rather understated amplifier that at first glance could appear a little plain, but I already sense this is an amp that is all about substance over style. Build is very robust with a purposeful, folded aluminium case protecting internals and securely hosting rear connections. A more substantial aluminium fascia is home to the soft touch power button, motorised volume control, mute button, remote sensor and headphone jack. The fascia also houses a button to operate a 'monitor circuit', historically popular for recording purposes or feeding

equalisers. I suspect many owners are unlikely to use this feature, but it does seem to underline an old-school approach to doing things properly. There is no display to show volume level and small LEDs are the only indication of source input or muting, but the inclusion of a simple remote control means that everything can be operated easily enough at a distance. The plastic handset seems slightly out of kilter with the amplifier's price tag, but this isn't uncommon.

Connections around the back include a dedicated moving-magnet phono input with earthing post, three regular line-level inputs as well as a monitor in, monitor out and bypass connections, plus a 'preamplifier out' for use with external power amplifiers. All input connections are via substantial, quality RCAs and speaker connection is via sturdy binding posts that will accept spades, wire or banana plugs.

A purely analogue integrated amp is a rare breed these days. Many manufacturers now see an integrated as needing to be a veritable Swiss army knife of hi-fi connectivity convenience, commonly able to accept a host of digital sources including everything from USB to optical and coaxial digital inputs. But I congratulate Belles for setting its stall out for those that want a purely analogue solution. Technically

DETAILS

PRODUCT
Belles Aria

ORIGIN
USA

TYPE
Integrated amplifier

WEIGHT
12kg

DIMENSIONS
(WxHxD)
420 x 79 x 356mm

FEATURES
• Quoted power output: 75W per channel into 8ohm (125W into 4ohm)
• Inputs: 3x line-level; 1 MM phono
• Outputs: preamp; headphone

DISTRIBUTOR
NuNu Distribution

TELEPHONE
0203 5442338

WEBSITE
nunudistribution.co.uk



speakers for listening duties. Powering the Aria triggers a number of internal relay switches and the amp automatically starts off muted for extra safety. Nice touch.

Sound quality

Playing Ben Harper's *Gold To Me* on vinyl is a sumptuous start. The bass line is deeply satisfying, potent and very weighty. Some amps do fast bass, but lack punch. Some do deep bass, while lacking control. Some do fast, controlled and punchy bass, but can't groove. Here, the Aria is a master of all bass qualities and my feet are tapping even before it's fully warmed through. Hand chimes ring high and sweet across a wide soundstage. Treble is especially sweet for a solid-state design, having an almost valve-like smoothness and lack of grain. Some competitors at this price point can dredge up slightly more forensic detail, creating a more finely etched soundstage, but this can sometimes flatten the performance and hinder this level of musicality and depth. Harper's voice has a rich, rounded and believable quality and his vocals are superbly layered in front of the other instruments, giving a substantial 3D quality. The Aria doesn't do warts and all detail in the name of hi-fi – it does musical coherence in the name of music.

Spinning the Moderato movement from Rachmaninov's *Piano Concerto In C Minor* on CD shows the Aria is beautifully suited to classical dynamics and portraying the timbre of a solo performer against the backdrop of a rich orchestra. Out of curiosity, I swap in some recently refurbished Rega R5 speakers to present a slightly different load, and already good qualities just get better. Bass notes are supple yet more defined, the soundstage deepens and

the already strong musicality goes up a gear. The piano is a notoriously difficult instrument for hi-fi to portray, and doubly so when playing with an orchestra. Yet the quality of the Aria's highly communicative midband and bass does a superb job of conveying the solidity and presence of the instrument and its relationship to similar tones from other instruments.

This is an amp that isn't shy of work and positively relishes speakers that might enjoy extra current and a little more oomph to perform. The force of the piano hammers striking in the most dynamic sections is rousing and distinct from the rising power of the orchestra. As before, the Aria may not be the last word in clinical micro detail, but no important musical information is missing and the presentation is highly cohesive, three dimensional and lyrical.

Playing *Papa Was A Rollin' Stone* by The Temptations on CD seems the

This amp invites you to listen and later you realise a whole afternoon has gone

perfect track to summarise the Aria's qualities. The opening bass line is especially fat and the lazy high-hats shimmer without ever sounding splashy. The wah-wah guitar positively drips with seventies 'chocha chocka' and lush, transparent strings effortlessly rise and float between the speakers. Sonorous horns have a clear but ethereal quality and a cascading reverb that seems infinite, while in contrast the bass drum punches my solar plexus like I'm being resuscitated. Handclaps have real snap yet voices are rich, deep and emotive. Vocals feel intimate and

speaking this can make for a far quieter electronic environment, which can be especially important with sensitive phono signals. Analogue-only customers might well be heartened by this purist approach and those that already own dedicated DACs will be pleased that budget hasn't been spent needlessly.

I connect the Belles Aria to my reference Shanling CD-T100 HDCD player via Black Rhodium Sonata VS-1 interconnects (*HFC* 398) and a Townshend Rock turntable to the phono input, and initially use Cadence Arca hybrid electrostatic

Don't let the uninspiring design put you off, the Belles sure can sing

CONNECTIONS



- 1 Moving-magnet phono input
- 2 3x analogue line-level inputs
- 3 Loudspeaker binding posts
- 4 Preamp output
- 5 Earth grounding post

Q&A

Anthony Sallis

Technical director, NuNu Distribution



CW: How has this integrated design come about?

AS: Dave Belles has created many highly regarded separate preamps and power amplifiers, but the acceptance, convenience and quality of integrated amplifiers has increased greatly in recent years. Belles has spent two years to get the Aria performance where it wanted it to be.

Who do you see as the main customer for the Aria?

The Aria offers discerning customers the opportunity to purchase a high level of performance at a price that they can afford. Given there are now many excellent speakers around the price of the Aria, customers can now create a truly great system for sensible money that will deliver exceptional musicality coupled with long-term listenability. I think that encompasses a lot of potential customers.

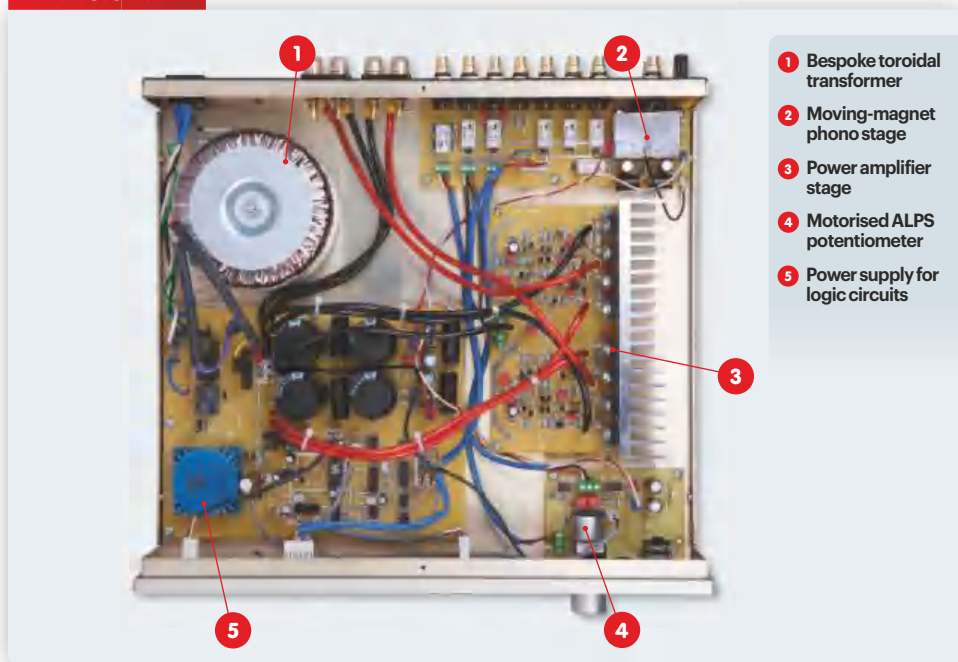
Can you describe some of the technical highlights that are inside the Aria?

The Aria has many trickle down features from its higher-end products, such as the dual mono SA100 power amplifier. The Aria uses advanced circuitry that employs bi-polar transistors and power MOSFETs as well as a quality, filtered, ultra-stiff power supply. Lower level signals are carried by linear crystal OFC cryogenically treated copper wire that delivers stunning dynamics. A professional Burr-Brown chipset achieves ultra-low distortion and high-output current to drive headphones effortlessly. The phono stage uses tight tolerance polypropylene capacitors and 1 percent metal film resistors and achieves distortion levels of just 0.0001 percent.

How would you sum up the Belles philosophy and sound?

Belles products have always offered exceptional sound performance for their value. Music flows unhindered in a completely natural, fluid way. This gives the listener greater enjoyment and the ability to experience their music collection afresh.

IN SIGHT



- 1 Bespoke toroidal transformer
- 2 Moving-magnet phono stage
- 3 Power amplifier stage
- 4 Motorised ALPS potentiometer
- 5 Power supply for logic circuits

especially convincing, pressing forward and out from the plane of the speakers. But each of these superb performances isn't separate. They are beautifully woven together, seamlessly communicating this infectious track. The Temptations had talent, and so too does this amp. Plenty of amps will play this track well, but few will capture the musical essence of the song as well as I'm hearing it now. The Aria has soul. If you love music, you'll love it.

Conclusion

The highly focused design of this analogue-only amp is its strength, but potentially also a factor that may limit its widest appeal. By side-stepping digital inputs, Belles has excelled at analogue amplification, but those with digital sources or anyone thinking of sampling a streaming service or dabbling with hi-res downloads may unfortunately reject this fine machine out of hand. Belles has clearly decided to spend the budget on the things that an analogue fan will hear as sound quality, favouring high-grade components and a short, elegant signal path over sexy screens, a flashy remote or svelte bodywork. If you are buying an amp for its display or casework then I suspect David Belles would probably prefer that you look elsewhere.

The inclusion of a fine moving-magnet phono stage here creates a beautifully coherent, analogue integrated amp that might well shame many separate phono stages. However, it is quite possible that at

this sort of budget a vinyl lover may well have migrated from MM to MC cartridges, for their superior refinement. This means you'll have to invest in a step-up transformer or potentially purchase a standalone MC phono stage. Real estate is precious inside this amp, but if I were greedy, I'd love Belles to include a dedicated MC input alongside the MM phono input, or a switchable input. This would create a truly comprehensive analogue integrated amp.

Most importantly, sound quality is luscious and sweet and the claimed 75W per channel power output has rarely sounded more involving and muscular. This isn't an amp that demands to be listened to (as some can). It simply invites you to listen and a few hours later you realise a whole afternoon has sailed by. If you love the smooth, liquid delivery of tube amps but wish they had more grunt, listen to the Aria ●



HOW IT COMPARES

The Sugden A21SE signature integrated (£2,439) offers a similarly sumptuous sound, but requires further budget for a separate phono stage. The Luxman 550A-II (£3,500) has a refined musical delivery with strong bass and an excellent phono stage, but may struggle to drive tougher speaker loads. Naim's Supernait 2 (c£3,000) focuses on analogue inputs, but lacks a phono stage and may not satisfy quite like the Belles. If you think you may consider digital inputs in the future, then Hegel's H160 (£2,350) reviewed HFC 394 has a wealth of digital connectivity and a refined sound, but the Belles Aria could suit analogue fans better.

Hi-Fi Choice

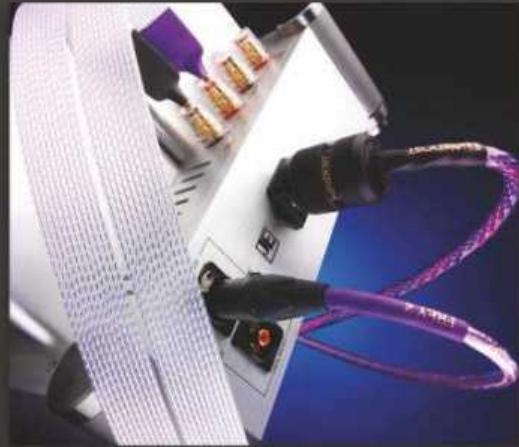
OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Effortless musicality; fulsome bass; MM phono stage
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Absence of digital inputs; rather plain looks
- BUILD QUALITY** ★★★★★ **WE SAY:** Well-built, highly involving and muscular integrated amp that will delight many music lovers
- FEATURES** ★★★★★

OVERALL



Discover the full potential of your sound system.



NÖRDOST
MAKING THE CONNECTION



Smart start

French brand Elipson is moving into the turntable market. **Ed Selley** checks out its first Omega deck to see what it delivers

Vinyl's popularity shows no sign of abating. You can now even buy records in supermarkets, and the number of turntable models available is even greater than it was in the format's original heyday, with decks to cater for enthusiasts, newbies and everyone else in between, but this first model from Elipson is unusual.

Turntables are built from components that have no use outside of vinyl replay, and it is fairly unusual for any new arrival to make use of bespoke components due to the cost and complexity of doing so. The Omega 100 defies convention for a completely new deck, and with the exception of the pre-installed Ortofon OM10 cartridge, it has nothing in common with any other turntable on the market. Elipson has researched the category and decided that it has enough potential to go to the effort of

designing and manufacturing everything itself from scratch – it's even built in France, rather than the Far East like the rest of its products.

The Omega 100 is the first of three models in the range and will form part of a lineup that includes an option with a built-in phono stage and one that adds the ability to transmit its audio output via Bluetooth to compatible speakers. The Omega range will be mirrored by the Alpha range, which boasts a simplified tonearm and a matt finish in black to reach a lower price point instead of the high-gloss black, white and red options available here.

At first glance, the Omega 100 is a fairly conventional unsuspended belt-driven, two-speed design, which appears similar to many price rivals. In practise, however, Elipson has taken a number of design decisions that mean that it looks and feels a

little bit different to the norm. Chief among these is the tonearm. Named the OTT (Orbital Torsion Tonearm), it uses a patented system of a rubber torsion bar to act as the anti-skate. This is adjusted via a small knurled knob on the top of the circular housing. This acts on the horizontal action of the arm at the point where it intersects with the vertical one. The result is an extremely elegant-looking solution that, although fitted with an Ortofon OM10 cartridge, looks to be able to accommodate other cartridges without issue. Part of the visual simplicity of the tonearm stems from the lack of arm lift, which means that cueing can only be performed manually. This may put some people off, but it's extremely easy to use.

The motor and power supply arrangements are also unusual. Elipson suspends the motor to minimise any interference. The power supply arrangement uses a system called DDS (Direct Digital Synthesis), which is partnered with a speed control system to ensure that the turntable is impressively pitch stable at 33 and 45rpm speeds – selected via a convenient toggle switch. This generally passes unnoticed, but if you slow the platter with a hand once the motor is switched off, you can see the drive belt vibrate as the motor is slowing under its own terms and presumably under the control of the

DETAILS

PRODUCT
Elipson Omega 100

ORIGIN
France

TYPE
Belt-drive turntable

WEIGHT
5.8kg

DIMENSIONS
(WxHxD)
450 x 120 x 380mm

FEATURES

- Electronically controlled motor with switchable 33 & 45rpm speeds
- 'OTT' Orbital Torsion Tonearm fitted with Ortofon OM10 MM cartridge
- Isolated motor assembly

DISTRIBUTOR
AV Industry

TELEPHONE
01628 484968

WEBSITE
elipson.com



Viewed as a complete package, the Omega 100 feels well worth the asking price. As a piece of industrial design, it looks and feels extremely elegant. The tonearm in particular is a beautiful object with the circular bearing housing making most other affordable rivals look crude by comparison. The build quality is extremely good too. Thanks to that steel platter and the electronics living in the plinth, the Elipson weighs in at a whisker under 6kg. The fitment of electronic speed control and the advantage that it is packaged with a dust cover means that this turntable feels like a well-specified package even with the manual tonearm lift. Setup is a breeze with only the belt needing to be fitted and the counterweight located correctly.

Sound quality

Connected initially to a Cyrus Phono Signature (HFC 408), Naim Supernait 2 and Spendor SP100R2 loudspeakers from this month's *Beautiful System* (see page 90), the Elipson throws out a few surprises from the outset. With Black Mountain's marvellously visceral *IV* album, the Omega 100 is unfazed by the crunching guitar riffs and heavyweight drumming of *Mothers Of The Sun*. It does a fine job of opening out this dense and heavy recording and making some sense of it. With the extremely revealing Cyrus phono stage and Spendor loudspeakers in the replay chain, there is nowhere for any mistakes to hide and the Elipson makes few.

The sheer competence and ability to unpick even very dense and congested recordings stands out time and again. It manages to create space and a sense of soundstage and this lends the deck an authority that some budget rivals often struggle with. There's an impression of width and depth without there being a sense of any space in the middle between the

speakers. It also manages to constrain itself for smaller and more intimate recordings when called upon.

Tonality is admirable. Voices are consistently well handled and have a weight and texture to them which, combined with the Elipson's ability to open up recordings, means that they are intelligible and easy to follow in the overall mix. Tricky instruments like piano and double bass are also dealt with in a thoroughly competent fashion and the Omega 100 puts in a performance with the Neil Cowley Trio's *Touch And Flee* that shows this wonderfully mastered record off to fine effect.

There is a pleasing flow to the way that complex pieces of music are handled

Some of this ability stems from the quality of its top end. The Ortofon OM10 is generally a fairly refined cartridge in its own right and here it seems to have found a very happy partner indeed. Even recordings that can generally sound a little thin and topky like a veteran pressing of Men At Work's *Business As Usual* manages to take on a refinement and slight sense of warmth that helps it to sound impressively civilised. This refinement hasn't been bought at the expense of detail, though, which means that the Omega 100 avoids sounding overly smooth and muffled at any stage.

Swapping the Cyrus phono stage for a Cambridge Audio 651P (HFC 397) doesn't fundamentally alter the positive aspects of the Elipson's performance. The higher noise floor of the affordable phono stage robs the turntable of some of the startlingly open presentation it showed with the Cyrus in place, but there is still the sense that this is a product that wants ▶

speed system. Another useful benefit of this arrangement is that the deck can operate on any mains voltage.

The pressed steel platter is perhaps more conventional and comes with a partnering felt mat. Unusually, it ships with the platter positioned in place and physically screwed onto the spindle. The 45rpm adapter can be placed onto the spindle to act as weighted puck, and rewards with a small but worthwhile boost in sound quality. A final break from the norm worthy of note is that there are dedicated terminations for cabling (which comes supplied) rather than the more commonly encountered captive lead arrangement.

Strikingly simple with manual record cueing

CONNECTIONS



- 1 Counterweight
- 2 Suspended motor with speed control
- 3 Mains input
- 4 Phono output and earthing point

Q&A

Philippe Carre
CEO, AV Industry



ES: Did Elipson initially consider using off-the-shelf parts for the Omega or was the decision to make it from bespoke components made from the outset?

PC: We decided to design everything inhouse for two reasons. Firstly, cost effectiveness as we wanted to reach our target of less than €300 a piece. Secondly, we wanted to be able to run the production in Europe and in France.

What are the advantages of the Direct Digital Synthesis system?

Direct Digital Synthesis (DDS) means that we don't have to rely on the mains frequency to adjust the speed control, thus the speed is perfectly maintained and you can use your turntable with either 50 or 60Hz mains power supply. And, of course, you can switch from 33 to 45rpm and even 78rpm on the 100 series.

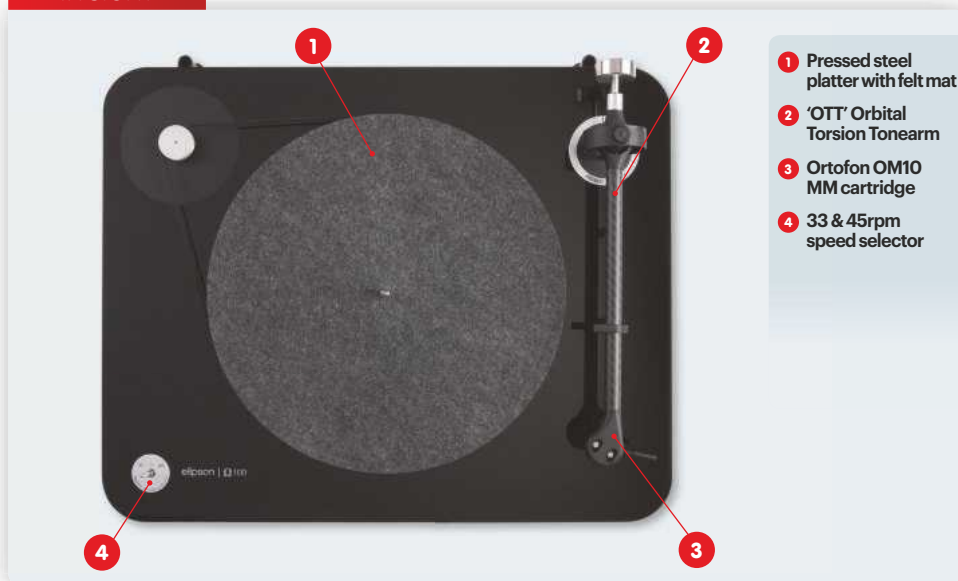
Was the Orbital Torsion Tonearm designed with its anti-skate system from the beginning or was it a response to other design requirements of the Omega?

The Orbital Torsion Tonearm (OTT) was part of the global design for the turntable and was the first aspect we worked on. The tonearm was a key part for sound quality and ease of production of the turntable itself.

As Elipson has now gone to the effort of building a turntable, are more models planned in the future?

There will be new turntable models introduced in the coming years that are a bit more high end. Also we plan to introduce more turntables very soon that include some new features to build on the Alpha and Omega series of models.

IN SIGHT



- 1 Pressed steel platter with felt mat
- 2 'OTT' Orbital Torsion Tonearm
- 3 Ortofon OM10 MM cartridge
- 4 33 & 45rpm speed selector

to show you everything that's in the groove of a record in a balanced and enjoyable way. At times, it can sound a little relaxed compared with some more propulsive rivals (see *How It Compares*), but this never becomes so severe as to make it sound dull or sluggish. There is also a pleasing flow to the way that more complex pieces of music are handled like the Portico Quartet's *Knee-Deep In The North Sea* album, which comes across as a tremendously enjoyable listen.

With the mighty Spendor's put to one side for a moment, and replaced with an altogether more petite pair of Neat Iotas (*HFC 374*), the Elipson reveals that its bass response has to contend itself with being merely good rather than great. There isn't quite the same heft here that is available from a rival turntable like Audio-Technica's AT-LP5 (*HFC 405*) and with music that really depends on some prodigious slam – like The Prodigy's *The Day Is My Enemy* – the Omega 100 doesn't manage to deliver the same level of boisterous satisfaction that is on show elsewhere.

Once again, though, its virtues are not hard to find. The level of detail that it extracts from the low end is in keeping with the upper registers and the same unforced and open presentation is maintained all the way to the bottom end of the frequency response.

More than anything else, this makes the Elipson a genuinely easy turntable to listen to for longer sessions. Like the company's striking spherical speakers, the Omega 100 strives to make everything you play on it informative and entertaining without you needing to turn down the volume

after an hour or so. While it will be interesting to see what the version with integrated phono stage does to the overall tonal balance – after all, this should notionally be closer to Elipson's ideal – this is a turntable that should work well in a variety of setups, bringing only positive aspects of its performance with it.

Conclusion

As a first attempt at producing a turntable, this is a deeply impressive effort. The Omega 100 manages to look, feel and – to a largely beneficial extent – sound subtly different to its rivals at this price point. As a piece of design, it manages to echo the lovely finish and striking lines of the company's other products without compromising on its ability to function as a very capable turntable indeed. Elipson has entered the market with a record player that looks set to hold its own in a competitive market and it offers a very tempting all-round package at a very attractive asking price ●



HOW IT COMPARES

Placed next to Audio-Technica's £330 direct-drive AT-LP5 (*HFC 405*), the Elipson feels more dainty, although both decks are very well finished. The Omega 100 has the lesser specification, but supplying it with a dust cover goes some way towards redressing this. The Omega 100 can't match the sheer drive and energy of the AT-LP5, but it hits back with a more refined top end and impressive detail retrieval. While there is something to be said for the AT-LP5's square-jawed styling, the Elipson is rather easier on the eye and likely to be more living room friendly. Having two very different deck designs at this entry price is something to celebrate, however.

Hi-FiChoice

OUR VERDICT

SOUND QUALITY



VALUE FOR MONEY



BUILD QUALITY



FEATURES



OVERALL



LIKE: Engaging sound; handsome looks; excellent build

DISLIKE: Slightly limited bass; no arm lift

WE SAY: Delivers a deeply impressive performance at a bargain price

TOTEM

The Totem Arro is our slimmest floor standing speaker, with a 4.5" sandwich cone woofer with dual magnet, and a soft dome tweeter tuned for low resonant frequency. Although this design is very slim, it produces an amazing - never expected - deep bass. The Arro can perform comfortably even near walls. As with other Totem models, the Arro's small lateral dimensions are a virtue, not a compromise. Its very smallness allows it to project a completely believable stereo image most large speakers are unable to replicate. The Arro brings Totem quality to smaller rooms and smaller budgets. Yet it performs like a champion, as its narrow cabinet has the rigidity of an expensive stand.

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Oranges & Lemons LONDON SW11 6RX
Sonata Systems, LONDON, NW6

South East

Rayleigh Hi Fi, RAYLEIGH
Rayleigh Hi Fi, SOUTHEND
Rayleigh Hi Fi, CHELMSFORD
The Audio Barn, HARLOW

South

Hidden Systems, HARTLEY WINTNEY
Norman Hobbs, HAYWARDS HEATH
Summer House Sounds, ALTON

South West

Audio Destination, TIVERTON

Midlands

Cymbiosis, LEICESTER
Hifi Gear, HEREFORD
Hidden Systems, KIDDERMINSTER

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Space saver

Neville Roberts takes a look at a micro system that will appeal to music fans that don't have a lot of room to play with

Hot on the heels of its Ampster BT mini stereo amplifier comes Tangent's Ampster X4 Micro System.

I was impressed by the Ampster BT in my *Choice Extra* review (HFC 409) and its versatile connectivity options including Bluetooth 4.0 connectivity (the BT bit of the model name), and am keen to see how it performs when partnered with Tangent's new Spectrum X4 loudspeaker to form a system for those with limited space.

The Spectrum X4 comes in black or white satin finishes with integrated walnut base plinths, and is supplied with a pair of satin gloves to keep fingerprints off the enclosures while installation takes place. It's a two-way bass-reflex design and the compact dimensions make it ideal for use in small spaces. The 25mm soft fabric dome tweeter and 110mm paper-cone mid/bass drivers claim a wide dispersion and are best matched to amplifiers rated between 20W and 100W, making it an ideal partner for the 50W (quoted) Ampster BT mini. Each drive unit is protected by a mesh grille, which is colour matched to the speaker cabinet's enclosure.

As a compact standmount speaker, the X4 is best placed on a dedicated stand positioned close to head height (when seated) for optimum performance. Each speaker has a pair

of threaded inserts in the back panel and comes supplied with matching screws for wall mounting, using special brackets that you'll have to purchase separately (£40).

Sound quality

I pair the amplifier to my Samsung Galaxy S3 smartphone via Bluetooth and start by playing a recording of Vivaldi's *Concerto for Violin, Oboe, Strings & Continuo* in F major played by La Serenissima. The allegro is bright, sprightly and energetic with an incredibly full sound for such a compact setup. Instrument imaging is great too, with a wide soundstage that is not confined to the space between the speakers. There is also some front-to-back depth evident, but it is fairly constrained and follows my earlier experience of the Ampster BT when reviewing it in isolation. It is, nevertheless, extremely commendable to be able to experience such three dimensionality from a system of this physical size and at this price point.

The X4 is certainly full of surprises and is blessed with a very respectable bass response that is well controlled with Elton John's *A Good Heart* from the album *Wonderful Crazy Night*. All too often small enclosure speaker designs suffer from a woolly and unnaturally extended bass response, but not so here – it's wonderfully

tuneful and powerful. Elton's vocals are rich and clear and positioned slightly to the left of centre with the drums slightly to the right and the rest of the instruments filling the remaining soundstage evenly.

A superb digital recording of Beethoven's *Piano Concerto No. 3* played by the English Chamber Orchestra shows off the system with a full orchestra. The sound is full and open with a great soundstage. When the piano kicks in – a notoriously difficult instrument for an audio system to get right – it is beautifully clear and very believable in my listening room. The strings are bright without being at all edgy, which highlights the ability of the soft-domed tweeter used in the X4.

To finish off, I up the ante and switch the Ampster BT over from the Bluetooth source to a phono stage feeding its line input. I play a half-speed mastered LP of Pink Floyd's *Dark Side Of The Moon*. The somewhat menacing heart beat that precedes *Speak To Me* ramps in from nowhere and builds to a climax heralding the start of the music – and is very well conveyed by the system. This first track then leads to the vocals of *Breathe*, which are correctly positioned slightly back in the soundstage with this recording and the complexities of the music are handled with aplomb.

Conclusion

I have heard numerous 'starter' music systems over the years and very few come close to being referred to as 'hi-fi'. The Tangent Ampster X4 system performs way above its price point and is comfortably at home with a wide range of music. Add in the remote control and the Bluetooth streaming capability of the Ampster BT amplifier, and this neat little package reveals itself to be a good choice for any starter or second-room setup around the home ●

DETAILS

PRODUCT
Tangent Audio
Ampster X4

ORIGIN
Denmark

TYPE
Micro music system

WEIGHT
7.8kg

DIMENSIONS
(WxHxD)
Speakers:
146 x 275 x 198mm
Ampster:
190 x 52 x 139mm

FEATURES
● 25mm soft fabric dome tweeter
● 110mm paper-cone mid-bass driver
● Quoted sensitivity: 88dB/1W/1m
● Quoted power output: 2x 50W (4ohm)

DISTRIBUTOR
Avoke

TELEPHONE
07971 634239

WEBSITE
tangent-audio.com



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY
★★★★★
LIKE: Large-scale sound from diminutive components; flexible connectivity; Bluetooth streaming

VALUE FOR MONEY
★★★★★

BUILD QUALITY
★★★★★

FEATURES
★★★★★

DISLIKE: Nothing at the price

WE SAY: A genuine miniature hi-fi system with impressive flexibility at the price

OVERALL





Air time

Boasting a welter of functions including aptX Bluetooth, the new Arcam irDAC-II is a hard act to follow, says **David Price**

Lest we forget, Arcam has past form on DACs. It wasn't playing catch up when legions of other digital-to-analogue converters were saturating the market a few years back. It didn't need to because it produced Britain's first standalone model. Back in the late eighties, it launched the Delta Black Box. It cost £299, had one input and ran up to a 16-bit/48kHz resolution – all possible from the best DAC chip of the day, the 16-bit, four-times oversampling Philips TDA1541. It sold like hot cakes, and brought the concept of an 'offboard digital converter' to the hi-fi masses.

Warp forward to four years ago, and the DAC revival began in earnest, so it was no surprise to see Arcam launch another. This time, it wasn't a black box, but rather a small, silver oblong – called the rDAC. I reviewed it as

part of a Group Test (*HFC 357*) around that time and couldn't believe how good it was at the price. The little aluminium silver case sported the Wolfson WM8741 DAC chip – then one of the best of its day – and had a major 'first' inasmuch as it was the first 'affordable' DAC to offer asynchronous USB connectivity. This meant that the master clock of the Arcam clocked the computer's USB output, reducing jitter and conferring audiophile respectability on an interface that was once regarded with great contempt.

The headline news is a new headphone amplifier stage, new Bluetooth aptX input and the adoption of the ESS ES9016K2M Sabre DAC chip. This is interesting because like the Philips and Wolfson before it, this little slice of silicon is currently flavour of the month.

► DETAILS

PRODUCT
Arcam irDAC-II

ORIGIN
UK/China

TYPE
DAC/preamplifier/
headphone amp

WEIGHT
1.1kg

DIMENSIONS
(WxHxD)
194 x 44 x 124mm

FEATURES

- 1x asynchronous USB; 2x coaxial; 2x optical; 1x Bluetooth aptX inputs
- 24-bit/192kHz PCM and DSD128 support
- ESS ES9016 Sabre DAC
- Fixed and variable analogue outputs

DISTRIBUTOR
Arcam

WEBSITE
arcam.co.uk

Indeed, if we're being honest, it's more like flavour of the middle of the decade, proving highly popular in a wide range of applications, alongside its 9018 bigger brother.

One clever thing the ESS Sabre DAC does is to play out DSD, and this functionality is duly present on the irDAC-II. As well as 24-bit/192kHz PCM, it handles DSD128. Indeed, the USB input itself runs up to 384kHz, with coaxial topping off at 192kHz and optical at 96kHz. This is plenty versatile enough for most people (DSD isn't exactly omnipresent yet), and the irDAC-II is bolstered by its myriad inputs – two each of coaxial and optical, plus USB. The headphone output stage is said to come from the company's flagship A49 integrated amplifier. Inside, the engineers have apparently left no passive component unturned in their quest to keep electrical noise down, reduce jitter and shorten the signal path.

The irDAC-II itself isn't, if we're being honest, quite as lovely a thing as the original rDAC. Rather like the new Mini has got better as a car, but also bigger, fatter and uglier, so the new Arcam looks like it's developed a taste for the good life and comfier clothes. That's perhaps a little unfair, because it's still a perfectly handsome thing – but it just isn't the small,

minimalist piece of aesthetic perfection that the original rDAC was.

The volume control is interesting, because the irDAC-II has effectively grown up into a digital preamplifier. It's very versatile with a choice of fixed and variable line outs, and also that headphone socket. It also comes supplied with a small remote, making its transition from source component to preamp all the more smooth. Those lovely front lip-mounted input LEDs are retained, and change colour to denote the presence of a signal. All in all, this is now a fully featured heart of an audio system – just add a power amp and loudspeakers, plus a digital source of course...

Sound quality

Hooked up via its coaxial input to a decent mid-price CD spinner, and it's hard to get your head around the fact that you're listening to a relatively inexpensive front end. Via the fixed-line outputs, I wasn't expecting quite as a good a sound as I get – open, detailed and expressive, there is a lot to like. One of my favourite eighties pop albums, Scritti Politti's *Cupid And Psyche* finds itself on, and *Word Girl* proves a delight. This is a big, punchy-sounding production with a powerful bassline, and the irDAC-II really rather relishes it. I wouldn't say it has quite the strongest bottom end around, but it is still tight and animated. The whole song revolves around this and so is given a real boost by the expressive nature of the low frequencies. Things are propelled along further still by the crisp, well-defined midband which has plenty of fine detail and catches the attack transients of those classic eighties early digital synthesisers in all their glory. Instruments are located positively in the mix, and up top the Arcam proves well able to capture the sparkle of those vintage hi-hat sounds without ever striking a harsh note.



Audiolab's £600 M-DAC (HFC 368) is probably the best at or near the Arcam's price. By getting progressively bigger and more sophisticated, the irDAC-II now finds itself having to slog it out with the big boys! The M-DAC uses the more expensive version of the ESS Sabre chip, the 9018, and is very well engineered. It's packed with features too, including an excellent display, but doesn't offer wireless aptX Bluetooth or DSD – which perhaps rather shows its age. The Audiolab has a fractionally wider, punchier and more powerful sound, but the Arcam is subtly warmer and doesn't seem quite so processed. The irDAC-II wins on style, but the M-DAC is more practical.

Staying with this era, but moving to some more considered rock music, Elvis Costello's *Shipbuilding* comes over with crystalline clarity. This poignant song recorded back in 1983 still sounds 'box fresh' today through the new irDAC. Costello's voice isn't an easy one to reproduce at the best of times, but this little box of tricks is not defeated by the challenge. Tonality isn't quite as warm as the rDAC of five or so years ago, but there's so much more information coming through; the oldie may be golden, but it's also opaque compared with the forensic precision of this latest incarnation. It has far more focus, and is livelier too with a really propulsive gait. There's definitely an

It does a good job of reproducing a myriad of sources and file formats

ESS Sabre sound, but it's less mechanical than in some other implementations, and smoother too. This new DAC catches the power of the song well and frames it with almost architectural precision, showing off this excellent recording in a most favourable light.

Moving on to USB, and my MacBook Pro and copy of Audirvana are duly summoned. I plug in my trusty USB lead and begin running the gamut of my hi-res files. Overall it is a noticeable step up, bringing appreciable benefits over Compact Disc in terms of the scale and depth. Bass is fractionally stronger and certainly more dynamically expressive, while the midband seems to fall back rather further behind the plane of the loudspeakers than it has previously. Kate Bush's superb *Snowflake* (24/96) is wonderfully immersive and her voice smooth if a little lacking in warmth, while Alex

De Grassi's *The Water Garden* via DSD is glass-clear and breathtakingly open. The current dearth of Direct Stream Digital music won't last forever, so this is a worthwhile feature to have.

Although aptX is the hi-fi variant of Bluetooth, it's no match for CD, let alone hi-res. But still the irDAC's implementation is excellent, proving stable and glitch-free. It sounds surprisingly good too, making it a very usable and convenient feature. Sonically there's a small penalty to pay in terms of focus and depth perspective, but it remains decently smooth and certainly keeps its innate musicality – that fundamental sense of fun is retained. Overall, an impressive performance across all inputs then.

Conclusion

With a wide range of inputs, preamp functionality, fine sound, distinctive yet pleasing styling, plus excellent build and finish, there is much to like about Arcam's irDAC-II. It's a fully rounded product that works in a fuss-free way and makes a good job of reproducing a myriad of sources and file formats. Highly recommended then, with the only caveat being that competition is strong. As ever, try before you buy if you can ●

Hi-Fi Choice

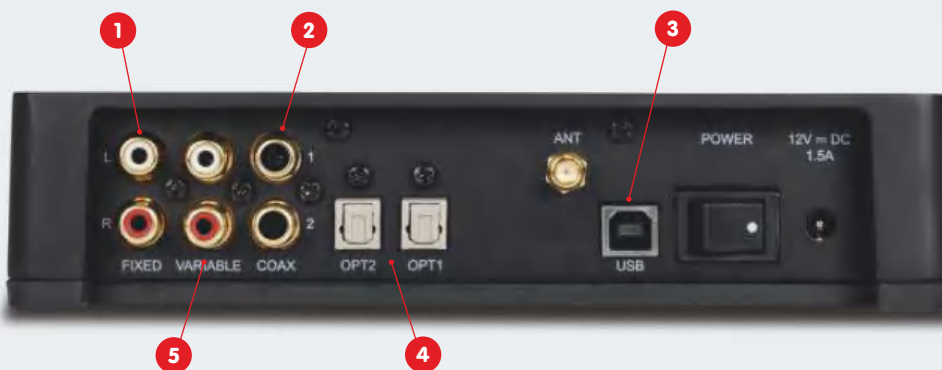
OUR VERDICT

- SOUND QUALITY**
★★★★★ **LIKE:** Super build and finish; features; connectivity; sound
- VALUE FOR MONEY**
★★★★★ **DISLIKE:** Faces some stiff competition at this price point
- BUILD QUALITY**
★★★★★ **WESAY:** Excellent value do-it-all DAC preamp
- FEATURES**
★★★★★

OVERALL



CONNECTIONS



- 1 Analogue fixed inputs
- 2 192kHz-capable coaxial inputs
- 3 384kHz-capable USB input
- 4 96kHz-capable optical inputs
- 5 Analogue variable inputs



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Art attack

As flagship of the Art Monitor series, the ATH-A2000Z looks striking, **Ed Selley** gives it a listen to see if it matches expectations

The growth in popularity of headphones has mainly focussed on models that can be used on the move with smartphones and tablets – the ‘hybrid’ type design being particularly popular. Meanwhile those for home use have seen less attention. But for manufacturers that made headphones before the boom, it remains an important category. Audio-Technica is particularly active here and has recently updated its Art Monitor series. Let’s meet the range topper.

The ATH-A2000Z is built around a pair of 53mm dynamic drivers that use bobbin-wound voice coils and Permendur (a man-made cobalt/iron magnetic alloy) magnets. The drivers themselves use a magnesium baffle to ensure they are as stiff and light as possible and claim an impressive frequency response of 5Hz to 45kHz.

Unusually for a home model, each housing is closed back, making use of

There is a genuine sense of space and soundstage to proceedings

Audio-Technica’s ‘DADS’ (Double Air Damping System), which consists of two chambers. One contains the driver, which is in turn connected to the other to allow the air moved via the driver to be controlled and used to augment the low-end response. In practise, the ATH-A2000Z is barely any quieter than an open-back design and sound spills out.

The speaker housings themselves are made out of titanium, which helps keep the weight down to a reasonably low 294g. To denote its position over other models in the range, Audio-Technica has finished the outer casings in a brushed titanium finish which looks fairly smart although it is something of a fingerprint trap. The housings are well padded although the pads are not removable.

Where the ATH-A2000Z differs most significantly from rivals is in its use of

AT’s ‘3D Wing Support’ system. This uses a pair of independently sprung pads to provide the connection between headphone and head while mounting the earpads on a skeletal hoop system. I find it to be extremely comfortable, but others who have tried it on have been less convinced – as always, you’ll need to try this for yourself to decide. The build quality is good with everything feeling solid and well thought out. There is little in the way of supplied accessories, but it represents good value.

Sound quality

In use, the ATH-A2000Z reveals some traditional Audio-Technica calling cards, but also shows some new – and for the most part welcome – characteristics. Listening to *IV* by Black Mountain, there is a slight lift in the midrange which emphasises vocals and instruments like guitars. This feeds into a top end that is well lit, but manages to avoid sounding bright or brittle even when you run it

DETAILS

PRODUCT
Audio-Technica
ATH-A2000Z

ORIGIN
Japan

TYPE
Over-ear, closed-back
headphone

WEIGHT
294g

FEATURES
● 53mm hand-wound dynamic drivers
● Magnesium baffles in titanium enclosure

DISTRIBUTOR
Audio-Technica UK

TELEPHONE
0113 2771441

WEBSITE
eu.audio-technica.com



at very high levels. This means that the amount of detail and realism that the ATH-A2000Z can bring to vocals is deeply impressive. There is a real weight and texture and considering the design is notionally closed back, there is also a genuine sense of space and soundstage to proceedings. Even listening to something truly vast in scope like Underworld’s *And I Will Kiss*, the headphone does an impressive job of making sense of the material and reproducing it in a suitably convincing fashion.

Where the ATH-A2000Z improves on previous designs is in the bass response. The low end is powerful and shows an impressive level of control and definition. Combined with the lively but well judged top end, the result is a headphone that is consistently entertaining to listen to. Compared with rivals like Shure’s SRH1840 (*HFC* 388), the Audio-Technica lacks the same drive and immediacy but it is much more forgiving of poorer recordings.

The other aspect of the performance that may prove to be either a positive or a negative depending on your perspective is that the ATH-A2000Z isn’t especially affected or influenced by the connected equipment. Testing it with a Naim Supernait 2 integrated amp, Moon Neo 230HAD DAC/preamp (*HFC* 411) and Chord Mojo portable DAC/headphone amp (*HFC* 405) – all of which are rather different beasts – doesn’t significantly alter the way it sounds.

Conclusion

If you like the way that the ATH-A2000Z goes about its business, this is good news, but it is perhaps not the most transparent model available at the price. What it is, however, is a very capable and consistent sounding headphone that’s well built and comfortable for long-term listening sessions. All of which makes it a very capable new arrival at the price ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★	LIKE: Detailed and refined presentation; comfortable; well built
VALUE FOR MONEY ★★★★★	DISLIKE: Slightly relaxed sound; not entirely transparent
BUILD QUALITY ★★★★★	WE SAY: A capable and comfortable home headphone that is extremely easy to listen to at length
EASE OF DRIVE ★★★★★	

OVERALL





Bowled over

With an eye-catching design, the Zemi Aria is Francesco Pellisari's first mass-market speaker. **Adrian Justins** checks it out

After meeting Francesco Pellisari I think I have to concede that I probably don't have pitch perfect hearing, as he does. I suspect he is in a tiny minority because it took years to diagnose – as a child he cried in museums in his native Rimini, as hard reflective surfaces caused him to suffer from headaches. Francesco has since used it to become an audio designer (he studied speaker design and psychoacoustics under Roy Alison, founder of Acoustic Research), launching his own company, New Audio Concept or NAC Sound in 1997. Over time he has developed a

distinctive line of omnidirectional active speakers, which are handmade in porcelain, some of them having been designed in collaboration with Marantz's Ken Ishiwata. Priced in multiples of £10,000 they are as much works of art and most are intended to be hung from the ceiling.

The Zemi Aria is his first mass-market product and has been designed principally for sale through Apple stores. As such it boasts AirPlay, but also supports aptX Bluetooth and has a 3.5mm analogue line in and optical jack. Fashioned from ABS plastic (known for its rigidity), it is an active speaker that resembles a 10-pin

bowling ball in appearance and weight (5.1kg), but it can be suspended from a ceiling (cables and brackets not supplied) or placed on its own rubberised holder. It has a marble coating on the inside and uses what Pellisari calls reflex technology, with a variable section pipe running through the middle to help generate Bessel (or non-diffracting) sound beams.

The brushed stainless steel concentric circular metal grille has been designed by industrial designer Ron Arad with holes that are big enough not to cause interference. Pellisari claims that higher frequencies are 92 percent free of interference, but the optimum sound comes by removing the metal grille and the acoustically transparent cloth-covered one beneath it. Doing so reveals a central 157mm fibreglass woofer cone with dual 28mm fibreglass dome neodymium Scanspeak tweeters on the circumference.

Pellisari told me Apple didn't want genuine stereo speakers, so to produce as effective a stereo image as possible from a single source the directional tweeters are angled slightly. Power output is a more than reasonable 125W (75W woofer, 2x 25W tweeters) and frequency response is quoted as 45Hz to 20kHz.

DETAILS

- PRODUCT**
Zemi Aria
- ORIGIN**
China
- TYPE**
Wireless stereo loudspeaker
- WEIGHT**
5.1kg
- DIMENSIONS (WxHxD)**
270 x 270 x 240mm
- FEATURES**
 - 28mm fibreglass dome neodymium tweeter
 - 157mm fibreglass cone woofer
 - Quoted power output: 125W RMS
 - AirPlay & Bluetooth streaming; 24-bit/96kHz DAC via optical input
- DISTRIBUTOR**
Apple Store
- WEBSITE**
zemiaria.com

Various colour options are in the pipeline, but for now the Zemi only comes in a high gloss black finish. The unit is supplied with a Yorkie bar-sized remote made from solid brushed metal with just three large buttons (power, volume up and down). There's no display, but LED lights behind the grille indicate the power status and volume.

Although the Zemi can be used with non-Apple devices, its *raison d'être* is as an AirPlay speaker. I find it simple enough to hook the speaker on to my wi-fi network by tethering my iPhone to the Zemi's mini USB socket and accepting the automatically generated onscreen request to allow the speaker access to the network. The Zemi then appears as an AirPlay option in my iTunes on my MacBook Air. Selecting AirPlay in iTunes is obvious, less so when using the desktop Audivarna+ audio player (it's located in the preferences) and when using Spotify or any other streaming service you have to delve around in the OS' Audio Midi utility to find the instruction to 'use this device'.

Sound quality

It has a 24-bit/96kHz DAC (when used with the optical input), but over AirPlay using Audivarna+ hi-res signals are transmitted as PCM with decoding at 16-bit/44kHz. The results are mighty good with just one or two caveats. Firstly, the soundfield is not as omnidirectional as Pellisari claims. Close your eyes and it's easy enough to pin point the source. Not that the sound feels cramped or constrained. It's light and airy and the twin



The Zemi Aria has some pretty stiff competition in the wireless speaker stakes, coming up for example against the £595 Naim Mu-so QB (HFC 409) and Sonos' £429 Play:5 (HFC 405), both of which are similarly sized. The Sonos Play:5 has the ability to mesh seamlessly into a multi-room system – see page 33 – and can be stereo paired for greater sonic imaging, but the Aria's sound quality is fuller and more satisfying. The Mu-so QB is AirPlay compatible and offers comparable performance levels to the Zemi Aria, but is a tad more powerful and less particular when it comes to the handling of bass.

tweeters throw out a well imaged and enjoyable sonic footprint.

Daft Punk's *Get Lucky* can sound quite muddy in the midrange on inferior speakers, but here it has a keen, well-timed bass, distinctive guitar twang and smooth but refined vocals, particularly when Pharrell's voice hits the higher registers.

Radiohead's *Karma Police* as interpreted by the Noordpool Orchestra highlights the speaker's aptitude with multi-layered recordings. The trumpet and percussion are able to deliver a big sound that's not cramped, but has room to breathe. The low murmur of strings, the deftness of the piano and the grip it holds as the piece builds to

It's a robust sound, coherent and powerful yet subtle and feather light

a crescendo combining to result in a powerful, distinguished big band sound. The Zemi almost comes a cropper with the bass, not in terms of extension but with reverberation, which does happen if it is positioned too close to a reflecting surface and if the metal grille is in place.

This is a shame as aesthetically the grille makes an impact. But removing it gives more punch to the midrange and more vitality at higher frequencies. Over on Spotify, another cover version – *Billie Jean* by Winterplay – reveals how classy the tweeters are. Helped in no small measure by the excellent timing and texture of the double bass,

the effortless underpinning of the bongos and the subtle verve of the lead guitar, the vocals have a gorgeous and incredibly well refined veneer and the speaker again proves itself adept at dealing with layers, with the trumpet coming in and blending assuredly rather than obscuring Haewon's voice. In terms of sonic placement and tonal balance, each instrument feels right, with the vocals just pushed slightly to the fore.

Back on the heavy duty stuff, Dvorák's *New World Symphony* in all its DSD goodness shows how adept the Zemi is with meatier, classical fodder. It's a robust sound, coherent, at times energetic and powerful, at others subtle and feather light. The definition of a good system is one that doesn't need any fiddling with the volume as the symphony fluctuates wildly from its pianissimo moments – a single French horn and piccolo – to the fortissimo, embracing almost an entire orchestra at full pelt. This speaker easily passes the test and draws you in to the extent that you can happily listen to it for several hours without feeling sonically weary.

I crank up the volume as the piece hits its crescendo just to see how far I can push it and the bottom end gets a bit shaky, but this is a complex piece that can derail a pair of floorstanders, never mind a single bowling ball-sized speaker. *New World* is also a good test for the speaker's Bluetooth capability: AirPlay has a bit more texture and sounds more dynamic, especially at the lower end where you can feel more vibration in the strings.

Conclusion

The Zemi is not the perfect AirPlay speaker, but it's not far off. It's a bit too fussy about placement and it needs to be stripped of its metal grille to get the most out of it. That said, it's distinctive looking, easy to use and is versatile enough to cope with a wide range of sources ●

CONNECTIONS



- 1 Mini USB port
- 2 Analogue/optical line input
- 3 Rubberised stand

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Design; build quality; powerful, refined sound

VALUE FOR MONEY ★★★★★ **DISLIKE:** Over-eager bass at times; can't pair up for true stereo use

BUILD QUALITY ★★★★★ **WE SAY:** AirPlay speakers don't get much better than this. It's got achingly cool design to boot

FEATURES ★★★★★

OVERALL





Magnum Opus

Another month, another new hi-res hopeful with a killer spec. Are we any closer to the ideal DAP? **David Vivian** finds out

There's a whiff of the wild west about the fast-expanding market for personal hi-res players. It's a largely lawless territory with competing platforms and formats snagging the interest of tech-savvy trigger fingers far and wide but confusing and frustrating those that merely want a post-Walkman pocket buddy capable of better-than-CD sound quality. That's what most Digital Audio Players (DAPs) claim to be, of course, but it would need a government white paper to untangle the myriad approaches manufacturers have adopted to realise the dream.

Up to now I've gravitated towards devices with iPod Classic-aping scroll-wheel user interfaces rather than heavily featured Android-based designs. Of the former, the Questyle QP1R (*HFC* 409) offers the right blend of aesthetic and tactile desirability, operational clarity and sonic excellence, albeit at a fairly hefty £699. But I must admit that the new Audio-Opus Opus 1 you see here – with its angular Astell&Kern flavoured styling, generously sized touchscreen, stripped-down Android OS powered by a brawny processor, dual-DAC internal architecture and more affordable asking price – makes

▶ DETAILS

PRODUCT
Audio-Opus Opus 1

ORIGIN
South Korea

TYPE
24-bit/192kHz & DSD-capable Digital Audio Player

WEIGHT
185g

DIMENSIONS
(WxHxD)
72 x 112 x 18mm

FEATURES
● Quoted battery life: 8-10 hours
● 32GB internal storage plus microSD x2 (SDXC) up to 200GB each
● Supports WAV; FLAC; ALAC; AIFF; WMA; DSD; MP3; OGG; APE
● Outputs: 3.5mm headphone/optical jack; 2.5mm balanced

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a convincing case for a simplified alternative to the overly complex, app-stuffed genus of the breed.

Audio-Opus? Track back and you'll find Korean company The Bit – digital technology specialists hitherto known as a component supplier to the likes of Samsung and SanDisk – as the force behind the brand and the Opus 1, its first DAP. A higher-end Opus 2 is in the pipeline and the Opus 11, a Sabre-chipped USB headphone DAC/amp, is available now.

Again, there's more than a hint of A&K-cloning under the skin. Impressive for the money is the DAC complement of two Cirrus Logic CS4398 chips (one per channel) with single-ended and balanced outputs, like A&K's £2k AK240 (*HFC* 387).

The player supports MP3, FLAC, ALAC, WAV, WMA, OGG, AIFF, APE up to 24-bit/192kHz, and it can also play DSD. The 32GB of on-board memory (8GB taken up by the OS) can be expanded to a maximum of 432GB if you feel flush enough to furnish the twin microSD slots concealed beneath a casework flap with two 200GB cards. Benefitting from the power of a 32-bit ARM Cortex-A9 quadcore processor running at 1.4GHz and with 1GB DDR3 memory, the seriously pared-down Android OS has

The finish may not be the best, but the sound makes it worthy of an audition

no apps, no wi-fi and no Bluetooth, just basic functions and navigation. It's one thing to be mistaken for a big figure A&K at a distance, but up close and personal the Opus 1 doesn't really cut it. When even budget designs like the FiiO X3 II sport a full metal jacket, it's a little disappointing to discover that the gunmetal-grey casework (metallic gold is the optional finish) is made from ABS plastic. Light yet tough and perfectly serviceable, it just doesn't feel as good. There's an optional lightweight leather case in a slightly paler grey that slips on snugly and improves general tactility but hides one of the casework's better aspects – a tempered glass back plate. The 4in TFT touchscreen display has a resolution of 480 x 800 pixels and is bright and crisp viewed straight on, though much less so at an angle. It responds briskly to commands and, in this respect, moves ahead of the pack.

The Opus 1 is more likeable still in action. Finding your way around really is almost ridiculously straightforward. All external controls are easy to reach with small but precise-acting buttons for volume up and down on the upper left side, the on/off button on the top along with the 3.5mm headphone/optical jack and 2.5mm balanced out, and the track advance, pause and back buttons on the upper right side. As with virtually every other DAP, the micro USB-B charging/data transfer socket is located on the bottom. The lithium-polymer battery takes around four hours to charge and is claimed to allow 8-10 hours of continuous playback or around a week of normal usage in 'ultra power-saving mode'.

Using the touchscreen is just lovely. Smooth scrolling, zero lag, snappy responses, clear graphics and logically ordered pages and lists make the Opus 1 the slickest, least cluttered and easiest to navigate and operate

DAP I've encountered so far. And although it lacks a playlist function at this stage – slated for a future firmware update – it does come with three user-definable EQ settings.

Sound quality

With such a potent component set under the bonnet, it wouldn't be unreasonable to cast the Opus 1 as the obvious go-to DAP for those who can't quite stretch to one of Astell&Kern's expensive dual DAC players. Unfortunately, I don't have one to hand for direct comparison. What I do have, however, is talented competition in the shape of FiiO's £159 X3 II (in my opinion, the best-value DAP on the market) and Questyle's delectable £699 QP1R

Brings a magic of its own with a balance that's relaxed, smooth and lucid

(with little doubt in my mind, the best-sounding so far). After trying out a number of headphones to shoulder the bulk of the auditioning from AKG, Oppo and Sennheiser, I eventually settle on Hifiman's fabulously revealing planar magnetic HE400S (HFC 410). Very comfy, too.

All these DAPs use the same basic, highly rated Cirrus Logic DAC, except the Opus 1 has two of them. On paper, you'd expect it to be the resolution and separation monster of this select little group. Yet its presentation is quite different to the clarity-led focus of the others: laid back, almost self-effacing and yet supremely easy to listen to. To begin with, this is a little disconcerting. The much cheaper FiiO X3 II seems to have at least 30 percent more detail, especially in the treble. Omar Hakim's fancy, funky cymbal work on

All God's Children, from a CD rip of Joe Sample's *Spellbound*, is laid so bare a drum student could write an exact chart from it. The Opus 1 pulls all the intricate filigree patterns deeper into the mix so that you have to listen more intently if you want to hear precisely what's going on. It's all slightly softer edged yet, at the same time, harmonically richer and warmer – a far from subtle tonal shift. Imagine stepping from a crisp, bright winter's morning into a sultry summer's evening where the air seems heavier and thicker and the scene acquires a seductive glow. A shock, maybe, but not unpleasant.

Conclusion

The Opus 1 has a style of music making that may not appeal to those that bought a FiiO for its precise, incisive, detail-digging chops. And the more expensive Questyle is an order of magnitude more resolute still. But there's no denying the Opus brings a magic of its own with a balance that's relaxed, smooth, rhythmically lucid and unobtrusively informative. The longer I listen, the more I appreciate it. Try to grab an audition with a decent headphone. If you like what you hear, and I think you will, you'll find it a dream to use and live with ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Fast, uncluttered interface; warm, sophisticated sound

VALUE FOR MONEY ★★★★★ **DISLIKE:** Plastic body

BUILD QUALITY ★★★★★ **WESAY:** A likeable, easy-to-use DAP with impressive spec and smooth sonics

FEATURES ★★★★★

OVERALL

★★★★★

CONNECTIONS



- 1 USB charging/data transfer
- 2 Micro SD memory card slots
- 3 Power on/off
- 4 Headphone and balanced outputs
- 5 Volume up/down buttons



Time to rewind ◀◀

Is the compact audio cassette really undergoing a revival? **David Price** examines the rise and fall and rise again of this once-mighty music format

Popular culture, just in case you hadn't noticed, is something of a cyclical thing. As advertising professionals and market researchers will tell you, things normally come into fashion, then go out, then come back in again, roughly every generation – or 25 years. This means that popular culture ends up being a never-ending series of fads, almost all of which vanish into the ether as fast as they first appeared. Brown is the new black, double-breasted suits are the new single-breasted suits, and now – it seems – audio cassette tape is the new vinyl.

Some people have been saying that cassette is due for a comeback, and a few are even now claiming that moment has finally arrived. Others have begun to refute it, telling anyone who will listen that, “there is no cassette revival”, prompting most of us to profess that we didn't even know there was one in the first place! Move beyond all this media froth, however, and there are some anecdotal – but actually quite telling – signs that the venerable Philips format that was invented way back in 1963 as a

dictation medium, is gaining some traction, after decades in the wilderness.

First, lest we forget, the format was once mighty. In 1988, five years into the supposed digital audio revolution with Compact Disc being advertised on billboards in all the major cities across the world, in Britain the best-selling format in history was compact cassette. That was the year that it reached its high watermark as a music medium, far exceeding LP (which had its finest year in

It took over 10 years for cassette to achieve any kind of audiophile respectability

1975). By 1990, worldwide sales of CD players were 35 million per year, compared with 180 million cassette machines (source: GFK). In that same year, vinyl sold 339 million units, CD 770 million and cassette 1,446 million, making it 56.6 percent of all formats sold. Indeed, there were 1.2 billion

cassette decks in existence, and 90 percent of all European households had one. No surprise then that the craze for mixtapes took off, with large numbers of double cassette ‘dubbing’ decks on sale by the end of the eighties, as people strove to personalise their music collections. While digital disc offered the promise of easy individual track selection, it was this little tape that gave us the first modern playlist.

Something for everyone

The great thing about cassette was that it was both a way of buying music, and of storing your own. Pre-recorded ‘Music cassettes’ (known to the retail trade as MCs) came out as early as 1967 in the United States, with Nina Simone, Johnny Mathis and Eartha Kitt being the first. By the mid seventies, MCs were widely available in record shops, selling at the same price as LPs – and by the late eighties it was the world's favourite new music medium. Yet at the same time, cassette was also recordable and most people used it as such; music could be recorded in one place (at home, or outside at



1973's Nakamichi 700 was a revelation, and showed what was possible from the format

a live gig) and then played somewhere else. From the early eighties, most new cars had a stereo cassette player fitted as standard, and at the same time, Sony changed everything when it brought the format into people's pockets with the Walkman portable.

Quality street

Cassette's low price and easy portability made it a cinch for enjoying music out and about, but its acceptance at home was by no means a *fait accompli*. Back in the sixties, home tape recording was the province of often rather worthy and snobbish hobbyists. Without the apparent complexity of open-reel tape recording, cassettes ushered in a new generation of enthusiasts more interested in the convenience and less concerned with technology. It was no surprise then that the little tape wasn't taken at all seriously at first, as a hi-fi recording format. This was not without some justification; cassette tape was half as wide as domestic reel-to-reel, and ran at 4.75cm/s, whereas most open-reel music recordings were made at 19.5cm/s (or more). That didn't bode well for cassette, and it took over 10 years for it to achieve any kind of audiophile respectability.

At the beginning of the seventies, one excellent Japanese original equipment manufacturer that had been making large numbers of decks for various companies around the world, decided to go it alone and release its own brand of machine. 1973's Nakamichi 700 was a revelation, and showed what was possible from the erstwhile 'dictation medium'. Other Japanese manufacturers hit back and by the mid-seventies there was a full blown cassette war in progress. Machines from the likes of Akai (GXC-310D), B&O (Beocord 2200), Aiwa (AD-1250) and Yamaha (TC-800GL) conferred audiophile respectability on the young format. Sony's 1974 TC-177SD – with its dual capstans, three heads and variable bias – was arguably the finest of that first wave of hi-fi cassette decks.

Five years later, things had moved on apace. Metal tape formulations had appeared, able to store more magnetism

on the same amount of tape, and this finally put paid to cassette's slightly soft, undynamic sound. A new generation of decks, from the likes of Nakamichi (ZX-9), JVC (DD-9) and Sony (TCK-81) offered lower noise, greater dynamic range and a frequency response that extended up to 20kHz – putting them far closer to domestic open-reel tape machines, which suddenly seemed to be a rather unsophisticated breed. By the time 1980 came around, the format was perfectly respectable in hi-fi circles and this created a space for the cassette boom of the eighties.

Music and movement

It could never have taken off like it did without the Walkman, though. Sony released the TPS-L2 on 1 July 1979 to a rather muted reception, but dropped its price and renamed it a year or so later, and suddenly it caught the world's collective imagination. Capable of surprisingly fine sound, it ushered in a whole new way of enjoying your favourite tunes and the genre of 'personal hi-fi'. Debates rage among hi-fi geeks about whether the Walkman was the first true portable (Philips can claim this with the EL3300 from 1966, or Nakamichi with its 500 from 1974 – while the concept itself was created by Brazilian-German

Cassettes represented both a great way of buying music, and of storing your own

inventor Andreas Pavel), but this misses the point. The little Sony perfected the package and made music truly personal for the first time, ushering in the format's association with lifestyle and personal freedom.

The record companies began to raise their game too, making better-sounding pre-recorded tapes available using superior tape formulations and Dolby noise reduction. It was a perfect circle; rising demand fuelled improvements which fuelled ever more demand. Mid-eighties decks began to offer sophisticated track search too,

and soon you could buy a mid-price deck such as Aiwa's 1985 AD-R550, which offered 'punch in' track selection and sophisticated logic control. By 1988 when the format hit its peak, it was easy to use, convenient, affordable and capable of superb sound if you could afford a decent deck. Nakamichi's CR-7E was pretty much the last word on the subject. The format was now capable of breathtakingly good sound, with recordings almost indistinguishable from the source.

And then, the decline...

Popular wisdom has it that MiniDisc, and – to a far lesser extent – Digital Compact Cassette killed cassette. Both formats were introduced within a few months of each other in 1992, and both offered pre-recorded music and also recordability. MD was the better of the two formats, giving true random access, although its early sound quality was a good way behind DCC. Both used compressed digital audio, effectively a variant of MP3, where the bits of the music that you (allegedly) couldn't hear were removed to minimise file space, and maximise the amount of music that could be squeezed onto the media. Sony pushed MD hard, and partially succeeded, while Digital Compact Cassette – introduced by Philips – was practically stillborn.

The last hurrah of physical media formats, they still didn't quite manage to outlive cassette, and people were still buying new machines well into the mid-nineties. For example, Sony's TC-K611S from 1993 was a very popular hi-fi recorder; surprisingly fine sounding, inexpensive and full of functionality (Dolby S, full logic control, three head off-tape monitoring and variable bias), yet just £200. These were the sort of features you'd have paid three times as much for a decade earlier.

By the late nineties, computer audio was the new kid in town – and in those early days of the internet, Napster gave people the chance to download virtually any song for free. It was totally illegal, of course, but it wasn't until Apple's iTunes Music store five years later that the concept of paying for music downloads was introduced, and



Akai's GX-310D underlined the format's potential



The National Audio Company now has 65 machines for making cassettes

during that window the final nails were punched into cassette's coffin. Why carry around a battery-hungry Walkman and a bag full of (paid-for) tapes when you could download everything for free and stick it on your Diamond Multimedia Rio MP3 player? The venerable tape format had no answer for this, and 40 years after its birth, called it a day. The gradual disappearance of cassette players from car dashboards was a telling sign – the very last one appeared in the 2010 Lexus SC430 convertible. Sony's last dubbing deck (the TC-WE475) quietly disappeared from hi-fi dealers' shelves at around the same time.

Back for more

Strangely though, the disappearance of cassette has left a gap in people's lives that newer technologies have never quite managed to fill. A generation had grown up used to recording their favourite LPs, CDs, live gigs and radio shows at the press of a button, and suddenly couldn't quite do it as easily. Mixtapes had become such a huge part of many people's daily lives too – we were used to lovingly recording them for ourselves, our partners and friends. These days, emailing someone a personalised Spotify playlist doesn't quite have the same romantic appeal as a box-fresh TDK SA90

with all your favourite tracks carefully hand-written in the inlay card...

Until recently, the end of Compact Cassette had pretty much been taken as a given, but Steve Stepp of National Audio Company says that was also true about vinyl until a decade or so ago. Several years after vinyl sales started climbing, so too did cassette, he observes. Now his company is manufacturing music cassettes for Universal Music Group, at a rate of up to 350 titles at any given time – over 2,125,915 miles of tape per year, no less.

In 1990 1,446 million cassette players were sold, making it 56.6% of all formats available

"What is happening right now is the under 35 age group has discovered they prefer analogue sound to digital, and cassette is the less expensive, quicker-to-produce alternative to LP. The analogue audio tape is reinventing the industry!"

Suddenly Compact Cassette is cool again. In the US, the Urban Outfitters fashion chain has started selling them, and they're going back on the racks in specialist music retailers. Cassette Store Day has grown from nothing to a celebration of the format from the UK and USA to Australia, New Zealand and Germany. Second-hand prices of classic cassette decks – especially early top-loaders – are climbing, and people are collecting Walkmans rather than throwing them away. Equally telling is the cost of the tapes themselves; 'new old stock' high-end metal cassettes still sealed in their polythene wrappers are nearly 10 times more expensive than a decade ago. Artists including Kanye West, Justin Bieber and Slayer recently had cassette releases, while an ICM survey showed that five percent of music fans had bought a cassette tape, up from two the previous year. Something, as they say, is in the air... ●



Chrome and metal tapes fixed the soft, undynamic sound

NATIONAL AUDIO COMPANY

David Price talks to Steve Stepp, a key player in the ongoing cassette revival



"I was still a college student when my father and I began this business in 1969. One day a gentleman from Ampex Corporation, one of the major manufacturers of tape came by and showed us the audio cassette. And I laughingly look back on that time as I didn't show much foresight because I said: 'That looks like a toy, I don't think that will ever win any acceptance because it looks like something you put in a doll so it can have a voice'. I was proved wrong because the audio cassette became the dominant format for the music industry, not long after that.

"We began selling cassettes for Ampex and, as the industry developed, they couldn't make them fast enough, so had to start building and buying our own equipment. After a few years we had 16 machines manufacturing cassettes; we now have 65. About six years ago the music industry bottomed out on the audio cassette, and many of our competitors decided they wanted to get out of the duplication business, they wanted to clear the floor and free up their personnel to make CDs. So we bought their audio cassette manufacturing equipment, duplicating lines and other equipment. We restored it to brand-new condition because we believed that the analogue sound would make a comeback. And that's exactly what we've seen.

"Cassette followed the vinyl resurgence by about three to four years and has been running in parallel since. It takes a while to get vinyl on the market, there's a certain amount of upfront expense. Most of the people in the early days going back to audio cassettes were independent record labels and bands, so there was an advantage to them to get their product on the market quicker, and that made audio cassette very attractive. As you know, the frequency response to the dynamic range on audio cassette and vinyl are almost identical. They both have full harmonics as opposed to being compressed, as they are on digital, so the sound on one sounded very much like the sound on the other product. It was a lot easier, less expensive and much quicker to get the audio cassette on the market as a release.

"That's what really began to pick it up because immediately we realised that there's only so much vinyl production capacity left in the world. And once that was saturated, people were waiting six months to a year to get a new release on the market. So people are now using cassette to release music, not only the independents but also the major record labels, alongside their CD, LP and download releases. It is fortunate for us, and kind of amazing!"



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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 VIVIAN

EXPERTISE: REVIEWER

David's love of hi-fi started at an early age after a near-deaf experience with a rubbish Pye music centre and his favourite prog-rock LPs. He hasn't been the same since.



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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▶ DAC's the way to do it

For six months now, I've been living happily with my digital PC-based J River system using PCM and DSD downloads plus my trusty CDs ripped and stored away, through a breathed-on Oppo 105D Signature edition by Audiocom and my amazing active JansZen zA2.1A-HP speakers. I use the TV Freeview tuner as my digital radio source most of the time. It all works really well and the sound is pretty good. The JansZens are very clean, clear and detailed and are really rather wonderful. These are definitely keepers.

Is it worth me investing in a Chord DAVE DAC for my system?

The ESS-based chipset in the Oppo is good, and I have no complaints. But I can't help wondering how a Chord DAVE would sound in the system. Getting one on demo is nigh-on impossible and I can't even find a dealer who has one to audition and that's in London!

Before I bought the Oppo I had a PS Audio DirectStream on demo at home for a couple of hours and from memory it sounded fantastic. I thought the Oppo would be a more efficient and cost-effective solution – and maybe it is. But I'm not sure the magic is the same.

Chord's DAVE is one hell of a DAC, but it's far from cheap

A nice dealer in Swiss Cottage has offered a Hugo TT on home demo sale/return with the idea that this will give me a good indication of the 'Chord sound'. I hope you think this is a good idea, as I do. But is it reasonable to think that if I like the Hugo TT as a DAC sufficiently more than the Oppo then the DAVE will blow my socks off? Can you quantify in any way what sort of difference I might hear? Should I just wait until a DAVE is less in demand and insist on a home demo before I decide?

What about the DAVE versus the DirectStream?

Of course, the £8k addition on top of what is a capable DAC is also debatable and perhaps I should just buy more music and stop being a twit.

Is there anything else beneficial that you'd recommend, like spending the money on room treatment, or a nice holiday instead of yet another piece of hi-fi hardware?

Cosmo Wisniewski, Woldingham

CW: You've triggered many thoughts Cosmo. I'm struck by your closing comment about whether any wonder DAC will actually scratch that itch you're feeling. Taking a step back, it's possible that the PC you're using to store some of your music could be having a significant influence on the sound of your system, yet you could be expecting ever superior DACs to extract more from it?

It'd be a good idea to consider a superior NAS and/or a Melco system to ensure your digital storage and access arrangement starts off by making the most of your files. Also do you ever use your Oppo player as a live transport, not just a ripping device or effectively a DAC with digital inputs? Some still swear by disc spinning over stored files.

I'd be tempted to start at the source/storage end of your system to try and hear fundamental differences and then fine tune this with existing and alternative DAC arrangements further down the line. In my experience Chord has a strong ability to make CD files sound more natural, so if this is the majority of your





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music, maybe you should sample one of its more modest solutions and see if this works for you/your room.

Finally, your speakers are very revealing, and very directional, so small adjustments in positioning, cabling, interconnects, power supplies and software could all have a large bearing on the sound you hear, as will the liveliness or absorption qualities of your furniture and wall and floor coverings. I'd encourage you to experiment with as many free or cheap things as you can before you look to an expensive purchase to make a subtle or fundamental change. An uber DAC could make all the difference, but what if a new speaker position, system rack, rug or wall hanging achieved comparable qualities?

DV: I'm pretty sure the Hugo TT will blow your socks off compared with the Oppo, Cosmo, as would the basic Hugo. DAVE is more wondrous still, of course, but the question I always ask myself is how little can I spend to get the sound I want, on the basis that the most expensive DAC in the world will inevitably be bettered by something much cheaper over time?

➤ **Visual vinyl**

As a long-time music devotee and rather amateur bass player, I enjoy my monthly indulgence of adding *Hi-Fi Choice* to the supermarket shopping trolley. Lunchtimes and bathtimes are often enhanced by opening the mag... But I digress, this letter is meant to be in response to Rob Lane's 'Art of noise' *Opinion* piece in issue 410.

Music is most obviously an audio experience; just think how many people close their eyes to

listen to it. However, there is also very much a visual element, as witnessed by rock stars and their fashion trends, and the desire to see the ELO or the RPO on stage, in their respective glory. Wanting to have a visual connection with what we hear is a natural phenomenon; Skype and face-to-face conversations offer more than the humble landline telephone.

As for artwork, I was reminded of its importance when a mate

CD covers just aren't as visually interesting as vinyl equivalents are

plugged his iPod into my car's USB port to discover that the album covers were recreated on the Beemer's info screen in glorious technicolour. So much better than when listening to the same CDs directly, when just the band and title were available. A similar experience occurs with home hi-fi.

I recently took the plunge and ditched my aged and rather insipid turntable, after many years of ignoring it because my CDs sounded so much better, and bought a new Rega deck to add to my Cyrus system. What a revelation! I can now listen to CDs and LPs with equivalent enjoyment! I have many albums on both formats, but with LPs there is the 12in sleeve to open, read the liner notes and lyrics, or just to admire. With ageing eyesight the same can not be said for CDs, as they are often merely a much reduced version of the original LP cover. I have several favourites, of course, and Roger Dean's fantasy world to admire with Budgie, Yes and Uriah Heep's offerings. I just need to find space on the wall to display some of those covers.

Jim, Edinburgh

CW: Really thought-provoking stuff, Jim. There is certainly a tradition of musicians being highly conscious of how their

You wouldn't get artistic touches like this on CD...



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Can a £39 insect make all your CD files sound better than Hi-Res?

Yes and no: Using the same equipment and a quality DAC, a 24/96 file (for example) will always sound better than a CD 16/44.1 file ... but, even a single JitterBug will often allow a CD file to be more musical and more emotionally stimulating than a Hi-Res file without the benefit of a JitterBug.

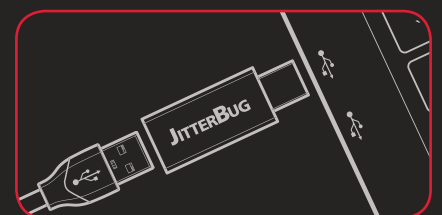
Noise is the problem. Real noise—the kind you can't hear directly. Most often, the word "noise" is used to describe tape hiss or a scratch on a record, but these sounds aren't noise; they are properly reproduced sounds that we wish weren't there.

Problem noise is essentially random, resonant or parasitic energy, which has no meaning. It can't be turned into discrete sounds, but it does compromise signal integrity and the performance of everything it touches.

JitterBug's dual-function line-conditioning circuitry greatly reduces the noise and ringing that plague both the data and power lines of USB ports, whether on a computer, streamer, home stereo or car audio front-panel USB input.

A single JitterBug is used in between devices (i.e., in series) as shown below. For an **additional "wow" experience**, try a second JitterBug into another USB port on the same device (such as a computer). Whether the second port is vacant, or is feeding a printer or charging a phone, JitterBug's noise-reduction ability is likely to surprise you. No, the printer won't be affected—only the audio!

While a JitterBug helps MP3s sound a lot more like music, high-sample-rate files have the most noise vulnerability. Try a JitterBug or two on all your equipment, but never more than two per USB bus. There is such a thing as too much of a good thing.



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DV reckons that Monitor Audio's Bronze 5 is a steal

visual image is inextricably linked to the perception of their music. Of course, during the sixties to eighties there was an era of many musicians coming from art school, where they may well have been just as conversant with visual media as musical pursuits. People listening to music on vinyl were also arguably more 'committed' to the process and looking at a luxuriant gatefold piece of artwork with legible, useful and meaningful copy was all part of the enjoyment. Also during the heyday of LPs, artists and record labels felt they had to work harder to grab your attention visually in the environment of a busy record shop. And you're right, simply scaling down the 12in square of LP graphic joy does not necessarily work at the size of a jewel case. It's great you've got yourself set up with a new multi-source system, but please ensure you are properly dry before you operate it, after your bathtime *HFC* reading sessions!

LETTER
OF THE
MONTH

➤ **Naim that tune**
Dave Robson's letter (*HFC* 407) has prompted me to write in as I have the same system as him driving early nineties Mission 780 speakers through Ixos 603 cable. I too want superior sonics and have always preferred separates, until

reading the *Dealer Visit* piece in the same issue. This focused on the Naim Unitilite.

My current sources are CD and FM radio. Streaming is of no interest now, but who knows in the future? My taste is flexible, but I don't like heavy rock or dance music. My questions are: are the Naim's sonics really better than separates at the same prices? What benefits would I hear? If not, what would you suggest for the same cost?

I think that my speakers are still capable, if you disagree what do you think of either the

Monitor Audio Bronze 2 and Bronze 5 or B&W 685 S2 matched with the Naim? Many thanks in advance.

Simon Richards, Lincoln

CW: Good questions Simon. Separates vs integrated solutions is a really interesting argument. In engineering terms, an integrated product is usually able to have short, internal, optimised connections between digital or analogue amplification stages without the need for extra interconnects.

Are the Naim Unitilite's sonics better than a separates setup?

However, short internal connections can give rise to a lack of isolation or screening from electrical, magnetic or mechanical interference, which can in turn reduce signal integrity compared with separates. Separates are often built to higher price points enabling notionally higher specs to be achieved, but conversely integrated components can take the extra budget necessary for external casework, quality connections, packaging and distribution required for multiple separates and invest this

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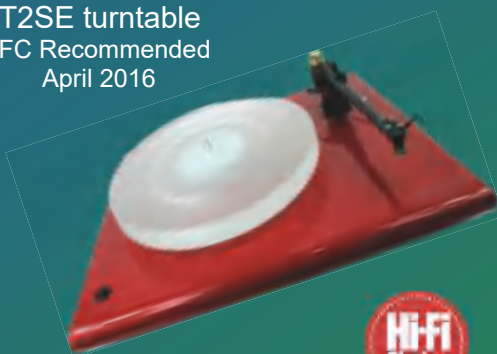
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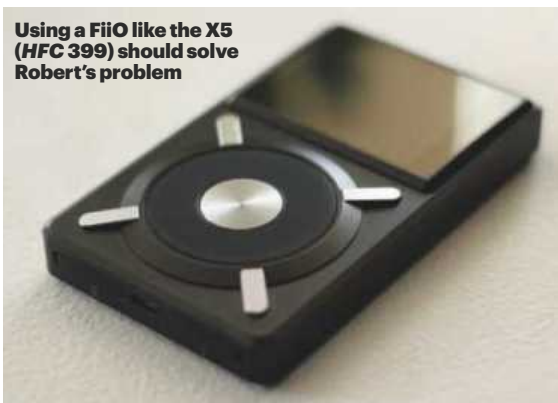
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Using a FiiO like the X5 (HFC 399) should solve Robert's problem



format to use. FLAC would seem to be a sensible choice, but sadly the player is not compatible with FLAC files, only with WMA, m4a, m4b, MP3, WAV, AAC, AA and AAX.

I guess WAV would give best results, but I

budget in higher-quality components in a single unit. As always, we'd urge you to listen and decide if separates earn their premium. Re your Mission 780s: they were fine in their day, but may be showing some signs of age now. I recently heard the latest Mission LX-2 standmount speakers for £200 and ELAC's Debut B6 (£299, HFC 407) and F5 (£599, HFC 411) speakers and was hugely impressed with them all.

DV: I'd certainly add the Monitor Audio Bronze 5 (HFC 402) to that list, Simon. It's a little pricier than the standmounts mentioned, but even at £550 is something of a steal, looking and sounding like a £1k product. Transparency and bass performance are exceptionally good.

➤ Digital dilemma

I have bought a car with an audio system that does not include a CD player nor an analogue input, just a digital input, so I need to find the best way of feeding it with reasonable-quality music files. I will probably go for a portable player (possibly a FiiO or similar), but am unsure what

understand that this does not support tagging of track details. Is this right? If so, do any of these other formats provide lossless codecs and tagging? And which portable players would support your recommended format(s)? Thanks!

Robert Tuson, by email

NR: Hi Robert, actually WAV can support tags and media player programs such as Foobar will use them. However, the problem is that they do not show up in all music players as the tags are not standard. As far as I know, the FiiO does support FLAC, but I think from your letter that you intend to bypass the FiiO's DAC and use the digital output to feed your car's player/DAC, so I don't know if that will read tagged WAV files. I think you'll need to check the documentation for the car player to see if it will. Regarding the other formats, there is a lossless version of WMA cryptically called 'WMA Lossless' from Microsoft, but again you will need to check that it will play on the car's player.

ES: If you use dBPoweramp as your ripping and tagging software, you

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should be able to tag WAV files in such a way as to make the metadata stick. This being said, for use in a car system, I'd be inclined to use AAC and be done with it. While there are some cogent arguments for the use of lossless files in domestic situations, I'd be hard pressed to tell the difference.

System setup

I am on the hunt for a new system, but am unable to test new equipment so read your reviews instead. I've narrowed my search to Arcam's CDS27 and A19, Creek's Evo 50CD and Evo 50 amp, Rega's Apollo-R and Brio-R and Naim's CD5si and Nait 5si. I expect the costlier combos to outperform the cheaper ones, so would Arcam's A29 and Rega's Elex-R balance the situation? I have chosen one-make systems for synergy and one less remote, but would appreciate your suggestions.

For speakers I am thinking Q Acoustics Concept 20, Monitor Audio Bronze 2, B&W 685 S2, DALI Zensor 3 and Quad S-1 or even a small floorstander that works well in both small and large rooms. Are my speaker choices compatible with the above components?

My musical tastes include acoustic, folk, Celtic and Americana, and I'm looking for a sound that is warm, detailed, refined and tonally balanced with good body.

Bill Stokes, Perthshire

JK: Hi Bill, as the magazine's resident Rega nut I would urge you to go for a Saturn-R CD player with the Brio-R (HFC 352) amplifier, it's slightly source heavy but will give you the best sound for your money until funds allow an amplifier upgrade. Speaker wise the



Bowers & Wilkins 685 S2 you mention is very good, but if you can stretch to the Rega RX3 (small) floorstander you will attain musical nirvana in double quick time.

Jason thinks the all-Rega route is the best way for Bill to go

ES: You could do a lot worse than the Rega Brio/Apollo pairing and you could really go all in and partner them with the company's RX1 standmount, which is designed to work with those electronics and has prompted some very positive comments from dealers.

CW: You've shortlisted some excellent components, but there really is no substitute for listening to your contenders as a system. You aren't specific about the size of your room and I believe working backwards from ideally placed speakers that drive the room correctly is vital. Equally, asking for "warm, detailed" yet "tonally

I'm not able to audition new kit so need your help in making a decision

balanced with good body" suggests to me you really do need to hear what you like. I don't think you'll go wrong *per se* with any of your choices, but sense the Rega house sound may work best for you. But I'd urge you to take even a lengthy trip by car, train, plane, coach or ferry to a quality dealer that can demonstrate some excellent system combinations. When you hear what you like, you'll be so much more satisfied with spending the money and all items can be dispatched to your home by insured courier, or you may find a kindly dealer will set you up for success if they can visit your part of the world and you treat them to a spot of lunch. Do let us know what you go for and what you think of it.

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Richard Black,
Hi-Fi Choice, Oct 2012



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Some really Top Gear

Unimpressed by the recent re-launch of the BBC's flagship TV show, **David Vivian** has a few ideas for Chris Evans and Matt Le Blanc. The revolutions will be televised after all

It may not have escaped your notice that the re-launch of everyone's favourite car show, with new presenters Chris Evans and Matt Le Blanc, hasn't ignited the nation's combustion chamber. The major beef seems to be that, contrary to all the promises, it's a lightly microwaved version of what had already become a moribund format, only not as good. And if you think those remarks are forced and lame, that seems to be precisely the problem with new, not improved, *Top Gear*. It isn't funny, just clapped out.

It got me thinking. Do you remember that story some years ago, apparently true, where model Kate Moss on being introduced to Jeremy Clarkson – who was admittedly less famous than he is today – asked what he did? Clarkson naturally replied "*Top Gear*". "Are you trying to sell me drugs?" she asked. Very amusing for onlookers. But, looking back, I think Kate's *faux pas* may have pointed up a future direction for a show that, in 2015, had already reached the end of the road.

Instead of being a reference to a car's transmission, the show's title could adopt its looser, more generic slang meaning. No, not what Kate Moss was referring to, but good stuff, ace kit, top gear. Not to put too fine a point on it, hi-fi equipment. Why not? Maybe it wouldn't work as a subject on its own – we don't want another *Gadget Show* – but it could be the kind of mash up that, at the very

How many REL subs does it take to blow the doors off an Austin Allegro?

I've got a few ideas. They're not very good but, hey, who can afford to be picky right now? To kick off the new, revamped *Top Gear* I'd suggest a tribute to American composer John Cage who, in 1952, wrote a three-movement piece called *Four Minutes, 33 Seconds*. As those familiar with the work will know, that's 4:33 of complete silence. Chis and Matt would sit cross-legged on the floor looking straight at the camera with impassive (possibly contemplative) expressions and their mouths firmly shut for that iconic gobbet of time. Memories of Evans shouting his way through the entire length of the season opener and Matt's staggeringly incongruous "lighter than your mother's G-string" reference to the weight of the Ariel Nomad he drove would be cleansed and segue nicely into a much gentler and more cerebral style of show.

Who am I kidding? *Top Gear* loves its raw and ragged showdowns and drag races so, yeah, we're talking a

studio-based sound-off slap-down. Which sound source truly melts the decibel meter's needle, a V12 Lamborghini Aventador at 8,000rpm or a pair of flat-out Wilson Audio Alexandria XLF loudspeakers? And, keeping it musical, how many REL subwoofers does it take to blow the doors off an Austin Allegro? Here's the twist. Maybe, just maybe, the formidable combined shouting talents of Brian Blessed and Chris Evans trump all. This is the stuff we need to know.

The studio layout would have to change, too. Keep the huge hangar and permanently chortling live audience, but get rid of that big car engine table and the adapted car seat armchairs. What's needed now, to respect the vinyl revival zeitgeist, is a giant, fully operational turntable big enough to accommodate the presenters and their guests. I'd incline towards a replica Technics SL-1200, complete with jumbo direct-drive motor so that, if they wished, the presenters could carry on the childish tradition of talking about 'torques' instead of torque during discussion of the SL-1200's legendary adequacy in this department.

Look who's torque-ing

Apart from its topicality, I see several advantages in having the presenters do their stuff on a giant rotating turntable. One, watching Evans and Le Blanc trying to stay on their feet while talking to a stationary camera would, at least, be quite funny and thus elevate the entertainment value of the show at a stroke without the need to hire Barry Cryer to write some quality one liners. Two, there'd be an opportunity to pinch and modify an idea from another show. Instead of Graham Norton's big red chair – in which a member of the audience is invited to sit and tell a funny story under the threat of being tipped off it backwards if the yarn doesn't measure up – there'd be the big red 78rpm button that a member of the audience could hit if the presenters started talking about doing yet another Reliant Robin challenge, thus launching them, thanks to the Technics' many torques, into the arms of the adoring fans. Desperate times, desperate measures ●



We can dream, can't we?



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High-end spectacular

David Price heads out to Munich and reflects on the esoteric joys of the world's greatest high-end hi-fi show – surprisingly it's not just the searing heat and German beer

Of all the world's great hi-fi shows, there is none that can compare to the Munich High End Show. My reasons for claiming this are two-fold, and the clue is in the name – it's packed full of audio exotica, and it's held in one of Germany's greatest cities. What's not to love?

This pretty city of 1.4 million people, located in the rather lovely German region of Bavaria and home to FC Bayern Munich football club and Bayerische Motoren Werke AG (BMW to you and I), and is frankly one of the more appealing venues for any kind of show. Even the weather seems to be warmer than your average British audio fest...

Held at the MOC exhibition centre, the High End Show is an object lesson in hi-fi show ergonomics. The venue is massive compared with your average UK show, with no labyrinthine hotel corridors to negotiate. This makes moving between rooms rather easier. Compare this with the Bristol Marriott hotel where the Sound and Vision show is held every February – which I do like, not least because I'm a former long-time resident of that fine city – and it's a veritable cathedral of glorious equipment, with similarly epic internal dimensions and sense of religious occasion.

There are huge atriums across several floors, packed with hi-fi goodies the like of which you'll struggle to see anywhere else in the world – except perhaps Las Vegas.

The price of a setup does not determine how it sounds in real-life conditions

Purely for research purposes you understand, I decided to stay in this beer garden for an extended period, fighting the 27°C heat with the odd Weissbier or three, and spotted enough audio journalists to staff a national daily newspaper. Some were taking the weight off their feet for a few minutes, others had decided to do their show reports by asking their colleagues what they'd seen and hastily making notes. A good number of hi-fi industry types also passed by, and seemed in unexpectedly 'expansive' moods, nattering about various new products, some of which they hadn't officially launched yet. Perhaps the free-flowing beer had helped them forget?

Munich is a great leveller in hi-fi terms and the wonderful thing about this show is that it is actually possible for exhibitors in the larger rooms to get a decent sound. It's no surprise that the small hotel-based shows often struggle to sound great, but the exhibitors here have more space and less of an excuse for putting together a mediocre-sounding

system. Basically, it's something of a reckoning – telling anyone who's willing to listen for over 30 seconds precisely how well the company in question knows how to set a system up. With passable acoustics, it's all to play for – just like a Champions League final.

Navigate your way up to the first floor and you'll find a host of major manufacturers (Arcam, Naim, KEF, Marantz, to name a few) with their own capacious rooms. Here you can see just what the set-up teams have done, and hear how successfully they've done it. Fascinatingly, some companies showed themselves able to take mid-price kit and absolutely ram the best sound out of it, whereas others struggled to get their high-end goodies to sound in the least bit appetising.

Many were capable of fancy light shows, but those able to get a sound to match were a little thinner on the ground.

Game, set-up and match

Munich is a lesson in that 'it's all in the setup'. It reminds me that the price of a system simply does not determine how well it will sound in real-life conditions. Indeed, it makes the very powerful point that – while many people obsess about whether to spend a £1,000 on this or that bit of kit – it's actually the acoustics of the room that have a bigger and more profound effect on the final sound.

Several systems on show were ruined by silly speaker positioning (near highly reflective glass panels or mirrors, for example, or too near the boundary wall), poor cabling and mains, or simply plonking the source components on any old table that looked good. On the other hand, there were some great-sounding rooms running very inexpensive systems (Q Acoustics and Cyrus, take a bow), not least because they didn't have clueless people setting them up. The odd sound diffuser, damping panel and/or soft furnishing works wonders if you know where to put it!

After a strenuous few days of esoteric audio research, yours truly embarked on the long drive home with two compadres and a Burger King to while away the late night jaunt to the Eurostar. Sadly, German 'hits radio' didn't do my hearing much good, but my ears should be back to full working order in time for the next hi-fi show! ●



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Making the cut

Are vinyl buyers being short-changed when it comes to quality, or has the format always been compromised? **Rob Lane**'s head is spinning (like a record baby)

There's a quiet yet audible debate raging in some parts of the UK as to the quality (or otherwise) of the glut of new vinyl releases. With as many as seven percent of record buyers collecting the format even though they don't own a turntable, the allure of 12in discs appears to be getting stronger, but there's a growing sense of unease too.

This is with regard to quality. Is the recording even an analogue one? Did it originate from the master tape or (horrors!) straight off the CD recording? Was the pressing a good one? Is vinyl better than CD or download – there's an engrained assumption that it is, but have seeds of doubt been sowed by inferior pressings? Or, is it simply that vinyl was never as good as we all thought (and think) it was?

I interviewed Martyn Ware of Heaven 17 and (early) Human League fame – and a music producer of some regard – (see page 118). His views on vinyl were very interesting, perhaps shining a light on why some people appear to be growing anxious. According to Ware, vinyl has always fallen short of perfection. He explains that the process of transferring music from the original master is a “reductionist process”, but goes on to laud vinyl's “limitations”, which he – like so many of us – “loves”.

This is an interesting point. As the saying goes, absence makes the heart go fonder, and in the time that people haven't been listening to the format, it's clear that vinyl has attained a kind of mystique out of synch with the reality of the sound

it produces. Certainly this would explain why so many discs are being bought by people who are yet to (re)invest in a turntable, or have no intention of ever doing so.

Since vinyl was usurped by the compact disc, CD itself has been virtually replaced by downloads and streaming. So, while on the one hand vinyl must sound great to someone who has got used to compressed audio, the old analogue format probably sounds inferior to ears that have mostly known CD. That could explain why it is suddenly so popular again and is also causing anxiety among buyers perceiving that their purchases are falling short of vinyl perfection.

To confuse matters further, the download/streaming generation has also embraced convenience over quality when it comes to their playback options. And again this has two potential outcomes: vinyl playback on a decent turntable married to a 'proper' hi-fi = step up in sound quality; vinyl playback on a super-budget, plastic turntable with built-in speakers = dreadful sound. More confusion!

But what if there are genuine problems with the newly pressed vinyl that's selling so well? How can we be sure we're not buying a dud, especially when our ears are struggling to make sense of the confusing messages we've been sending them over the years?

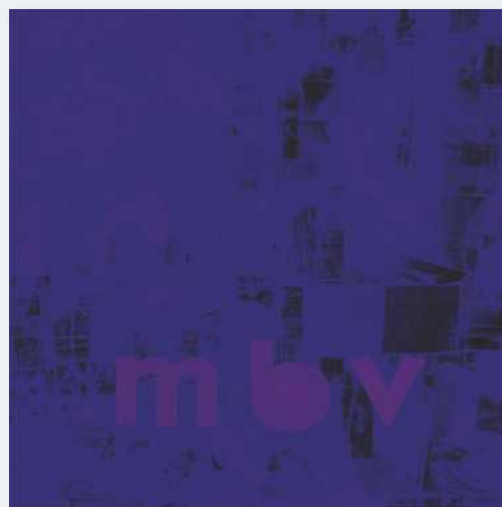
Bands old and new, and their record companies are pressing ahead with vinyl versions of their catalogue (old and new), and the few remaining vinyl presses are under huge pressure to hit production deadlines – which has a potential for compromising quality control. The likes of Sony and Warners are block booking the lathes, leading to tailbacks in production for the smaller independents and self-publishing acts, which are forced to look further afield, possibly to less highly regarded vinyl producers.

There are stories doing the rounds that the equipment these under-pressure presses utilise isn't fit for purpose; resembling the equivalent of a Frankenstein's monster, patched from parts of other old broken presses.

Analogue authenticity

And it's certainly true that most albums are recorded digitally these days, leading one to speculate as to the analogue authenticity of a collection of digitally recorded songs transferred to vinyl. My Bloody Valentine's Kevin Shields worked hard to ensure that the 180g vinyl version of *MBV*, his long awaited follow up to *Loveless* had true analogue provenance (“recorded, mixed and mastered in analogue”) – how many more can say the same?

What's perhaps more disturbing, requiring further investigation than I have either time or space for here, are the tales of newly released classics, usually on 180g, remastered (again) vinyl, that don't hold a candle to their originals. Have they been pressed from a digital remaster of a digital master without a thought to analogue? How close did these discs actually get to the original analogue masters – and the vast majority of these classic re-releases would have been mastered in analogue – when they were pressed? One thing's for sure, as vinyl continues (blissfully) to engage the imaginations of music lovers everywhere, the debate is set to continue ●



My Bloody Valentine's *MBV* was “recorded, mixed and mastered in analogue” but how many other records are?

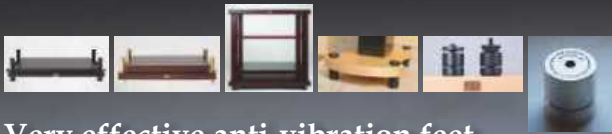
Vinyl presses are under a huge amount of pressure to hit deadlines



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Everybody hertz

It's not only dogs and cats that can respond to ultrasonic sounds, apparently us humans can experience them too. **Neville Roberts** looks into the latest research on hypersonics

It is generally accepted that the limit of human hearing is around 20kHz for children, dropping off to around 15kHz for adults, and then getting progressively worse as we age.

So, given that not many toddlers are likely to use their Fisher-Price PC to download *Postman Pat* as a hi-res FLAC, why are we even bothered with recordings or equipment that can reproduce ultrasonic frequencies? According to recent research, high frequencies really do affect the overall listening experience, and this can be measured.

Take the use of super tweeters for example. I've heard many demos of a well-known make of super tweeter over the years, and have been amazed at the improvements that it can offer, particularly in the overall sense of realism. The said super tweeter starts working at 6kHz, really kicks in at around 20kHz, and extends the frequency response of conventional loudspeakers up to 90kHz, with a peak in performance at 60kHz. This suggests that it's not really about boosting the treble that we can hear, it's about adding back the frequencies we can't. This may all seem weird, but the human brain does respond to ultrasonic frequencies.

Research carried out in Japan has concluded that 'inaudible' high-frequency components affect the acoustic perception of audible sounds. A source of sound called Gamelan music was used for the tests as it's rich in audible low-frequency components (LFCs) and inaudible high-frequency components (HFCs). The piece in question – *Gambang*

Kuta played by Gunung Jati – was recorded in DSD and played back on systems that have a frequency response exceeding 100kHz. This recording was split into LFCs comprising frequencies below 22kHz and HFCs comprising frequencies above 22kHz. Initial research showed that test subjects found the music more pleasant to listen to when the HFCs were present than when they weren't. Unsurprisingly, none of the subjects recognised the HFC as sound when it was played on its own. This led the researchers to use an electroencephalogram (EEG) to measure and record the electrical activity of the brain. This confirmed their findings as they were able to measure the increased electrical activity that the HFCs caused when played with the LFCs. They called this phenomenon the Hypersonic Effect.

Now, before you all go out and purchase a pet bat to house in your listening room to improve your listening experience, I should mention that the latest measurements show that the HFCs have to be related to the audible LFCs. This

research investigated whether the 96kHz sampling frequency of hi-res digital audio, which can record and reproduce sounds up to 48kHz, effectively induced hypersonic effects in the test subjects. The answer was 'yes' and, furthermore, the researchers found that HFCs of the music above 32kHz affected the brain differently from HFCs below 32kHz. Although these differences were explained in terms of EEG measurements, the research did not attempt to say which specific range of HFC frequencies enhanced the subjects' listening experience.

What does it all mean?

In a nutshell, what can be concluded is that an extended frequency response, taken as a whole, is able to improve the listening experience. This goes some way to explaining why hi-res formats and the use of super tweeters can make music sound more real. However, it doesn't explain how the brain receives the HFCs of the music. Following a bit of investigation myself, I found that there are two schools of thought on this. Either ultrasonic sound is picked up by the appropriate parts of the inner ear through bone conduction (as the middle ear is not much good at those frequencies) and then transmitted to the brain. Or the brain itself is excited (physically) by the ultrasonic sound and sends this information back into the middle ear for processing along with the audible sounds. After all, we have all experienced very low infrasonic frequencies, such as a thump on our chest from a bass drum. It has also been suggested, according to NASA, that the resonant frequency of the eyeball is around 18Hz and our eyeballs can also respond to infrasound. Whatever mechanisms in the body respond to infrasonic and ultrasonic frequencies, it seems that these inaudible frequencies influence our enjoyment of music. It also, therefore, supports the need for extended frequency recordings, either digital or analogue.

As I've said before, even the good old LP is capable of breaking the 20kHz barrier to some extent. For digital recordings, when available, it's going to be 24/88 format as a minimum for me when I invest in new recordings. The downside is that I'll have to fight the dog for the remote ●



Science has proved that it's not just dogs that enjoy hearing high frequencies

Evidence suggests that inaudible frequencies affect enjoyment of music

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In defence of plagiarism

With Led Zep finally being given a grilling in the courts for 'borrowing' part of the tune for *Stairway*, **Nigel Williamson** considers just how much of this sort of thing goes on

How many HFC readers are familiar with *Taurus*, the haunting, string-laden instrumental from Spirit's self-titled 1968 debut album? Written by the band's guitarist Randy California, it contains a brief descending chromatic chord progression played on an acoustic guitar that sounds uncannily like the intro to *Stairway To Heaven*, which was recorded two years later.

Rock cognoscenti have known about this for years. Randy California was aware of it, too, and shortly before his death in 1997, he complained: "It was a rip-off. And the guys made millions of bucks on it and never said 'Thank you,' never said, 'Can we pay you some money for it?'"

You can see why he was miffed. The song's historical earnings including both sales and royalties were estimated not long ago at \$562 million and if California had received a writing credit along with Jimmy Page and Robert Plant, a fair chunk of that would have accrued to him.

Now 19 years after California's death and 46 years after *Stairway To Heaven* was released, the charge of plagiarism is going before the American courts. So long after the event it all seems a little ludicrous, although given the eye-watering sums of money involved, it's no surprise.

Page insist that he could not have copied *Taurus* because he never heard it, even though Zep and Spirit toured

Composers have borrowed from one another since music was invented

together in 1968/69 when the American band played the tune several times on stage. Possibly Page wasn't listening,

but then as a tribute to their touring colleagues, Zep performed *Fresh Garbage* which had appeared on the same Spirit album, so the plot thickens.

But does it matter? Led Zeppelin, like every band, borrowed from other sources and then transformed them into new, original works. Even Page admits as much. "I always tried to bring something fresh to anything that I used. In fact, I think in most cases, you would never know what the original source could be," he confessed to one interviewer long before the case came to court.

It's undeniable that Zep should have acknowledged their sources. *Dazed and Confused* was 'influenced' by a song Page heard Jake Holmes play when he opened for the Yardbirds in 1967. *Babe I'm Gonna Leave You* was written by Anne Bredon, who for years went uncredited. *Whole Lotta Love* draws heavily on Willie Dixon's Chicago blues standard *You Need Love*. All three songs resulted in



challenges under copyright law. But does that mean Led Zeppelin's career was built on fraud? Of course not. In none of these cases were Zep's versions remotely like the source material: whatever they took, they transformed into something new and original.

Rock 'n' roll is built on a limited number of chord progressions, and there are a limited number of ways of deploying them. Just ask George Harrison, who was found guilty of "unintentionally" plagiarising *My Sweet Lord* from the Chiffons' hit *She's So Fine*, which had in turn been partly 'borrowed' from an 18th century hymn.

The borrowers

Composers have been borrowing from one another since music was invented. Did anyone worry that Radiohead's *Give Up The Ghost* shared much of its tune with *Through My Sails* on Neil Young's album, *Zuma*? Surely not Young, who recorded a song that used the same melody as Jagger and Richards' *Lady Jane* on which he sang: "I'm singin' this borrowed tune I took from The Rolling Stones, alone in this empty room, too wasted to write my own."

One of my favourite albums of 2012, *Big Inner* by Matthew E White contained a song called *Will You Love Me*, which somehow managed to 'borrow' from Jimmy Cliff's *Many Rivers To Cross*, Curtis Mayfield's *People Get Ready* and Joe South's *The Games People Play*. The result was a magical song rich in allusion, but which at the same time was stunningly new and original.

Keith Richards once told me that The Rolling Stones' trademark sound came about because they were trying to copy Chuck Berry, but they couldn't get it right. Without plagiarism, there simply wouldn't be any pop music. As a general principle it's not a bad idea to acknowledge your sources (Led Zep please note). But borrowing, copying, stealing and transforming what you've nicked are the life blood of musical creativity and always have been ●

Radiohead borrowed from Neil Young, who borrowed from The Stones



NIGEL WILLIAMSON
Telling it like it is



Digital dash

David Price has a hot date with one of the coolest first-generation CD players produced way back in 1982, Hitachi's wonderful DA-1000

For serious audiophiles, the start of the eighties felt like living on the edge of a precipice. Everything that had come before suddenly seemed to be irrelevant, and rather old hat. Vinyl began to look like its days were numbered. After being reported on for a couple of years, compact disc was finally with us and the world would never be the same again.

The new digital disc – the first consumer digital audio format – was launched in Japan in autumn 1982, but didn't reach Europe until spring

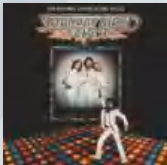

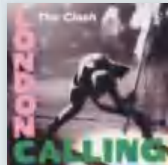

1983. At first, all we had to go on were the early listening tests done by a number of golden-eared hi-fi scribblers. The general consensus of opinion was that compact disc was a genuinely impressive and capable technology, albeit with the usual provisos of needing more time for proper listening tests.

The first generation of models were expensive; every one of them was a good bit more than the top turntable of the day, the Linn Sondek LP12. It was a lot of money to spend, but people were sufficiently intrigued by

'high tech' back then to open their wallets. The only downside was that, for a short while, there seemed to be more decks on sale than music discs.

While the Sony and Philips machines sold like hot cakes, there was a number of other models that didn't receive the marketing support of those two giant companies, which were founders of the new format. One of the most significant of these was Hitachi's DA-1000 that you see here. Hitachi is not a name that immediately springs to mind when you mention hi-fi, but back in the late seventies it

The evolution of compact disc

1978	1982	1983	1985
Philips announces the launch of CD and <i>Saturday Night Fever</i> tops the album charts	Philips and Sony launch the CD format in Japan while The Who announce their farewell tour	Compact disc players become available in Europe and The Clash decide to sack Mick Jones	Dire Straits' <i>Brothers In Arms</i> becomes the first CD to sell more than one million copies
			

had serious audio kudos. Rather like Honda in the sixties with motorbike and then car engines, there was a sense that Hitachi made consumer products simply because it was a way of selling the clever components that its boffins came up with. Probably one of the most significant technologies in hi-fi was popularised by the Japanese manufacturer – power MOSFETs. Highly technologically advanced and very reliable, making power a cheaper and easier game to play. Unsurprisingly, Hitachi's first silver disc spinner was never going to be full of Sony or Philips bits – it was very largely bespoke.

The DA-1000 isn't just a one-off either, because it appeared in OEM form for a wide range of other brands – a great many manufacturers paid Hitachi to put their name on one of its products. Among the clones were the Brandt DAD-001, Continental Edison DAD 9370, Denon DCD-2000, Dual CD 120, JVC XL-V1, Nordmende ADS 2000, Pathé Marconi LA-10 and Thomson AD 100. In fact, it's fair to say that this formed the basis of more first-generation machines than any other CD player.

It has a strong and positive bass that puts many later CD players to shame

Ergonomically the DA-1000 is a bit of a mess, but no less appealing for it. The motorised vertical front drawer loading is the star of the show, and an interesting alternative to the Philips CD100's manual top loading or the Sony CD-P101's motorised horizontal front drawer. The fascia is as retro as the digital dashboard of the Knight Rider car – if an early eighties David Hasselhoff had a CD player, then this would surely be it. To the left of the disc loader, which shows the disc spinning in all its laser high-tech beauty, there's a 'location indicator' (as Hitachi called it) showing the total percentage of the disc's playing time that has elapsed in a graphical way. Beneath this is the time counter, which gives the usual track time information via blue fluorescent digits, and small LEDs to the left of this illuminate for programme play and repeat. Beneath this is a row of 12 small LEDs for indicating the output level of the player – unusually for a first-generation machine, the DA-1000 had variable output. To the far right of the

disc loader are the transport controls – from bottom to top these comprise a large stop button with an inset pause control, and above this is the play button inset with track search controls. To the immediate left, just to the right of the disc loader, is a row of minor controls which includes track programming functions and the volume control (there's a small motorised potentiometer inside the unit, it isn't done digitally). Somewhat predictably, because it's Japanese, immediately under the Hitachi brand name in blazoned on the upper right of the fascia, is the phrase 'key in key computer control' referring to the inset track search controls, just in case you hadn't noticed! Overall, the machine now looks dated, but rather charming with it – and at the time would have made the best Sony or Philips offering look rather low rent in comparison.

Speed of sound

The DA-1000 is fun to use in its own curious way, and surprisingly fast considering the snail-like track access speeds of the rival Philips machines. Sadly though, that's where its superiority stops. Much has been written about the sound of first-generation CD players – suffice to say it is variable. The original Phillips machines were the sweetest of the breed, while Sony was bold and brash but less enjoyable. It was also variable, too, due to production changes throughout its life, and the same can be said for the DA-1000. Indeed, there are actually two variants of this machine; halfway through the production run Hitachi switched to a Burr-Brown DAC chip. The two incarnations aren't that different, but we prefer to consider the first one as the definitive version.

Sonically, it's a crisp, clean and well-defined sounding machine. It has a strong and positive bass, one that puts many later CD players to shame. Trouble is, at the opposite end of the frequency range, it could be described

BUYING TIPS

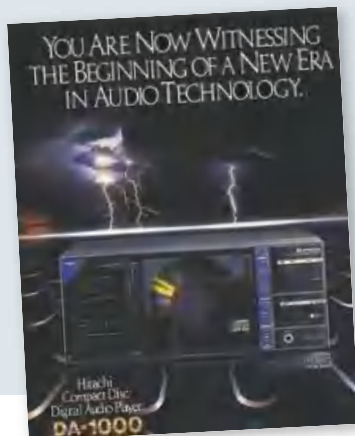
Compared with many players from the same era – especially the Sony – the DA-1000 has survived well. This is due to the engineering depth and build quality and the fact that at the time Hitachi was an electronics giant that designed and made everything down to the DAC chips. The first phase of DA-1000 production has the 16-bit Hitachi HA16633P DAC chip and a blue power button; the second got a Burr-Brown PCM53P and a silver power button. Sound is similar, the former is fractionally less musical but there's not much in it and collectors will want the original.

With light use, most will still be on their first lasers and the loading mechanism may need attention. Hitachi offered the option of a gloss wood sleeve for the DA-1000, with a space for CD storage; few got beyond Japan. You might say the same for the DA-1000 itself, because it is and always was pretty rare. That means prices are now quite solid, with the least you can expect to pay for a good, unspoiled working example being £400 – with many more ambitious souls asking twice or even three times that. This machine is unlikely to drop in price, because fans of eighties kitsch will love it.

as slightly well lit, and it certainly wins no prizes for finesse. Actually the treble's main offence is to be diffuse and unsophisticated – rather like a moving-magnet cartridge compared with a good moving coil – rather than being unpleasant. Between this there's a well-structured, detailed and surprisingly musical midband, and this makes listening fun – indeed it is more of an involving and interesting listen than perhaps one might expect. What it misses in refinement it more than makes up for in spirit – music is presented in a fast-paced and energetic way. You never forget that you're listening to something quite special, but the downside is the slightly processed sound that it shares in common with all Japanese machines of that era. This is definitely not the most neutral and self-effacing CD player ever made.

Oodles of character

No one should buy a first-generation silver disc spinner to use as an absolute reference, because they simply cannot compete. In most respects they're a good way behind modern mid-price machines, and a number of budget machines do better in many respects too in terms of smoothness and detail resolution. Still, early CD does have real character, and the Hitachi DA-1000 is testament to this. Its charismatic sound makes for an engaging listen and it has loads of retro visual appeal too. As a retro space-age curio, there's little that can better this rare, and beautifully engineered classic machine ●



A 1982 advert for the DA-1000

BEAUTIFUL SYSTEM
DEVIALET/SPENDOR



Time machine

What happens when you mix traditional speakers with state-of-the-art amplification and decoding? **Ed Selley** explains all



On the face of it, it seems probable that this system has been assembled to grant me the opportunity to talk about unlikely partnerships and opposites attracting. The reality, however, is entirely different. This system has a symbiotic relationship that is so effective that many one-make systems will struggle to rival it.

The visually attention-grabbing aspect of this partnership is inevitably the Spendor SP100R2. Until it was usurped by the newly launched SP200 earlier this year, it had sat at the top of Spendor's Classic range for some time. It has proportions that are almost extinct in mainstream speaker design and combines them with dimensions that are, if anything, rarer still.

It would be easy to view the SP100R2 as the audio industry's version of a living fossil – a sort of Coelacanth with a bass driver – but this is to over simplify the case. The design has slowly but steadily evolved from the original BC3 and is built around a cabinet of relatively thin sections that are internally braced to give the required rigidity. This is further helped by the careful



COMPONENTS

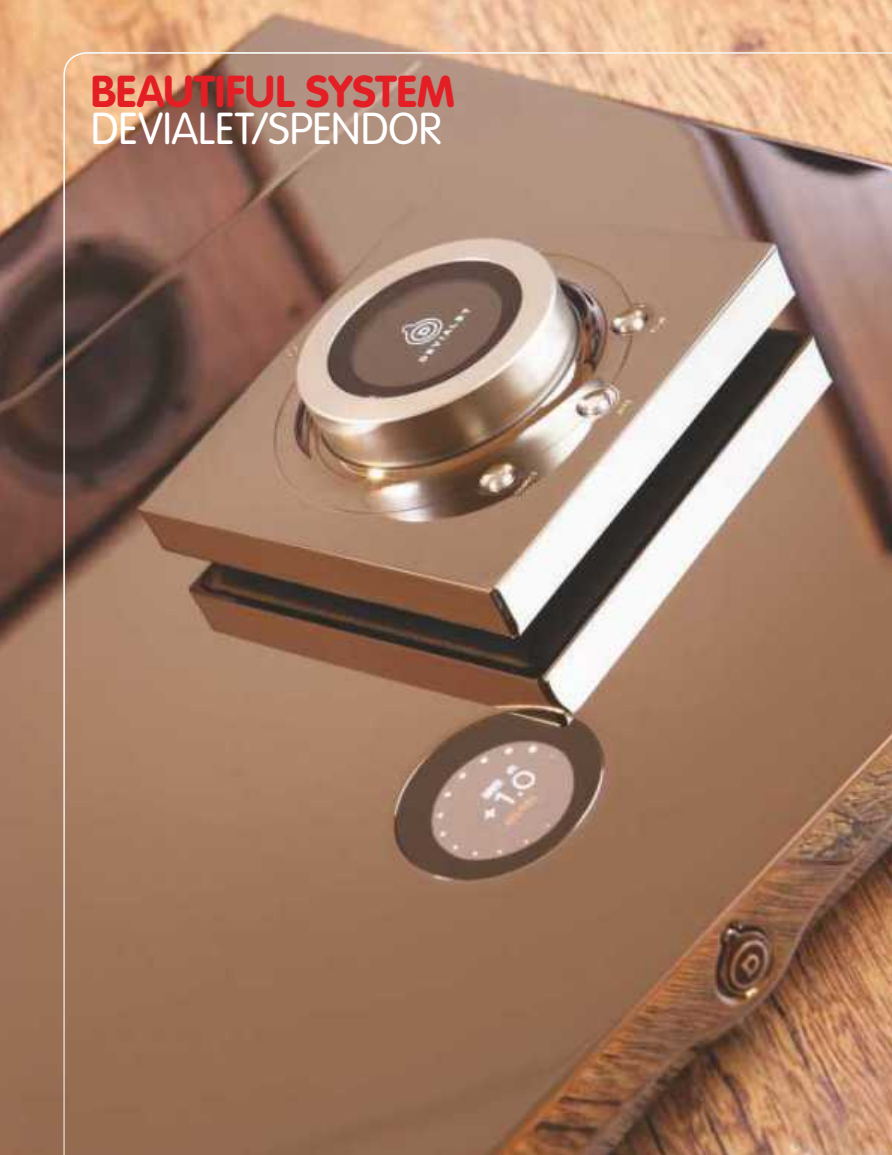
**SPENDOR SP100R2
LOUDSPEAKER £7,495**

The flagship model of the Spendor Classic range, the SP100R2 is an evolution of the original BC3 and features a 12in bass driver with 6.5in midrange and soft dome tweeter.

**DEVIALET 200
AMPLIFIER £5,490**

The largest single-chassis Devialet amplifier, the 200 claims 200W of power, combined with the company's unique SAM control software, which it sets to work optimally with the Spendor.

BEAUTIFUL SYSTEM DEVIALET/SPENDOR



placement of the drivers in the cabinet. The drivers themselves are all Spondor's own work with a 22mm, fluid-cooled soft dome tweeter, 180mm polymer mid-bass driver above it and finally that exceedingly burly 300mm bextrene bass driver filling almost half of the front panel. Two symmetrical bass ports flank the tweeter to allow the cabinet to breathe.

SAM I am

Asking the impossibly slender form of the Devialet 200 to power these hulking brutes might seem crazy, but Spondor has become a very keen advocate of these incredibly clever French combined amp and DAC units. One of the main reasons for this is Devialet's SAM (Speaker Active Matching) system. Using the powerful DSP, the output can be tuned to the characteristics of the speaker being used. As well as the SP100R2, every other Spondor model is now part of the SAM program.

Even without this latest piece of wizardry, the 200 represents a deeply impressive piece of equipment. It is built around Devialet's proprietary ADH amplification system intended to allow the best of both worlds from both Class A and D amplification, meaning that this sleek little chassis claims a healthy 200W into 6ohm.

Around the back, the Devialet has a selection of inputs, which are configured depending on what you need your unit to do. The most versatile is the USB. This is dual directional and allows sampling rates of up to 32-bit/192kHz and DSD to be sent directly to the unit for decoding.

While these two units have been carefully selected to work together, there is no escaping the visual contrast. The Devialet is sleek and

This system hasn't forgotten that it exists to put a little joy into people's lives

elegant and at times more akin to a science-fiction prop than a piece of audio equipment. The remote with its gorgeously weighted action and that small circular display are utterly exquisite things to use and make the amplifier feel special to use. The build is exceptional and if you have the means to do so, it looks particularly good wall mounted.

The Spondor by contrast is an object that achieves beauty through its absolute lack of compromise. The SP100R2 exudes an almost artisanal feel, thanks to the quality of its

Above left: Exquisite detailing is part of the Devialet experience

Above centre: A polymer midrange driver gives the Spondor exceptional cohesion

Above right: Beauty meets the beast and makes sweet music

veneering and the care that has gone into its assembly. Nothing feels overdone though – the aesthetic touches are there to do justice to the quality of the engineering and to ensure that the cabinet will be around as long as those tremendously stout drivers will. Spondor hasn't done anything so rash as to try and hide the bulk of the SP100R2, it is what it is and you'll either fall in love with it or look at one of the company's more modern offerings.

A great combo

It would be best to spend at least a little time listening to the SP100R2 before deciding that it might not be for you, however. From the moment you get this pairing up and running, it becomes apparent that these are great components that manage to become greater still when combined. The first two minutes of the 24-bit/44.1kHz download of Dead Can Dance's *Children Of The Sun* gives a wonderful demonstration of this system's incredible ability. This is a big piece of music and the Spondor does a fairly convincing job of lending credence to the old adage that there's no replacement for displacement.

It is how this power and scale manifests itself that truly impresses. As you might expect, this system has



truly seismic bass. What you might not expect is the delicacy with which it can apply it. The Devialet grips those big bass drivers with vicelike control and this allows the lower notes to be at once felt rather than heard, but only for the instant they should be. Neither is this awesome sense of controlled power limited to pure bass. Change tack and switch to Liszt's *12 Grandes Études* and the piano has the scale and size that it really should to sound convincing.

Disappearing act

Once you've finished marvelling at the scale, you can start to pay attention to the integration that this partnership possesses. Unless you wander up to the front of one of the SP100R2s, discerning where one driver finishes its work and another begins is nigh-on impossible. For such an imposing cabinet, the Spendor does an exceptional job of disappearing and producing a single utterly unforced sound. It is also an unfailingly believable sound, too. The piano has a richness and sweetness of tone that suggests that the Devialet's tremendously powerful processing and decoding is able to produce an outstandingly natural presentation.

And the SAM software? The amount of direct impact it has on the sound



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01323 843474

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en.devialet.com

can be adjusted via the comprehensive menus on the Devialet, but switching between the off position and the 50 percent setting recommended by Spendor is illuminating. As you increase the level of SAM correction nothing leaps out at you – in fact quite the opposite. That fantastic cohesion between the drivers is enhanced and the system does an increasingly

These are great components that become greater still when combined

effective job of getting out of the way of the music. A spirited rendition of ZZ Top's *Heard It On The X* is utterly free of any sense of 'hi-fi.' It's just you and three good ole boys having a riot.

Neither is this simple sense of fun a freak occurrence brought on by a surfeit of Texas blues rock. It might be tremendously accurate and staggeringly capable, but this system hasn't forgotten that it exists to put a little joy into people's lives. It consistently manages to dig out the emotion in the music, and the control and sheer speed that it possesses means that it times with the precision of an atomic clock.

There is also no getting away from the fact that if you want to behave like a hooligan, 200W and a pair of 12in drivers is never going to hurt in this regard. Selecting the bass fest that is Roots Manuva's *Witness (One Hope)* is grin-inducingly hilarious. Imagine a dub sound system that has spent several years at an expensive finishing school and you are some way towards getting a handle on what the Spendor is capable of doing, although the overall effect really needs to be experienced first hand to be believed.

One for all

This, then, is a system where the components might look radically different from one another and will undoubtedly shine when used in other systems, but when combined offer something truly singular. It is unfazed by any genre, played at any level and manages to deliver a sound that is not only detailed and accurate but also impressively forgiving. Take into consideration the flexibility of the Devialet in terms of setup and configuration and the fact you can add another one to run in mono if 200W just isn't going to deliver for you, and the end result is seriously special. It has been more than 40 years in the making, but this is a system that is all things to all people ●



ZTT

Simon Berkovitch on the label that put the art into pop with a string of records that still inspire hushed devotion from connoisseurs of eighties production techniques

ZTT... or Zang Tuum Tumb... or Zang Tumb Tumm (in a nightmare scenario for sub editors, you're supposed to change the spelling each time you write it) briefly and brightly lit up the eighties' pop firmament with a series of incredible records before dissipating into the usual mess of disputed contracts and difficult second albums.

Super-producer Trevor Horn began his career in touring dance bands before graduating to session work. With fellow side-man Bob Downes he formed The Buggles and had a hit single with *Video Killed The Radio Star* (1980) before the pair were poached by prog rock giants Yes. Horn spent only a

few months with the band, but his sonic fingerprints are all over their biggest pop hit, US number one *Owner Of A Lonely Heart*. His next move was into production, honing his skills on shiny pop confections Dollar before producing ABC's debut LP *Lexicon Of Love*.

Offered a choice between working with Spandau Ballet and Malcolm McLaren, he chose the latter. The *Duck Rock* LP didn't exactly set the world on fire, but he forged closer ties with *Lexicon* studio veterans Anne Dudley, JJ Jeczalik and Gary Langan, the trio who'd go on to become the musical core of both Art Of Noise and ZTT itself.

In 1983, Island offered Horn the opportunity to start his own

label and he seized his chance, bringing in *NME* scribe Paul Morley in a McLaren-style ideas-man role. The first release, Art Of Noise's *Into Battle* (1983), was classic ZTT – cutting-edge studio technology, beautiful artwork, mysterious masked band members and, despite its wilful artiness, an accessible pop core that saw it achieve considerable chart success.

Release number two, just a month later, was the one to send the label supernova. Frankie Goes To Hollywood had been around for a while before Horn chanced upon their appearance on Channel 4's *The Tube*. He saw their potential and completely reworked their song *Relax* into a throbbing, hi-NRG club monster.

Its enormous success, and that of their subsequent releases, were beyond the label's wildest dreams, but Horn's inevitable focus on Frankie led to his other acts, including Propaganda – fronted by Morley's wife, awkwardly – beginning to feel frozen out. Lawsuits and band break-ups inevitably followed.

The mid eighties were the label's banner years, when it made its great statement records. ZTT survived the turbulence that followed and mutated into a much more conventional beast, putting out massive sellers from Seal and Lisa Stansfield, while Horn continued his production work with a range of acts from Belle And Sebastian to Pet Shop Boys.

Frankie Goes To Hollywood

Welcome to their pleasuredome: how Holly Johnson and co took the charts by storm

Coming out of the city's post-punk movement, Frankie were a fixture on the Liverpool scene for years before their breakthrough. Fronted by two openly gay men, their sleazy glam sound was a long way from the safe, family-friendly sexuality of Boy George or Bronski Beat and proved the perfect match for Horn's over-the-top production.

Taking their most promising track and completely remaking it, Horn and co released *Relax* in the Autumn of 1983, and by the following January it was number one. Helped by hapless Radio One DJ Mike Read's airplay ban, a blizzard of outrageous quotes from Holly Johnson and a multi-format release strategy, it sold two million copies in the UK alone. This wasn't just a triumph of hype, though: *Relax* was an amazing record, and fun too.

The second single, the equally fantastic *Two Tribes*, was just as enormous, sitting atop the charts

for nine weeks over the summer of 1984 – an amazing feat for a record that appeared to be anticipating nuclear annihilation. This time, extra support came from an army of fans buying Frankie Says... T-shirts and a hilarious promo video picturing wrestling US and Russian leaders.

A third number one single followed – the uncharacteristic

The perfect match for Horn's over-the-top production

ballad *The Power Of Love* – and the band ended the year with a million-selling debut album.

Exhausted after a whirlwind 18 months and tiring of Horn's very hands-on production style, they took two years to make follow-up *Liverpool*. Unfortunately, it couldn't match the success of their first and opened up a set of fault lines with the label that ended up in the High Court.

Frankie's *Relax* was the stuff of Radio One DJ Mike Read's worst nightmares



Art Of Noise

ZTT's house band stepped out of the shadows and into the Top 40 with their oddball machine funk

Always fascinated by technology, Horn was one of the earliest musicians to become interested in sampling as an art form. His Yes bandmate Bob Downes was an early adopter of the Fairlight CMI (Computer Musical Instrument) and Horn worked with one on ABC's *Lexicon Of Love* album with musicians Dudley, Langan and Jeczalik. The Fairlight, invented in Australia in 1979, was crude and brutally expensive by today's standards, but was right at the cutting edge at the beginning of the eighties. Its main use was meant to be in replicating strings and other 'real' instruments, but Horn and his crew took it defiantly in the opposite direction.

The Art of Noise's debut release, *Into Battle With...* used the Fairlight to sample coughs, dog barks and starter motors and reshape the sounds into a playful mix that could be both sensuous

and even funky. The track *Beat Box* became a club hit in America, with its mysterious artwork and syncopated rhythms leading many to assume that it was the work of a black act.

Into Battle With... also contained their greatest moment – the sublime *Moments In Love*, their

Horn defiantly took the Fairlight in the opposite direction

take on *I'm Not In Love*, providing the soundtrack to Madonna's wedding to Sean Penn, bizarrely.

Conflicts between the musical core of the act and Morley, whose contributions amounted to sleeve notes and song titles, led to a split from both their strategist and their label. The band went on to greater chart success, helping to revive Tom Jones' career along the way, but were perhaps never again quite so relevant.

Adding to their mystique, the members of Art Of Noise never appeared on their sleeves



Propaganda

Do believe the hype: glacial pop mastery from this Germanic quartet

Düsseldorf-based Propaganda were initially formed by a DJ, a jeweller and a member of industrial pipe-bangers Die Krupps, and this intriguing mix of the danceable, sublime and experimental is reflected in the music of the group's short but memorable ZTT career.

Debut single *Dr Mabuse*, another Horn masterpiece, set them out of the traps, but Frankie's unprecedented success led to other acts receiving a little less attention than they'd have liked. Second single *Duel* was even better – a glowing *Time Out* review memorably dubbed them 'ABBA from Hell' on the strength of this release – but both its delay and that of its parent album *A Secret Wish* resulted in a loss of momentum that may well have cost their career dear.

Third single, *p:Machinery/Frozen Faces*, was the best of

all. Some 10 minutes long in its 12in incarnation and worth every second, it's the sound of a band throwing everything against the wall and all of it

sticking. But as the song was released in at least 22 different versions, we can't help but feel that might have contributed to its rather poor chart placing.



Grace Jones

A sublime synthetic song cycle from the ageless disco diva

Epic single *Slave To The Rhythm* was the last of the great ZTT projects and the absolute high water mark. The album of the same name was Grace's first in three years following on from her ground-breaking Island trilogy of *Warm Leatherette*, *Nightclubbing* and *Living My Life*. It's a bizarre listen; not one for the faint hearted.

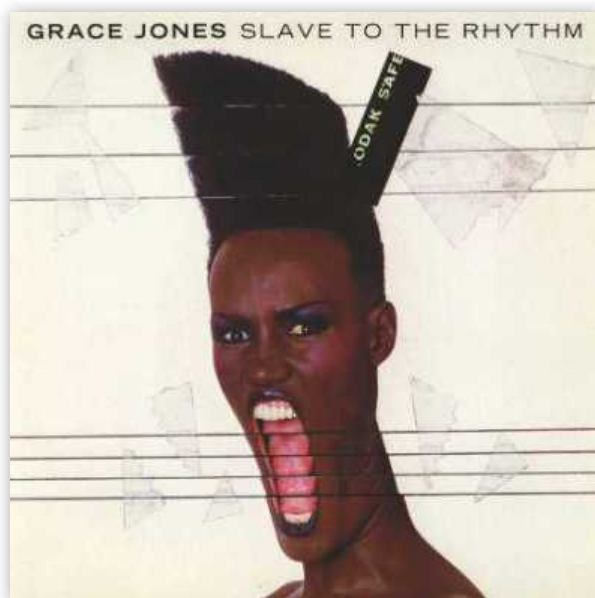
Just eight tracks long, based around repeating motifs, cuts are linked by highly sampleable narration from actor Ian McShane. One track is essentially her yelling "Slave!" for two minutes and another is someone reading out her résumé. There's a gorgeous David Sylvian-esque five-minute ambient interlude and then the drums come back in on *Don't Cry, It's Only The Rhythm*, a track so sonically perfect that François Kevorkian, the only man ever allowed to

remix classic-era Kraftwerk, always tested club sound systems with it before DJing.

The first seven cuts are just the warm up for *Slave To The*

Rhythm itself. Horn's greatest production, it sounds like absolutely nothing else.

Maybe the label should have called it a day here.

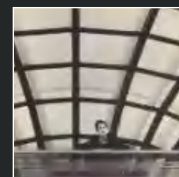


► SHOPPING LIST

Music and Video Exchange
Greenwich's senior dance buyer
Jamie Upton opens the ZTT archive,
picking out some personal highlights



Andrew Poppy
The Amusement
"Poppy released two albums and two singles of modern classical music before stepping back into the shadows."



Anne Pigalle
Souvenir D'un Paris
"The unheard sophisto-pop hit that should have been, especially in its 12in mix, sadly it got lost in the wake of *Relax's* success."



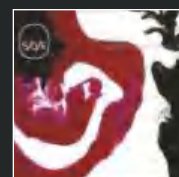
Roy Orbison
Wild Hearts
"Nic Roeg was to direct a Martin Amis-scripted Frankie movie. This one-off single is one of the few traces."



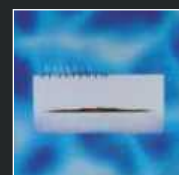
Seal
Seal
"The big success story from the label's second phase, Seal came out of the rave scene with a string of hits."



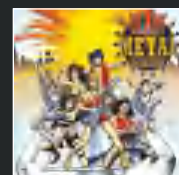
808 State
ex:el
"The Manchester electronic act's 1991 album hit number four on the charts, taking ZTT back to its club roots."



Shades Of Rhythm
The Album
"The Essex ravers had a string of underground hits from their debut album, and still regularly play live."



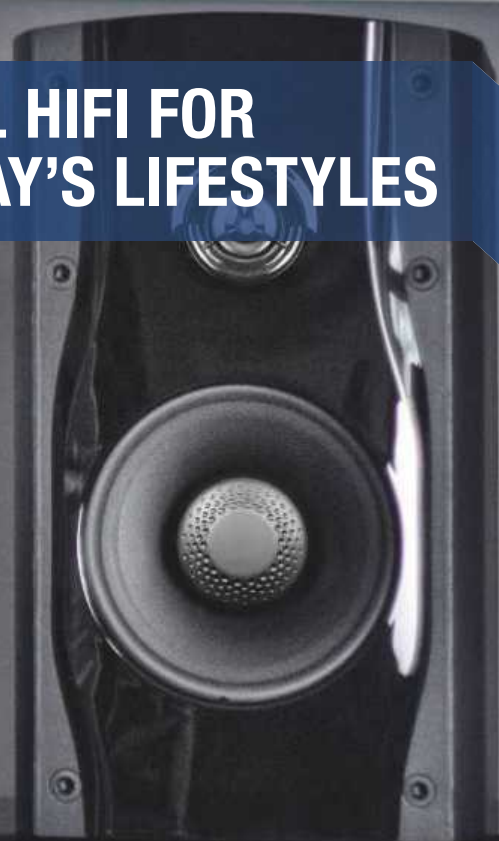
Heights Of Abraham
Electric Hush
"An odd one, it's a lovely, melancholic trip hop album by members of Fila Brazillia and Chakk reissued by ZTT."



Glam Metal Detectives
The Original Soundtrack
"This 1995 BBC comedy featured a glam band charged with saving the planet."

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100 Free
Fire And Water



**101 Handel (arranged
by Mendelssohn)**
Israel In Ägypten



101 Sokolov
Schubert, Beethoven

Musicreviews



Anohni Hopelessness

★★★★★

CD Rough Trade

BACK IN 2005, Antony and the Johnsons released *I Am a Bird Now*. Rich and operatic, the album was full of luminous songs. Over this exquisite, other-worldly chamber-pop soundscape, Antony Hegarty's swooning, multi-octave vibrato floated majestically, combining the louche decadence of Bryan Ferry, the emotional archness of Rufus Wainwright and the searing soulfulness of Nina Simone. Two further studio albums followed, but since 2010 there has been nothing. Now Antony is back with a new name and an upfront transgender identity in which she would prefer that we no longer use the masculine pronoun. "I am the same person. It's just a rite of passage for me to have a more appropriate name," she says.

There's a profound change of musical direction and a new sonic palette, too, as she teams up with avant-electronica producers Hudson Mohawke and Oneohtrix Point Never on a record that sets her fluttering voice against skittering beats and cutting-edge electronic textures and swelling synths. The melodies are incantatory, the grooves snap and crackle while balladry and bombast mingle so seamlessly that you can't see the join. Like much of the most transcendent pop music – think Bowie, Prince, Björk or Kate Bush – it's both experimental yet highly accessible, profound and yet with a boundless, universal appeal.

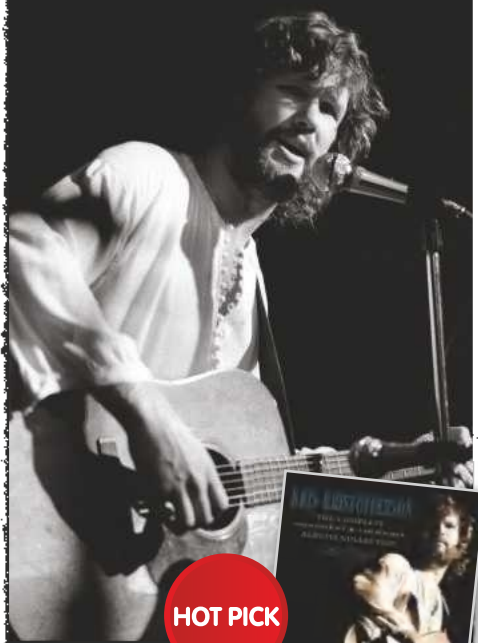
The subject matter is equally striking. This is a no-holds-barred protest album, a disturbing manifesto for our times which depicts a world teetering on the edge of the apocalypse. In its 11 songs, she addresses big issues from state-sanctioned killing (*Execution* and *Drone Bomb Me*) and the war on terror and the abominations of Guantanamo Bay (*Crisis*) to climate change (*4 Degrees*), the environmental (*Why Did You Separate Me From The Earth?*) and surveillance (*Watch Me*). On *Obama*, she chants her broken hopes that the first black president was going to save the world and laments that "like children we believed".

Anohni doesn't have any answers and the record, she admits, "embodies more conflict than solution"; indeed from the album's bleak title she clearly fears that the world is sleepwalking to Armageddon. Yet there's something empowering in the righteousness anger of these songs and enough compassion and generosity of spirit in Anohni's vision to suggest that if we would only listen, then perhaps there is still a glimmer of hope left, after all. **NW**

ALBUM
OF THE
MONTH



MUSICREVIEWS



Kris Kristofferson

The Complete Monument & Columbia Album Collection

★★★★★

16 CD box-set

Sony

KRISTOFFERSON DID FOR Nashville what Bob Dylan did for folk music, taking its hidebound conventions and turning them on their head, writing evocative songs packed with vivid detail, heartbreaking poetry and resonant emotional truths, which changed the language of country music. To mark his 80th birthday in June, this mammoth box set collects together the 11 landmark studio albums Kristofferson recorded between 1970 to 1981 and further augments them with a generous selection of live recordings, demos and out-takes, most of which are previously unreleased.

200 tracks sung in a voice that's been marinated in whisky and sandblasted in grit

Me And Bobby McGee, *For The Good Times*, *Sunday Mornin' Comin' Down* and *Help Me Make It Through The Night* are all here in the writer's original touchstone versions, sung in a voice marinated in whisky and sandblasted in grit. But the hits are just the tip of the mountain; in total you get 200 tracks and you'd be hard pushed to describe any as filler. Happy birthday, KK. **NW**



Various artists
Songs From Wonder.Land

★★★★★

CD

Parlophone

STAGE MUSICALS ARE something of a blind spot for me, but when the composer is Damon Albarn you can expect the restrictions of the genre to be busted wide open – and so it proves with his soundtrack to the National Theatre's updated production of Lewis Carroll's timeless tale. The dozen songs are sung by the original cast members, but the music is provided by Albarn and members of his regular crew, including Blur drummer Dave Rowntree and Gorillaz collaborator Simon Tong. There's a dazzling mix of vaudeville and rock ballads, electronica and show tunes, power pop and music hall. **NW**



Amber Arcades
Fading Lines

★★★★★

CD

Heavenly

DUTCH CHANTEUSE ANNELOTTE de Graaf displays great warmth on her debut album, a collection of 10 songs that fit perfectly into the Heavenly canon. De Graaf oscillates between floaty, ethereal vocals and more strident, mid-nineties indie enunciation, all over an often breezy and slightly Kraut rock-tinged backing (which includes members of Real Estate and Quilt). *Constant's Dream* is, well, dreamy and all shimmering effects-laden guitars, while *Turning Light* has real Stereolab-style leanings with its driving rhythms. All in all, a very competent and at times beautiful debut. **PH**



Swans

The Glowing Man

★★★★★

CD

Mute

TO MANY SWANS fans, Michael Gira is a beacon of non-conformism that's always looked to push the boundaries during his 13 studio albums. This, the 14th, is as astonishing as it is a difficult listen. The eight tracks clock in at over two hours long, with three of them lasting for over 20 minutes each, and they meander, build and snake in and out of your loudspeakers as they do so. There are drones, piano stabs, and Gira's trademark wails, caterwauls and doom-laden lyrics. At times it can be deeply hypnotic, while at others it proves an incredibly challenging listen. It certainly won't be for everyone, but those who can persevere will be rewarded with a rich musical experience. **PH**



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some of this month's tunes at
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AUDIOFILE VINYL

★★★★★

Free
Fire And Water

180g vinyl

Island/Universal



ANOTHER IN THE Abbey Road half-speed masters series, *Fire And Water* was Free's most successful album and spawned their best-known song in *All Right Now*. It's a

succinct seven-track masterpiece that shows off Andy Fraser's genius in songwriting. He co-wrote all but one track, as well as his superbly inventive and melodic bass playing. People remember tragic guitar hero Paul Kossof and classic rock barker Paul Rodgers, but forget that Fraser was the reason for Free's breadth of appeal.

There is very little filler on *Fire And Water*, but five tracks stand out as worth hearing on a release of this quality. You might think you've heard *All Right Now* enough, but it doesn't sound like this on the radio. Here Miles Showell's mastering brings out the nuances of tone, the fine detail and the power of the recording extremely well, and this of course is the extended LP version with a good solo on the end. The heavy hitter is *Mr Big*, a spare but intense track that features some superb interplay and the phattest bass solo of its time. The sound is also very 1970, there's a fair bit of analogue compression and not much low-level resolution, but great dynamics. **JK**

HIGH RESOLUTION DOWNLOADS

LEONARD COHEN

Leonard Cohen
I'm Your Man

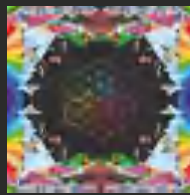


FLAC 24-bit/44.1kHz



hdtracks.co.uk

THIS WAS COHEN'S eighth studio album back in 1988, and it shows – it's full of driving rhythms, funky synth stabs and washes, smoky sax and dramatic drum pads. This remastered version is still imbued with Cohen's sense of melancholy. The eponymous title track and *Take This Waltz* showcase what this release is very good at – despite all the synthetic eighties musical accompaniment, it's Cohen's baritone that always takes centre stage. **PH**



Coldplay
A Head Full of Dreams

FLAC 24-bit/192kHz



hdtracks.co.uk

THE TITLE TRACK is pure uplifting, summer dance pop, which may surprise many. *Birds* follows, which has more of a dance feel to it, and then *Hymn For The Weekend*, which is as r&b as Coldplay is going to get. This slight dancier feel showcases a modern, upfront production, but there's always something slightly facile and health food advert about Coldplay, and sure enough a power ballad (or two) is never very far away. **PH**



HOT PICK

Handel (arranged by Mendelssohn)

Israel in Ägypten
Soloists and Choir of the King's Consort



2 CDs

Vivat 111

HERE IS A studio recording of Robert King's painstaking reconstruction of Mendelssohn's arrangement of Handel's mainly choral oratorio, based on the first performance given in Dusseldorf in 1833. Mendelssohn slightly shortened the work by cutting a few numbers, re-orchestrated it, and even added his own *Trumpet Overture* to get things off to a rousing start. King's performance is certainly lively and full of enthusiasm, and the soloists and chorus are excellent. The recording sounds open and clean, with voices and orchestra set back in a warm yet clear acoustic. A fascinating curiosity, well worth hearing! **JH**

Presumably, early 19th century audiences found Handel's original score too austere and lacking in colour



Sokolov
Schubert, Beethoven

HOT PICK



Deutsche Grammophon

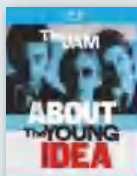
THIS NEW RELEASE brings together two 2013 live recitals given in Warsaw and Vienna. The Warsaw disc features music by Schubert – the *Four Impromptus* D899, and the *Three Klavierstücke* D946. Sokolov's playing is weighty and deliberate, with wide dynamic contrasts that bring out all the paths and drama in the music. Beethoven's *Hammerklavier* sonata occupies most of the second disc, and receives a measured, probing interpretation of mesmerising power – one unlike anything you'll have heard before. Sokolov's playing is not comfortable, but if you like to be challenged, stimulated and surprised, he's your man. **JH**

BLU-RAY DVD ★★★★★

The Jam
About The Young Idea

Blu-ray

Eagle Vision



With their sharp suits and even sharper music, the Jam seemed out of tune with the punk scene from which they emerged, but listening to live footage of the band in 1980 you realise that Paul Weller had punk attitude in spades. The difference was that not only was he angry and intense, but he was also articulate and could write a great song. All of which is apparent in this Rockpalast footage, as is great playing and decent sound for the era. There isn't any real bass but it's pretty clean, unlike the scenes in the extras. A raw and real blast from the past. **JK**

DEMO DISCS



Anthony Sallis, technical director at NuNu Distribution, reveals the music he uses to demo products



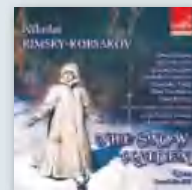
Deep Purple
Lazy

Ideal for testing a system's ability to purvey a genuine sense of realism and timing set by the legendary engine room of Glover and Paice. Plus a cracking track to boot!



Dr. John
You Swore

This is perfect for testing a system's ability to produce a real tight, well-defined sound, with great channel separation, dynamic impact and delicious timing.



Rimsky-Korsakov
Dance Of The Tumblers

Absolutely essential for understanding how a system deals with large-scale, fast, powerful and dynamic orchestral work.



The Kings Singers
The Oak & The Ash

This track simply delivers a purity and a naturalness to the sound that allows you to understand tonality, harmonics and sound layering.



Fiona Brice
Postcards From...

HOT PICK



Bella Union

AS MUSICAL CVS go, Brice is up there with the very best, having done orchestral arrangements and played with everyone from Beyoncé and Katherine Jenkins to Vashti Bunyan and John Grant. And now she makes her solo debut on this haunting collection of what she describes as "musical selfies" – stunningly minimal collages composed in the cities they're named after. With just violin, cello and piano, *Postcards From...* is an incredibly cinematic collection that sometimes sounds sparse and bleak and at others gloriously rich and uplifting. Sit back and let Brice's brilliant inventiveness take you on a magical journey. **JDW**

PURPLE REIGN

Nigel Williamson looks back at the body of work of Prince Rogers Nelson, which was brought to an abrupt end far too early

It was somehow rather fitting that at Prince's final gig in Atlanta on 14 April, he sang David Bowie's *Heroes* as a tribute to the fallen singer. A week later Prince, too, was dead and it was a bitter cruelty that we should lose two of the most inventive, original and outright imaginative artists of the last 50 years within three months of each other.

It's a long and winding road from Bowie's arts lab in Beckenham where he first honed his genius to Prince's Paisley Park fun palace in Minneapolis where he plotted his dazzling reinventions of popular music. But the two are united in more than keeping rock obituarists over busy in what has been a tragic 2016.

Like Bowie, Prince made highly visionary, transcendent music that was experimental yet highly accessible, profound and yet with a boundless, universal appeal, instant but epic so that their songs worked as high art on canonical albums and thrilled on commercial radio as ephemeral uber-pop perfection. Bowie and Prince both made records that made you want to dance until you dropped. Yet both were also genre-bending pop polymaths, restlessly creative chameleons who seldom repeated themselves and fearlessly



STUDIO ALBUMS



For You (1978)

A mainstream and largely conventional debut of r&b, funk and soul – but precociously accomplished for a 19-year-old with fascinating hints of what was to come.



Dirty Mind (1980)

His first full-blown masterpiece on which he again plays every instrument. Sexually explicit, he expands the r&b template to take in new wave pop and rock 'n' roll.



1999 (1982)

An audacious double of synthesised funk, but the lengthy workouts mean there are only 11 songs, including hits such as *1999*, *Little Red Corvette* and *Delirious*.

1978

1979

1980

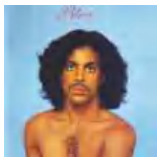
1981

1982

1984

Prince (1979)

Sexy r&b with disco traces alongside a handful of classic songs. Meanwhile the hard-rocking *Bambi* gives the first indication that he's not going to be confined to any genre.



Controversy (1981)

New age funk on some of his best sex songs (*Jack U Off* and *Sexuality*), but protest and social commentary, too (the title track and *Ronnie Talk to Russia*).



Purple Rain (1984)

Most people's favourite Prince album – his Ziggy Stardust, if you like. His songwriting was at its peak here, from *When Doves Cry* and *Let's Go Crazy* to the grinding *Darling Nikki*.



avoided lapsing into anything that in any way resembled a comfort zone.

Their boldness meant that on occasion they both sometimes failed. But few in popular music have ever balanced artistic and commercial imperatives more astutely – which is why their deaths have resonated so profoundly across such a broad swathe of fans of different generations and proclivities with radically different tastes and musical interests.

“I am something that you’ll never understand,” Prince sang on *I Would Die 4 U* on his touchstone *Purple Rain* album. It was a prophetic statement, for in the course of his unconventional career it was sometimes difficult to comprehend the quixotic choices and off-the-wall pronouncements that made him one of pop’s most enigmatic superstars.

Slave to the rhythm

His eccentricities were legendary, from the obsession with the colour purple and his idiosyncratic spelling many years before the advent of textspeak to writing ‘slave’ on his cheek and his bizarre interviews in which he refused to allow interviewers to look him in the eye. “Can you keep up?” he often asked during his concerts. Hard as we tried, Prince moved and morphed at such velocity that it wasn’t always easy.

Yet there was universal recognition of a lavish talent that enabled him to sell more than 100 million albums and gave us enduring hits such as *Let’s Go Crazy*, *1999*, *Purple Rain*, *When Doves Cry*, *Little Red Corvette*, *The Most Beautiful Girl In The World* and dozens more. Then there was *Nothing Compares 2 U*, covered by Sinéad O’Connor and *Manic Monday* which he wrote for the Bangles.

He wasn’t the most natural collaborator and if he’d been a film-maker we would have called him an auteur. At the age of 19 he was credited with playing 27 different instruments on his debut album and he seldom worked with other musicians unless they were totally under his direction. Mostly he believed he could do the job better himself and he regularly sang, played, composed, arranged and produced every note on his records.

He worked in a myriad of forms and styles, from rock and funk to jazz and psychedelia

and as a magnetic performer he combined the flamboyance of James Brown with the theatricality of Madonna. Like Jimi Hendrix before him, he liquidated the conventional boundaries between white and black music.

He was a prolific songwriter who sang about sex and seduction and flirted outrageously with the listener; it was his lyrics on libidinous songs about oral sex, masturbation and threesomes such as *Head*, *Do It All Night*, *Darling Nikki*, *Jack U Off* and *Sexuality* which provoked Tipper Gore, wife of politician Al, to launch the campaign that led to the introduction of Parental Advisory: Explicit Lyrics stickers on CDs. *Get Off* on his 1991 album *Diamonds And Pearls* in which he boasted about “23 positions in a one-night stand” was typical. Yet his songs also dealt with serious social concerns and delved into areas of mysticism and strange sci-fi visions.

The one subject he seldom seemed to sing about was himself. “I don’t wanna die, I’d

He battled to keep his music off-line and removed it from streaming services

rather dance my life away”, he sang. At the time it seemed like an expression of pure hedonism; but was there a serious comment on mortality in there somewhere? We shall never know.

The paradox of the self-assured global superstar who was at the same time intensely private was one of the many dualities that drove his art and sustained his mystique. His interviews were rare and he gave little away. He refused to allow journalists to use tape recorders and his last encounter with the press before his death was as strange as ever: sitting behind a piano, if he didn’t like a question, he refused to answer, shook his head and picked out the theme from *The Twilight Zone* on his keyboard. The message was clear: you entered ‘Prince world’ on his terms or not at all.

He was born 7 June, 1958 in Minneapolis, Minnesota into a musical family. His father John Lewis Nelson was a pianist and his



The artist formerly known as the artist formerly known as Prince...

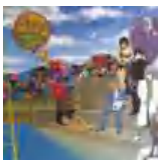
mother Mattie Della Shaw was a jazz singer. He was named Prince Rogers Nelson – after his father who used the stage name Prince Rogers – but throughout childhood he was known to his friends as Skipper.

His early years were not straightforward; he suffered from epilepsy and his parents split up when he was 10. He lived with his mother and step-father until his early teens, when he went to live with the family of a school friend, Andre Cymone, with whom he formed his first band Grand Central at the age of 15.

By then he had already stopped growing and he wore stack heels to augment his diminutive five foot two inches throughout his life. Yet when you saw him in concert you never would have guessed at his elfin size for his presence filled a stage like a giant.

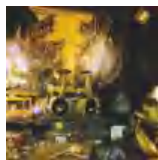
By 1977 he was fronting a group called 94 East and the word was out in music industry circles that the outfit’s singer,

Picture credits: Shutterstock/Northfoto (both pages)



Around the World in A Day (1985)

Shimmering psych-pop textures, full of cryptic imagery, mystic messages and some of his most mind-boggling guitar playing.



Sign O’ The Times (1987)

An eclectic album that crossed every genre known to pop. Full of apocalyptic imagery, a record that defined the decade, even as it showed there was no defining Prince...



Batman (1989)

Prince’s soundtrack to Tim Burton’s dark film was a tad scattergun; but *Batdance* is a fab pastiche, *Scandalous* a great sex jam and *Arms Of Orion* almost a conventional pop ballad.

1985

1986

1987

1988

1989

1990

Parade (1986)

The soundtrack of his second film, *Under The Cherry Moon*, the album was better than the movie with its shifting musical moods and textures, with *Kiss* serving as the highlight.



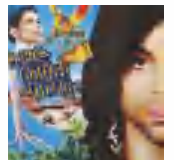
Lovesexy (1988)

Sequenced as one long track on CD, Prince delivered a song cycle that sought to square the circle between the spiritual and the carnal.



Graffiti Bridge (1990)

The soundtrack to a disastrous movie, Prince wrote all the songs but only performed half of them. It’s the tracks he kept for himself that are the real standouts.



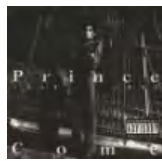
MUSIC LEGENDS

PRINCE



Diamonds And Pearls (1991)

After the pop sensibilities of his late-eighties albums, a return to urban r&b and funk, packed with great songs such as *Money Don't Matter 2 Nite*, *Cream* and *Gett Off*.



Come (1994)

The artwork proclaimed Prince was dead (1958-1993) and the album was a contract-filler to get him away from Warner. One of his few albums not to attempt anything new.



The Gold Experience (1995)

Containing his only British number one in *The Most Beautiful Girl In The World*, a loose concept album that spanned the gamut of rock, pop, soul, funk and jazz.

1991

1992

1993

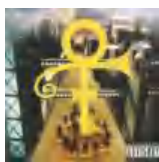
1994

1995

1996

Love Symbol Album (1992)

The album that introduced the symbol that became danceable and funky. The Artist formerly known as... was backed by the New Power Generation, the best band he ever had.



The Black Album (1994)

Intended as the follow-up to *Sign O' The Times*, but withdrawn at the last minute. Seven years later, it finally saw the light of day and its hard, heavy funk hit the mark.



Chaos and Disorder (1996)

The final album of the 'Slave years', Prince kissed Warner Bros goodbye with an album that was slight but fun, as if he couldn't hide his glee that it was finally over.



Like David Bowie, Prince's untimely death was front page news worldwide



multi-instrumentalist and writer was destined to be the next big thing. The bidding war which followed was won by Warner Brothers who granted him artistic control over his recordings, an unprecedented clause in a first contract for an unproven artist who wasn't yet out of his teens.

What followed can be described as Prince's 'imperial phase' as a string of eighties albums that included *Dirty Mind*, 1999, *Purple Rain*, *Around The World In A Day*, *Parade*, *Sign O'*

The Times and *Lovesexy* put him in a triumvirate of titans alongside Michael Jackson and Madonna as the defining artists of the decade. Not even being booed and pelted off stage by conservative-minded Rolling Stones fans when invited to support them on their 1981 tour could halt his rise.

His touchstone 1984 album *Purple Rain* was accompanied by a semi-autobiographical film of the same name, in which Prince played a rock star known simply as The Kid.

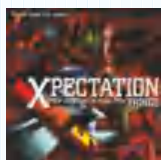
The album spent six months at number one in America and eventually sold more than 13 million copies. At one point he had the number one single, album and box office film in America, a feat which has never been repeated. But with fame and celebrity his behaviour grew ever more eccentric and at the end of his 1985 world tour he announced that he was retiring to go and "look for the ladder".

Always evolving

In an obvious parallel with Bowie 'killing off' Ziggy Stardust and breaking up the Spiders From Mars, he disbanded his backing group The Revolution. But his resurrection was almost immediate and he continued producing music at a prolific rate; 1987's *Sign O' The Times* was arguably the finest album of his career and he ended the decade on a high by recording the soundtrack for Tim Burton's 1989 film *Batman* and duetting with Madonna on the album *Like A Prayer*.

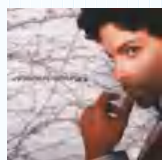
The nineties were less happy, due in large part to the notorious battle with his record company which led to him appearing at the Brit awards in 1995 with SLAVE written on his cheek in felt tip pen. "If I can't do what I want to do, what am I?" he said. "When you stop a man from dreaming, he becomes a slave. I don't own Prince's music. If you don't own your masters, your master owns you."

He renounced his name and insisted that he should be known as an unpronounceable



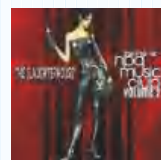
Xpctation (2003)

Nine cool-and-mellow all-instrumental jazz cuts, all beginning with the letter X, released as a download before he decided that the internet was sinful.



Musicology (2004)

...followed by his best-seller in a decade as he eschewed the jazz leanings with a funky set which on its title track paid nostalgically homage to half a dozen of his biggest hits.



The Slaughterhouse (2004)

The same formula as *The Chocolate Invasion* on another installment of rescued tracks, including *Y Should Eye Do That* and *When Eye Can Do This?*

2003

2004

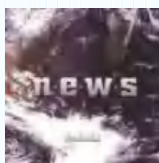
2005

2006

2007

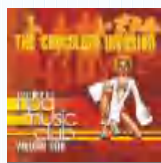
N.E.W.S (2003)

Four long instrumental tracks recorded in a day at Paisley Park with plenty of scope for fellow musicians. It was allegedly the worst-selling album of his career.



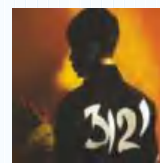
The Chocolate Invasion (2004)

Another album released through his NPG Music Club of tracks mostly rescued from an abandoned project named *High*. Standouts include *Supercute* and *You Make My Sun Shine*.



3121 (2006)

His first number one album since 1989, led by the banging Afro-funk of the brilliant single *Black Sweat*. Playful, likeable and with an intriguing Latin tinge added to the mix.

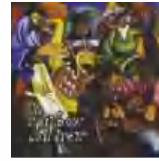




Emancipation (1996)
Having signed to EMI, this was intended as a rebirth – he got so carried away that it ranged across his panoply of styles from gentle ballads to funky jams.



The Vault: Old Friends 4 Sale (1999)
Most of the songs had previously been heard on bootlegs and hardcore fans reckon these are not the definitive versions.



The Rainbow Children (2001)
A concept album about spirituality and love built around a fictitious story about a utopian society, inspired by his Jehovah's Witness faith – and the jazziest album of his career.

1996

1998

1999

2000

2001

2002

Crystal Ball/The Truth (1998)
A sprawling four-disc box set, with three CDs of previously bootlegged material and a fourth CD titled *The Truth* with a dozen new acoustic songs.



Rave Un2 The Joy Fantastic (1999)
Never much of a collaborator, Prince went overboard with guests Gwen Stefani, Eve, Sheryl Crow and Ani DiFranco.



One Nite Alone... (2002)
Prince solo at the piano on an intimate set that includes a cover of Joni Mitchell's *A Case Of You* and *Avalanche*, on which he described Abraham Lincoln as a racist.



emblem which approximated to a combination of the scientific symbols for male and female and was often referred to as 'the love symbol'.

The name game

He claimed he changed his name "because I heard a voice telling me to. Was it God's voice? Who knows." Indeed; as with most of Prince's pronouncements, who knows the real truth? But in reality the gesture was primarily designed to throw his record company Warner Bros into chaos. It caused confusion in the media, too. Broadcasters were unable to pronounce it and newspapers were stymied because the symbol did not exist on any keyboard, and so he became known as "The Artist Formerly Known as Prince", often shortened to "The Artist".

His first album after freeing himself from his 'slavery' to his record company was titled *Emancipation* and in 2000 he announced that he was resuming the use of his original name, although "The Artist Formerly Known as The Artist Formerly Known as Prince" still used the squiggle in artwork on his albums and on stage he continued to play a guitar eye-catchingly shaped into the love symbol.

No longer a slave but now the master, he then picked a fight with the internet, battling to keep his music off-line and removing it from streaming services. "The internet's completely over," he prophesied somewhat prematurely in 2010. "I don't see why I should

give my new music to iTunes or anyone else. Anyway, all these computers and digital gadgets just fill your head with numbers and that can't be good for you."

Like Michael Jackson, he used his wealth and celebrity to create his own fantasy world in which the rules and values of conventional society did not apply. Just as Jackson built his own bizarre private theme park Neverland, the physical manifestation of 'Prince world' was Paisley Park, the 'fun factory' he built at Chanhassen, near Minneapolis.

At the age of 19 he was credited with playing 27 different instruments on his debut album

Named after a song of the same title – the lyrics of which declared: "Love is the colour this place imparts, there aren't any rules in Paisley Park" – the huge 70,000 square foot site included his private living quarters, a recording studio, a hair salon, a concert hall and even his own nightclub. One end of the building housed a team of tailors, employed to make costumes for his concerts, during which there might be seven changes a night.

Like pop's answer to Andy Warhol, he populated Paisley Park with starlets, pop wannabes, supermodels, girlfriends and hangers on, shaping and directing the careers

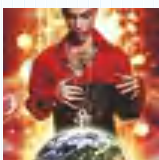


Movie Purple Rain marked Prince's cinematic debut

of the singers Vanity, Susan Moonsie, Sheila E, Carmen Electra and Mayte Garcia, the latter of whom he married and who was the subject of his song *The Most Beautiful Girl in the World*.

It was another of the paradoxes that made Prince an enigma that such a libidinous figure who wrote and sang some of the raunchiest, most carnal songs in pop should become a Jehovah's Witness. He denied that he had undergone a conversion and insisted it was more a "realisation" which he likened to "Morpheus and Neo in *The Matrix*." Drugs, sex and alcohol were "funky" he said; but they were "just paths, a diversion, not the answer."

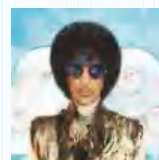
He seemed to imagine that he was Peter Pan and once claimed that he did not age because "time is a mind construct... It's not real." Sadly the years caught up and then overtook him in the fast lane and at 57 he died far too young. But he was surely right that his timeless, majestic music will live forever ●



Planet Earth (2007)
Given away at his '21 Nights In London' residency and with the *Mail On Sunday*, tracks such as *Guitar* and *The One U Wanna C* were worth anyone's money.



20Ten (2010)
Given away with the *Daily Mirror*, which declared it was "his best record since *Sign O' The Times*". It wasn't, but it has its moments even though it lacks memorable songs.



Art Official Age (2014)
Released simultaneously with *Plectrumelectrum*, a lush, sexy, seductive electro-funk album with a sci-fi theme that showed he had lost none of his thrilling ability to surprise.

2008

2009

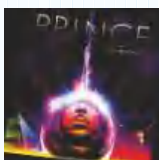
2010

2013

2014

2015

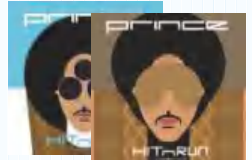
LOTUSFLOW3R and MPLS*UND (2009)
A triple-disc set of two albums by Prince and the debut recording by his protege Bria Valente, featuring plenty of heavy riffing.



Plectrumelectrum (2014)
After the longest break between albums in his career, Prince re-emerged with the all-female rock trio 3rdeyegirl, who toughened up his sound.



HITnRUN Phase One (2015) HITnRUN Phase Two (2015)
Of the two albums, *Phase Two* was the better release, full of consistently engaging songs including the social commentary of *Baltimore*.



TURNTABLES £330-£3,140

Essential turntables

Five of the best decks to consider for spinning vinyl

When the new shiny compact disc technology first came along back in the eighties, the death of vinyl was regarded as only a matter of time. Sure enough, musicians switched preference from shiny black discs to smaller silver ones and manufacturers slowly but surely wound down production of turntables. Jump forward to the current day and history has been tipped on its head as it's now the indestructible shiny disc of yesteryear that is on the wane, while vinyl is enjoying the sort of popularity it hasn't experienced for many years. Suddenly, record sales are at a 20-year high, the album charts now reflect vinyl sales and you can even pick up the black stuff while doing your grocery shopping in your local supermarket.

In a spin

Regardless of the studio sound quality of hi-res audio and the ease of use that it offers, it seems that the British public can't get enough of the sound that the needle manages to extract from an LP groove and the tangibility of artwork that you can actually touch rather than see on a screen.

Better news still, is the fact that hi-fi manufacturers are jumping onto the vinyl bandwagon, releasing turntables at a range of prices to suit both teenagers looking to start their vinyl journey and more astute listeners willing to spend a little more. Over the following pages we pick some of the best turntables from a variety of price points to pass through HFC's test lab. Overleaf you'll find our pick of the best accessories and essential advice on getting the most from your setup.



AnalogueWorks Zero+

PRICE: £1,500 **TELEPHONE:** 01536 762211
WEB: analogueworks.co.uk **REVIEWED:** HFC 407

The smaller of three new models from AnalogueWorks, the Zero+ is an unsuspended belt-drive design that claims to combine "best engineering practices, common sense, careful listening and a marriage of materials" and who are we to argue? The gorgeous plinth is constructed from layers of Finnish birch selected for its relative density and resonance control, while the low-torque platter needs to be given a helping hand (literally) to get spinning. The tonearm is a Jelco SA-750DB and an Audio-Technica AT440MLB MM cartridge is also included in the bundle.

Sound quality

This is a genuinely quiet turntable, with next to nothing in the way of mechanical noise contributing to an incredibly low noise floor on the deck itself. There is a clear perception of the position of the artist within the soundstage and the space around them, while the impressive drive and attack gives the deck an enthusiastic quality that sounds neither forced nor relentless. The relatively high mass of the Zero+ seems to make itself felt in the consistently deep and controlled bass, which has plenty of impact without sounding sluggish or dominating.

WE SAY: A well thought out and brilliantly implemented deck that delivers a superb performance



Audio-Technica AT-LP5

PRICE: £330 **TELEPHONE:** 0113 2771441
WEB: eu.audio-technica.com **REVIEWED:** HFC 405

Where most budget turntables tend to be belt driven, the AT-LP5 bucks the trend and instead opts to go down the direct-drive path. But that's not the only surprise it has up its sleeve. A built-in phono stage and a USB-B digital output ensure that vinyl newcomers will not have to splash out any extra cash to get the most from their records. The J-shaped arm has a detachable headshell, which is fitted with the AT95Ex MM cartridge in an AT-HS10 lightweight headshell for easy setup. The main body may be constructed from plastic, but it's remarkably solid and well thought out. The only notable absence is a dust cover, although you can purchase one separately for an additional £24.

Sound quality

Pleasingly, there is no evidence of the gremlins that so often bedevil direct-drive designs. The AT-LP5 is entirely free from rumble or any other form of noise and music rises out of a silent and utterly unobtrusive background. It achieves a pleasingly three-dimensional performance with the soundstage opening out and creating a believable relationship between voices and instruments. It seems happiest when there's a rhythm to get behind and there is a propulsive force to the way it makes music that is quite different to rivals. The bass response is usefully deep and has a level of detail and definition about it that is rare at the price. As a device for ripping vinyl to a hard drive, its rapid start/stop characteristics – along with the easy cue arm – make it the ideal partner.

WE SAY: A starter deck that delivers a consistently impressive performance at a highly competitive price point





HELP & ADVICE

Correctly storing your record collection is vital to ensuring that it plays perfectly for years to come. Always keep your vinyl stood up vertically, side by side and not packed too tightly. Keeping the temperature stable is an important consideration. Rapid changes in temperature can cause warping. Normal room temperature of between 18 and 21°C is considered to be ideal. Records that are in long-term storage should also be kept stood

vertically at a stable temperature of around 7 to 10°C. Humidity is not a major concern for vinyl, but the sleeves are likely to end up going soggy. More of a worry with damp conditions is mould growth, as this will result in surface dirt on the vinyl itself. Keep your discs in a polyethylene sleeve and insert them into the album cover so that the open edge is uppermost to stop dust from entering through the opening and getting in the grooves.



Inspire Hi-fi Elevation

PRICE: £3,140 TELEPHONE: 01246 268887
WEB: inspirehifi.co.uk REVIEWED: HFC 402

This unsuspended deck combines birch ply and acetyl to be as inert as possible. The birch forms the plinth and is built up over multiple layers to produce a thick teardrop-shaped base that houses the motor, bearing and arm board. There are various options to veneer the plinth should you wish to. On top of this sits a 50mm-thick heavyweight acetyl platter, which doesn't have a conventional spindle. The means of citing a record is done via a metal insert that drops onto an indentation on top of the platter, which has its own spindle. This is then topped off by an unthreaded puck-type clamp. The deck is available without a tonearm for £1,390, but our review sample has a X100Mk2 arm and Ortofon Cadenza Red MC cartridge fitted.

Sound quality

With some high-mass turntables, the presentation can be a little dark with tremendous low-end drive, but little in the way of top-end sparkle. The Elevation bucks this trend and sounds extremely open and airy. The result is a deck that never hides the impressive heft it can demonstrate, but also ensures that it never becomes the dominating feature. Music is delivered with real impact, while the bass remains well defined and impressively fast throughout.

WE SAY: A well considered and very potent turntable that will compliment a range of different systems very well



Pro-Ject RPM 9 Carbon

PRICE: £1,500 TELEPHONE: 01235 511166
WEB: henleydesigns.co.uk REVIEWED: HFC 409

The RPM 9 Carbon sits towards the upper end of Pro-Ject's impressive range of turntables and uses modern materials combined with an extra-heavy, mass-loaded sub-chassis that is decoupled from its support surface using magnetic feet. The teardrop-shaped plinth is an advanced sandwich construction of MDF, carbon fibre and steel pellets that has been subjected to a thermo treatment. The polished 7.2kg aluminium platter has a vinyl top and is fitted with an inverted ceramic main bearing designed to deliver stable speeds and very low rumble. It's topped with a hard vinyl mat and a heavy (0.8kg) record clamp is also supplied. The deck is partnered with Pro-Ject's 9CC Evolution tonearm, which employs a conical carbon-fibre arm tube fitted with very flexible, high-quality copper internal wiring. An optional Ortofon Quintet Black MC cartridge can be supplied for an additional £400.

Sound quality

The RPM 9 Carbon is extremely adept at extracting all of the subtle nuances of any disc placed upon it. Instruments are well placed within a soundstage that is both wide and extends a long way back, enabling the listener to pick out individual instruments in the mix. The huge dynamic range is very evident, while the Ortofon Quintet Black digs deep into the groove and mines every ounce of detail that's available. Completing the package, bass is meaty, tight and beautifully controlled.

WE SAY: A stunningly modern-looking, high-quality turntable design that produces a very refined sound



Rega Planar 3

PRICE: £625 TELEPHONE: 01702 333071
WEB: rega.co.uk REVIEWED: HFC 411

The latest addition to Rega's 3 family, the Planar 3 has a stiffer and much-improved plinth over the outgoing RP3. The bearing is also reworked with a new brass central section that improves fit to lower the noise floor and reduce stress on the bearing itself. This is in turn mated with a new sub-platter that is stiffer and built to tighter tolerances than before. The new RB330 tonearm has been even more heavily reworked with a new bearing, housing, arm tube and counterweight. The platter is still made from glass, but is now 12mm thick and an Elys 2 moving-magnet cartridge is included.

Sound quality

In many ways, the sonic performance echoes the numerous aesthetic improvements that have been made to the Planar 3. It sounds every bit like we'd expect a Rega deck to, and yet simultaneously more capable and infectious. It opens up traditionally congested material without making it sound disjointed or confused, instead creating a sense of space and a soundstage where many similarly priced rivals tend to struggle. The consistency and ability are undoubtedly admirable, but what really impresses is that the Planar 3 manages to impart very little of itself into the overall performance.

WE SAY: It might be similar to what has come before, but the Planar 3 represents a huge leap forwards



Turntable accessories

Having treated yourself to the perfect deck on which to spin your vinyl, why not fine-tune it with this selection of invaluable add-ons...



HANA EH £276
TELEPHONE: 01491 629629
WEBSITE: airaudio.co.uk
TESTED: HFC 410
 It might be harder to fit than most, but this high-output MC cartridge is worth the effort as it rewards with an exceptional sonic performance.

VINYL PASSION DUST BUSTER £21
TELEPHONE: 01733 350878
WEBSITE: analogueseduction.net
TESTED: HFC 377
 The perfect way to remove dust and dirt from your cartridge. Simply dip the stylus into the polymer to give it a thorough clean.



PRO-JECT VC-S RECORD CLEANING MACHINE £299
TELEPHONE: 01235 511166
WEBSITE: henleydesigns.co.uk
TESTED: HFC 410
 An affordable record cleaning machine that's easy to use and provides exceptional results.



GRAHAM SLEE GRAM AMP 2 COMMUNICATOR £180
TELEPHONE: 01909 568739
WEBSITE: gspaudio.co.uk
TESTED: HFC 407
 With fast, detailed and involving sound, this is an extremely accomplished MM phono stage that punches well above its weight, making it the perfect partner for your chosen turntable.



MILTY ZEROSTAT 3 £55
TELEPHONE: 01279 501111
WEBSITE: goldring.co.uk
TESTED: HFC 411
 The perfect solution to the perennial problem of static that can be found on records. Point at your record, pull the trigger and it's gone. Easy!



Pro-ject

A U D I O S Y S T E M S

2 Xperience SB DC



The Ultimate Xperience

The 2 Xperience SB DC takes the core design principles from one of our most popular turntables of recent years, and adds a variety of enhancements to achieve a new performance standard.

The striking plinth, available in four stylish finishes, is accented by the thick vinyl-topped platter, which spins on a high-quality bearing and accommodates a light screw-on record clamp.

The new motor is powered by the built-in automatic speed control and finished with a precision-engineered exposed pulley.

The established 9CC Evolution carbon fibre tonearm, with advanced anti-resonance technology and pre-installed Ortofon 2M Silver cartridge, completes the package to a true audiophile standard.

Available Now for £1,050.00 (UK SRP)



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How to set up your turntable

Our guide is here to help you ensure that your record player is perfectly aligned to give you the optimum performance from your vinyl

One of the pleasures of owning a turntable is that care needs to be taken to ensure that it runs correctly – this is not a plug-and-play device like a CD player. Fortunately, this is not as difficult as you might imagine and there are a number of inexpensive tools to assist you in every aspect of the process.

Before considering any form of adjustment, it is important to make sure the turntable itself is level. The stylus is held in the groove entirely by gravitational force, and any imbalance means the downward force on it is not exactly perpendicular to the record.

Most turntables are fitted with adjustable feet and levelling is easily done using a spirit level. Place the level on the platter, to allow any variation in manufacturing tolerances to be adjusted out. A better solution is to use a level that fits over the central spindle, like Blue Horizon's Prolevel tool (HFC 373).

Toning up the tonearm

Assuming your cartridge has been fitted according to the manufacturer's instructions, the next step is to set the tracking force. This is usually done by setting both the tracking force adjustment and the bias adjustment on the tonearm to zero and then moving the counterbalance weight so that the arm is perfectly horizontal. Make sure you remove any stylus protecting cover as this will affect the weight of the cartridge. Now set the tracking force adjustment on the tonearm to the correct value according to the cartridge manufacturer. This is good enough to enable the other adjustments to be made before the tracking is set more accurately later.

Now we can align the cartridge. This involves setting the azimuth or vertical alignment, the overhang and the angle of the cartridge in the headshell.

Setting the azimuth simply involves making sure the stylus is perpendicular to the record when the cartridge is viewed from the front. Placing a small mirror on the platter and gently lowering the stylus onto it will highlight any misalignment. If your headshell does not have an adjustment for this, fitting a



small paper shim between the cartridge and the headshell will suffice.

The overhang and the angle of the cartridge in the headshell are set using an alignment protractor, sliding the cartridge forwards or backwards and twisting it in the headshell so it lines up with the calibration marks on the gauge. The overhang is the difference

It's surprising how much fluff can accumulate around the stylus from airborne dust

between the distance of the tonearm pivot from the centre spindle (which is fixed for a given tonearm) and the distance of the tonearm pivot to the stylus (which is known as the effective length).

The calculations required to work out the optimum positioning of the cartridge are not particularly straightforward. Fortunately, alignment protractors are available to help (you can download a free one online from:

vinylengine.com/cartridge-alignment-protractors.shtml). All you have to do is decide which calculation model you wish to use. As long as you follow the instructions, you should achieve satisfactory results.

Once the cartridge is exactly where it should be in the headshell, it is time to set the tracking force. The markings on a tonearm are notoriously unreliable for making this adjustment force and the only way to do it properly is to use a stylus balance.

The cartridge manufacturer will usually specify a range for the tracking force, and you should set the force to a value within that range – but what value to use? A test record is useful for deciding this, but not essential. Usually records have a tracking ability test consisting of a tone recorded at increasing amplitudes, which can assist in setting the tracking weight and bias. Too low a tracking weight will result in poor tracking and do more harm to your records than erring on the high side, but don't overdo it. Tracking ability depends on your tonearm and cartridge combination. At very high levels of the test tone, your cartridge will

start to miss-track and this will be indicated by a buzzing sound.

The bias adjustment (sometimes referred to as the anti-skating) exerts a small outward force to the tonearm to counteract the tendency of the arm to swing towards the centre of a record when playing. Usually, the tonearm's bias adjuster has markings on it and you set it to the mark corresponding to the tracking force applied. However, if you have a test record, you can set the bias more accurately by the tracking ability test and when the point is reached when the cartridge starts to miss-track, there should be the same level of buzzing on both channels.

The last adjustment to make is the tonearm height to set the Vertical Tracking Angle (VTA), which sets the Stylus Rake Angle (SRA) of the cartridge. The VTA is the angle of the cantilever to the record surface (usually around 20°), which in itself is not that critical. However, the SRA, which is the angle of the stylus in the groove, is vital and has a major impact on sound quality. The closer the SRA can be adjusted to match that of the original cutter head, the more

Before tackling any form of adjustment, it is important to set the record straight

information the stylus will retrieve from the groove. The VTA will vary depending on the tracking weight, so it is important to set this before attempting to adjust the VTA. The VTA is adjusted by altering the height of the arm (which may be via an adjuster built into the tonearm or by adding or removing shims from the tonearm mount), and the correct point is best determined by ear. A good starting point is to set the arm height so that it is parallel to the record when it is playing and to choose a well-known record with some bass and either a solo violin or a female vocalist. If the arm is too high (VTA too great), the sound will be harsh and thin with poor imaging. If set too low, it will be dull with 'boomy' bass, lacking detail and with poor imaging. The correct point is

Start your adjustments by setting up the tonearm first



unmistakable where the instruments and vocals snap into focus and everything sounds clear. A simple gauge can be made using a piece of card temporarily fixed to the turntable to help adjust the height and note the position where the VTA is correct.

Keep it clean

Having taken the time to set everything up correctly, it is important to keep everything as clean as possible. Apart from cleaning the record playing surface using a wet cleaner or record cleaning machine of some sort, we recommend cleaning off any dust before every play. There are many cloth and brush accessories available for this purpose, but we prefer using a carbon fibre brush. And remember that if you buy second-hand records it's always a good idea to give them a thorough wet clean before playing. Always replace the inner sleeve with a polyethylene or paper and polyethylene product to avoid re-contaminating the cleaned record from any residual dirt left inside the old sleeve.

It's surprising how quickly fluff can accumulate around the stylus from airborne dust after only playing a couple of sides – even with records that you thought were scrupulously clean. With a carbon-fibre or fine hair stylus brush, the way to clean a stylus is to gently brush from the rear of the cartridge forwards towards the front. Occasionally, the cantilever and cartridge underside may also require a gentle brush. Another favourite cleaning method is to use a stylus cleaning putty or cleaning substance where the stylus is gently lowered into the cleaner to remove the dirt.

The final thing to mention is the turntable main bearing. Many bearings require some form of lubrication and they will also require occasional cleaning, the frequency of which will depend on use. It's a good idea to clean these once a year and replace the bearing oil. A special high-performance oil of the correct viscosity for your bearing needs to be used, and you'll find oils specifically blended for this purpose available from your turntable manufacturer and audio accessory supplier.

As modern bearings are high tolerance, a completely lint-free cloth should be used to avoid any risk of leaving debris in the central bearing or around the central spindle. It's important to be aware that some bearings have a small ball bearing inside, so be careful if you plan to turn your deck upside down to clean it.

So there you have it, we told you it wouldn't be too complicated. Setting up your turntable may appear initially daunting, but if you carefully carry out the steps in a methodical fashion, you will be rewarded with superb sound from your record deck for years to come. But don't take out word for it, go and find out for yourself ●

Pro-Ject's Align-IT protractor (HFC 370)



Test records for setting tracking force



Summer Specials

SOURCES	WAS	NOW	SOURCES	WAS	NOW
Arcam FMJ CDS27 CD/SACD/ Network Player	£595.00	£495.00	EX-DEMONSTRATION		
EX-DEMONSTRATION			Naim CD5 XS CD Player	£2,160.00	£1,750.00
Naim Naim HDX SSD Music Server Black	£5,300.00	£2,995.00	Arcam FMJ CDS27 CD/SACD/ Network Player	£595.00	£475.00
Arcam FMJ CDS27 CD/SACD/ Network Player	£595.00	£475.00	Arcam UDP411 (BDP)	£1200.00	£550.00
Rega RP8 - Inc TT PSU - Apheta	£2,298.00	£1700.00	AMPLIFIERS		
Project Experience 2 Pack	£900.00	£695.00	EX-DEMONSTRATION		
AMPLIFIERS			Classe CP800 mkII pre-amplifier	£5,450.00	£2,950.00
EX-DEMONSTRATION			Naim NAC 252 Pre-amplifier	£5,895.00	£4,499.00
Cyrus PRE XP Pre-Amp Brushed Black	£1,050.00	£650.00	Arcam FMJ A39	£1,595.00	£1199.00
Naim Nait XS Integrated Amplifier Black	£1,525.00	£995.00	POWER SUPPLY		
Rotel RA11 Amplifier Silver	£499.00	£399.00	EX-DEMONSTRATION		
Arcam FMJ A19	£595.00	£455.00	Naim SUPERCAP Power Supply	£3,950.00	£2,450.00
Arcam FMJ A39	£1,595.00	£1199.00	AV AMPLIFIERS		
POWER SUPPLY			EX-DEMONSTRATION		
EX-DEMONSTRATION			Arcam AVR450 AV Receiver	£2,200.00	£975.00
Naim HiCap*	£1,300.00	£895.00	Yamaha RXA1050 (AVR)	£999.00	£799.00
HI FI LOUDSPEAKERS			HOME CINEMA LOUDSPEAKERS		
EX-DEMONSTRATION			EX-DEMONSTRATION		
Dynaudio Contour 5.4 Loudspeakers Cherry	£7,400.00	£3,995.00	Artcoustic DF65-50	£2,195.00	£499.00
Dynaudio Contour 3.4 LE Loudspeakers Gloss Black	£4,750.00	£3,495.00	Artcoustic Diablo C1 (centre speaker)	£730.00	£250.00
Dynaudio XEO 4 Set Including Hub	£1,775.00	POA	Artcoustic Diablo Target	£375.00	£150.00
Dynaudio XEO 6 Set Including Hub	£2,925.00	POA	Tannoy Mercury VC (centre speaker)	£149.90	£75.00
HOME CINEMA LOUDSPEAKERS			Paradigm Soundtrack Soundbar + Subwoofer	£599.00	£299.00
EX-DEMONSTRATION			HI FI LOUDSPEAKERS		
Artcoustic DF65-50	£2,195.00	£499.00	EX-DEMONSTRATION		
Artcoustic Diablo Monitors (1 White) 1 Silver)	£1,200.00	£300.00	Neat Motive SX3 Walnut	£1155.00	£955.00
Q Acoustics 2000C Centre Speaker Gloss Black	£135.00	£100.00	Neat Iota Black	£735.00	£425.00
PROJECTORS & SCREENS			Dali Zensor 5 AX Walnut (Blue Tooth)	£799.00	£599.00
EX-DEMONSTRATION			PROJECTORS & SCREENS		
Sim 2 Crystal 35 Projector Black	£3,995.00	£2,995.00	EX-DEMONSTRATION		
Sim Nirol 2 Projector Black	£15,995.00	£9,995.00	Sony VLP-FH36 Projector (white)	£3,750.00	£2,450.00
HEADPHONES			Si Theatre Reference 93 Acoustically Transparent 93"Screen	£2,950.00	£1,995.00
EX-DEMONSTRATION			Si Black Diamond 1,4 88 'daylight' 88"Screen	£2,950.00	£2,499.00
Senheiser HD800	£1,099.99	£695.00	RACKS		
P5 Wireless On-ear Bluetooth** aptX™ wireless	£329.99	£289.00	EX-DEMONSTRATION		
P3 On-ear noise Isolating interchangeable cable White	£169.99	£99.99	Cyrus Hark Rack 8 Shelf Silver	£600.00	£450.00
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Cyrus-X-Arbour - Oak with TT platform (No Box)	£150.00		HD 800, HDVD 800 Amplifier, CH 800 S XLR Cable		
Cyrus 8VS Amplifier, Quarts Silver	£200.00		when purchased separately £3,049.00		
Rega Mira Amplifier (No Box)	£125.00		Save £699.00		
Rega Apollo CD Player (No Box)	£125.00		Package Deal £2,349.00		
Dynaudio Audience 72 SE Loudspeakers, Rosewood	£600.00		Available from both stores		
Dynaudio Audience 72 Loudspeakers, Rosewood (No Box)	£300.00				
Dynaudio Audience 42 Loudspeakers, Rosewood (No Box)	£150.00				
Dynaudio Focus 200C Centre Loudspeaker, No Grill, Black (No Box)	£250.00				

Latest Arrivals



Oppo Headphones and DAC



Focal Sopra Range



Bowers & Wilkins 800 Series

The Chord Company

Shawline analogue interconnects



NAMED TO HONOUR a late associate of The Chord Company – David Shaw – these interconnects make use of the Tuned ARAY cable conductor geometry that was originally developed for the company's premium Sarum range. The Shawline is £200 in the standard 1m length and fitted with silver-plated Chord VEE 3 RCA terminations, but it can be made to other lengths at £80 per additional metre. It is also available with The Chord Co.'s new lightweight DIN connections for an extra £25 or with Neutrik XLR plugs for an extra £50.

The conductors are silver-plated and the construction of the Tuned ARAY means that they are hand assembled. The cables are directional and this is clearly indicated by an arrow that's been printed on the heatshrink at one end of each interconnect.

I connect the Shawlines between my preamp and monoblocks. I decide to start off listening with some rock music and turn to the unmistakable voice of the late David Bowie singing *Love Is Lost*. Vocals are splendidly clear and expressive and the Shawlines never allow the voice to become submerged in the drums or guitar accompaniment.

Chariots of fire

Next up is a fantastic Decca recording on vinyl of Khachaturian's *Spartacus* with the famed composer conducting the Vienna Philharmonic Orchestra. The performance is superbly full and powerful. I am given a real sense of chariots charging around with the authoritative drums beating away



and commanding the orchestra in the frenzied activity. The trumpets sound robust and imperious and the percussion section is crystal clear.

The Shawlines are really top-class interconnects whose performance makes them stand out from the crowd. Give them an audition and hear for yourself. **NR**

DETAILS

PRICE
£200 for a 1m pair
TELEPHONE
01980 625700
WEBSITE
chord.co.uk

OUR VERDICT



iFi Audio

iPurifier2 USB purifier



AS MORE PEOPLE use their computer as a source for playing digital audio files, the quality of the USB connection to the DAC is becoming increasingly important. Although DACs have error-correction circuitry built-in, it is wise to minimise any jitter before it gets to it and the iPurifier2 is an active asynchronous digital audio purifier that does precisely that. It is fitted with a USB Type B for connection to the DAC, and a B-to-A adapter is also included. At the other end of the iPurifier, there is a multifunction USB Type B and Mini socket for connecting to the USB cable from the computer.

It cleans up the USB signal and attempts to eliminate jitter by re-clocking the digital signal, restoring its integrity using an active noise cancellation circuit, and reducing frame and packet noise. It also cleans up the power lines as well

as the signal lines – all very important as the USB ports in a computer are shared with a wide variety of externally connected components.

Pure gold

I connect the iPurifier2 to an Alpha Design Labs GT40a DAC (*HFC 407*) and plug in a lead from one of the USB ports of my PC. I start off with a FLAC recording of Yo-Yo Ma playing the *Prelude from Suite No. 1 for Unaccompanied Cello* by JS Bach. The

result is that the cello sounds slightly smoother and the over-all performance is more rounded. With a fuller orchestral performance of Stephen Hough and the Bournemouth Symphony Orchestra playing Rachmaninov's *Piano Concerto No. 1*, the iPurifier2 reveals a more open presentation with added energy and refinement. This demonstrates that the device does indeed work really well and is great value for computer audio fans. **NR**



DETAILS

PRICE
£89
TELEPHONE
01900 601954
WEBSITE
selectaudio.co.uk

OUR VERDICT



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movies and TV,
accessories,
systems, insight,
opinion,
competitions
& more



**Helping you
make the
most of your
home cinema
OUT NOW!**





Black Rhodium

Foxtrot speaker cables

HAND MADE AT Black Rhodium's factory in Derby, the Foxtrot has RFI noise reduction technology to limit the effects of interference generated from computer networks, radios, mobile phones and even central heating systems. Each conductor comprises 16 x 0.2mm diameter plated copper wires, resulting in a conductor of 6mm diameter. The conductors are insulated in silicone rubber of 1.2mm thickness. Gold-plated Z plugs have been fitted to the cables and cable direction is printed on the sleeving at each end. The cable is very flexible making it easy to fit around the perimeter of carpets for a tidy installation.

After giving the Foxtrots a good running in, I start off by listening to Stravinsky's *The Firebird Suite*, performed by the Atlanta Symphony Orchestra. There is an extremely deep and extended drum roll during the opening sequence that tends to be most noticeable when it pauses for a few bars before starting again. During this pause I become aware that the very deep rumbling has stopped. When it is there, it is almost felt rather than heard, and I have a sense that the Foxtrots are perfectly conveying the power and fullness of this drum roll. Further into the recording, the twittering of the strings is so clear and crisp that I can almost identify the individual violins playing in the orchestra.

Love at first sight

Prokofiev's *Romeo and Juliet*, played by the London Symphony Orchestra under the baton of André Previn, demonstrates the excellent full sound presentation that is transported to my speakers. The minuet in act one, scene two marks the arrival of the guests. The sudden changes of mood throughout are beautifully rendered, from the loud sections heralding the triumphal entry of each new visitor to the delicate detail of the gentler passages that paint a musical picture of the visitors mingling with the



other guests. Overall, the music is both intimate in the quieter sections and stately with great dynamics than I am used to with this recording.

The forceful opening of the first movement of Rimsky-Korsakov's *Scheherazade* has a rapid change of mood when the solo violin takes over the piece to commence the ocean voyage. It is clear and not at all edgy. The piece then builds to a climax with the whole orchestra playing, creating a sound that is full, luscious and refined.

Cooling things down with Scarlatti's *Sonata* in G major played on the harpsichord, I am really drawn into the performance with the intimate playing of George Malcolm. The silences between the phrases are inky black indicating that the noise floor is kept low, while I also sense that the musical edges are well defined, and the natural decays of each note of the harpsichord add to the overall realism of the reproduction.

For a complete change of musical genre, I turn to some Pink Floyd and a recent recording of *On Noodle*

Street. The bass and drums are punchy, clear and well extended. The guitars take a back seat with this recording and the theme is played on a synthesiser. These instruments blend together perfectly to create a relaxed atmospheric.

Space is the place

I round off proceedings with Ane Brun singing *These Days*. The deep bass and organ that accompany her singing are well positioned behind her. When the echo on her voice is added as the piece progresses, I get a real sense of spaciousness, as though I am listening in a large hall, rather than in my sitting room.

The very affordable Foxtrots certainly deliver a delightfully open and effortless sound from my system. Vocals have plenty of detail and all the nuances of expression are very evident. Imaging and timing are also both excellent. This is a very sophisticated-sounding set of speaker cables and gets a well-deserved five stars. **NR**

DETAILS

PRICE
£275 for a 3m pair
TELEPHONE
01332 342233
WEBSITE
blackrhodium.co.uk

OUR VERDICT



Atlas

Element Integra interconnects



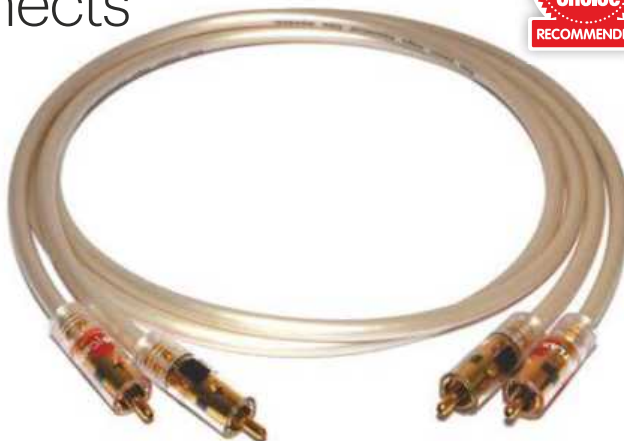
STARTING FROM THE centre and working out, the Element Integra uses Ohno Continuous Casting copper (OCC) for its central conductor, which is insulated with a low-loss porous polyethylene dielectric (PEF). The outer conductor employs a braided copper and aluminium foil to screen out radio frequency interference (RFI). The cable is terminated with Atlas' Integra non-magnetic RCA plugs, which use solder-free, cold-weld interfaces between the OFC stranded conductors and the plug connectors to provide a high-integrity connection. The plug cover is a non-magnetic polycarbonate sleeve that Atlas considers to be preferable to metal as it eliminates the negative issues that can arise when an RCA plug's metal sheath is in the signal path. The plug also incorporates brackets that grip the

cable without compressing it, which could alter its electrical properties. The outer coaxial connection is made by means of four asymmetrical sleeves that are sprung and so spread out on insertion into the socket. This assists in cleaning the plug to socket interface every time the plug is inserted.

Flexible friend

The cable is well made and very flexible, which makes it perfect for fitting around the back of equipment. Atlas cables are directional and so it's recommend that you run the cable in for around 72 hours at room temperature for best results.

After running in, I play a variety of recordings and discover that the Element Integra works extremely well across a wide range of genres.



The sound is very well balanced with no particular emphasis of any frequency band. Strings are smooth and flowing while bass is taut and well controlled. The plugs are a good fit in all the equipment I try them with. The Element Integra represents excellent value for money and so comes highly recommended. **NR**

DETAILS

PRICE
£45 for 1m
TELEPHONE
01563 572666
WEBSITE
atlasables.com

OUR VERDICT



MCRU

Mains Filtration Plug



THIS MAINS FILTRATION plug is built into a 'wall-wart' plug unit and effectively provides two functions. Firstly, it is a mains interference filter to keep harmful radio-frequency interference (RFI) away from your equipment, while secondly it offers 4,000 amps of surge protection to shield your equipment from mains-borne power spikes. It can be used either plugged into a spare socket near your hi-fi or it can be placed close to a potential source of interference, such as a refrigerator or microwave oven.

Plug and play

When plugged into a socket by your audio system, it filters out the mains-borne noise by effectively creating a 'quiet area' around your setup. The device can be particularly useful in buildings with wireless computer networks, as these operate

in the gigahertz range, as well as in houses that use 'Ethernet-over-mains' computer networking. The RFI generated by networks can not only come from your own network, but also from your neighbours. Of course, the filter does not interfere in any way with the operation of these networks, it simply absorbs the RFI.

By repeatedly inserting and removing the Mains Filtration Plug in my audio system, its effects are easy to hear. When I play some Italian baroque music with the filter fitted, I notice some edginess associated with strings seems to be cleaned up and the music becomes more musical, mellow and effortless. I am also

aware of a perceptible reduction in the background noise floor, making silences blacker, resulting in a cleaner and purer sound. Furthermore, there are no tell-tale clicks and pops from mains-borne interference, making it a worthwhile purchase and, at the price (MCRU has knocked 10 percent off at press time), represents a good value add-on for any hi-fi system. **NR**



DETAILS

PRICE
£65
TELEPHONE
07908 056978
WEBSITE
mcru.co.uk

OUR VERDICT



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Bakoon EQA11r phono stage, boxed with stand	used	1499
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Cambridge Audio 640P, excellent	used	79
Chord Chordette Dual, excellent boxed	used	449
Clearaudio Unify Tonearm excellent boxed REDUCED	used	599
Clearaudio Basic Symmetry Phono Stage REDUCED	used	399
Consonance Cyber 40 Phono stage, excellent boxed	used	599
Fidelity Research FR64S boxed, excellent	used	1499
Garard 401, Jelco 750 12" arm, new plinth and lid	used	1199
Graham Phantom Supreme, SME cut	dem	2749
Graham Slee Fanfare Gramamp 3	used	179
Hadoock 242 tonearm, vgc+, nice unipivot	used	Call
Linn Basik Plus, vgc+	used	149
Linn LP12, Basik Plus, excellent condition, boxed	used	699
Linn LP12, Kahn, Hercules, Trampolin	used	Call
Linn LP12, Argeddon 2, Aro, Prefix, superb	used	2999
Linn LP12, Cirkus, Ekos, Lingo, excellent	used	2999
Linn Akiva, excellent boxed	used	999
Logic DM101 /Alphason HR100s/MC15 super REDUCED	used	699
Lyra Skala, excellent boxed	used	2249
Lyra Argo, excellent boxed	used	499
Michell Technoarm A, excellent boxed	used	449
Michell Orbe, SME cut no arm boxed	used	1999
Michell Gyro se, ex demo, excellent boxed,	dem	999
NAD C553/OEM Rega arm, Goldring 1012 cart	used	199
Nottingham Analogue DAIS, near mint, ex demo	dem	3999
Project RPM 10 turntable with arm and platform	dem	849
Project Debut Carbon, near mint REDUCED	dem	249
Project Essential 2, near mint REDUCED	dem	159
Rega RP3/Elys 2, vgc+ boxed, just a few months old	used	449
Roksan TMS 2 with Reference PSU, boxed as new	used	2899
SME 3009 improved, vgc+	used	199
SME IV, excellent, boxed	used	1199
SME V, excellent	used	1499
SME V12, nr mint boxed	used	2249
Thorens TD170 Auto excellent boxed REDUCED	dem	229
Thorens TD150, fair condition, no arm, REDUCED	used	79
Thorens TD160 original, boxed	used	199
Thorens TD209 turntable package REDUCED	dem	649
Thorens TD2030 Blue turntable	new	999
Townshend Elite Rock c/w Excalibur/Merlin/Cover	used	949
Transfiguration Temper W, great condition.	used	699
Transfiguration Phoenix, excellent checked	used	599
VDH Colibri MIC cartridge, as new boxed, REDUCED	dem	2899
VDH Conдор MIC cartridge as new boxed, REDUCED	new	1899
VPI Scout, JMW arm excellent	used	999
Wilson Benesch Act 1 Tonearm, nr mint superb	used	799

Radio/Recorders

Arcam Alpha 10DAB tuner, excellent	used	149
Avi Lab Series DAB tuner, scarce find	used	349
Cambridge Audio 650T, excellent	used	199
Fostex Model 80, excellent just serviced	used	199
Mitsubishi DA-F10, excellent	used	249
Musical Fidelity ASDAB, sealed box	used	499
NAIM NAT101 & SNAPs, excellent.E500 NAIM service	used	899
Pioneer RT707, just serviced, fantastic condition	used	499
Quad FM4, vgc, serviced	used	149
Revox PR99, crated, REDUCED	used	749
Revox H1, just serviced, great condition, REDUCED	used	449
Revox B77mk2, just serviced, great condition	used	Call
Sony MDS JB940, excellent minidisc recorder	used	199
Tandberg TCD440a, superb! REDUCED	used	449
Tandberg 3001 Tuner, excellent condition	used	499
TEAC X1000M, serviced, superb	used	599
Technics RS1500 in flightcase near mint	used	2499
Yamaha T-D500 FM7DAB Tuner, excellent	used	199

Amplifiers

Arcam Alpha 8P, vgc+ boxed REDUCED	used	179
Art Audio Jota 520b, excellent	used	3999
Audio Flight Pre and Flight 50 Class A power	dem	3999
Audio Analogue Donizetti Power amplifier, superb	used	1249
Audio Research VS115, excellent boxed	used	2499
Audio Research Ref 610 Monos, vgc boxed REDUCED	used	12999
Audio Research DS1 200, just ARC serviced with remote	used	2499
Audio Research D240 Power, excellent boxed	used	749
Audio Research SP9 Preamp/Power, vgc+, MM phono	used	749
Audio Research Ref 3 Preamp/Power, AS serviced, boxed	used	3749
Audio Research LS2 Preamp/Power, vgc	used	899
BAT VK50se Preamp/Power, remote, factory serviced 2016	used	2499
Boulder 1010/1060 Pre/Power, near mint boxed	used	10999
Cambridge Audio 840a Integrated	used	399
Cambridge Audio 851 Power Amplifier	used	799
DarZeel NHB108B, excellent E20+hk new	used	1699
Chord Electronics, Mezzo 140 Power amplifier	used	1999
Chord Electronics, Prima Preamp/Power	used	1299
Consonance Cyber 211 (Pavane), Monos, REDUCED	dem	2749
Consonance Ref 8.8 Integrated, boxed, REDUCED	dem	799
Cyrus XPD Preamp/Power, excellent	used	699
Cyrus 6DAC Integrated, boxed, REDUCED	used	649
DarZeel NHB108B, excellent E20+hk new	used	799
Esoteric C03/A03, pre/power ex demo boxed	used	8999
Graaf GM50B Mk2 Integrated, ex dealer demo	dem	2999
Icon Audio Stereo 40 MK2, excellent boxed	used	749
Jolida Envoy 211 Monoblocks, £7k new, superb, vgc	used	1999
Lavardin C62/AP150 pre/power and interconnects	used	5499
Krell KAV250a Power Amplifier, vgc+ boxed	used	999
LFD L51 Inestage, reasonable shape	used	299
Linn Klimax Chakra 500 Twin, Dynamik PSU, boxed	used	3499
Linn Klimax Kontrol, Dynamik PSU, boxed	used	2999
Linn Akurate 4200, Dynamik PSU, boxed	used	2499
Luxman C383/M363 Pre/Power combo, fab!	used	899
Luxman L550 monster retro integrated, rose cheeks etc	used	999
Marantz SM7, great retro power, REDUCED	used	849
McIntosh C22/MC275 Commemorative, REDUCED	used	6499
Meridian 501 preamp/Power, excellent	used	299
Meridian 551 Integrated, excellent	used	399
Micromega IA100, great integrated, boxed REDUCED	dem	449
Moon W7RS, excellent	used	4499
Musical Fidelity A5 Integrated, near mint boxed,	used	899
Musical Fidelity M6i, near mint boxed, REDUCED	used	1099
Musical Fidelity Pre 8 and 2 x MA65 chrome fronted	used	799
Musical Fidelity M8 500S Power amplifier, boxed superb	used	2599
NAD C320, excellent	used	149
NAIM NAP160, excellent original bolt down case	used	449
NAIM NAC122X/NAP150X combo	used	899
NAIM NAP250 Olive, Avondale Service 2015	used	1199
NAIM NAC202, excellent boxed REDUCED	used	1099
NAIM NAP150x, excellent boxed	used	449
NAIM NAIT 5Si, excellent boxed	used	749
NAIM NAC152XS/NAP155XS, excellent boxed	dem	1399
NAIM NAC82, excellent remote, POTS 8 board	used	899
NAIM NAC92r, boxed remote excellent	used	199
NAIM NAP250 (Olive), excellent boxed	used	1199
NAIM NAP250/2, excellent boxed 2006	used	1499
NAIM NAP250/2, boxed, superb condition	dem	2499
Onix OA32 Integrated, excellent, REDUCED	used	249
Pathos InPol Remix Hi Dac, ex dealer demo	dem	2499
Pathos Logos Integrated, excellent, REDUCED	used	1499
Pioneer A50s, boxed near mint	used	249
Quad 33/303, vgc, serviced	used	299
Quad Vena, superb condition nearly new, boxed	used	499
Rotel Michi Pre/Power, good condition	used	1199
Sugden A21a line Integrated	dem	999
Sugden Masterclass Pre/Monos in Graphite REDUCED	used	5749
Sugden Masterclass Integrated in Titanium	dem	2749
Talk Electronics Hurricane/Tornado Pre/Power	used	Call
Tandberg TPA3003 Power amplifier, excellent!	used	499
Tannoy TA1400, excellent boxed REDUCED	used	499
TEAC Distinction A1000 Integrated, mint, REDUCED	dem	549
Trio L07C preamp/Power good condition	used	249
Vinco SAV200 6 Channel monster, REDUCED	used	699
XTC Pre 1 & Pow 2, Pre/Power combo, excellent	used	799

Digital

Arcam CD37, excellent boxed, remote	used	549
Arcam DV137, excellent	used	149
Arcam iDAC, excellent	used	269
Atoll 100SE DAC, excellent boxed	new	299
Audio Analogue Crescendo, end of line	used	499
Audio Analogue Paganini, excellent boxed	new	349
Ayre Evolution DVD, mint boxed REDUCED	dem	1749
Cayin CD50T, excellent boxed	used	499
Chord Hugo TT DAC/Headphone amp, as new	used	2199
Chord 'One' CD player excellent!	used	1799
Consonance CD2.2, new sealed	new	Call
Creek Destiny CD player, boxed	used	699
Cyrus dAD3, excellent boxed	used	199
Cyrus DAC XP, excellent boxed	used	599
Cyrus Stream Xa, excellent with N remote	used	699
Denon DNP720AE, near mint boxed	used	199
Esoteric X03Se, near mint boxed, REDUCED	used	1999
Leema Elements CD player sealed box, REDUCED	new	699
Linn Karik 3, excellent boxed remote, REDUCED	used	449
Luxman D373 CD player, remote excellent	used	249
Marantz NA7004, remote, excellent boxed	used	299
Marantz CD17, remote, excellent boxed	used	299
Marantz CD5400, excellent remote	used	99
Marantz CD6005, remote, boxed excellent	used	249
Meridian G07, excellent boxed, remote	used	599
Micromega CD30, excellent boxed, REDUCED	used	449
Micromega Leader, remote	used	99
Moon Eclipse CD/DAC/PSU, near mint, REDUCED	used	2249
Musical Fidelity A1008CD CD Pro, excellent boxed	used	999
Musical Fidelity M1 DAC, excellent boxed REDUCED	used	199
Musical Fidelity A308CR CD, excellent boxed	used	649
Musical Fidelity A5 CD, excellent boxed	used	699
Musical Fidelity V link Dac, excellent	used	99
Monitor Audio BX1, sealed box	new	119
Monitor Audio Silver RX8	used	999
Monitor Audio Silver 2, rose finish, near mint	dem	Call
Monopulse Model S, mint boxed REDUCED	new	679
Nola Micro Grand Reference inc stands, £15k new	dem	5495
NAIM SBL, vgc+, REDUCED	used	649
Proac 110, excellent	used	499
Proac D20r, excellent boxed, ex dealer demo	dem	1899
Proac D30r in Oak, just a few weeks old	used	3499
Quad 25L Classic ex dealer demo boxed	used	999
Revolver RW45, excellent boxed	used	699
Revolver Music 1, excellent boxed	used	299
Revolver Cygnis Gold in Black, £14k new	dem	4995
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Sonus Faber Olympia 1 & 2 superb near mint	used	2899
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Spendor A5, excellent boxed, aftermarket plinths	used	549
Spendor S8e, in oak boxed	used	899
Spendor LS3/5a, excellent boxed	used	799
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Totem Mite in black, ex dealer demo REDUCED	dem	399
Totem Staf, near mint boxed	new	999
Usher Mini Dancer 1, excellent boxed REDUCED	dem	1599
Usher N6361, excellent boxed	dem	Call
Usher Audio Be10DMD, ex demo	dem	8999
Usher S520, excellent boxed	dem	249
Vandersteen Quattro, accessories, transformers etc	used	2999
Veritas H3 (Lowthers) in gloss black, 100db, REDUCED	dem	2499

Loudspeakers

Apogee Duetta Signature (Reality rebuilt) Superb	used	3249
Art Audio Expression Precision Monitor/Subs	used	1999
Aspara Acoustics HL6 in Oak, REDUCED	new	1749
Audio Physic Tempo IV, vgc boxed	used	949
AVI ADM9, original versions	used	499
B&W DM601S3, black excellent condition	used	199
B&W 685S2, black ash, near mint boxed	used	399
EB Acoustics EB1, excellent, in black ash	used	199
Epos ES14, due in	used	Call
Ferguson Hill FH00788 'desktop' audio set boxed	used	349
Focal Chorus 714, excellent boxed	used	349
Focal Aria 948, excellent in gloss black	used	1899
Focal Electra 1008, mint boxed	dem	2249
Focal Electra 1028, mint boxed	dem	2749
Gallo ADiva micos plus 150 Sub	used	399
Gallo Nucleus Reference 2, rare, superb & boxed	used	1999
Kef Q100 sealed box	new	299
Kef X300a, due in	used	Call
Laema Xandia Mk1 in black, REDUCED	new	1999
Le ConToure Mobile 160, excellent boxed, REDUCED	used	1399
Linn Kan 5, excellent boxed in cherry	used	299
Linn Kaber Active with 3 x LK100	used	999
Magneplanar MG1.7 mint boxed REDUCED	dem	1499
Martin Logan Quest, superb sound, REDUCED	used	1199
Martin Logan Prodigy, excellent	used	3499
Martin Logan Ethos, near mint boxed	used	3499
Martin Logan Vantage, superb active bass, REDUCED	used	1999
Martin Logan Vista, vgc boxed,	used	1399
Monitor Audio BX2, brand new	new	179
Monitor Audio PL100, brand new, sealed	new	1499
Monitor Audio GSXW Subwoofer mint boxed	new	749
Monitor Audio BX6, nr mint	used	249
Monitor Audio BX1, sealed box	new	119
Monitor Audio Silver RX8	used	999
Monitor Audio Silver 2, rose finish, near mint	dem	Call
Monopulse Model S, mint boxed REDUCED	new	679
Nola Micro Grand Reference inc stands, £15k new	dem	5495
NAIM SBL, vgc+, REDUCED	used	649
Proac 110, excellent	used	499
Proac D20r, excellent boxed, ex dealer demo	dem	1899
Proac D30r in Oak, just a few weeks old	used	3499
Quad 25L Classic ex dealer demo boxed	used	999
Revolver RW45, excellent boxed	used	699
Revolver Music 1, excellent boxed	used	299
Revolver Cygnis Gold in Black, £14k new	dem	4995
Ruark Etude, excellent in black	used	179
Sonus Faber Elipsa, superb boxed, REDUCED	used	5699
Sonus Faber Electa Amator 2, stands	used	1749
Sonus Faber Olympia 1 & 2 superb near mint	used	2899
Sonus Faber Venera, piano black	dem	Call
Sonus Faber Amati Futura, excellent due in	used	Call
Spendor BC1, fair, due in	used	Call
Spendor A5, excellent boxed, aftermarket plinths	used	549
Spendor S8e, in oak boxed	used	899
Spendor LS3/5a, excellent boxed	used	799
Totem Mani 2, boxed near mint REDUCED	used	1599
Totem Mite in black, ex dealer demo REDUCED	dem	399
Totem Staf, near mint boxed	new	999
Usher Mini Dancer 1, excellent boxed REDUCED	dem	1599
Usher N6361, excellent boxed	dem	Call
Usher Audio Be10DMD, ex demo	dem	8999
Usher S520, excellent boxed	dem	249
Vandersteen Quattro, accessories, transformers etc	used	2999
Veritas H3 (Lowthers) in gloss black, 100db, REDUCED	dem	2499

Accessories/Cables

Elemental Audio speaker stands	dem	499
Musical Fidelity M1 HPAB	dem	399
NAIM Naxo 2-4	used	199
NAIM HiLine, boxed	used	449
NAIM XPS2, excellent boxed	used	1499
NAIM Supercap Olive, boxed choice from	used	799
NAIM HiCap, various Olive/Chrome, starting at	used	249
Nordost Heimdall, ex demo interconnects	used	499
Nordost Flatline Gold speaker cable	used	549
Nordost Thor, distribution centre, boxed	used	249
Nordost Stav200 6 Channel monster, REDUCED	used	699
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Naim SuperUniti, nr mint boxed	dem	2999
Naim UnitiQute, nr mint boxed	dem	899
Naim Uniti 2, excellent, ex demo, two from	dem	2299
Naim Unithite, excellent condition ex demo	dem	1499
Orelle VO CD and Amp was £2700, REDUCED	used	749

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Ware there's a will there's a way

Co-founder of two of the eighties most influential bands, Martyn Ware is a big fan of vinyl and would love to own his own press one day. He discusses analogue, streaming and synths with **Rob Lane**

“One of the pioneers of synth pop and co-founder of both The Human League and Heaven 17, Martyn Ware is lauded as one of the UK's most influential musicians and producers – with H17's sound informing many of today's acts. Currently touring as part of a five-piece Heaven 17, including original vocalist Glenn Gregory – Martyn is working on the band's forthcoming album, available initially as a double A-side 12in vinyl – something he's very proud of.

“It's only happening on vinyl – not in digital format,” he explains. “We don't want it freely available. Once you stop believing in the marketing and commercial benefits of being widely distributed, then it is a very liberating thing. So, every sale we make will go directly to our website: no aggregators, no distributors, nothing! That's the only place you'll be able to get it – or at our gigs.”

Martyn has always had an interest in the quality of sound, but he's realistic that today most people don't listen to music on a decent hi-fi system, or if they do it's often encoded badly into MP3, where “all the subtleties and nuances are lost”. However, he believes that there is no right or wrong with sound and that the emotional engagement is ultimately more important.

“It's not about seeking the holy grail of reproduction – which was perhaps the original intention of hi-fi – for me it's what engages you most emotionally. There are lots of things I've got on all formats, and you can do comparative test of course, but all I'm really interested in is the emotion. The artefact of vinyl – the very fact of it – is just something we grew to love. It is all preference; there's no right and wrong. That said, vinyl mastering is an art.

“But there again, people forget: it's a reductionist process going onto vinyl too. It's just that we love the sound of it, love the limitations of vinyl – I do anyway. I always used to think records don't really sound like records unless they're on vinyl, and I still feel that really. There's something about the smooth analogue interpolation of the peaks and troughs, and the dynamics and everything.”

Martyn was a big fan of CD when it was initially launched, “mainly because the D/A converters in the original Sony machines sounded great, taking the information and blasting it out in a beautiful form”. But, he believes, manufacturers started making CD players as cheaply as

possible after that initial flurry of quality, and it “all became less and less current flowing through the system and more and more profit optimisation – and less quality”, superseded by the perceived convenience of jumping straight to a track and randomising.

Martyn's first experience with hi-fi was, like so many of us, via his parent's Dansette auto-changing mono deck, which gave him his first taste of music, mainly via his sisters' vinyl purchases.

“I've got two sisters: 20 years and 10 years older than me. Growing up in the sixties they had big record collections and we had loads of records in the house. We were a poor family, but we loved music. We had five books and about 500 records! At the time we were a music loving family – much more so than TV or anything else. That was our main form of entertainment.”

Musical inspiration

Martyn's early influences were The Beatles, Manfred Mann and Herman's Hermits, but it was his sisters' Motown collections that had the biggest impact, along with soundtrack music from the likes of Rodgers & Hammerstein. He also loved pirate radio stations, mainly Luxembourg, which he could “just about” get in Sheffield.

Another early influence was Anthony Newley's 1959 release, *Idle On Parade*. “There was something about the weirdness of that track that I really liked and the whole story-telling aspect.

Looking back I've always been obsessed with story-telling tracks: stuff that painted vivid pictures in your imagination from a spoken narrative point of view.”

But Martyn's influences were to broaden, and he admits to having unusually eclectic tastes, which have informed his craft over the years.

“I've always loved all sorts of music: experimental music, classic, electronic, disco, prog rock, hard rock, metal. I'm not exaggerating; I probably pre-figured the general eclecticism of the current iPod generation! I always said to people that I have a sense of when stuff is written and created from the soul – and hopefully executed with that same intention. That goes back to my preference of emotion over sound quality: when listening to, as opposed to producing music.”



BOILING POINT

"Kids today are growing up in a landscape that we can't possibly comprehend, where music has no monetary value. It's a lot more difficult for younger people to define their personalities by the notion of collecting music. You used to be able to go around someone's house and look at their record collection and have a pretty good insight into the workings of their mind; you can't do that with peoples' iTunes collections. You can't discern their personalities from that; there's too much to pick from.



Today's music is mostly retreads but I do like people who keep pushing the boundaries. I'm not interested in tiny, tiny changes on what's already successful – just doesn't interest me: I've got better things to do with my listening time. The very notion of owning stuff in terms of media and music is ridiculous now, of course.

Today's youth don't see music as having any value, so why would they traipse out in the rain with their pocket money to buy an LP when they can stream it, probably for free? My generation used to tape records off friends, of course, but it would encourage us to buy; to collect. But we are the last generation to do that, to be that engaged.

I don't generally buy music these days – I listen on Spotify or Youtube, so I guess that makes me a bit of a hypocrite! I'm so busy doing stuff I don't really have time to listen to music – just happy to rest in between! In any case, my tastes are so enormously eclectic it's difficult to explain. I have no functioning turntable at the moment. I still have all my old vinyl collection and still collect vinyl though – like so many other people with no means to play it; vinyl is that much of an artifact!

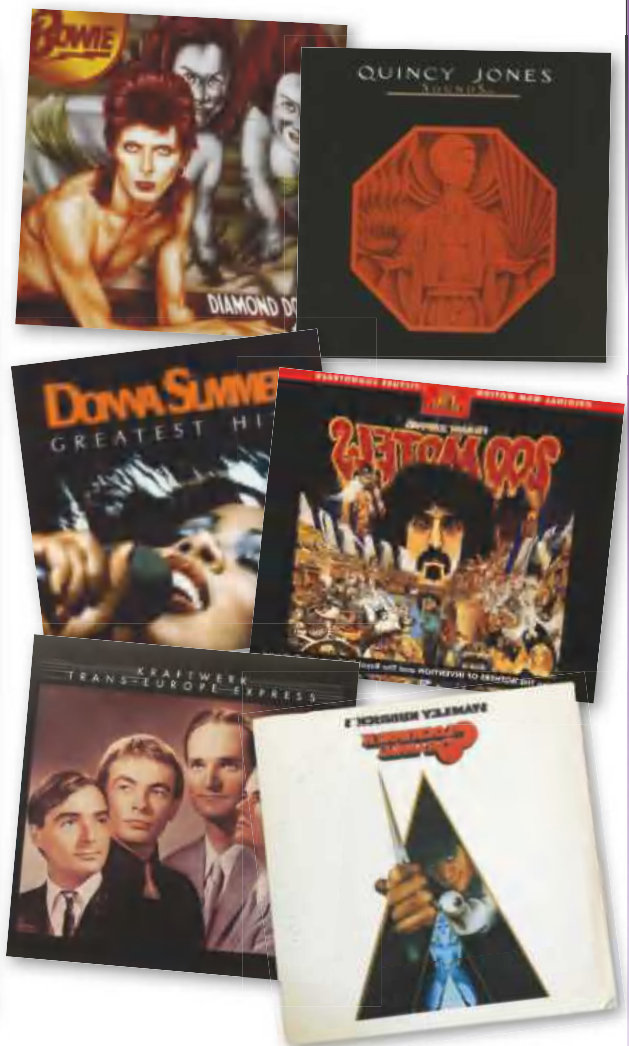
I cannot remember the last time I bought a CD. In fact, I did a charity project in Zimbabwe where they had a DVD/CD player for their community centre; I gave them all my DVDs and CDs. With no internet connection they couldn't stream anything, of course.

The expectation is 100% streamability: everything, all the time, on demand. That means there's no point in owning anything; what's the point?

The analogy I use is if you have a corner shop selling newspapers, and the same papers are outside the shop for free, what are you going to do? You aren't going to go in and buy them are you? And that's where the whole streaming notion falls down. So, if you're mentioned in the newspaper they might go back and buy one next time, yes? No they won't! They'll just keep picking more free ones in the future. That's the essential flaw of logic for artists with regard to Spotify.

Part of the justification of the whole hi-fi world is, I believe, this comparison thing and to be honest I find it a little bit specious because I think it's really down to what you like. That said, there's no excuse for saying 'I prefer a cassette' – that's going too far! But there's a certain subjectivity that has to be factored into the whole thing.

I'm mates with Vince Clarke. He used to live in Chertsey and when he moved in he bought an insanely expensive hi-fi – £100k – but it sounded so terrible because the house was made of metal and glass. That's the lesson – it's all about the listening environment; THEN start thinking about the equipment you put in it!"



Bowie, Zappa, Donna Summer and Quincy – just some of Martyn's early influences

Martyn's *Desert Island Discs* selection would include: David Bowie's *Young Americans* or *Diamond Dogs*; the first Roxy LP; Kraftwerk's *Trans-Europe Express*; *200 Motels* by Frank Zappa; Donna Summer's *Greatest Hits*; *A Clockwork Orange* soundtrack and Quincy Jones' *Sounds And Stuff Like That!!* But he's also very fond of Heaven 17's first three albums, and if he had to pick one it would be *How Men Are* from 1984 – released a year after the highly successful *Luxury Gap*.

"*How Men Are* is underrated. We put a lot of effort, into it. It was the first LP I mastered onto digital so there was only residual noise beneath the music – total silence between the tracks. It was just the most beautiful sonic experience and the thought that I'd had something to do with making it just blew me away. From a sound experience point of view I think it's an extraordinary piece of work."

Martyn's first hi-fi purchases of note coincided with him buying his own pad in London, and although his memory is eroded, he recalls a Quad 404 power amp and KEF speakers. He owned some Electrostatic speakers, but "fell out of love with them because they didn't have enough bottom end!" He also owned a Rega Planar turntable – although can't remember which one.

"I've never obsessed over gear. In fact, the only synths I've kept are my Roland System 100 and my Korg 700. I'm not really that much of a technologically obsessed person."

He does admit he's lucky though, sponsored by B&W/Rotel, with "fantastic" speakers at home and in the studio, as well as Genelec nearfield monitors, and although he's "more interested in usability than sound quality", Martyn

appreciates decent sound. "I understand fine sound, and I've worked in some of the most expensive and prestigious studios in the world – but I still think it's all about content. What is annoying though is when you go to an enormous amount of trouble making something sound amazing and then most people don't listen to things on a decent system anyway! I guess I've kind of contradicted myself a bit there!"

What next?

Ultimately, Martyn sees the future of music – and by definition the kit that plays it – as being somewhat niche; somewhat at odds with today's audio landscape "where music has no monetary value".

"I would really like to get hold of a vinyl lathe, where you can just run it as a cottage industry. That appeals to me greatly: doing endless limited editions that only exist in the vinyl format. That's the future. I'm serious! If you're not going to have any enormous distribution networks, I'd rather there was a value in the rarity of what's available.

"Artefacts like vinyl offer value – which is why the format is doing so well – but the streaming-for-free sonic experience young people enjoy today has no perceived value; it's just like switching the radio on."

True fans of Heaven 17 are unlikely to choose streaming to consume the band's oeuvre, and the new LP's vinyl-only release is in keeping with Martyn's desire to see music in "artifact" form. It remains to be seen if his next LP will be pressed in his very own short-run plant, perhaps behind his studio next to the kitchen.





WIN: KEF speakers, a wireless music system and more

KEF's generosity knows no bounds, meaning you can win plenty of goodies

When it comes to choosing how to listen to your favourite music there are a number of different options available. You can go with a traditional loudspeaker hooked up to your system via cables, you can go down the wi-fi route with a digital music system, you can stream your sounds to a Bluetooth speaker or you can lose yourself in a world of your own and put on a pair of headphones. This month, the kind folk at KEF offer up a prize for each of these eventualities, meaning that no matter what way you choose to listen, you can be sure of great sound quality.

The first prize in our bumper giveaway is the rather gorgeous LS50 standmount loudspeaker. With its 130mm rose gold-coloured magnesium/aluminium coned mid/bass driver it makes a bold statement. Set into this is a 25mm aluminium tweeter

forming KEF's patented Uni-Q array, which makes music appear to come from a single-point source. Sensitivity is rated at 85dB. The Titanium Grey cabinet is beautifully detailed and has a finish that looks far more expensive than you'd expect for its £800 price tag. The front baffle is curved and made from a special polyester resin combined with glass fibre and calcium carbonate, and the rear is home to a rather unconventional-looking bass port as well as single-wire speaker terminals.

Larger-than-life

When we tested the LS50 back in *HFC* 384 we couldn't believe just how big it sounded, throwing instruments wide into the listening room and giving that uncanny feeling of the sound hovering out in space, completely detached from the speaker. Soundstaging is quite superb, providing an even, uniform

tonal balance that really has to be heard to be believed. Ever so slightly warm, the LS50 doesn't dry out recordings, instead allowing instruments to be heard in their full glory, and this also extends to vocals. A neutral performer, it throws out plenty of fine detail and is really good at conveying the gaps between the beats in the soundstage – giving it real clarity and making for a rhythmically satisfying feel.

This month's runner up will receive KEF's extraordinary £350 EGG Wireless Digital Music System (*HFC* 410), which sees the company's excellent home cinema champion reworked as a superb desktop stereo system. The second runner up pulled from the hat will be able to enjoy Bluetooth audio, thanks to the £300 MUO wireless speaker and the third will receive a pair of M400 on-ear headphones, worth £150. Good luck!



EGG Wireless Digital Music System

Derived from KEF's latest 5.1 satellite and subwoofer system and fitted with the same Uni-Q 115mm mid/bass driver with 19mm tweeter, this £350 active stereo setup really impressed us back in *HFC 410*. The desktop system is unfussy about placement, has a good selection of inputs and stunning sonic performance, making it a fantastic second prize.



MUO portable Bluetooth speaker

Taking its design cues from the manufacturer's slightly more expensive £140,000 Muon loudspeaker, this £300 portable Bluetooth speaker features a miniature version of the Uni-Q drivers used in the Muon, Blade and Reference speakers no less, and is a great third prize.



M400 on-ear headphone

Lastly, the M400 on-ear headphone majors on comfort, thanks to its sumptuous memory foam pads. Featuring a 40mm neodymium driver and a foldable design, the £150 model is perfectly equipped for listening to your favourite music on the move – something that's further assisted by its impressive noise isolation and 175g weight.

TO BE IN WITH A CHANCE OF WINNING, ANSWER THIS SIMPLE QUESTION:

What KEF loudspeaker is the MUO's design based upon?

A) Blade
B) Reference
C) Muon

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4. All prizes are non-transferrable and no cash or credit alternatives will be offered.
5. The editor's decision is final. The closing date is 13 July 2016.

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.

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RUSS ANDREWS Jumbo oak cones, four sets of three, painted black with locking bolts. RRP £132, £60 ono inc postage: **01902 884694** or email: **jukey39@yahoo.co.uk (West Midlands).**

MUSICAL FIDELITY A3.2 RDS TUNER £290 British built, boxed and without blemish. Covered and kept clean since unboxing. Very carefully and lightly used. Looks good. Sounds good: **07500 804700** or email: **imeldayates@hotmail.com.**

GARRARD 401 with Rega RB300 and Goldring 1042. Ready to use. £1,200. DIY power supply for Class A amps ie JLH 1969/1996, £300: **0207 4998729.**

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TRIANGLE Zephyr XS floorstanding speakers, 91dB sensitivity. Slight paint marks on both. Buyer collects: **01132 933478** or email **julianbedford63@icloud.com (Leeds).**

YAMAHA AMP-501, Monitor Audio BX2 speakers, Denon DCD-F109 mini system, Denon 520 amp. Buyer collect, open to offers: **01977 695385 (West Yorkshire).**

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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!

boxes, interconnects and mains leads. Serviced 2011 (cost £550). Naim authorised. Invoices. £1,825 ono: **01315 380013 (Midlothian).**

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KUBALA-SOSNA Expression speaker cable. 1.5m stereo pair. Locking banana plugs at amp, spade connectors at speaker. Cost new £1,840, asking £1,000. Metrum Acoustics Hex DAC with USB module. Cost new £2,500, asking £1,500: **01296 437314 (Aylesbury, Bucks).**

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NORDOST Blue Heaven Rev 2, 4m pair of speaker cables £375. Leema Pulse amp £750. Leema Pulse CD player £700. Sonneteer Champion amp £750: **07443 859527 (Huddersfield).**

MUSICAL FIDELITY A5 cr preamp and 2x A5 cr power amps. All boxed, remote and manuals, mint condition, little

use £650 each or £1,800 for all three: **07917 591327 (Abbey Wood, London).**

DENSON Beat 400+ CD player, Sony Professional Walkman cassette player recorder £120 ono: **01623 230472 (Ashfield, Notts).**

PROAC Response 2.5 speakers in mahogany, as new with original boxes £790: **07851 190312 (Stafford).**

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REGA PLANAR 2

The second turntable from the UK brand in recent months is a new version of its most famous vinyl deck ever. How does it perform?

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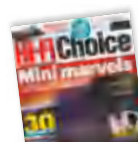
REVIEWS Spondor A5R floorstander, Akai Professional BT500 Bluetooth turntable, ATC SCM19A active floorstanding loudspeakers

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AUGUST ISSUE ON SALE 14 JULY

Hi-Fi Choice

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From outside the UK: +44 (0)1689 869840
www.hifichoice.co.uk

Distributed in the UK by Seymour Distribution Ltd.

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Hi-Fi Choice, ISSN 0955-1115, is published monthly with an additional issue in July by AVTech Media Ltd, a division of MYTIMEDIA Ltd, Enterprise House, Enterprise Way, Edenbridge, Kent, TN8 6HF, UK. The US annual subscription price is \$70.00 (equivalent to approximately 95.00). Airfreight and mailing in the USA by agent named Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Jamaica NY 11431, US. Postmaster: Send address changes to Hi-Fi Choice, Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Subscription records are maintained at ddb.net Ltd, 3 Queenbridge The Lakes Northampton NN4 7BE. Air Business Ltd is acting as our mailing agent.



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IT TOOK 400 YEARS TO CREATE THIS CARTRIDGE

Ever since the first Koetsu cartridges appeared in the West, nearly 40 years ago, they have served as emissaries for Japanese creativity. Each model, from the earliest Rosewood, has embodied uniquely Japanese skills and attitudes.

Urushi lacquer techniques were introduced to music lovers outside of Japan through Koetsu, when Urushi adorned the body of the eponymous moving-coil cartridge. Jade, rare woods, stone – Koetsu designers turn to nature, as do those who inspire them.

While analogue playback has been with us for only 100 years, the metiers des arts employed by Koetsu date back centuries. The brand's namesake, Hon'ami Koetsu (1558-1637), was an artisan whose work inspired the founding of the Rinpa school of painting. In the 1970s, Sugano-san demonstrated how these disciplines enhanced the pleasure of LP playback.

Another artist would say: if it looks right, it is right. Or perhaps that should be...**if it looks right, it sounds right.**

“...like having an open window onto the music”
- Jimmy Hughes - HiFi Choice

“...singing with a passion and vitality that both seduces and convinces all at once”
- Roy Gregory - HiFi Plus



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