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PAUL is the UK's foremost expert on loudspeakers. Having worked as a speaker designer and reviewer for over 30 years Paul is internationally recognised for his ability to assess loudspeaker performance, and report on developments in the field.



JIMMY HUGHES
EXPERTISE: SYSTEM OPTIMISATION

JIMMY has been involved in hi-fi for over 40 years. His knowledge of tweaking and optimising systems is unrivalled in the hi-fi industry and he brings enormous expertise to the pages of Hi-Fi Choice. If anyone can help you improve your set-up, it's him.



RICHARD BLACK
EXPERTISE: TECHNOLOGY

RICHARD writes exclusively for HFC and brings his experience as a successful musician and recording engineer to the title. As Technical Consultant, he's our authority on tech testing, ensuring that our verdicts are beyond compare.



JON MARKS
EXPERTISE: DIY AND VINTAGE

JOHN previously edited Hi-Fi World magazine before joining the UK's leading title, Hi-Fi Choice. Jon has a wealth of reviewing experience, as well as a passion for vintage audio gear and a gift for repairing and upgrading ageing kit.



ALVIN GOLD EXPERTISE: PERFORMANCE AUDIO

ALVIN is an internationally respected audio reviewer who has contributed to a huge range of magazines over the years. He has a very full 30 years of reviewing under his belt and has a passion for both high-performance and high-end hi-fi.



JASON KENNEDY EXPERTISE: TURNTABLES

JASON edited Hi-Fi Choice through the Brit-pop era and relinquished the helm after 17 years on the title. A hi-fi addict since his twenties, Jason fell for the beauty of vinyl and has never looked back. He's here to help you get the best from your LPs.



MALCOLM STEWARD EXPERTISE: EMERGING TECH

MALCOLM is a legend in hi-fi magazine circles. A former editor of *Hi-Fi Review* he was one of the best-known and most outspoken reviewers of the 1980s and 1990s. He now writes exclusively for *Hi-Fi Choice* and he loves being 'back'.

Welcome.

www.hifichoice.co.uk Issue No. 333 June 2010



Just like you, we're passionate about sound quality: about the reasons we love hi-fi and the sort of kit we all buy to feed that enjoyment. So we felt it was time to give the

magazine an overhaul and plug in a few new components (if you will).

We've had a good think about **the things you wanted to see** inside. We've spoken to hundreds of you, considered your views and absorbed your letters.

You asked for extra testing rigour. So we've done that. You asked for a greater celebration of music. So we've done that too. And you wanted more kit. So... well, you get the idea.

But there's far more here than I can list. I hope you'll dive in, **enjoy the issue** and find everything as you go – and do please **tell me what you think**.



Dan George Editor dan.george@futurenet.co.uk

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OUR PROMISE TO YOU

HI-FI CHOICE is passionate about high-fidelity. We're dedicated to the very highest standards of sound reproduction. Our commitment is to bring you the most reliable, in-depth hi-fi equipment tests anywhere and we're backed by the UK's biggest technology publisher. Our expert writers will help you get the most from your hi-fi and guide you towards the best-performing products for your budget. Our passion is your passion.



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IsoTek introduce their most advanced mains cable to date -Syncro

The Isotek Syncro is not a filter or a mains conditioner in the accepted sense.

It can be used to power a single piece of Hi-Fi equipment bringing a major improvement, but it can do so much more when you plug the **Syncro** into the mains outlet socket and then use it to power an **Isotek Mains conditioner device**.

Configured in this way, the **Syncro** cleverly takes the incoming mains supply, realigns the waveform before the Filter / Conditioner begins its job of removing RFI / EMI contamination.

The effect of synchronising the supply results in greater bass depth and much better timing. In many cases dynamics are considerably improved as well with a reduction in the noise floor and the removal of any hum.

Construction of the **Isotek Syncro** is of the highest quality as is the attention to detail, which includes deep cryogenic treatment, followed by demagnetization.

In every sense the Syncro is an astonishing upgrade!





Hats off to Grado

Grado's amazing NEW PS1000 headphone.

The design of the **PS1000 headphone** is a complicated and proprietary process that results in a sonic signature and voicing that is the true **Grado hallmark**.

As with all **Grado** products, the most important aspect is the sound. If you are interested in owning the finest headphone **Grado** has ever produced and one of the finest headphones currently available, then the **PS1000** is the choice that will satisfy the most critical music lovers.

"As for dynamics, they wonderfully combine the shock factor of sudden changes in level, which makes for excitingly rhythmic music-making, with the subtle, maybe almost imperceptible, swell of a gradual crescendo, which grows from quiet to deafening without the slightest sense of effort, but with spine-tingling final effect. In any type of music, at any level, this is music reproduction of the highest order which convinces both instinctively and analytically. Hats off to Grado!"

Richard Black, Hi-Fi Choice Feb 2010 Grado PS1000 review





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No headphone should be without one

Sugden launch the NEW exceptional MasterClass HA-4 Headphone Amplifier.

The MasterClass series represents the finest products that Sugden make and it's a series that has quite a following the world over.

The newest addition to the MasterClass range is the very special Class A Headphone Amplifier, the HA-4.

Under the beautifully constructed metal chassis, you will find gold plated circuit boards silver soldered with components, selected for their sonic qualities, many of which have undergone years of testing, application and listening by Sugden.

The **HA-4 amplifier** extends the boundaries of 'near field listening' to a level of musical performance that is truly amazing. Thunderous dynamics, beautiful detail, three dimensional transparency and breathtaking harmonic performance ensures it will happily recreate all types of music faithfully.

The **Sugden MasterClass HA-4** leads the way for headphone amplifiers and at under £1,500 it's exceptional value too.

Sugden

Hi-Fi Choice

www.hifichoice.co.uk Issue No. 333 June 2010

NEWS & OPINION

Audiofile

B&W's new 800 Diamonds, plus latest news

23 _ Opinion

The commentators with clout

Letters

Our readers talk hi-fi

Music Reviews

Our picks of the best new releases

130 The back page

Part one of our guide to digital music

READER SERVICES

97_Help & Advice

Your questions, our answers

103 Reader Classifieds

The UK's best place to buy and sell

107_ Next issue

What's in store next month

BUYER'S GUIDE

109 Britain's most useful hi-fi buying information

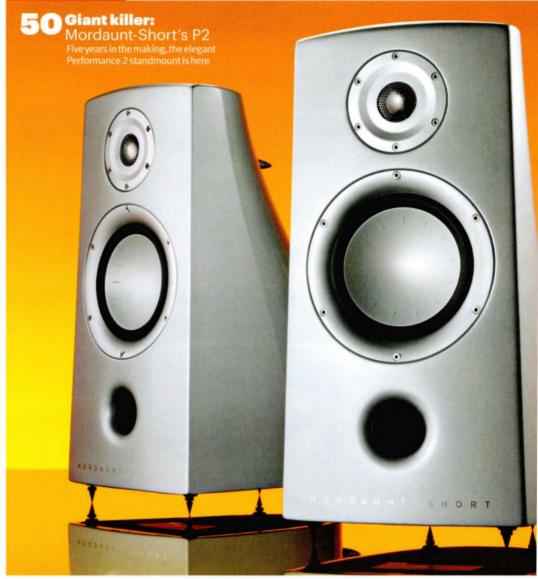
CD Players/Turntables/Phono cartridges/ Radio tuners/Headphones/Integrated & pre/power amps/Cables/Speakers/Equipment supports UPDATED MONTHLY



Green Mountain Rio speakers see page 33



COVER STORY





CD remasters The best buys revealed



Show report London High-Fidelity



Beautiful Systems XTZ everything!

The acid test as a reviewer is whether you go back to what you were using before. We didn't

Bowers and Wilkins P5 headphone p77





34 Blind-listening Grouptest: One-box systems £600-£1,600

REVIEWS

Definitive verdicts on the latest new kit

50 Mordaunt-Short Exclusive: The new Performance 2

54 Audio Research Entry-level LS17 pre VS60 power

59 Townshend Audio

The 'universal' Stella loudspeaker stand

Epos

First outing for the high-end Encore

65 Nuforce

The Icon HDP DAC/headphone amp

66_Pro-Ject

CD Box, Pre Box and Amp Box combi

71 CambridgeThe firm's first universal BD player

72 Oliva

US-made music server is streets ahead

77 _ Bowers and Wilkins Debut P5 headphone revealed

94 C.E.C

Belt-driven Japanese CD stunner

GROUP TEST

One-box systems £600-£1,600

37_Arcam

39 Audio Analogue

41 Consonance

43 Harman/Kardon

45 Shanling

47 Yamaha

MINI TEST

Headphones £100-£300

QO Audio-Technica

100 _ Beyerdynamic

101 Denon

101 __ Grado

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Olive 4HD music server/streamer

All the latest news and views from the hi-fi industry

With its first new incarnation of the illustrious 800 Series, B&W has created a tweeter in pure diamond

A defining moment

Bowers and Wilkins closes in on tweeter perfection with the new Diamond 800 Series

PRICE: £3,750-£18,500 AVAILABLE: NOW CONTACT: 01903 221500 WEB: WWW.BOWERS-WILKINS.CO.UK hat makes the perfect tweeter? Bowers and Wilkins thinks it has the answer. With its first new incarnation of the illustrious 800 series, it has created a tweeter in pure diamond.

In terms of rigidity, bandwidth and resonant frequency, the diamond dome offers advantages over metal and fabric types. Bowers and Wilkins claims the result is superb clarity and precision, though well-designed ribbons are formidable performers when it comes to low mass and distortion, and transient response.

While dual-magnet bass drivers are not uncommon, the company's use of

neodymium is unusual, as cheaper, ferrite magnets are normally doubled up to increase magnetic flux density in the voice-coil gap and reduce distortion. In addition, the £18,500 800 and £11,500 802 feature new voice coils and bass alignments.

Bowers and Wilkins has also created its own oxygen-free copper speaker terminals and links for the 800 Diamonds. The crossovers use capacitors manufactured by MCap of Germany, renowned amongst DIYers for the quality of its film capacitors. Made specifically for these speakers, the caps contain a polypropylene dielectric plated with silver and



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Audiofile

Shanling's bright new future

Valves are making a big comeback from Chinese manufacturer

Shanling' Shanning s Shenzhen factory, putting in appearances in the SP-8000 monoblocs, CD-T2000 CD player and preamp and MC-50 music centre.

SP-8000 are allied to perennial favourites, the 12AU7 and 6SN7, in a circuit capable of 35 watts

single-ended inputs. Under the shielding cans atop the chassis are the E/I output transformer, 20H choke and

toroidal mains transformer. The thermionic complement of the MC-50 is smaller, the 6N3 dual triodes making up the preamp section ahead of the widely liked TDA 2050 chip amp, as used in Gainclone homebrew amps. The 15 watts are available

CD player, AM/FM tuner, iPod dock, Aux and USB digital outputs permit system expansion with an external power amp or DAC (like Shanling's new DAC-50 with its Burr-Brown

PCM1796 DAC.
Finally, the CD-T2000 is a
CD player with Burr-Brown
converter, allied to a preamp
with line and digital inputs.



PRICE: £2,650 (SP-8000); £1,050 (MC-50); £600 (DAC-50); £1,895 (CD-T2000)

AVAILABLE: NOW CONTACT: 01257 473175 WEB: REALHI-FI.COM

The Secret's out

SPANISH FIRM ADN evidently thinks the days of the MDF box are numbered: the enclosures of its The Secret standmount are cast in hollow aluminium sections. Stacked atop each other, bolted together and filled with sand and lead shot, the individual pieces form a speaker whose interior is lined with the sort of tetrahedrons you'd find in an anechoic chamber.

In its DM305 floorstander, rivals Bowers and Wilkins used the same approach in its Prism rear panel to diffuse midrange radiation from the mid/bass unit to great effect, but ADN has gone further in its Secret and curved the sides of the castings in order to minimise standing waves. The driver line-up is from ScanSpeak and includes its ring-radiator Illuminator tweeter, while the crossover is built around Mundorf film capacitors.

PRICE: £12,950 CONTACT: 020 8462 1379 WEB: ADNACOUSTICS.COM



High-end heaven

MUNICH IS THE PLACE to be for audiophiles across Europe from the 7th to the 9th of May, as the huge High-End show arrives for the weekend. The 10-euro day pass gets you access to hundreds of manufacturers showcasing their newest products. Among the exhibitors present are: Acoustic Energy; Arcam; Mordaunt-Short; Naim; Ortofon; Quad; Rega; Sennheiser; Tannoy and Wilson Benesch.

Open from 10am to 6pm each day, the show consists of more than just two-channel and AV equipment. For example, in addition to indigenous musicians wandering the show with their instruments, Stockfisch Records are presenting an HD documentary on the secrets of good studio recordings, and DMM disc cutting of the music of Canadian singer Paul O'Brien, who will perform live after each screening.

WEB: HIGHENDSOCIETY.DE



AKG's origami cans

FOR SOME AUDIOPHILES, it's either headphones or speakers. In the land of the can-fanciers, a similar divide exists when it comes to in-ear or on-ear. None can argue with the portability of in-ear monitors, but those who prefer supraaural may be heartened by the arrival of AKG's K404.

This handsome transducer features iPhone compatibility, a 32-ohm and a weight of just 75gms without cable. The design incorporates earcups which not only rotate, but also fold up inside the headband, allowing the K404 to fit into biggish pockets or small bags.

PRICE: £35 AVAILABLE: NOW **CONTACT:** 01707 278100 **WEB:** HARMAN.COM

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First reviewed in issue 327 December 2009



For the PMC IB2

Audiofile

The Rock rocks

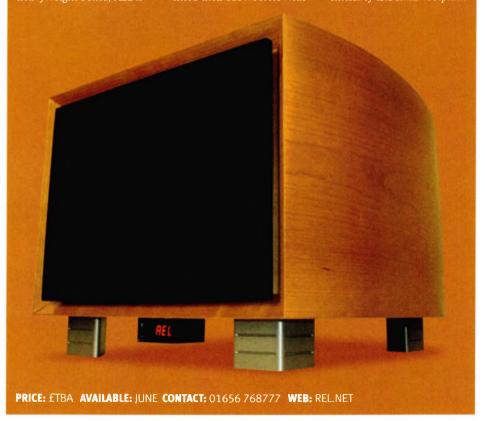
Gibraltar 1 subwoofer combines carbon fibre and remote control

If you prefer your bass plentiful and a single Gibraltar 1 subwoofer doesn't hit the spot for you, or a pair for that matter, REL's new sub can be stacked for the ultimate in SPLs.

Whether you choose one, two or more of these heavyweight boxes, REL is sure to maintain its reputation as a purveyor of eminently adjustable, easily integrated subwoofers with the G1's remote control and large LED readout which simplify set-up from the listening position.

Some manufacturers, such as Philips and Jamo, have fitted their subwoofers with

accelerometers to provide motional feedback in a bid to reduce distortion. REL utilise instead a single 12-inch (300mm) driver with carbon-fibre cone, driven by a 700-watt amp operating in class A/B rather than class D, which is often employed because of its efficiency and small footprint.





Feedback-free zone

UPDATED WITH ITS S SUFFIX,

Consonance's new Cyber845S monoblocs now feature valve rectifiers alongside the sole 845 triode in the zero-feedback output stage. Both the 211, which Consonance uses in its other Cyber single-ended monoblocs and the 845 are audiophile favourites, but the former produces a very healthy 28-watt output into four or eight-ohm loads, while the latter manages a gentler 16 watts. The chassis, incidentally, weighs 35kgs each.

Like Michell, with its Orbe DC,
Consonance have chosen a DC motor
to drive the acrylic platter of its new
LP6.1 turntable (below). Flexibility was
clearly one of the main design
priorities, as the chassis can be
user-modified at no extra cost to
accommodate a 12-inch arm wand
on the matching arm in place of the
standard nine-inch wand. Oil-damping
at the pivot makes cartridge matching
less critical, so the deck can handle
both MMs and MCs.



PRICE: £TBA (845S); £1,195 (LP6.1) AVAILABLE: NOW

CONTACT: 01273 325901 WEB: OPERA-CONSONANCE.COM

THE MONTH IN NUMBERS

million-plu SL-1210 ar turntables sold world the model' in 1972

million-plus Technics SL-1210 and SL-1200 turntables have been sold worldwide since the model's inception 250,000

downloads of Kings Of Leon's Only By The Night album, making it the first download album to hit the quartermillion sales mark in the UK 20

The number in 1,000s of FLAC lossless HD tracks which can be stored on the Olive 4HD music server's 2TB hard drive (see p72)

The number of cassette copies of Words For You, the celebrity poetry album which was the UK's first cassette release by a major label in six years. Who said the format was dead?



NEWS IN BRIEF

A selection of news-breaking stories on everything hi-fil



• IMERGE'S new MS1-HD media server has stepped in to replace its predecessor thanks to the addition of a Blu-ray drive. Audio support consists of WAV, MP3, AAC, non-DRM WMA, and CD. Prices start at £8,930.

imerge.co.uk



· BURMESTER, Germany's high-end expert, is moving onto the road with a new lightweight 16-channel system built into Porsche's £38,000 Cayenne off-roader.

burmester.de



• FATMAN has just unveiled its iTube 202 and iTube 302 integrated amps, both supplied with a Fatman FatDock. The 302 produces 30 watts, whereas the 202 only 20 watts. Prices are £899 for the 202 and £1,149 for the 302.

fat-man.co.uk



• SANTORIN has just launched its £2,700 500-watt sub. The enclosure sports a 30mm driver, whose every parameter can be adjusted through proprietary software.

cabasse.com



•ASA (The Advertising Standards Authority) has banned an ad which praises DAB over analogue reception. The ASA felt that the ad gave the impression that the DAB signal was perfect, which is definitely not the case!

Evergreen: The return of a classic

Boron is back in the third incarnation of the OC9 cartridge

udio-technica's evergreen OC9 returns in its third incarnation, boasting a number of key improvements over its predecessors.

Magnetic field strength is up, thanks to the use of a neodymium (rather than samarium cobalt) magnet and permendur yoke, which is able to handle the increased flux density without saturating. The coils are now wound in a reverse

V-shaped formation too, in order to reduce mass and spurious vibration.

Like Technics, with its top cartridges, audio-technica has chosen boron as the cantilever material once more. Whereas Technics opted for hollow rods (tapered in the case of the EPC-205 Mk4), the OC9ML3 retains a solid boron cantilever.

There's a new generation in headphones as well,

where the good-looking W1000 is being retired to make way for the W1000x. Hidden inside the black cherry earcups are 53mm drivers with OFC-wound voice coils, their assemblies set in a floating mount system to minimise vibration coupling to the earcups and magnesium alloy frame. Alterations are said to have resulted in a lower sensitivity and a rise in impedance.



PRICE: £499 (0C9ML3); £650 (W1000X) AVAILABLE: NOW CONTACT: 01235 511 166 WEB: AUDIOTECHNICA.COM

DESERT ISLAND DISCS

Mark Hockey of Harman International reveals the music which maintains his passion for hi-fi





THE GORILLAZ

The Gorillaz became the ultimate experiment in manufactured cartooncharacter-based hip-hop, which bought together talented musicians, old school hip-hop and rhythm



HE WHITE ALBUM

Original or remastered, the White album is packed with warmly recorded classics, although you can hear the tension of a band starting to tear itself apart – a real bittersweet treat.



NEVERMIND

For raw passion and raw performance, this album scores 10/10. This is a big recording and only the best system will ever keep up with it. Few albums have ever occupied the cultural consciousness.



DONALD FAGEN THE NIGHTED

This exquisitely recorded and brilliantly crafted retro album with its Fifties theme and Fagen's calm and poetically melodic vocals, remains even today an essential part of my music collection.

Is \(\text{Tek} \)

The power to deliver 'clean' power



Aquarius replaced the companies GII Mini Sub and is the latest product in IsoTek's unique range of multi-award winning power conditioners that are designed and hand made in England using the finest materials and built to the highest of standards.

Formed in July 2001 IsoTek's vision has been to create high-quality mains power conditioners that stretch beyond current conventions. Through careful market analysis and extensive research, IsoTek has been able to launch products that dramatically improve the performance of all components used within an audio or visual environment, a fact that has been proved by countless international reviews and over 25 audio awards.

"IsoTek is the leader in mains conditioning products" HI-FI NEWS

"IsoTek is the UK's biggest name in mains filtration" HI-FI CHOICE

"Not all mains conditioners are created equal... Iso Tek has built itself a reputation as a purveyor of mains conditioners that actually improve (as opposed to just alter) the sound" HI-FI WORLD

For more information and to obtain your free IsoTek brochure please call:

01276 501 392

"The whole auditioning process took about 30 seconds. Play a piece of music on GII Mini Sub. Play it again on Aquarius and wonder why you were so attached to the GII Mini Sub." "Very highly recommended" HI-FI PLUS. ISSUE 68,













SHOW REPORT

LONDON HI-FIDFLITY









London Hi-Fidelity

This year's 'London Show' was the perfect playground for the real enthusiast audiophile, says *Jason Kennedy*

ondon Hi-Fidelity in late March makes a complete contrast to the Sound and Vision show in Bristol that precedes it. While the latter features a lot of mainstream brands and almost as much home cinema as hi-fi, the show at Heathrow is an audiophile event through and through.

It features the key high-end distributors and quite a few of the more serious manufacturers, a gathering that attracts a small, but dedicated crowd.

The main trend in evidence was diversity. Some rooms had iPod sources, others servers and one even had reel-to-reel tape! Turntables and CD players were, of course, abundant with some

particularly exotic examples of the former making enchanting sounds. The sheer quantity of brands represented was extraordinary; there was a time when you had to go to Munich to see product from the likes of Soulution, Dr Feickert Analogue and Zu – but not any longer.

The event wasn't exactly thronging, but this made it a very pleasant experience for visiting audiophiles. You could sit down and enjoy some very serious systems in relative calm, with plenty of time to get a good feel for the sound.

Some of our favourite show highlights can be found over the next three pages.

"Audio Note did its best to offset the tasteful music by playing RATM: we salute them."

MSB DAC IV

MSB took the opportunity to demonstrate its mark IV Signature Platinum DAC, transport and Power Base supply. However, rather than using the transport we heard the latest incarnation of the i.Linkdock which is built into the top of the DAC. This now works with sixth-gen iPods in unmodified form because Apple has modified the latest players to offer a goodquality digital output, something that the sound in this room demonstrated with ease.

2 TOWNSHEND GLASTONBURY TOR AND MAX

Max Townshend is the proud father of not only a fully formed preamplifier dubbed Pre 1, but a brand new speaker called Glastonbury Tor. The linestage Pre 1 uses an autotransformer to control volume, while the Tor is a scaled-down version of the Glastonbury line array that Townshend made in the 1990s.

SHOW REPORT LONDON HI-FIDELITY

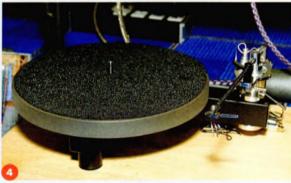












He was driving them with 3.5-watt single-ended triode amps on the ribbon tweeters, and 400-watt class D amps on the mid/bass cones. A radical combination that worked rather well.

10 STORM AUDIO V55

Storm Audio is a French amplifier maker with two nicely executed models in its Vertigo range. Its USP is a focus knob on the back panel – this is marked with impedance figures, but is described as a means of reducing phase distortion. It does this by allowing you to match the impedance of the cable and speaker that it's driving and, when correctly set, the imaging is stunning in its precision. The Vertigo range starts at £2,190.

OCONSONANCE DROPLET LP6.1

Alium Audio brought along its Alium Project (£995) open-baffle speakers which are sold in kit form. They have a 10-inch (25.4cm) midrange and tweeter but leave bass duties to your choice of subwoofer, in this case the compact REL 205, which fits underneath. It also showed the Consonance Droplet LP6.1 (£1,195) turntable which looks like good value with the ST988 unipivot tonearm that's included in the price.

1 ARTEMIS LABS SA-1

There were a couple of very attractive turntables at the show, but the most interesting was the Artemis Labs SA-1 (£6,000), designed by Frank Schroeder of wooden tonearm fame. The SA-1 has an aluminium platter on a bamboo and ebony plinth with drive via idler wheel and a magnetic tape belt. It was making very sweet sounds with a Naim ARO arm and Lyra Dorian cartridge.

10 ADN THE SECRET

The most radical bit of speaker construction came courtesy of Spanish start-up ADN. The Secret standmount (£12,000) is built out of stacked slabs of cast aluminium.

Its walls are filled with sand and lead which results in a mass of 70 kilos and a remarkably inert cabinet. A pattern of spikes is cast into the interior in order to kill reflections – there is no internal wadding. The result is remarkable power handling and imaging for a 57cm-tall speaker.

1 ISOKINETIC REGAUPGRADES

If you have one of the many Rega Planar and P series turntables, the Isokinetic range of upgrade mods are very tempting. They include a superbly finished aluminium sub platter and bearing with a ruby ball to replace the standard steel item for £99, a 25mm acrylic platter for £120 and the Isodrive (an external power supply with switchable speed) control for £330.

10 FUNK SAPPHIRE MKII

Arthur Khoubesserian at Funk has clearly been having a busy time of it – his entire range has been revised in an effort to improve fit and finish. The Funk V now has solid rather than wobbly feet, a better bearing, plus a completely smooth platter for its MkII incarnation. The latest Sapphire is also rather better finished and looks much more like you'd expect of a £3k design; the F•X arm is also much neater but awaits the finishing touches.

O DR FEICKERT ANALOGUE

Another tempting proposition at just under three big ones is the Dr Feickert Analogue Woodpecker turntable. This is a superbly finished design with a mass damping layer within the chassis. It also has a sliding armboard which can accommodate tonearms between nine and 12 inches long (22.9cm and 30.5cm), and in this case was supporting the most radical Rega revamp we've ever encountered. Audiomods went to town on an RB250 and fitted a micrometer for truly precise VTA adjustment, as well as replacing >

SHOW REPORT



the bearings, counterweight and cable. It looks like a bargain priced at just £625.

O AUDIO RESEARCH DSI200

Absolute Sounds was playing one of the show's more modestly priced systems. At its heart was Audio Research's first foray into class D, the DSi200 integrated (£5,106). With a linear power supply and switching MOSFET output stage, this fully balanced amp worked beautifully with a pair of Sonus faber Liuto Towers.

10 AUDIO NOTE BABY ONGAKU

18

Audio Note did its best to offset the tasteful music heard in most rooms by playing some Rage Against the Machine, for which we salute them! It was using the new Zero range electronics for the purpose, but elsewhere in the room we couldn't fail to notice the so-called Baby Ongaku (£15,300). This behemoth of a 22-watt SET is no smaller than

the regular Ongaku, but uses copper rather than silver in its wiring and transformers.

12 REVOX A77 AND MAD MY CLAPTON

MAD or My Audio Design launched its My Clapton standmount at Heathrow, which takes its name from Eric Clapton rather than a corner of Hackney. Like the legendary guitarist, the speaker sounded rather good thanks to a custom-designed co-axial driver and the combination of a Revox A77 tape recorder, Music First Reference preamp and John Howes' PX4 valve amplification.

13 BIT PERFECT DB1

In one of the larger rooms Bit Perfect had a range of impressively constructed multimedia servers – these are UK-built and started out in the pro world. The Ref 3 base model has a 1TB drive for £2,250, while the smartly cased DB1 has a bigger power supply and 2TB drive for £3,950.

TRIANGLE ZETA & KUMA

One of the more modest launches was Triangle's Zeta standmount (£459) and Kuma floorstander (£919). Beautifully finished in piano black lacquer, the pair forms the entry point for the French brand. No other details were available, so we spent a bit of time enjoying the company's Magellan Grand Concert Sw2 on the end of the Dr Feickert Analogue MARC turntable.

15 DW ART.SUONO

One of the more elegant solutions to getting decent sound into the modern home came from DW Collection, which was driving its active line array Art. Studio speakers with a wireless docking station dubbed Art. Suono. The Suono transmitter can accept inputs from a PC or an iPod and offers Aphex audio enhancement: a bit of DSP that is designed to compensate for the limitations of compressed audio.

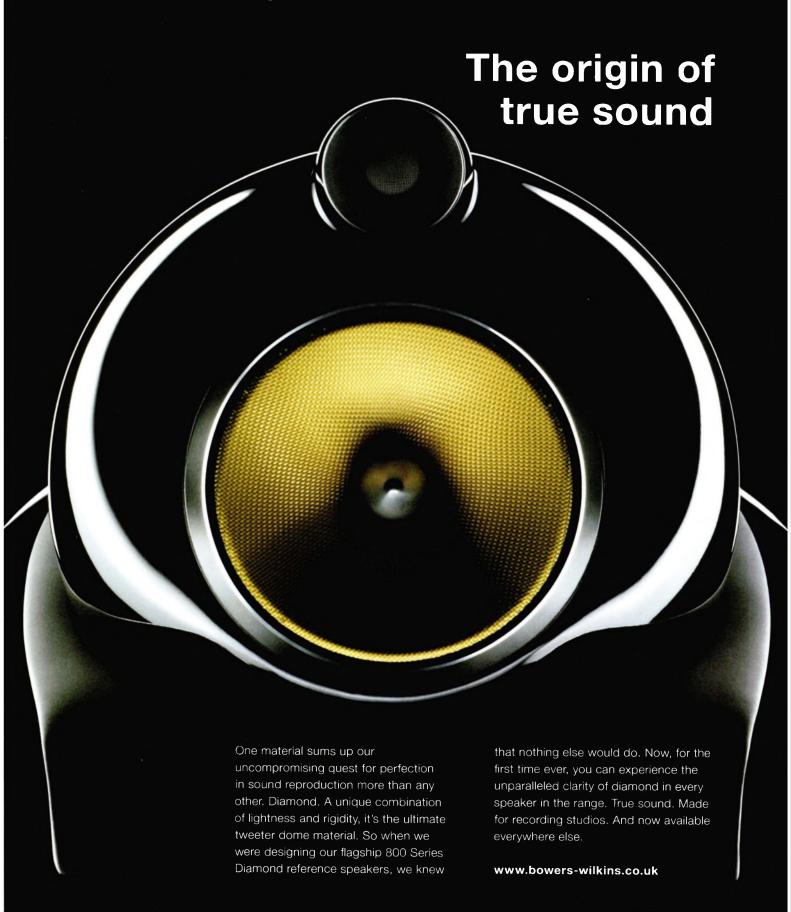
While attendance at the show wasn't overwhelming, the atmosphere was great and the standard of sound was very impressive. The rooms were buzzing with displays of equipment that while high end, still often offered remarkable value for money. As well as being a draw for audiophiles from all over the UK, the event was a lot of fun, too.

The most entertaining room was the one with a Hanns turntable, Soulution amplification and Gershman Black Swan speakers. It wasn't so much the quality of the sound as the choice of music – it was the only room that we saw people dancing in!

London Hi-Fidelity was an excellent show and one that we plan to come back to next year. It may not have many mainstream brands, but it does draw in those who have a 'passion for sound' giving us all a chance to indulge in some fine audio.

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Clearaudio Innovation Wood turntable, £6250

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Transfiguration Orpheus L cartridge, £3400

New 1 Ohm internal impedance version. "Totally natural rendition of music." (Hi-Fi News) ON DEM



Graham Phantom II tonearm, £3550

Interchangeable armtubes. "A masterpiece of craftsmanship and design savvy." (The Absolute Sound) ON DEM



Scheu Laufwerk 2 turntable, £4350

Massive 80 mm platter, Papst motor. "Reference quality...reference quality looks," (TNTAudio.com) ON DEM



Ortofon SPU 90th Anniversary cartridge, £1400

Silver-plated 6N copper coils. "More touch, texture, color, and sheer whomp." (Stereophile) ON DEM



SME V tonearm, £2180

The all-time classic. "Perhaps the last great flowering of the tonearm designer's art. (Hi-Fi News) ON DEM



Michell Gyro SE turntable, £1135

The classic John Michell design. "Should appeal to anyone looking for a high-end deck." (Hi-Fi News)



Lyra Delos cartridge, £895

Replaces Argo i. A new standard for mid-range low-output moving coils. ON DEM



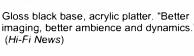
Clearaudio Unify tonearm, £1360

Phenomenal unipivot, available in carbon-fibre and wood versions, 9, 10, 12, and 14 inch



Pro-Ject Xpression III turntable, £435

imaging, better ambience and dynamics."

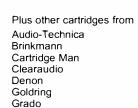


Plus other turntables from Acoustic Solid Clearaudio Michell Pro-Ject Roksan Scheu SME VPI



Sumiko Blue Point Special EVO III cartridge, £239

A favourite high-output moving coil. "A big helping of moving-coil goodness." (The Absolute Sound)



Lyra Ortofon Sumiko Transfiguration



Thomas Schick tonearm, £975

Musical, involving 12-incher. Already a classic design. ON DEM

Plus other tonearms from

Clearaudio Hadcock Michell Ortofon Pro-Ject Roksan Scheu SME VPI



Keith Monks Omni Mk VII record cleaning machine, £3295

Cleans all size records. "If you're looking for the best, well, here it is." (Stereophile)





Aesthetix Rhea phono stage, £3900

Ten valve design. "A sense of palpability and immediacy that recalls the magic of live music." (*The Absolute Sound*) **ON DEM**



Tannoy Westminster Royal SE speakers, £21999

Forget hi-fi. "A stereo sound every bit as dynamic as real music." (Stereophile)

ON DEM



Loricraft PRC3 record cleaning machine, £1395

The standard for serious vinylphiles. "Even brand new, sealed records benefit." (PositiveFeedback.com)



Leema Acoustics Agena phono stage, £2995

Reference unit with two inputs, fully adjustable. Integral DAC with USB port. ON DEM



Esoteric X-05 SACD/CD player, £4495

Awesome one-box unit. "There aren't enough superlatives to describe this machine." (*The Absolute Sound*) **ON DEM**



VPI 16.5 record cleaning machine, £575

Our most popular budget unit. "An essential component." (*Hi-Fi+*)



Whest PS.30RDT phono stage, £2799

Dual transformer, dual mono. "A brilliant all round design." (Hi-Fi World) **ON DEM**



Pro-Ject Tube Box II phono stage, £310

Great valve unit. Budget version of acclaimed Pro-Ject Tube Box SE.

Plus other phono stages from



Stax SR-007 II SE Omega System headphones and amp, £3195 Hand-selected valves. "If I have to go

through life with only one of the Stax amps,

give me the tubed SRM-007t." (Stereophile)

Help us celebrate our fifth anniversary with a one-day vinyl event in Bath, **Take Five with Cool Gales**, Saturday, 15 May, 10 AM to 5 PM. Guests will include Alan Sircom, editor of *Hi-Fi*+, Jim White of Aesthetix, and Diverse Vinyl with Paul Hawkins.

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Thinking out of the box

Once considered a crime against hi-fi, the single-box system is enjoying a surge in popularity. But are audiophiles convinced?

few pages on, you'll find our sparkling new-look Blind-Listening Group Test examining one-box systems. Not that many years ago, that just wouldn't have happened in any reputable hi-fi magazine. But things change, and it's now widely accepted that there's not necessarily any harm in putting sources in the same case as an amp.

Because that's exactly what a one-box system does. We can use fancy words like 'convergence', but at the end of the day we're just cramming electronic assemblies together, saving casework and space. The trivial explanation - which is certainly true - is that surface-mount components and highly integrated circuits make this physically easier than in days of old. But what about issues like interference between functional blocks? Are we going to get digital interference from CD player to radio, or radio breakthrough in the amp?

In the days of valves, electronic assembly was very different. Components were physically big and were often linked by flying wires which ran parallel or crossed each other all over the place. That kind of construction is a perfect recipe for interference and crosstalk.

Nowadays, practically all audio circuits are built onto printed circuit boards, which keep wiring two-dimensional. More than that, though, they can have conductive 'tracks' on both surfaces; indeed they often have tracks on other layers concealed inside. This, plus the small size of the components and the assemblies made of them, means that interference of all kinds is massively reduced.

At least, it is if the circuit board is well designed, and again things have improved in that department for several reasons. One reason is the much-feared 'electromagnetic

Defining the one-box genre: Arcam's Solo Mini



compatibility' legislation that forces designers to take interference seriously, while another is that modern computer-aided design software can accurately predict interference from and to circuit board tracks, allowing it to be optimised before anything is made.

As a result, there's much less to be afraid of in the interference department. At the same time, there's a lot of potential benefit in sharing functional blocks between sources. For instance, a CD player needs a DAC, but once it's in there it's quite easy to add a DAB module with a digital output, and a digital input too. And the power supply can be shared around too, certainly with care taken to isolate functions (that's another possible way to couple interference), but still saving transformer iron and wire. Modern FM/AM radio tuner heads are effectively a complete tuner with audio output anyway, so including one of those is hardly more work than screwing it to the back panel and making sure there are enough inputs on the electronic source selector.

Why stop there? There's already a microprocessor handling the display, remote and electronic volume control, so adding an iPod dock isn't too hard. And there's really no reason why one can't go the whole way and build in a hard disc server. This isn't something we've seen much of yet, but it'll come - the natty little Brennan JB7 is just such a device. My only real reservation about that is the physical noise hard drives make, for which reason I'd rather have them in another room, but laptop drives are much quieter and getting bigger in capacity every year.

This doesn't mean the writing is on the wall for traditional hi-fi separates. If one is really trying to wring the utmost out of a design,

> giving it its own case and power supply may yet be the best route, and of course there's always the mix-and-match aspect of system-building, plus the consideration of what happens when one component part fails. But it does seem to me that the sound-per-pound case for a single-box system is getting stronger all the time. As a spare-room or office system, they're currently stonking value.

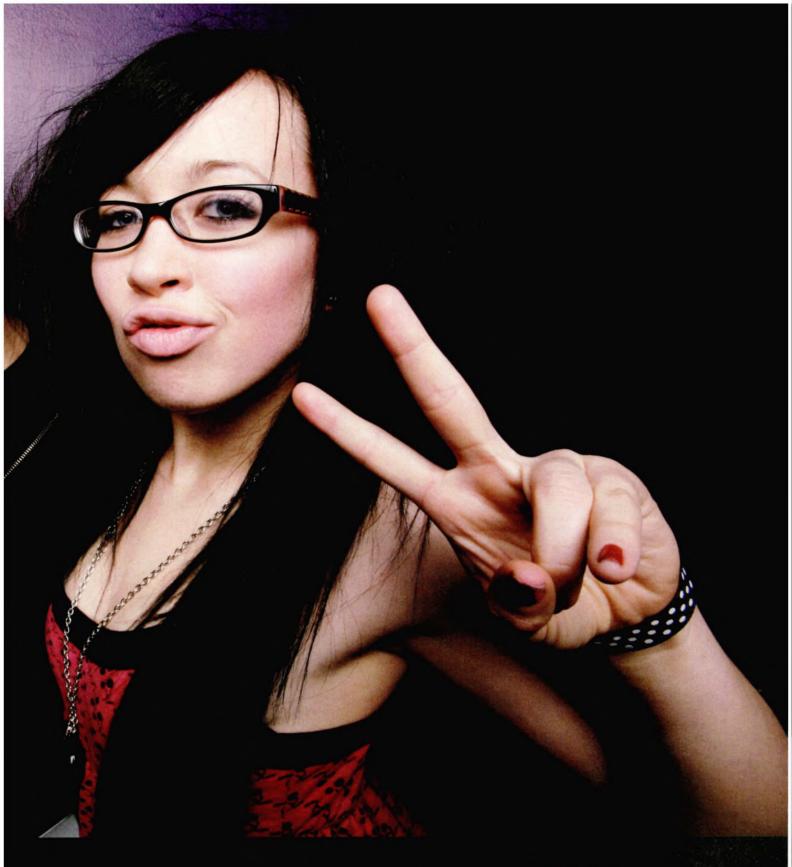
We can use fancy words like 'convergence', but at the end of the day we're just cramming electronic assemblies together



RICHARD BLACK

A musician and recording engineer, Richard knows a thing or two about hi-fi - he's been writing about it for over two decades

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Indeed, very soon we will be unveiling the Mercury V speaker range – the fifth series of the internationally-acclaimed award-winning Mercury loudspeakers from Tannoy. To celebrate the launch of our best performing affordable hi-fi and home cinema speakers to date, we're giving away 5 pairs of Mercury V1's in a free prize draw. Simply visit www.tannoy.com/mercuryhfc for more information on Mercury V and your chance to win.







The future of online music

Music server pioneer Imerge takes on iTunes with its launch of an innovative new online music store

uality or convenience? It's the question which has been at the centre of the packaged media versus digital music distribution debate, and it needs no elaboration from me to tell you which campfire the majority of music lovers now sit around.

Of course you can have both, it's just that your listening options are limited. Linn offers so-called Studio Master downloads up to 24-bit/192kHz, while Bowers & Wilkins' subscription service has a selection of tunes in 24-bit FLAC. But the offerings from both are eclectic to say the least.

I've been migrating my music collection from disc to hard drive for a number of years, and as a result I've ended up with a ragbag of codecs and files on my network. My collection is an unholy mix of MP3 (mainly 320kbps but some lower), WAV, AAC and FLAC. When you move away from packaged media, the simple truth is that convenience always takes precedence. I listen to riffs not bits, and when I choose to play tunes it's because I want to enjoy the music. It's ultimately about entertainment – which is where the XiVA Music Store fits in.

Launched in the UK and US by Imerge, the UK-based pioneers of home entertainment servers, it's a rival of sorts to iTunes, albeit one currently accessible only by users of Imerge's own upper-class (£8K) MS1-HD music and video server.

The big difference is that it takes the online store proposition of iTunes, moves it away from the PC and puts it squarely into the living room. Downloads are in DRM-free 320kbps MP3 format, with album prices typically around the £7.99 mark (expensive for what you get in my view, but some back catalogue items are much less), with single tracks priced at 99p. Online purchases are imported directly into the MS1-HD's music library.

Perhaps surprisingly, there is no option to buy lossless FLAC downloads. This is a curious omission for what is ostensibly an upscale service. The Store has been produced in conjunction with 7digital, the media distribution company part owned by HMV, and 7digital certainly includes FLAC titles in its catalogue. But to dismiss the new launch purely because the download file format lacks audiophile credibility would be a mistake.

I've been living with the XiVA Music Store for a while now, having had access to the Beta. And I've got to say that the user experience is considerably more involving than that offered by its rivals. A three-dimensional, card-based



Individual tracks can be preview-streamed at 192kbps on the XiVA Music Store

GUI makes browsing the XiVA Store's catalogue deliciously intuitive. And thanks to an innovative interlinked metatag database it's possible to meander through the entire catalogue, hopping from one artist to another.

You can call up the discography of bands and listen to track previews from every album. These last between 30 seconds and a minute, and stream at 192kbps. I challenge anyone not to spend hours hunting down artists unheard of for decades – all done in a feet-up environment, listening on your own sound system.

Given that Imerge's MS1-HD server has a ticket price of around £8K, it's clear that the XiVA store isn't going to be a mass-market proposition – but I suspect it will evolve rather quickly. As the user interface has been created in Silverlight, Microsoft's trendy new development platform, it can be easily ported to other devices, including mobile phones. Imerge has a history of successfully licensing its software to others, and I'm guessing that the roadmap for this will be no different.

All of which is good news. The XiVA Music Store is an innovative new addition to the online music scene, principally because it puts the user experience first. It's not perfect (the date tagging of albums is often wrong, thumbnails go missing when you start to search niche artists, and there's no lossless audio options) but when it comes to convenience and entertainment it beats the pants off its rivals.

The XiVA
Music Store
is an innovative
new addition
to the online
music scene – it
beats the pants
off its rivals



STEVE MAY

Editor-in-chief of our sister mag *Home*Cinema Choice, Steve has been writing on
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SETYOUR MUSIC FREE



'Seduces the listener with realism and a sense of scale... The Summit X will own your heart from its first notes' **Ken Kessler, Hi-Fi News** (November 2009)

'Reference-grade performance that you'd struggle to match at double the price'

Alan Sircom, Hi-Fi+ (Issue 66)

'The Summit X is just too addictive to live without. I'm putting my money where my mouth is and buying the review pair as my new reference loudspeakers'

Howard Kneller, SoundStage! (September 2009)

othing brings music to life like MartinLogan speakers. Unique technologies, seamlessly fused to create a sound so spacious, so open, it makes ordinary speakers seem hopelessly constrained.

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The pinnacle of MartinLogan's hybrid electrostatic technology, the Summit X joins an extensive range of speakers encompassing freestanding, on-wall and in-wall models, from affordable hybrid designs and standalone subwoofers to the awesome CLX – the best full-range electrostatic speaker money can buy.

Set your music free with MartinLogan speakers, brought to you by Absolute Sounds – premier importer of the world's finest hi-fi.







The more things change...

Linn's LP-12 was probably the most modified and improved hi-fi product of all time, except it didn't really get any better

f hi-fi was an engine, then dissatisfaction would be the fuel that powers it. Feeling dissatisfied makes you want to upgrade and improve what is (probably) a perfectly good system – in the vague hope of hearing an even better sound.

Dissatisfaction makes you buy a newly remastered copy of a recording you already own – just because it promises to get you closer to the sound on the original master tapes. Constant improvement is the lifeblood of hi-fi.

Probably the most 'improved' hi-fi product of all time was the Linn Sondek LP-12 turntable. Over a production life spanning 30 + years, just about everything was upgraded and modified. And I do mean everything.

Take a Sondek from the early 1970s, and compare it with one made, say, 20 years later; there's literally no comparison. Although superficially the two decks looked similar, internally the differences were absolute.

If Linn fanboys are to be believed, the various changes made huge incredible differences. Indeed, by the millennium, LP-12 improvements had led to world peace, produced cures for cancer and AIDS, and halted climate change. Well, almost...

The LP-12 was, of course, the hi-fi product that changed the course of audio history. It reversed the 'most important component' hierarchy, so that the quality of the source (rather than the loudspeaker) came to be regarded as the dominant factor.

But if the LP-12 really was improved so much, could it have been all that good to start with? Curiously, the answer turns out to be yes. What's important is not that the Sondek was

'improved', but the nature of the changes made, and how they altered the original sound. The LP-12 evolved into something different – not necessarily 'better'.

Early LP-12s sounded rich, warm, and tonally full – quintessential analogue. Most of the updates affected this fundamentally smooth warm presentation, creating a leaner, tauter, brighter, and tonally more neutral sound.

If you took CD as a benchmark for tonal accuracy and fidelity to the master tape, then (compared with early models), later LP-12s definitely got closer to that ideal. Post-1980 Sondeks had a much tighter cleaner bottomend, with greater focus/precision.

But – did anyone actually want a turntable that made LPs sound like CDs? Maybe I did – once. But not now. Now, I want my vinyl records to sound like – well, vinyl records. A good turntable is no longer required to sound like a surrogate CD player.

Maybe I'm looking back through rose-tinted lugholes, but for many of us those early Linn Sondeks had a magic that was gradually eroded as the deck 'improved'.

Good vinyl has always been a 'greater than the sum of its parts' medium. On a point-by-point basis, CD beats LP at every juncture. It has less background noise, a broader dynamic range, wider separation, and lower peak-level distortion. Yet, against all the odds, vinyl offers a musical integrity that transcends its limitations creating results that are special and unique. Despite its faults, LP often recreates the emotional content of the music (and performance). What's harder to get from CD is the same musical honesty and cohesive integrity you achieve with LPs – the

sense of real people playing real instruments in a tangible acoustic space.

The numerous improvements made to the LP-12 were sonically valid and technically worthwhile, but they came at a price. The original turntable might have been flawed, but the 'flaws' were nice and actually added something to the music.

Hi-fi is an illusion. Its job is to convince you you're hearing great music superbly performed – as though the players were right there in front of you. It's what listeners think they perceive that's important – not absolute quality or accuracy.

By the millennium, LP-12 improvements had led to world peace, produced cures for cancer and halted climate change





JIMMY HUGHES

A hi-fi enthusiast for four decades, Jimmy's knowledge of system-matching and record-collecting are unmatched in the industry

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Help the aged

My CD player is a Naim CD5 and my amplifier a Musical Fidelity X-A1, which I'm very pleased with. Given that my amp is now 12 years old, I've started to wonder how long amps usually last, and when I should think about replacing mine. Obviously, I don't want to keep using the amp if it poses a risk to my speakers, if it goes up in smoke. If I do need to buy something new, would the Cyrus 8XP or the Pathos Classic III be suitable choices? **Julian Bedford, Leeds**

HFC This a tough one, which would usually prompt the response, 'How long is a piece of string?' That electronics age and deteriorate with time is incontrovertible, but they can last a surprisingly long time if not subjected to extreme temperatures, dust or excessive moisture. You might want to consider getting an engineer to have a look at your X-A1, to check the condition of the capacitors, and the biasing, for example.

If your amp has had heavy use, it might need re-capping and such action could potentially head off an accident which might prove fatal to your loudspeakers. The cost of recapping varies from one amp to the another, so get a quote first.

If you do decide to put your MF out to pasture, both the Cyrus and the Pathos might fit the bill, though you don't mention which loudspeakers you have. The two amps have the same power output but will sound slightly different and while the Cyrus integrated majors on speed, detail and drive, the Pathos hybrid has a slightly warmer,



Meor Azmi's Cyrus One from 1989 benefited from a little light dusting



more valve-like tonal balance allied to greater bass extension.

Weighty question

DACs I've just treated myself to a new cartridge (a Goldring Legacy) and a Michell Tecnoweight for my RB301, but I'm not sure whether to use the lighter or heavier weight. Which one should I use?

barondarren, via email

HFC We think you shouldn't be afraid to experiment. The heavier counterweight can be positioned closer to the arm bearings, which will lower the arm's effective mass and alter the arm/cartridge resonant frequency. This can work to your advantage, as time spent with both light and heavy counterweights will allow you to find the resonance sweetspot.

HFC's Jon Marks used this approach with an SME V and a number of custom cartridge spacers to good effect. The same goes for arms which have detachable headshells, when used with headshells of widely varying masses.

Now that so many households have a PC or a laptop, it's perfectly feasible to make some of your own turntable measurements with a suitable test record. To check the resonant frequency, you'd need a phono stage without a rumble filter and a soundcard with an input able to accept input frequencies down

into single figures. Free software such as RightMark's Audio Analyser (audio.rightmark.org) should fit the bill, as long as you disable the default 20Hz-20kHz bandwidth limiting for analysis.

Ho-hum

I recently purchased a new NAD C355 amp. After getting it home, I decided to have a look at reviews and blogs for the amp, where I found someone was worried about a hum coming from the transformer. I had a listen to mine and found I could hear a slight hum too, though only after three hours' use. My C260 power amp hums quiet loudly, but I think this normal, despite having several other NAD amps (C340,C350,C320) which are quiet.

To put my mind at rest, I would like to ask you guys for you thoughts on the matter.

royrolfe, via email

HFC It certainly isn't unheard of for transformers to hum, and is often nothing to worry about in hi-fi gear.

There's a number of possible causes for this annoyance. DC on the mains, even relatively small amounts, can make transformer cores, particularly toroidals, saturate and buzz. Toroidals are vulnerable as they have no air gap in their cores, unlike the relatively leaky cores of E/I transformers.

This DC can be caused by heavy inductive loads, like the large motors on an industrial site for example. Basic switchmode power supplies can also be culprits, as can amplifiers with large banks of reservoir capacitors, which can flatten the tops of the AC waveform when operating under load.

Less likely to occur in audio gear than consumer electronics, is the problem of a seriously underrated transformer which is on the verge of overload most of the time. A typical example of this might be a wall-plug power supply which gets hot to the touch and buzzes loudly as its laminations vibrate at the mains' 50Hz frequency.

Sometimes, if the screws holding a transformer to an amp's chassis are loose, the transformer will buzz against the chassis. Incidentally, loose screws can cause frequency-dependent buzzing in speakers too, as the basket vibrates against the cabinet.

If you find an amplifier with a buzzing transformer is running unusually hot, the safe thing to do is probably get it checked out to see if there a circuit fault drawing excessive current from the power supply, as it may constitute a fire hazard.

Cleanliness next to deadliness?

I had a bad experience some years ago with a lens cleaner on the midi system in the bedroom. After using the lens cleaner, the player refused to read discs again, though it was working perfectly beforehand.

As a smoker, I know that I'm probably not doing the lens in my Pioneer PD-D9 player any favours, so I'd like your advice on what sort of lens cleaner I should use to guarantee not damaging the lens. **vinylflange, via email**

HFC Jon Marks, our resident resuscitator of all things hi-fi, says that he doesn't actually trust lens cleaners, especially the cheapo ones with the brush bristles on them, as the bristles



can be sufficiently long that they hit the side of the lens quite hard. In fact, in the manual for one of TEAC's CD-ROM drives, there's specific mention of not using wet lens cleaners, as they may damage the lens assembly.

Instead, Jon turns the player off and unplugs it from the wall socket, has a cup of tea while the supply capacitors discharge, then removes the lid and cleans the lens manually with a cotton bud dipped in a little isopropyl alcohol. Be warned, however, you should only do this if you're well aware of the safety requirements of working with mains electricity and have a very steady hand, as it's easy to damage the lens itself, or its suspension.

If you'd prefer to use a disc. have a look at user reviews on the internet, but bear in mind your dealer might be able to do it for you and shouldn't charge much at all for the privilege; after all, it's a process which should only really take about five minutes.

We can rebuild him

I've suffered from transformer hum for years. A techy friend of mine lugged his oscilloscope round to my listening room so that we could have a look at the mains waveform and I was amazed to see how distorted it was. The tops of the waveforms had what looked like a ripple in them, and the waves had a bump on each side. He suggested that, although a mains conditioner might help, as the waveform was so distorted, I might have to investigate buying a mains regenerator.

Seeing as these aren't exactly cheap, do you think I should go



Some audiophiles prefer to lift the lid on their CD and SACD players to clean the delicate laser lens themselves

to the trouble of trying to arrange a home demo, so I can see how it copes with my own mains? svalbard222, via email

HFC As mentioned above. DC on the mains can be a problem, as can the sort of major distortion you're seeing. One rather hairshirt solution, if you don't mind the bulk and inconvenience, might be to use a couple of deep-cycle lead-acid batteries hooked up to a camping inverter, which is designed to power mains gear from batteries in caravans, on boats, etc. Trouble is, a lot of these inverters put out roughly filtered square waves instead of pure sines, which is almost as far from pure AC as your mains is now. The batteries aren't cheap either and will need frequent recharging, unless you use them to power your sources only.

One way to remove DC is an isolation transformer, but in our experience, these rarely do the overall sound of a system any favours. IsoTek has a high-end Syncro mains lead, built using audio-grade parts, including capacitors to block the DC. PS Audio's HumBuster III blocks DC too and is available more cheaply.

As your difficulties are likely a result of DC, distortion and probably noise too, a regenerator might be the best bet.

Again, PS Audio manufactures regenerators, the latest of which, the Power Plant Premier, uses a tracking power supply to minimise power consumption. PurePower is another manufacturer of regenerators, while Japanese firm Accuphase offer two power correctors. These have low-power consumption figures, thanks to the fact that their internal amplifiers correct distortion on the mains waveform rather than regenerating a 240-volt supply from scratch. They also have built-in filtering.

Arranging demos might be tough, but the result is likely to be that your system sounds considerably better, given the state of your mains.

LETTER OF THE MONTH Ringing the changes



I KNOW I'm not the only one who likes to listen to their music with the volume control on 11, but I'm quite often finding that I have a ringing sound in my ears pretty much the whole of the next day. I can't say I've noticed any other problems with my hearing though. Is this sort of thing unusual? Is it anything I need to worry about? I'm in my mid-forties anyway, so my ears definitely aren't as fresh as they used to be.

wallacewerepoodle via email

HFC If your ears are ringing, it very strongly suggests you need to turn the volume down. Whether the ringing is the result of a heavy listening session, a night out clubbing, or a king-size pneumatic drill destroying the road right outside your office window, it's a virtual certainty you're exposing your ears to excessive and damaging soundpressure levels.

Pay your GP a visit and ask him or her to check your ears for infection or compacted wax, both of which can cause ringing. Ménière's disease is another potential cause of ringing, which can take a little time to diagnose.

If none of the above is present, you're going to need to keep the volume down, or if you do listen at high SPLs, get an SPL meter and limit your exposure times to lengths appropriate for the SPLs. If clubbing is part of the problem, ACS (www.hearingprotection.com) offer custom-moulded ear plugs which work very well. This might sound like lot of hassle, but if your ears are ringing regularly, there's a good chance you're causing your ears permanent harm.





Hi-fi reviews

No other magazine offers a more reliable standard of hi-fi testing. Technical Consultant **Richard Black** explains...

EXPERT TESTING

FOR OVER THREE decades, Hi-Fi Choice has been trusted for its combination of subjective and technical review expertise. The crucial consideration for any audio component is how it sounds, but it is important to back this up with laboratory measurements for many reasons – everything from the wish to check basic performance to the possibility of uncovering peculiar behaviour under conditions, perhaps slightly different from those of the subjective tests.

Listening

Subjective testing doesn't necessarily require the world's sharpest ears. What's more important is the experience to analyse the sound arriving from the hi-fi and this is where our subjective reviewers come in: they have been listening critically to audio equipment for aeons and have learned to identify the characteristics that make kit informative, involving or just plain dull.

Measurement

But even the most experienced listener, with a stack of familiar recordings heard in familiar surroundings, can't always know what is causing a particular characteristic in the sound. Brightness, for instance, may be a function of frequency response or distortion and this is where measurements come in. We analyse a range of parameters to see just where the correlation lies between sound and design. Our test equipment has been tried, tested and added to over the years and again our experience with it is unrivalled.

Straightforward presentation

We call on that experience to boil down the measurements to simple bar charts, which show at a glance how well a component behaves relative to others in its category. It's this combination of subjective and technical expertise that makes our reviews the most useful in the field.

"crucial consideration for any audio component is how it sounds, but it is important to back this up with laboratory measurements..."

OUR AWARDS



EDITOR'S CHOICE: Awarded to those products that are judged to deliver reference-standard performance



RECOMMENDED: The products we feel meet a certain high standard of performance



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

STATE-OF-THE-ART HI-FI TECH

HFC's test equipment is the most advanced kit available



AT HI-FI CHOICE, we have access to some of the most advanced test equipment currently available on the market, including the Audio Precision APx585, which you'll find in the labs of many top hi-fi manufacturers.

The 585 can be configured to test a variety of key hi-fi products, such as amplifiers, CD players/DACs and — with the help of a specially-calibrated microphone — loudspeakers.

In conjunction with some conventional lab equipment at our disposal, the 585 will also be used to test analogue playback equipment including phono stages and turntables. These objective measurements – which conform to recognised industry standards – are designed to complement subjective evaluations such as the listening panels organised by our internationally respected reviewers.

The standard of our test facilities is unrivalled in the UK press. Quite simply, no other magazine offers this level of cutting-edge testing, making the verdicts in *Hi-Fi Choice* the only ones you can really trust.

Unrivalled group tests

Hi-Fi Choice is the only magazine to offer blind-listening group tests, fully backed up with objective data

BLIND-LISTENING TESTS

THIS CRUCIAL test involves relatively rapid-fire comparisons of the test units for a panel of three listeners who are not aware of which product they are listening to. Levels are accurately matched and the test is conducted with the minimum of distractions, playing the same programme through each system while the listeners take notes of whatever pleases or bothers them.

In this way, an evaluation free of prejudices based on brand, price or appearance can be made, while the different tastes and sensitivities of each listener help round out the analysis and make it more widely applicable. Occasional repeats of kit give a 'sanity check', while years of experience help make the process efficient and reliable.

SIGHTED LISTENING

IN ADDITION to the 'blind' test, the author also spends a longer period listening to each system with various items of partnering equipment and a wider range of music. Apart from the obvious fact that this is how most people listen most of the time, this also has the advantage that interesting aspects of the sound can be investigated and different musical styles tried out to see what works, not to mention experimenting with such variables as listening level.

Long-term reference pieces of equipment (some from past reviews) get substituted for the kit under test from time to time, in order to check on performance relative to the rest of the audioworld, while recordings made by the author provide a live reference.

TESTING EQUIPMENT USED

Source: Pink Triangle PT Export/SME309/ Highphonic MC-A3

- Speakers: •B&W 803s
- ATC SCM 20
- •Rogers LS3/5A Cables:

Atlas, Wireworld, van den Hul

TEST MUSIC USED LED ZEPPELIN:

BLACK DOG



OTIS REDDING: THE DOCK OF THE BAY

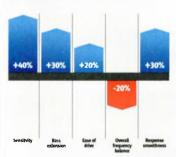


RACHMANINOV: SYMPHONIC DANCES



TECH LABS

RESULTS AT A GLANCE



THE POINT of lab tests is twofold: first, to establish basic operating criteria for the equipment and make sure it will work under likely conditions of load, input level etc. and second, to find out what lies behind the subjective observations noted. To this end, all the units in this group were checked for maximum output power and response flatness using basic analogue test equipment - signal generator and AC level meter, plus an oscilloscope to look for the onset of overload.

Other parameters were measured using a high-performance analogue-to-digital converter connected to a PC, with the data analysed digitally to show up such characteristics as distortion (including both harmonic distortion and jitter, plus intermodulation and digital aliasing

Anything out of the ordinary is commented on in the lab report, while five basic performance parameters are summarised for each unit in our unique bargraphs, comparing like with like across the group:

DYNAMIC POWER

Taking into account both continuous and peak power, this shows how much drive is available into real-world loads under typical music conditions.

FREQUENCY RESPONSE

We define this as how close to flat the response is across the audible band of 20Hz to 20kHz. Deviations of less than 0.5dB are likely to be inaudible.

DISTORTION

As well as the spot figure for harmonic distortion given in our 'At a Glance' table, this takes into account how distortion varies with frequency and level.

DYNAMIC RANGE

This effectively shows how low the noise floor is relative to the maximum clean output. CD's dynamic range is about 96dB; a figure higher than that is desirable from replay kit.

This term is applied to distortion caused specifically by instability in the 'clock', which controls the CD player. It's a subtle effect, but can contribute to sonic veiling.

THIS ISSUE'S **BLIND PANEL**

This month's panel of experienced listeners from within the industry are:



MARK HOCKEY OB: ACCOUNT COORDINATOR

A LONG-TIME employee of Harman/Kardon, Mark has been instrumental in finetuning products for the UK market, widely recognised as one of the most critical for multi-national brands



ABBAS HUSSAIN JOB: MANAGING DIRECTOR

ABBAS IS currently the main man behind Wireworld UK. but was also involved with Orelle, a maker of fine amplifiers



GEOFF MEADS JOB: MANAGING DIRECTOR

AFTER SEVERAL years with Arcam, Geoff branched out into AV training with his own company, Presto AV. He is also a busy musician and recording engineer

DEFINITIVE VERDICTS

No other magazine offers an equivalent listening programme

Few, if any, magazines in the world can equal our dedication and thoroughness in combining blind and sighted listening with extensive lab tests and detailed internal examination of equipment passing through our hands. Each of these is equally important and it's not just that we do them - we also bring to the table decades of audio experience.

Our listeners in the Blind-Listening Group Tests for example, are experts from within the hi-fi industry. Each and everyone of them is used to listening critically during product development and initial product testing. In fact, many of them also get involved in making recordings and their own music.

One of these is HFC's Technical Consultant Richard Black, who has been involved with designing, testing and evaluating audio equipment for a quarter of a century.

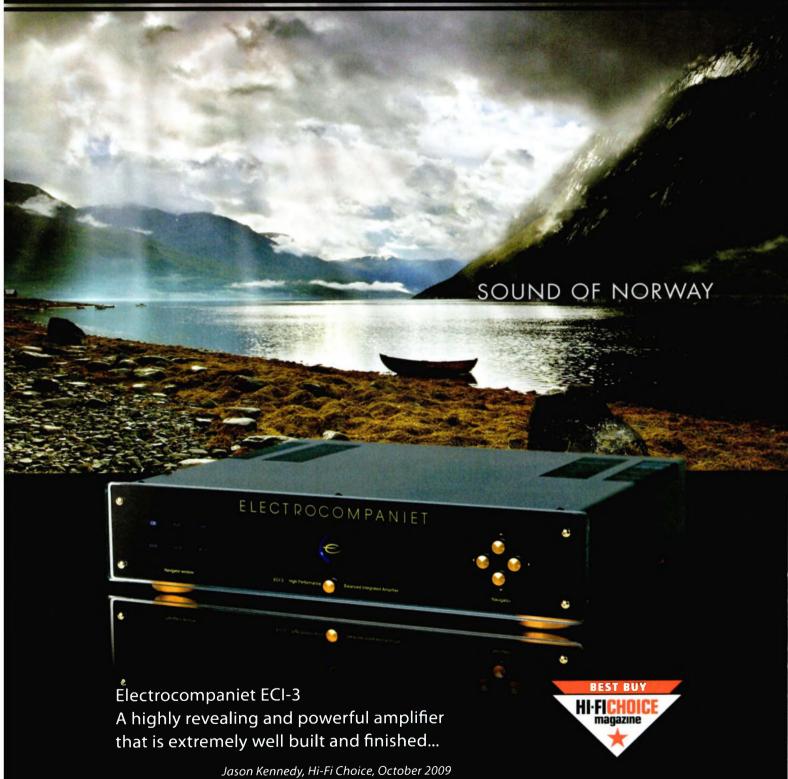
It's the culmination of all the aspects mentioned on these pages that makes for the most reliable hi-fi verdicts in the business.

DX-SYSTEMS

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How much does each Green Mountain Rio weigh?

A: 19kg B: 8kg

C: 47kg

Text RIO A, B or C to 87474, or visit www.futurecomps.co.uk/rio and follow the instructions, leaving your selected answer and details where prompted.

AS A VETERAN hi-fi reviewer for over 30 years, HFC's Paul Messenger is a tough listener to impress, but Green Mountain's superb standmounts left a very positive impression on his seasoned ears. In last month's issue, he was moved to say, "there's absolutely no doubting the exceptional overall sound of the Rios."

It takes a mix of key ingredients to produce a loudspeaker as musical,

transparent and coherent as this. The 19kg cabinets are cast from an inert marble-resin aggregate, their sides are very deliberately made non-parallel to reduce the magnitude of standing waves and internal reflections. The backward-tilted front baffle time-aligns the drivers, which are linked through a 'Balanced-Phase' crossover to produce a speaker free from the sort of time-smear

which can sap the emotion and imaging precision from a recording.

Add the Teflon-insulated cryogenically treated OFC internal cabling and Vampire binding posts and the result is, according to Paul, "Fabulously tight timing and coherence, which make for a very expressive and musically literate performer... Value for money is unquestionably very high."

TEMS AND CONDITIONS. To enter the Green Mountain Rio competition, you can either (all text your answer to 8274/24 at any time between 29 04.10 and 5.06.5 10.0 or (bli enter online at inww. Muttercomps. could, from with your entry being recrieved between 29.04.10 and 5.06.5 2010 By sending your entry, you agree to these competition rules and you confirm you are happy to receive details of future offers and gromotions. From Future Publishing limited and carefully selected third parties. If you do not want to receive information relating to future offers and promotions, please include the word STDP at the end of your text message or at the end of your postal entry. Texts will be charged at £1.00 pluyour standard network staff star.

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By taking part in a Competition, you agree to be bound by the Competition Rules, which are summarised below but can be wewed in full at www.huisenet.com/huisenoline/competitionnules asp. Late or incomplete entires will be disqualified. Proof of posting (if relevant) shall not week the proof of delivery, Entires, must be submitted by an incividual fortol via any agency or similar) and, unless otherwise salted, are the deemed proof of delivery. Entires must be submitted by an incividual fortol via any agency or similar) and, unless otherwise salted, are

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Grouptest Couplest Coupl

ONE-BOX SYSTEMS £600 - £1,600

Can one-box systems be rightly called hi-fi?

In an age of miniaturisation, do we still need to have bulky separates? **Richard Black** tries out the very latest one-box systems to see if one is enough

THIS IS FASCINATING. The one-box system has gone from being the sort of thing most audiophiles wouldn't use to prop a door open to being quite widely accepted. Heck, even Linn makes one! In reality, it was probably seeing brands like that and Arcam and Myryad, putting their badge on such units that made those of us with memories of Binatone (arrgh!) accept that, well, maybe you can put a CD player, a radio and an amp in the same box and get some sense out of it.

So then, of course, the good vibes rub off on companies like Harman and Yamaha, who probably never stopped making such stuff, while relative newcomers including Shanling and Consonance are happy enough to get involved too.

We've already covered some of the technical background in this issue's *Opinion* column (p23), but the results speak for themselves: integrated systems like these can pack an impressive punch for the money.

There's plenty of variety available, from the mass-market appeal of Yamaha and Harman Kardon to the distinctly upmarket ethos of Shanling and Consonance. The Arcam Solo Mini is a great space-saver, while the Consonance Ping positively revels in its impressive bulk.

There's variety in features, too and do give a thought before buying to what sources and inputs you need as no two units offer the same. They all play CDs and receive FM radio, but some have much more room for additional sources than others, while a couple include an iPod dock and some add DAB to FM. Digital inputs make an appearance too – and that's a trend that we'd be happy to see continuing.

"...integrated systems like these can pack an impressive punch for the money."



TAKING TYPICAL street/internet discounts into consideration, this group has a nearly three-to-one price ratio. There's a clear trend, though, from cheapest to dearest in terms of build quality and it's easy to see why the Enigma, the Ping and the MC3000 cost over twice as much as the Yamaha and H/K systems. Soundquality and buildquality don't necessarily go hand in hand, but if sonic purity is your goal it does seem that penny-pinching is not likely to be productive.



ON TEST



Arcam Solo Mini £750

One of the best all-rounders in terms of features, this is also a relative oldie among the one-box breed. It offers all three radio bands (DAB, FM, AM) plus CD and an unusually generous five line inputs. There's no iPod dock, but Arcam does sell one separately — or just use a cable!



Audio Analogue Enigma £1,295 Page 39

£1,295 Page 39
Italian style, with a single valve appealinglywisible. No less significant is the attraction of the well-made, all-metal casework. Features are a little basic, but the unit is clearly trading more on sound quality than inclusivity. FM and AM radio are included alongside CD and two inputs.



Consonance Ping £1,495 Page 41 No need to ask where the

No need to ask where the money goes on this one — it's over twice the size and weight ofmostofthe others here! It's also the most powerful, but to some extent the imposing looks are also clearly a design decision. Only FM/AM radio, CD and a lone line input, plus a USB socket for DAC duty.



Harman/Kardon MAS110 £650 (inc. speakers) Page 43

Evenifyou discount the speakers, this still looks like pretty decent value. A thoroughly modern approach with switch-mode power supplies and Class D amp allow Harman Kardon to offer power and convenience in a small, beautifully finished pair of packages.



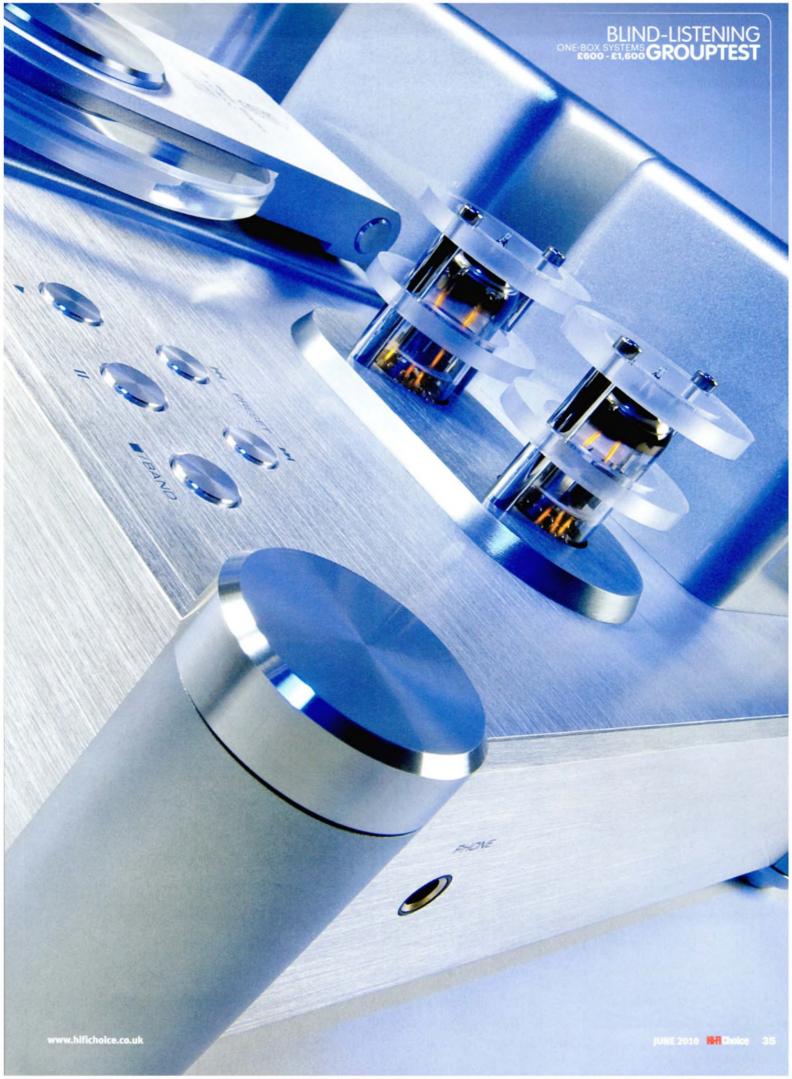
Shanling MC3000 £1,400

The perfect answer for the person who hates square boxes. There's logic to it all, too; thevalves contributing to the sound while the top-loading CD transport is gratifyingly swift in operation and silent in use. An in-built iPod dock adds to the radio, CD and three line inputs.



Yamaha MCR-640 £600

Another speakers-included system, this one shows the most in common with the integrated systems of yesteryear. The included iPod dock keeps things modern, though, while the USB socket caters for non-Apple portable players. It's also one of the easiest to use.



Somehow Coventry didn't seem such a bad place after all



Distributed in the UK by: Henley Designs Ltd, 01235 511166 www.henleydesigns.co.uk, e-mail - info@henleydesigns.co.uk



Arcam Solo Mini £750

Solo was one of the first one-box systems on the market and still holds its own against the newcomers

DETAILS

ORIGIN: China WEIGHT 5.3kg DIMENSIONS: (WxHxD) 230x90x350mm FEATURES: CD transport; DAB, FM, AM radio • Innuts: 5x

- line plus mini-jack
- Outputs: 1x headphone; 1x preamp; 1x record
- 25-watt output DISTRIBUTOR: Arcam TELEPHONE: 01223203200 WERSITE: arcam.co.uk

rcam didn't invent the

all-in-one system, but it gave the breed a lot of street cred with the original Solo (still available) and this,

the half-width version. Despite its diminutive size, it does a lot of stuff, so excuse a slightly telegraphic rundown of its features...

CD's there, of course, a slot-loading mechanism that's fuss-free and quiet in operation. Radio is also built in, one small module handling FM and AM while another, even smaller, handles DAB. Five line inputs are available, four on phono sockets at the rear, one on a mini-jack at the front, and next to the latter is a USB socket for portable players and memory sticks. A matching iPod dock is available, but basically you connect via the phono sockets. Preamp and recording outputs are available in addition to the speaker terminals and front headphone mini-jack. Only a

digital input is missing. Top-mounted buttons and a very friendly display make operation simple.

Arcam's claim to audiophile credibility is supported by the use of decent components internally and remarkably good construction for the price. There's a large toroidal mains transformer, the absolute biggest that could be fitted in the available volume, while the output department shows the nearest thing to evidence of compromise with integrated-circuit power stages - but these have been known to give very good results.

Sound quality

Everyone likes to hear a bit of detail, and on that basis our listeners were very taken with the Solo Mini. 'Ooh - detail!', wrote one, going on to wax enthusiastic about the way the player handled both complex rhythms and complex instrumentation. It's not just good at resolving this stuff, though,

it's also very good at communicating it effectively, and rhythmic involvement was rated as good too.

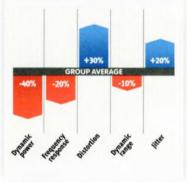
Tonally it's confident, with good bass extension and weight, though the treble can be a touch harsh as times. Imaging has both width and depth, with the sound extending out into the room. Just occasionally the sound can thicken up a bit when the treble is busy, but on the whole the detail remains very good. These results seem to hold up well with other sources, including the onboard FM tuner which is very enjoyable.

TECH LABS

LAB REPORT

Arcam's specification for output power is 25W into eight ohms, but we obtained 34W with low distortion. This still doesn't sound like much against some of the systems here, but it's only 2dB - that's two typical volume steps - less than the group average. What's probably more important is that it is delivered very cleanly, with low distortion of every kind at all operating levels short of overload. The power stage shows its limitations a bit at high frequencies, where distortion rises noticeably, but even so, at the sort of power levels typically seen in the high treble there's not much to worry about. A trace of litter is visible, fairly harmless white noise that's just above the system noise floor, itself pretty good. Frequency response is beyond reproach and the digital filter does a decent job, though (as usual) allowing a little aliasing to occur.

RESULTS AT A GLANCE



OUR VERDICT SOUND QUALITY

 $\star\star\star$ VALUE FOR MONEY BUILD OUALITY $\star\star\star\star$

LIKE: Neat, tidy and well specified; good detail and hass

DISLIKE: Nodigitalinput, slight treble harshness at times, limited power

WE SAY: An excellent way to enjoy the most music from the smallest space, at a competitive price

 $\star\star\star\star$ **OVERALL**

FEATURES







Roksan Warranty Notification

Effective 1st November 2009, all Roksan electronics and turntables supplied via authorised dealers are to be covered by a 5 year parts and labour warranty.* As a gesture to existing customers, this will also be extended to all current owners of K2 products.

In an age where product longevity and second hand resale values are constantly under threat, Roksan wish to reward their loyal customers by allowing their warranty to be transferrable from owner to owner. Thus, the warranty stays with the product from initial date of sale to 5 years old as long as it remains within the country of origin.

* terms available upon request



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www.henleydesigns.co.uk, sales@henleydesigns.co.uk, 01235 511166



Audio Analogue **Enigma £1,295**

Beautiful Italian design and one Russian valve makes this one-box system something of a wonder

DETAILS

ORIGIN: Italy WEIGHT:

9.3kg DIMENSIONS: (WxHxD)

210x125x400mm FEATURES: • CD transport; FM/ AM radio

- Inputs: 3x 3 line plus mini-jack
- Outputs: 1x headphone (minijack); 1x mono line
- 45-watt output
 DISTRIBUTOR:
 Audio Futura
 TELEPHONE:
 0039 0572 954513
 WEBSITE:
 audioanalogue com

A

udio Analogue's smartly designed products are familiar features in the pages of this magazine –

we've reviewed quite a few of them over the years. This recent addition to the company's range brings together radio, CD and an amplifier, though it lacks frills such as digital input, USB socket and iPod dock.

The use of a valve is an obvious talking point, though the usual question arises: when the circuit is otherwise resolutely solid-state, what is one valve going to do other than add some character? Still, it's a nice visual feature, glowing gently behind its own little window.

The hard work of providing current for the speakers is handled by a pair of integrated-circuit amplifiers, mounted on an internal heatsink at the rear, next to the large toroidal mains transformer. Other internal appointments include a computer CD-ROM drive, connected via its S/PDIF output to a DAC board of AA's

AUDIO ANALOGUE

AM RIGHT SPEARSTOUT

AM RIGHT SPEAR

own devising, and an FM/AM radio module. Assembly is ingenious, with the audio circuits stacked above the CD transport so as to make use of height while minimising width. The tall front panel allows a user-friendly layout, with a 'nudge'-type volume control - it only rotates a few degrees each way, nudging the level up or down. As so often, the top (mostly useless) steps are small, the useful ones being rather coarse, and it's tricky, we found, to get a single step at a time. At least the display shows volume setting so you know where you are.

Sound quality

Our listeners were notably keen on the quality of the bass from the Enigma. It's not so much that it's deep, but it's very well controlled, powerful but precise and 'fast'. This makes for a sound that's well suited to driving rock – and as our listening programme for this group happened to start with some Led Zeppelin, this set things off on the right foot in no uncertain terms.

The same qualities served equally well in our large orchestral track, though, making the most of Rachmaninov's arresting *Symphonic Dances* and making the most of the work's rhythmic interest. One listener did point out that the bass extension is not the most astounding, but that's a relatively minor drawback when its impact is so direct.

On a less positive note, smaller-scale music isn't quite so flattered. Although the basics are there, the tight interplay between instruments that really makes this kind of music work seems a little blurred by the Enigma, and the tonal differences between parts are less clear, too. Still, there's some good imaging to enjoy and the sweet treble is very welcome.

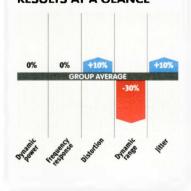
The FM radio is good though slightly less precise than some, while line inputs if anything are a shade more detailed than the onboard CD player, suggesting this may be the weak link.

TECH LABS

LAB REPORT

If the valve is adding some character it's pretty hard to see any tell-tales from the measurements. Yes, distortion is higher than some but 0.02 per cent just short of full output, midband, is not really enough to contribute much – especially when it drops off quite rapidly with decreasing level, down well below 0.01 per cent at 4W output. Once again, there's rather more distortion at high frequencies, but then this is more likely to be due to the output stage than the valve. The most notably weak characteristic of this unit is background noise, which is a little higher than the others in the group. However unless you're using very sensitive speakers you're unlikely to be aware of it under typical conditions it's only comparable to that of most CDs. litter is high enough to be measurable, but in practice will only worsen the noise floor by fractions of a dB.

RESULTS AT A GLANCE



Hi-fi Choice

OUR VERDICT

SOUND QUALITY

XXXX

VALUE FOR MONEY

XXXX

BUILD QUALITY

XXXX

XXX

LIKE: Smart design; tight bass; good imaging

DISLIKE: Twitchy volume control; limited inputs; less assured with small-scale music

WE SAY: A sleek, capable piece of kit that will suit lovers of livelymusic and simple systems



FEATURES



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mains cable

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Solutions for better music & movies



Consonance **Ping £1,495**

It looks like a chunky amplifier with a CD and radio added on, but the Ping has plenty of bang for your buck

DETAILS

ORIGIN:

China
WEIGHT:
20kg
DIMENSIONS:
(WXHXD)
450x110x430mm
FEATURES:
• CD transport; FM/
AM radio

- Inputs: 1x line; 1x USB
- 100-watt output DISTRIBUTOR: Alium Audio TELEPHONE: 01273 325901 WEBSITE: opera-consonance.



ut of all the systems in this group, this is the one that most resembles an amplifier with added bits.

Mostly that's because it's quite powerful and, therefore, has the real estate that's associated with powerful amps (big transformer, reservoir capacitors and heatsinks), but it's even bigger than it strictly needed to be and is really quite imposing. The front panel layout can be annoying, though – all those little squares prevent one taking in the button labels in a hurry!

Features are minimal, but there is a USB input. Although it's an A-type socket, which would normally be for a USB stick or similar, it's actually intended for use as a DAC fed from a computer – you'll need an A-to-A USB cable, but one is provided with the Ping. The radio is FM and AM, while a single analogue input is the only other connection – no line out or headphone socket here.

There's some interesting technology at work inside the Ping. The power amplifier stage uses an output device we can't remember seeing previously, one of the new breed of transistors with a few extra components on board to manage

thermal tracking issues, which should help keep performance stable under any conditions of use. The D-A conversion is done by an ancient DAC chip which, unlike all modern ones, has no digital filtering included – there is, however, an analogue filter so this isn't quite as extreme a 'filterless' player as some.

Sound quality

The bass seems to be the region where the Ping is happiest, and it combines extension with drive and tunefulness to good effect, especially in rock, big pop, large-scale classical and other bass-heavy genres. What it's not quite so good at is the smaller-scale kind of thing. With music that's intrinsically on a small scale it seems a little sheepish and disinclined to get involved, while in bigger stuff it doesn't really have a very tight rein on details.

How much this matters depends, as so often, on the music. A lot of pop doesn't have very much detail to worry about anyway, so you'll be fine there, but our listening panel were disconcerted by the lack of insight in the Rachmaninov orchestral track. It had a nice overall feel (thanks in no small part to the great bass) but little

beyond that in what is, in fact, a very detailed recording.

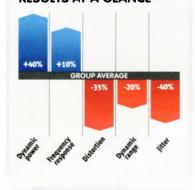
Imaging is a little constrained in both dimensions, but tonally the midrange and treble are good – the treble is perhaps a bit closed-in at times but quite sweetly extended. Voices are well served, but that lack of insight means they can become bland when there is a complex accompaniment to deal with as well. Detail does improve via the lone analogue input, suggesting the CD player is again the limiting factor. Radio performance is about average.

TECH LABS

LAB REPORT

As tends to be the case with 'filterless' CD players, the technical performance is dominated by digital artefacts left over from the sampling process. The whole filterless DAC argument is based on a shaky premise, and the high levels of ultrasonic distortion it leads to are well illustrated here - even though it's not quite as high as we've seen from some players. The figure quoted (0.15 per cent) for distortion reflects regular harmonic distortion (due to the amplifier, as tests via the line input show). However, there's a similar amount of distortion at 43.1 kHz and 45.1 kHz (for a 1kHz test tone), while with 15kHz input the ultrasonic distortion is more like 2 per cent. Sure, it's inaudible as such, but it can lead to audible distortion due to intermodulation in speakers. Jitter is also unusually high, though on the amp front this is a well-behaved unit, slightly belowpar distortion notwithstanding.

RESULTS AT A GLANCE





OUR VERDICT

LIKE: Good strong bass; plentiful output power; good voices; nice looks **DISLIKE:** The sound

lacks detail; weak imaging; not many inputs **WE SAY:** This seems like

WESAY: This seems like a good amplifier with a slightly indifferent CD player added



OVERALL



DEFINITIVE AUDIO









KSL KONDO 211 MONO AMPLIFIERS



Harman/Kardon MAS110 £650

These futuristic black boxes look and sound the money, but don't be hoodwinked by their lively style

DETAILS

ORIGIN: USA WEIGHT: 4.3kg (total)

DIMENSIONS: (WxHxD) 240x90x240mm **FEATURES:**

- CD; FM/DAB+ radio
- Inputs: 3x line (1 mini-jack); phono
- Digital inputs: 2x electrical and optical, 2x USB
- Outputs: headphone (minijack), 1x line
- 65-watt output (6 ohms)

DISTRIBUTOR: Harman Consumer

TELEPHONE: 01707278100 WEBSITE: harmankardon.com



t an attractive price (including loudspeakers, which we didn't include in the review though a brief listen suggests they're decent),

this little system looks rather futuristic, with its shiny black finish unspoiled by buttons or other such fripperies. It shows fingerprints, but a quick wipe sees things right.

Although quite a lot of functions are in fact banished to the remote, including source selection, the front panel of the CD player does at least have transport controls, touchsensitive 'buttons' which light up when power is applied, while the amp has a volume control. Actually the 'CD player' is also the preamp part, but no, you can't mix and match the parts as they share a power supply and the only input to the amp is via the multi-way lead.

The light weight of the units suggests, correctly, that power supplies are switch-mode, and the power amp is a switching design, too. The CD transport is a slot-loader, while other features include FM and DAB radio (including DAB+, apparently, not that there are any transmissions yet), USB inputs at the rear and the side, digital inputs, and even a phono input, a real rarity on such systems. A matching iPod dock, 'The Bridge', is included.

The power amp unit stays impressively cool in operation at any output level, suggesting highly efficient amplification and power supplies. It has a rather similar overload protection mechanism to some recent Cambridge Audio amps, in that it won't let the gain increase beyond a safe level, so you can't really clip it in normal use.

Sound quality

Lively and well integrated, our listeners thought, though not the most detailed of the group. It lets the music flow well and gives a good sense of style in pretty much any kind of music, from baroque to soul. Tonally it has good, weighty bass which extends well, while treble is open and natural, never becoming harsh. Just occasionally, the treble may seem a little too polite, and one listener commented that the sound in a couple of tracks could have used some more bite, but that's surely preferable to the opposite.

In multi-layered music it's easy to follow the progress of each element, even though analytical resolution escapes these units (hardly surprising given the price). This is largely down to the sound's fluid quality which makes the most of melodic ebb and flow, but there is also some decent resolution in evidence and it's always a pleasant and involving listen.

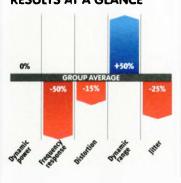
FM radio seems good, and the very civilised treble helps make the most of DAB and MP3 tracks (from iPod or USB stick). The phono stage is fine though a little muffled.

TECH LABS

LAB REPORT

There's 'character' in sound and there's overt manipulation - and this combo certainly does the latter. The first giveaway is the frequency response, which is a very long way from flat. Stating it as ±7dB is, if anything, flattering it: relative to the midband, around 500Hz, there's a -3dB dip at 1200Hz, +1dB bump at 2600Hz, -6dB dip at 6.5kHz, then a ramp up to +8dB at 20kHz. Oh, and the bass rolls off quite early, too, -10dB at 20Hz. On the other hand, that's probably intended to equalise the speakers, which seems to work out. What's less easy to comprehend is the dynamics compression from the amp: yes, it actually affects dynamics like an FM radio compressor, boosting quiet passages and cutting back loud ones. It does it quite gently, but it cuts up to 10dB off the dynamic range of music. And our listeners liked it! What on earth should we think?

RESULTS AT A GLANCE



Choice

OUR VERDICT

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

LIKE: Nifty-looking, practical and efficient: good musical flow

DISLIKE: Non-optional audio compression: showsfingerprints; heavy reliance on remote

WE SAY: Too much compression isn'ta good thing - listen with care!











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Shanling MC3000 £1,400

With its retro looks and technology, Shanling's MC3000 is right on trend and challenges the competition

DETAILS

ORIGIN: China

WEIGHT:

11.4kg DIMENSIONS:

FEATURES.

- 450x165x335mm • CD transport; FM/ AM radio; iPod dock
- · Outputs: headphone: 1x preamp; 1x video
- Digital outputs: 1x electrical
- 60-watt output **DISTRIBUTOR:** Real Hi-Fi TELEPHONE: 01257 473175 WEBSITE:

shanling.com

he chassis design of this device started life as a CD player and it's thanks to some nifty lateral thinking that Shanling has been able to expand its remit to amplification, radio reception and even an iPod dock. Some of the work to do that was straightforward enough; for instance, putting the power amplification and mains transformer in the 'towers' at the back. Some was really quite clever - the volume control and input selector are each

There's nothing unusual about the internal construction, though, the parts quality is impressive, with a very recent DAC chip and quite a few good-quality op-amps. Bucking the modern trend, most components are through-hole types, despite which Shanling has even found space for relays to switch between the inputs.

operated by a knob masquerading as

the top of one corner pillar.

Above the chassis, the valves pay homage to Leak amplifiers of yesteryear, though these little bottles

only perform small-signal duty while transistors handle output currents. The top-loading transport is nice to use and reads discs quickly, its sub-three-second loading time barely rivalled by any player present or past.

Sound quality

This turned out to be the most contradictory of the group test, with opinions divided markedly. At the root of this seems to be a slightly bright character to the sound which manifests sometimes as lively energy. sometimes as harshness and/or thinness, and sometimes as increased reverberation. That last observation surprised us too, but it's demonstrable that the apparent reverberation of very acoustically 'live' classical recordings can be increased by the MC3000.

The most successful track from our blind-listening presentation was from Otis Redding, which is mellow almost to the point of dullness, and the baroque chamber music which by contrast is bright but is the kind of

without damage - indeed it just gets livelier and bouncier. Both of these could have done with more detail, it was generally felt, but were enjoyable nevertheless. The Rachmaninov was good on drama and dynamics but lacked insight in the heavily scored sections. Bass is good and punchy, but the overall sound is rather frustrating because it never quite marries excitement with precision. The radio works well while the iPod dock and line inputs give similar results to the CD transport.

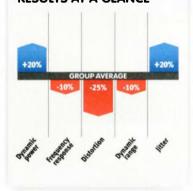
music that can take a little more

TECH LABS

LAB REPORT

It was easy enough to determine the maximum output of this unit as its overload is well defined, but distortion rises rather fast in the last few dB below clip. As a result, the 0.1 per cent figure we've quoted is subject to variation depending on the exact level chosen just 1dB higher output and it would be 0.3 per cent. There's quite a nasty character to this distortion, too, with lots of harmonics and mains modulation thrown in, but unless you're listening on very clean speakers in a large room you'll probably never be aware of it. Below about 10W output distortion is fine, Shanling obeying the guideline about the first watt being the most important. Frequency response is superb in the treble, not a gnat's whisker shy even at 50kHz, while the hass rolls off very gently, 0.5dB down at 20Hz. Digital performance is good with an above-average digital filter and low jitter.

RESULTS AT A GLANCE



OUR VERDICT

SOUND QUALITY **** VALUE FOR MONEY $\star\star\star\star$ **BUILD QUALITY**

 $\star\star\star\star$

LIKE: Great-looking; good bass drive; lively treble

DISLIKE: Can often sound too bright, even harsh; lacks detail

WESAY: Atalkingpoint due to its striking design, butthe sound doesn't come up to scratch - at best it's energetic

FEATURES







ANTHONY GALLO

ARCAM

ATLAS Cables audiolab

AUDIOVECTOR

B&W

CHORD

• CHORD •

CRESTRON

CYPLS

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Yamaha **MCR-640 £600**

The budget price is tempting, but with Yamaha's not-quite-separates you get what you pay for

DETAILSORIGIN: Malaysia

WEIGHT: 5.7kg (total) DIMENSIONS: (WXHXD each) 215x110x320mm FEATURES:

- CD; DAB, FM, AM
- Inputs: 1x line; 1x USB; iPod dock
- Outputs:
 headphone
- 65-watt output DISTRIBUTOR: Yamaha UK

TELEPHONE: 0844 811 111 WEBSITE: vamaha.com



uestion: when is a hi-fi separates component not separate? When it's not functional apart from its

sibling – which makes the R-840 amplifier a separate but the CD player not. The latter has its own power supply and mains lead but simply refuses to power up when not connected to the amp via the supplied data lead. The amp will work, but isn't so attractive on its own with effectively just the one line input, plus of course digital and analogue radio and the iPod dock.

Linked up, the two units form a pretty well-specified system. The CD player carries a USB input for

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memory sticks etc, and apart from a front-mounted input or a digital input there's not much more one would wish for. Operation is fully traditional, right down to the single-turn volume control, though in the manner of other current Yamaha components the volume knob operates an encoder which controls gain electronically. Tone controls are defeatable by the 'Pure Direct' button which also kills the display.

Assembly inside both units is more budget-looking than the other units here, with plenty of loose wiring and cheap circuit board material. You do get a lot of components for the money, though – none of them audiophile-grade but decent enough. It's all linear stuff, with conventional mains transformers (frame-type) and a regular linear output stage on an internal heatsink. The price includes speakers – they're not bad, but a bit congested.

Sound quality

Although the sound ticks most of the obvious boxes, it seldom seems to gel in an entirely satisfactory manner, our listeners felt. Detail's a little shy in complex music, while simpler tracks suffer from a slightly shut-in perspective and some mild coloration in the upper midrange that makes bright instruments and voices a little coarse. On the other hand, this system does at least present quite 'together' music-making – there's no feeling of disjointed parts within an

ensemble, so one isn't made too aware of the shortcomings.

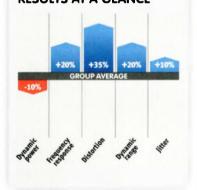
Bass is decent, with good extension and a reasonable degree of attack, though it's not always the most tuneful and one of our listeners pointed out that it can be a bit of a dead 'whack' at times when it ought to be a specific note. High treble is a little shut in but no more than one expects from budget kit, and not markedly more so than the other sub-£1,000 systems in this group. The FM radio seems slightly coarser than most of the others, but DAB and iPod are fine.

TECH LABS

LAB REPORT

Like many manufacturers these days, Yamaha quotes power output into 6 ohms. In a way, this is fair enough if its own speakers are 6 ohms, but in this case that's rather optimistic. Still, our finding of 45W is pretty decent for such a system. In fact, measurements are good across the board and need no special pleading on grounds of price, with response flatness (in 'Pure Direct' mode) as good as any and lower levels of noise than most. Distortion, too, is good, in fact by a small margin the best of the group. That's at high output, at least: what may have some bearing on the sound is the way distortion actually rises (relative to the level of the test signal) at low outputs, even if not by very much. Given the performance of typical speakers and ears, amplifier distortion of 0.02 per cent at 1W output may well be more significant than the same level at 40W.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

VALUE FOR MONEY

A A A

BUILD QUALITY

FEATURES

SOUND QUALITY

LIKE: Pleasantly listenable; well appointed; affordable

DISLIKE: Doesn't go beyond pleasant! Lacks precision and energy

WE SAY: Attractive value, but we'd spend the extra on the Harman/Kardon system at least.

OVERALL



Conclusions

One overall winner and two recommended products sums up this one-box system exposé

WE SAID AT THE START that you can see where your money is going with these systems, but the big exception to that would appear to be the Harman Kardon MAS110. It's got lots going for it, especially on the features front, and the included speakers are impressive, but it's what you don't see that matters — the way it affects the dynamics of music played through it. It's an interesting idea but for heaven's sake, couldn't it be a switchable option? Yes, our listeners rather liked it, but long-term it's not so welcome.

Among the rest performance is more straightforward. The Yamaha scores lowest overall but then it's the cheapest. It offers a decent bunch of features, decent sound and overall is, well, decent – it won't set the world on fire but does a job honestly.

At the other end of the price spectrum, the Consonance Ping offers some very good big-scale sounds and is particularly well placed to make the most of big music. It looks a bit like an amplifier with knobs on which we're not holding against it, but we're not quite convinced it does all it should on the detail front. It serves vocals well, however, and is great with pop. Funnily enough, some of the same criticisms that were made of it were also applied to the similarly priced Shanling and Audio Analogue units, both of which seem rather more assured with energy and the big picture than with finer details. The differences between the three seem to be mostly tonal, with AA scoring for bass impact, Consonance for bass extension and Shanling for lively treble. That, and differences in the features offered, will decide between them.

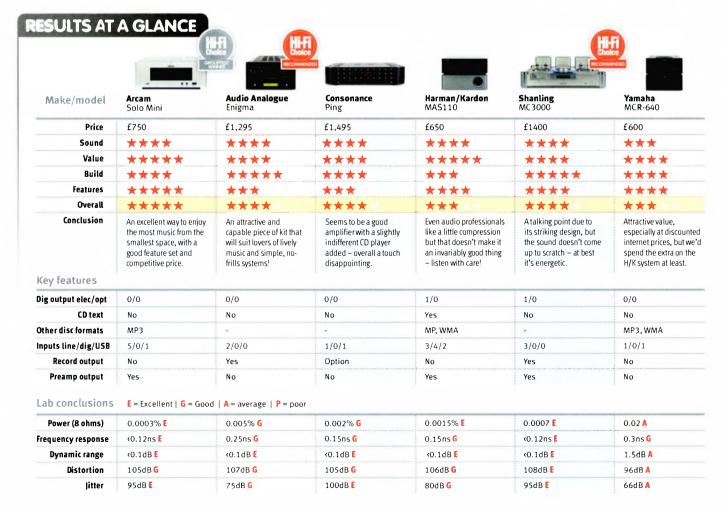


TURNTABLE: Rega P3-24 £398 The most popular budget turntable and an unfailingly musical performer.

PHONO STAGE: Cambridge Audio Azur 640P £100 Budget phono stage with performance way beyond its price.

SPEAKERS: Wharfedale Diamond 9.1 £150 Classic starter speaker, achieving remarkably natural and detailed sounds.





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MORDAUNT - NHORT

www.hifichoice.co.uk

Little wonder

Five years in the making, the standmount partner to Mordaunt-Short's elegant Performance series is finally here. **Paul Messenger** listens in

full five years on from Mordaunt-Short's original Performance 6 floorstander with its

radical moulded enclosure, comes its long-promised standmount partner. Looking every bit as elegant on its matching glass and alloy stand, the Performance 2 shares many of its bigger brother's advanced features, including the rather clever rearaspirated and mechanically decoupled 'ATT' tweeter unit.

Klassy Klippel

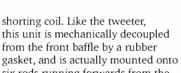
This two-way design features a bass/ mid driver positioned above a flared reflex port and below the tweeter. The advanced '3rd generation' 165mm main driver has Mordaunt-Short's familiar aluminium dishshaped 'continuous profile cone', 120mm in diameter, with a wraparound edge and little radial ribs towards the periphery to aid stiffening. Developed using the well-regarded Klippel modelling techniques, the variable thickness surround and the spider are adjusted to minimise distortion and the neodymium motor incorporates a

this unit is mechanically decoupled from the front baffle by a rubber gasket, and is actually mounted onto six rods running forwards from the rear of the 'shell' and incorporated in the moulding.

In recent years some of the most important improvements in sound quality have come through careful selection of audiophile-oriented components for use in crossover networks. The damped second-order network used to feed the tweeter here uses a DVP (dual value parallel) capacitor technique, employing high-quality polypropylene examples from ClarityCap. Two matching pairs of custom terminals are mounted on the rear, connected for single wiring by brass strips.

Back to black

Before we get into the nitty-gritty of just what these innovations do to the speakers' overall performance, let's examine the outer shell so to speak. As shiny, high-gloss 'piano black' loudspeakers seem to have become the current fashion with consumers - the Performance 2 is also available



DETAILS PRODUCT:

Mordaunt-Short Performance 2

ORIGIN: China

TYPE: standmount loudspeaker WEIGHT:

12kg DIMENSIONS: (WxHxD) 239x486x361mm

- FEATURES: • 25mm ATT aluminium dome
- 165mm aluminium CPC main driver
- Front ported
- Complex curved reinforced moulded
- Decoupled tweeter with special ATT rear loading
- Matching glass and alloy stand DISTRIBUTOR: Audio Partnership/

Marantz UK TELEPHONE: 020 7940 2200 WERSITE.

mordaunt-short.co.uk

in graphite grey and silver (pictured), it was interesting to note that the midnight black samples we reviewed matched the sleek pillar stands (£495 per pair) well. The stands are constructed using glass tops and base plates connected by a shiny black alloy column. The glass itself is toughened furniture-grade, also coloured black, and the base is constructed from a sandwich of glass plates with a constrained damping layer in between. Just a single piece of glass is used for the top plate. topped by a soft and lossy layer which forms a constrained damping layer between the glass plate and the metal base of the speaker itself.

No alternative colour options are available for the stand, but the back of the pillar has a slice removed so that cables may be neatly tucked

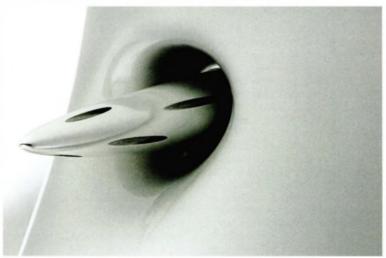
"Every bit as elegant as the Performance 6, this long-promised standmount shares many of its big brother's advanced features"

away. The speaker is firmly bolted to the stand, and the base accommodates four proper floor spikes, only mildly compromised by finger-wheel lock-nuts but with a generous footprint. The end result has good physical stability and is probably as heavy as many floorstanders, even though the main shell of the moulded enclosure is deliberately quite light.

Moulded monocoque

The moulded enclosure is surely the real pièce de résistance here. 'Wood is not an engineering material', was a key phrase Mordaunt-Short used when launching the original Performance 6, and that remains a key rationale behind the design of this new Performance 2. One obvious advantage of moulding is the ability to create an irregular and exceptionally elegant shape. All surfaces are curved and the whole thing is strongly tapered so that it's slim and very shallow at the top, but slightly wider and considerably deeper down at the base.

Curved surfaces are much more rigid than flat ones and the complex curved shape of the Performance 2 is both light in weight (to avoid storing energy) yet exceptionally stiff.



Aspirated Tweeter Technology (ATT): rearward radiation is ducted down a drilled metal rod

Q&A...

WE SPOKE WITH MORDAUNT-SHORT DESIGN ENGINEER GRAEME FOY



HFC: It's more than five years since the original Performance 6 appeared. Why has it taken so long to create the Performance 2?

GF: At the beginning, we ran into some difficulties with the cabinet design; achieving our acoustic and aesthetic ideals proved extremely difficult. And our dealers were lobbying us for an even higher-end model – hence the decision to develop Performance 6 LE – our 40th Anniversary tribute. However, the advent of Performance 6 LE and the experience it provided has been to the benefit of Performance 2.

How did you arrive at the complex enclosure shape?

P2 had to follow the same basic P6 aesthetic, but the challenge technically was to maintain the correct rearform for the ATT to work correctly, and also keep a workable internal enclosure volume within the shape constraints. Internally, the woofer mountings extrude from the rear as P6, thus isolating it from the front baffle, and internal bracing is mainly by virtue of the cabinet shape and enclosure wall thickness—all controllable, as we use a moulded material process.

What about ClarityCaps? We believe you use them in pairs. How important do you think this is in the overall sound quality?

ClarityCap devices have recently benefited from a rigorous academic research effort to improve their already excellent specification; we carefully selected these components fortheir subjective effects within the system, whilst our DVP (Dual Value Parallel) configuration allows even finer control of impulse behaviour. Implemented correctly, this method offers superior levels of detail and timing.

The Performance 6 comes in standard and LE versions. Which does the Performance 2 most resemble?

Performance 2 is much closer in construction to the LE version and shares important improvements such as the new polymer material used in the enclosure and the use of ClarityCaps, for example.

52



THE ATT TWEETER is a radical drive unit in the way it deals with the radiation coming off the back of the dome. Known as ATT (Aspirated Tweete Technology), a compact neodymium motor allows rearward radiation to be ducted down a fat metal rod drilled by a logarithmic spirál of thin, differentially tuned pipes, which the back of the enclosure. The purpose is to create a flat acoustic impedance at the rear of the

enclosure.
The purpose is to create a flat acoustic impedance at the rear of the diaphragm, while also allowing some non-coherent treble output to add extra air and spaciousness. The whole assembly is mechanically decoupled from

the enclosure via a

rubber sleeve.



Internal reflections are distributed every which way, rather than back through the main driver cone and the lack of any parallel faces ensures that internal standing waves are widely distributed. Strategically placed internal webs provide further stiffening, as does the flat metal baseplate that supports the rest and prevents the whole thing flexing.

The LE version of the Performance 6 used a reformulated polymer resin for improved performance and this more recent variation is also used in this model. Grilles are supplied to cover just the bass/mid driver, but their use is discouraged on sound quality grounds. Only a coarse mesh to protect the aluminium dome of the tweeter, is a permanent fixture.

So what of the sound? While it's clear that a standmount with just one bass/mid driver will never offer either the bass weight, the power handling or the ultimate loudness capability of a larger multi-driver floorstander, it does have several other advantages.

One plus point is the innate simplicity of a two-way, with just one crossover point and a simpler network for the amplifier to drive. Another is that generating all the bass output from well off the floor, and from sources with lots of space around them, does seem to give a rather cleaner, crisper bass than floorstanders manage.

Clean, crisp and clear is the most obvious phrase to describe the fundamental characteristics of this stylish loudspeaker. There's actually so little of the usual wooden box colourations going on here that, despite the impressive neutrality indicated by the in-room measurements, the end result seems to lie a little on the cool and clinical side of subjective neutrality.

As a result, the Performance 2 seems to work best when driven by sources and amplification with relatively warm characteristics, and which, therefore, provide some balancing compensation. Although it worked fine with our normal solid- state Naim NAC552/NAP500 combo, it also seems very well suited to being driven by valve amps, including our restored Leak Stereo 20, and a pair of single-ended PX-4 triode based monoblocks fed from a Quicksilver Audio Full preamplifier. By the same token, it seems to prefer the warmth of vinyl to the cooler character of CD, for example, and we got particularly impressive results when we spun the Grateful Dead's classic late-1960s album Anthem of the Sun.

Dextrous agility

Although the Performance 2 does tend to sound rather lean and short of ultimate weight through the bass region, it also has fine agility and crisp timing. Bass guitars might lack a little authority, but they're also refreshingly free from tonal thickening or overhang. It's very easy to hear not only what notes a musician is playing, but how the phrases are constructed, and how the intentionality of one note leads on to the next.

That lack of 'heaviness' is combined with an upper midband that's rather stronger than most, which has several consequences. The good news is that it makes for a very open

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sound with explicit detail through the voice band. This means that speech is very intelligible, even when playing the system at whisper-quiet levels, though the tonality does sound a little 'thin'. However, it also means that things can start to sound a little too aggressive when the volume is turned up high, depending on the quality of the source material and or ancillary components.

We're inclined to speculate that while it's clearly true that the monocoque enclosure is very effective at avoiding generating low-frequency colorations, its very stiffness might have pushed them higher up into the midband. However, we should stress this is mere speculation, and proving it

would require far more complex apparatus than was available.

Imaging is everything

As one might anticipate from such a high-quality standmount, stereo imaging is to a very high standard. While temporal focus falls somewhat short of the ultra-tight timing achieved by the Green Mountain Rio reviewed in *HFC* 332, it's still very good, and there's absolutely no tendency for individual sounds to hang around the boxes. Furthermore, the Performance 2's superior neutrality ensures more believable image perspectives and better resolution of depth.

The overall soundstage is impressively spacious and airy, and

BUILING A SYSTEM

IF YOU'RE LOOKING for a sympathetic separates set-up for the Performance 2, the first port of call ought to be Cambridge Audio.

Practically the sister company of Mordaunt-Short, Cambridge's portfolio will enable you to partner this speaker with a sturdy CD player, integrated amp and a pre/power amp for just under £3,500.

No doubt developed with these products in mind, we'd introduce the Performance 2 to the Azur 840C (£700), a CD player with resolution and tonal evenness to match its looks; 840A v2 integrated amp (£700), a chunky powerhouse with plenty of features; and the Azur 840E/840W pre/power amp, a combo that always sounds detailed and controlled.

it's tempting to suggest this might well have something to do with the decorrelated treble output issuing from the back of the ATT tweeter.

The Performance 2 is a class act, no question, though its somewhat light and bright character won't suit all tastes and systems. Indeed, one suspects that its larger floorstanding Performance partners will probably have more universal appeal and may well be amongst its strongest commercial rivals. That said, this speaker certainly delivers the beneficial lightness of touch, the airy, spacious imaging, and the entertaining agility that is to be expected from the combination of its standmount configuration and its advanced technical features.

TECH LABS **RESULTS AT A GLANCE** Excellent Above Average Below Poor SENSITIVITY: AMP LOADING: FREQUENCY RESPONSE BASS EXTENSION: SMOOTHNESS: Comfortably The load twice fallsto 4.5ohms Holds within fine meetsits Despite a Well controlled. specified 89dB significant 50Hz through the lower +/-3dBlimits though some local above 60Hz sensitivity ratingroom mode midband and unevennessmay a good figure for prominence, the in-room and with be seen across the actuallydips a speakerof 6dB point is at down to 30hms thespeakerswell upper part of the just 40Hz here at 11kHz clear of walls. this type audio band

Hi-Fi Choice

SOUND QUALITY SOUND QUALITY A A A VALUE FOR MONEY A A A BUILD QUALITY A A A SOUND SEASE OF DRIVE

 $\star\star\star\star$

LIKE: Airy, spacious midband imaging with clean bass reproduction

DISLIKE: Lacks warmth and can sound a little thin

WE SAY: Anopen, agile sound alongside great styling. Works best with warm ancillaries and modest levels





Vampitup

Paul Messenger discovers an affordable route into Audio Research ownership, the legendary name that never lost its faith in valves

S legend Audio Research was one of very few to stick loyally with valves – or vacuum tubes, as the Americans' prefer to call them – when the rest of the hi-fi industry was rushing to embrace solid-state electronics. It can also fairly be called the father of US 'high-end', setting just such an agenda through the early 1970s with legendary 'super amps' like the 150-watt per channel all-valve D150.

Hindsight shows that yesterday's heretic has become today's prophet and now that valve electronics are making a determined comeback, Audio Research holds the high 'I told you so' ground.

Through forty years of continuous production and development, Audio Research has probably learned all there is to know about making valve amps 'for life' and has certainly built up an impressive portfolio of mostly amplification components.

Ancient and modern

The LS17 preamp is a clever combination of microprocessor control with solid-state components used for the power supply, while the active circuitry combines FETs with a couple of Russian 6H30 double-triode valves (adorned with lossy damping rings). The consequence is arguably the best of both worlds, combining the benign thermionic

DETAILS

PRODUCT: Audio Research LS17 and VS60

ORIGIN: USA

TYPE: Preamp and power amp

WEIGHT: LS17 5.9kg VS60 14.7kg

DIMENSIONS: LS17 (WxHxD) 480x130x300mm VS60 (WxHxD) 356x178x356mm

FEATURES:
• (LS17) Remote control

- 2x 6H30 doubletriode valves
 Linear display
- (VS60) 50 watts per channel
- Power valve bias adjustment
 4 or 80 hm
- matching
 Optional cage

DISTRIBUTOR: Absolute Sounds TELEPHONE: 020 8971 3909 WEBSITE: audioresearch.com sonic signature with the convenience of full remote control alongside reasonably comprehensive facilities.

Curious combination

At first – and indeed at second – sight, this separate preamp/power amp is not necessarily the most logical partnership. That's because the LS17 stereo preamp has balanced as well as single-ended inputs and outputs, whereas the VS60 stereo power amp has only one pair of single-ended input connections.

The debate over the comparative advantages and disadvantages of single-ended and balanced connections has raged for years and never been satisfactorily resolved. Despite extra cost and complexity, US brands have long favoured balanced connections, whereas UK companies tend to prefer the simpler single-ended approach. I'm not taking sides here, but was surprised to find that the VS60 lacked balanced inputs.

Push-button

Presentation is classic ARC, combining a thick oversize silver-

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alloy fascia with steel casework, perforated for ventilation. The large oval knobs either side of the central display provide hands-on volume control and selection for the five main inputs, while four push-buttons select power, muting and the monitor and processor override inputs. The electronic volume control is also very well conceived, the 20-lamp display tacking 104 individual steps. Indeed, the only obvious omissions from our point of view are a mono switch and a balance control.

In practice, of course, the real control surface will be the remote handset and the LS17R supplied here is an object lesson of how to do it properly. It's small, light in weight, and has just the minimum number of buttons needed to operate the available functions. Which, if you consider the numerous button-laden handsets which are bulky, heavy and pretentious in design, is exactly what is required.

Easy connections

The rear socket array consists of two stereo pairs of balanced XLR inputs - only really of much use to those who have sources with balanced outputs – plus seven pairs of phono sockets. The latter comprise just three 'regular' stereo input pairs, a quartet for tape recorder output and



ALTHOUGH this review has focused entirely on the LS17/ VS60 pre/power as a combination, it's interesting to consider these separate components as individual units in their own right.

Which is more important to the sound of the system as a whole? Both play an important role and each imposes its own individual character on the sound. The LS17 preamp is sonically sweeter and more transparent.

Using a VS60 with an inexpensive passive preamp is an alternative temptation, but ultimately a power amp is only as good as the signal it's provided by a partnering preamp. So given an either/ or choice, our vote would go to the LS17. monitoring, as well as an input pair for AV processor connection (which presumably by-passes the volume control and supplies full gain). The three volume-controlled outputs include one pair of single-ended phonos and two pairs of balanced XLRs. A regular 13-amp IEC 'kettle' mains input and a 12-volt 'trigger' make up the full complement.

The 50 watts per channel VS60 stereo power amp is rather simpler. The front has just an on/off toggle with tell-tale LED, while the busier back has one pair of single-ended phono inputs. Three speaker terminals for each channel allow matching to either four-ohm or eight-ohm speakers and don't accommodate the four-millimetre 'banana' plugs popular in Britain it's spades or bare wires here.

"Audio Research has probably learned all there is to know about making valve amps 'for life'."

There are also fours pairs of bias test jacks, to provide accurate adjustment for each output valve, 12V 'trigger' in/outputs and a 13-amp IEC 'kettle' mains input. A cover for the valves and transformers is an optional extra.

Reassuringly expensive

Audio Research amplification is far from cheap. The two components reviewed here cost £3,575 and £3,063 for the preamp and power amp respectively, but those figures are far below the truly extravagant price tags that are all too often hung on high-end equipment.

We don't have price-equivalent data for this combo and its immediate predecessors, but have managed to compare the price of the current VSi60 integrated model with the earlier VSi55. Over the course of no fewer than six years, the £2,895 '55 has morphed into the £3,370 '60 an increase of a mere 16 per cent, notwithstanding the performance upgrade and the recent collapse in the value of sterling.

Magical Voices

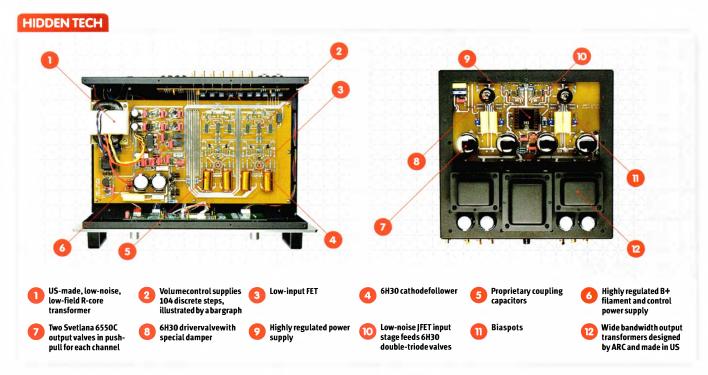
We were very impressed by the Audio Research VSi55, when it debuted six years ago. A commendable performer with an excellent feature list, the model has now been replaced in the ARC ▶

CONNECTIONS



- Balanced XLR inputs
- with home theatre
 - 13 amp IEC 'kettle' mainsinput
- 12vtriggerto remotely

Inputs for bias probe



line-up by a VSi60, which is quite closely related to this LS17/VS60 combo: a VSi60 is essentially an integrated version of the VS60 power amplifier, albeit with a simplified passive preamplifier).

Regrettably, six years is far too long to attempt to establish what, if any, advantages this brand new combo has over its integrated predecessor. And, unfortunately, there was also nowhere near enough time available to carry out the full 600-hour (!) 'breaking-in' period that Audio Research recommends these components need, in order to achieve their very best sound quality.

Shivers up the spine

56

But we can say that we were immediately transported into a familiar comfort zone. Valve amps always seem comfortably able to deliver a midrange purity and realism that's clearly and obviously superior even to far more costly solid-state amplification and this LS17/VS60 combo does precisely that. The sheer realism of a beautiful human voice, such as mezzo soprano Sarah Connolly singing Purcell's Dido's Lament, sent shivers up our spine when we heard it on the radio recently. It even worked surprisingly well via 'Listen Again' over the internet!

Some limitations became more obvious when playing wider bandwidth rock material.

After all, this pre/power combo costs just two-thirds the price of Audio Research's top Reference 5 preamplifier, so it's bound to involve some compromise and these are most obvious towards the extreme top and bottom of the audio band. The low bass lacks a

HOW IT COMPARES

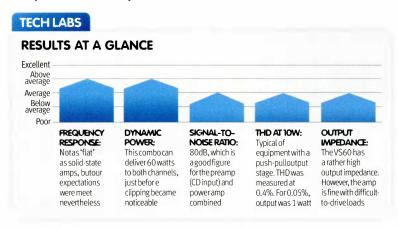
THERE ARE distinct differences between the way British and American hi-fi cultures have evolved, most obviously in the techniques and approaches to the connections.

Most UK power amps have multiway socket/ binder speaker terminals which can accommodate not only spade or bare wire connections. but also the springloaded 4mm plugs that are commonly fitted to UK speaker cables. This ARC VS60, however, could only accept spade or bare wire terminations.

Likewise, balanced XLR inputs are relatively common on US kit – the LS17 has four pairs in toto – but comparatively rare on British equipment, which (outside the ProAudio sector) has always favoured the simpler single-ended RCA phono socket.

little poise, has a slight tendency to thump and to gloss over the fine textures that distinguish the fine detail of instrument differences. And although the top end is beautifully tidy, it's also perhaps just a little too restrained – lacking some of that all-important sparkle.

Imaging is delicate, spacious and airy, free from any obvious boxiness or coloration and always well-detached from the PMC IB2i speakers we use for reference. However, focus does seem a little vague and weak and this seems to be an effective pointer to the overall sonic character of this amplifier, which is delightfully sweet and transparent, but also just a little soft around the edges. The total experience is certainly very listenable and enjoyable, but also a little lacking in tautness and dynamic tension.



Choice **OUR VERDICT** SOUND QUALITY LIKE: Wonderful midrange **** dynamic expression. especiallywhen reproducing VALUE FOR MONEY the human voice \star \star \star DISLIKE: Loses some definition and lacks grip BUILD QUALITY WE SAY: This mature valve \star \star \star \star combo has intelligent SPECIFICATIONS ergonomics and sounds $\star\star\star\star$ very easy on the ears **OVERALL**

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High and mighty

Townshend's gas-dampened speaker stands will lift your music to a completely different level, reckons *Jason Kennedy*

he Stella is Townshend Audio's latest and most elegant incarnation of a base that isolates the speaker from the floor. But this particular variation uses an innovation called variable gasdamping suspension, which can also be found on the Rock 7 turntable and yet here can support loudspeakers weighing up to 80 kilograms!

In fact, it's the perfect solution, if you've have taken your high-end system as far as cables, equipment supports and tweaks will allow without replacing the hardware.

Break the link

The standard Stella Stand is an X-shaped device that has sprung rubber bellows or 'dynamically variable gas-dampers' at each corner. These come in three variants according to how much mass the stand will need to support. The Stella can also be used with both floorstanding and standmount speakers and has a bracket to stabilise the latter; the soft nature of the suspension means that a top heavy standmount needs to be bolted down at its base.

Townshend also makes dedicated stands for specific speakers and this is the one we were sent for review – in this case the Bowers and Wilkins 802D floorstander (£1,500). At 80kg this is at the top end of the Stella's

range, but the bellows seem quite happy and the speaker is free to bounce if pushed. Thankfully holes in the top plate prevent it sliding off.

Townshend's theory is that energy in the cabinet will resonate the floor at certain frequencies and this resonance bounces back into the speaker where it can interfere with the movement of the drive units. The Stella Stand claims to breaks the speaker/floor link and allow the speaker to operate in a linear fashion.

Unique

Value for money is the toughest hurdle for this stand. It's well made out of laser-cut steel and finished to an adequate standard, but the price seems high for four steel plates and eight damped springs. Its value derives from the fact that it's the only product of its type and it can do things for high-end speakers that you will have trouble achieving in any other way. The only alternatives we can find, are basic steel affairs that merely extend the speaker's footprint. Genuine isolation is still pretty radical when it comes to loudspeakers and its material value looks pretty good next to some high-end cables.

Open sesame

The Bowers and Wilkins 802D speakers, that we used as a reference, are usually supported on rubbertipped, threaded-steel feet which

DETAILS PRODUCT: Townshend Audio

Stella

ORIGIN: UK
TYPE:
Loudspeaker
isolation stand
WEIGHT:
16kg
DIMENSIONS:
(WXHXD)
100x380x400mm
FEATURES:
•Variable damping
•Feet: plastic glides
or optional spike
•Adjustable limit

•Adjustable limit stops DISTRIBUTOR: Townshend Audio WEBSITE: townshendaudio.com

CONTACT: 020 8979 3787

raise the speaker about 35mm off the ground. To use the Stella Stand these feet need to be replaced with the castors that are supplied as standard, so that the speaker can be rolled into place. This leaves it standing 70mm off of the ground. A change in height that might effect the bass slightly because the first reflection from the floor will be slightly longer, but we didn't encounter any reduction in low-end extension or power and could no longer feel the floor moving under our feet.

What you hear is a distinct increase in detail across the band. The bass becomes more articulate, so that you can hear more of an instrument's character, like MeShell NdegeOcello's bass guitar. This can often sound rather thick and heavy but not very tuneful, whereas the Stella opens up the sound and lets you hear her playing in full effect.

Expanding the sound is the Stella trademark and this is nowhere more obvious than in the midband, where there is considerably more nuance in voices and instruments, the inflections are better marked and the resonances of wooden instruments far more clear. It's quite a revelation in fact, we already know that the 802D is a great speaker, but you don't know what it's capable of if you've only heard it on the floor.

Realism

So, if you have found your ultimate loudspeaker, but would like to hear more of what it's capable of then the Stella Stand will be a revelation. It opens up the listening window in a tremendously revealing fashion and this means you can hear more of what's going on in the recording. A secondary advantage is that it doesn't resonate the floor which means that sound transmission around the building is greatly reduced, so you can rock on without waking the neighbours. Result!





Loudand proud

Mike Creek's Epos brand has launched into the high-end with the £4,995 Encore 50, Jason **Kennedy** witnesses the transformation

ith the Encore 50, Epos is gunning for the likes of ATC, Bowers and Wilkins and anyone else brave enough to poke their tweeter over the parapet. This speaker makes a statement of intent that no redblooded audio enthusiast could resist: it's made to play loud.

Ironically, when you think of substantial speakers that play as loud as you like, Epos is not a name that comes readily to mind. It makes some pretty good speakers, but up until now they have been reasonably manageable, one man lift-type devices. But what the high-end Encore 50 promises, is Epos' signature timing and finesse combined with the ability to rock the house for the deep-pocketed.

A real hi-fi speaker

You can tell from this loudspeaker's stature that it means business, it measures 1,230mm high on its substantial and elaborate spikes and makes no concessions to the whims of interior design. This is a speaker for those of us who are not afraid to admit that bigger is better when it

comes to recreating a musical performance in the home. It's 45-kilo carcass contains a set of drive units that have been designed to fulfil this mission. For the bass, Epos has used a pair of 220mm woofers that are not only sizeable, but have a lightweight cone made out of Kevlar, carbon fibre and pulp (or paper as it's usually known).

A composition that's not dissimilar to the bass drivers in Bowers and Wilkins' 800 series models, these cones sit in an aluminium chassis with a big 40mm voice coil that has (+/-) 30mm of travel – a lot for a cone of this size - the driver doesn't have to work too hard to make itself heard.

In a separate enclosure there is a 158mm midrange cone in the same material as the bass drivers and with a matching inverted dust cap, the idea being that the two systems can be seamlessly integrated through the crossover. This network is housed in a separate chamber at the bottom of the speaker, you can remove the back panel and see its air-cored inductors and, rather unusually, a tapped auto-transformer for adjusting



Underneath the Encore 50 is a panel with a pair of cables allowing the midband output to be increased or decreased by one decibel and treble by 0.5dB

DETAILS

PRODUCT: Epos Encore 50 ORIGIN: UK/China **Floorstanding** loudspeaker WEIGHT: 45kg DIMENSIONS: (MXHXD)

265x1230x385mm FEATURES:

- •25mm metal-dome tweeter
- •158mm Kevlar/ carbon/pulp midrange
- •2x220mm Kevlar/ carbon/pulp bass
- Cherry wood veneer DISTRIBUTOR: Eposttd TELEPHONE: 01442 260146 WEBSITE: epos-acoustics.com



THERE is no shortage of competition at the price point Epos has hit with the Encore 50. Although not all of it aims to provide the high sound-pressure level that this is designed to deliver, some do get close. Paul Messenger's recent review of the Monitor Audio Platinum 200 reveals a speaker with similar goals, but a rather different approach. The MA is a three-way with two bass drivers, but all the drivers are metal and the tweeter is a ribbon. It looks better and has a more cogent mid and treble than the Epos.

Tannoy's DC10T is a great looking speaker with a dual concentric mid/ treble and bass driver that pumps out a lot of energy. It's not the most even of designs, but is great fun – an area where the Epos, in all honesty, is unlikely to give it much competition.

midband output. Look underneath the speaker and you'll find a panel with a pair of cables in it that allows the midband output to be increased or decreased by one decibel and treble by 0.5dB. Interestingly, using the plus setting on the treble bypasses the resistor in the crossover.

The tweeter is the only element on the Encore 50 that you will see on other Epos speakers, at least that's the way it looks, as this is actually a modified version of the Mi tweeter. Epos drilled out the pole piece and put a cap on the back of the driver that's damped and sealed. This, coupled with thinner ferrofluid. means that it can cope with the power delivery demands of the speaker as a whole.

"This speaker makes a statement of intent that no red-bloodied audio enthusiast could resist: it's made to play loud."

The cabinet is not quite what it appears to be either, its bass and midrange enclosures are built with a laminate of 20mm birch ply and the 12mm MDF that wears the real cherry veneer jacket. We don't recall anyone using this combination of materials before, but Epos reckons that the key qualities from the two materials makes for a cabinet that's both stiff and well damped.

Beautifully built

This is a well-built and substantial loudspeaker, but it's not a particularly beautiful one. It comes in one real -wood veneer finish and this, while entirely professional, is not quite as smart as we have encountered elsewhere. The Mordaunt-Short Performance 6 LE is marginally less expensive, but looks rather more so in its striking moulded enclosure (likewise the two speakers mentioned in the How it compares box). The Monitor Audio PL200 and Tannov Definition DC10T are better finished.

The Epos is well-built though and a lot of thought has gone into the massive spikes which are nicely machined and can be easily adjusted from above. The drive units may not look particularly high tech, but they are well-engineered with alloy baskets and excellent fit and finish.

One unique feature is the 'skateboard' that Epos supplies for



you to move the speaker about on. With a speaker of this weight this is a major boon for every mere mortal that wants to install it.

This is undoubtedly a high-value loudspeaker from Epos. From its tri-wire/-amp cable terminals to its footprint-extending plinth and dual-material bass enclosure, the Encore 50 does not skimp on either the details nor the overall build. It weighs a lot more than all of its competitors at the price and while mass is no indicator of sound quality it often reflects on the build. The lamination is probably where this extra bulk comes from and it should make for a more solid bass enclosure. and revealing player but, in balance

The physical mass of the Encore 50 clearly helps when it comes to bass, which is both well-extended and controlled. It's also very even, in fact the whole speaker is very even, but this doesn't always make for maximum entertainment. It's very neutral balance is a shade on the restrained side which can undermine the ability of the music to really provide a thrill. This can also be compensated for with the right electronics, so we tried a number of alternatives

We dropped in a Leema Antila II CD player in place of our Copland CDA 825, the latter being the more refined

WE SPOKE TO DESIGNER DAVE BERRIMAN ABOUT THE ENCORE 50

JK: Epos has traditionally used polypropyléne in its bass drivers why the change here?

DB: I've always liked the sound of pulp cones and I tried experimenting wih carbon fibre and Kevlar, but not on their own If you use those things on their own they very stiff, but they ring like anything. We wanted damping and lightness and stiffness and we found that mixing these materials with pulp did the trick.

JK: Why have variable output on mid and treble DB: In the old days I used to think that you designed a speaker and you fixed its response but, of course, no two rooms are the same. We couldn't find any switches that would do the iob, so we ended up with plugs that you move from one socket to another A lot of switches can't handle 20 amps.

JK: Why use an auto transformer on the midrange? DB: It keeps total damping on the midrange and the woofer. It's iust like driving speakers through a valve amp. All you're doing is attenuating, or preserving the quality of the signal. Also the midrange only has to cope with a quarter of the power so even at full tilt it's cruising.

terms, it's too calm for the Epos. With the Antila feeding a Classé CP-700 preamp and Gamut D200 III power amp more of the Encore 50's qualities become apparent.

Chief among them is a fabulous sense of ease, this is a speaker that does not have to try too hard (thanks to the way that designer Dave Berriman has engineered it) to be able to play at high levels. It also sounds more efficient than the sensitivity rating would suggest, which is a very appealing thing and contributes to the effortlessness of the presentation

We also had Quad's new integrated amp on hand for a short period. It only produces 25 watts, but every watt counts! This amp proved the best partner of all, by adding richness of tone and a seductive curviness to the result. It doesn't allow the Epos to reveal the full extent of its room shaking powers, but the transparency of the mid is loud and clear. Voices are particularly well served and we got a remarkably revealing result with artists as diverse as Gillian Welch and Donald Fagen.

Loves to play loud

In many ways, this speaker only really comes into its own at high levels, a quality that's rare even at this elevated price point. If your tastes include music from the heavier end of the spectrum and you have some suitably lively electronics it's a lot of speaker for the money. If you are constrained to playing at normal levels, however, its presentation does mean that the music can lack energy and zip. This is probably due to timing more than balance, speed is not a strong point by the standards available elsewhere. Bass on the other hand, is powerful and wellextended and this combined with the ease that it exudes whatever you play will make it appeal to many.







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Roksan TMS1 & DSU superb boxed, recent TM service
Roksan Radius 5, Nima arm, acrylic finish ex demo SME 3009/2, excellent Systemdek IIX, c/w Systemdek arm, voc Thorens TD160HD with TP250, ex demo bargain Tom Evans The Groove, excellent Tom Evans Microgroove plus (upgraded ISO), as new Wilson Benesch Act 1 Tonearm, nr mint superb Radio/Recorders Arcam DT81 excellent boxed

Meridian 504, excellent Nakamichi ZX1000L, just serviced, vgc Pioneer F93T due in Quad FM3, vgc Quad FM4, excellent later grey version, boxed Quad FM4 excellent

Rotel Michi RHT10, excellent boxed

Arcam CD7 excellent boxed

Arcam CDT, excellent boxed
Audiolab 8000CD original version black
Audio Research CD3, excellent in silver
AVI Lab Series CD player, as new boxed Chord DAC64, excellent boxed to clear Consonance CD2.2 24bit, excellent boxed Creek Classic CD, black
Cyrus DACX, excellent black boxed
Cyrus CD8SE, excellent black boxed
Cyrus CD6SE, excellent silver boxed Esotenc DV60, mint boxed, SAVE £2000! Esoteric XO3SE, excellent boxed Marantz SA1, boxed recent new laser Marantz SA15, excellent boxed Marantz CD17KI, excellent boxed Meridian 506 16 bit, excellent boxed, factory serviced Meridian G98, excellent boxed Musical Fidelity Tubalog! Rare as.
NAIM CD3, excellent
NAIM CDS2/CDPS, new laser in 2009, reduced to clear
NAIM CDS2/CDPS, nor mint boxed Pathos Digit, superb boxed Pioneer DVD747, excellent boxed Proneer LVDV47, excellent boxed Roksan Caspian M Series in Silver boxed Rotel RCD02, excellent with remote Shaning CD1100, excellent boxed original model Shaning Omega Drive, yed (light cased, serviced Stello CD1200/DP200 Transport and DAC Preamp mint

Tag McLaren CD20R, excellent boxed TEAC P700/D700 excellent boxed 1/2 size pair Unison Pesearch Unico CDP, excellent boxed AV/Accessones/Cables

Sugden CD21SE, as new one owner boxed Sugden CDMaster Bijou CD player, as new boxed

Chord Signature Speaker cables, factory terminated pair isotek and LAT extension blocks
Linn Classik Movie, due in...
Mendian G68 Pre/Processor, excellent boxed with MSR Musical Fidelity XPSUv3 and X10v3 Onkyo 607 AV Receiver, as new ex demo boxed

Air Tight ATM-1s, excellent boxed Arcam A28, nr mint boxed in black Audiolab 8000C&P grey versions excellent boxed Audiolab 8000Q, excellent in black Audion Silver Night 300b SE integrated, boxed Audio Research SP11mk2, 2009 AS service 2499 Audio Research LS15, excellent boxed Audio Research LS15, excellent boxed
Audio Zone Amp 2 Monoblock
Bel Canto Pre 3/S300 Power, excellent boxed
Bryston BP26 two box preamp, mint
Bryston BP20 pre 8 38ST poweramp, excellent boxed
Bryston B60R integrated, in mint boxed
Bryston B60R preamp and 48SSI2 191 Poweramp
Spriston BP26 preamp and 48SSI2 191 Poweramp
Cambridge Audio S40V2, excellent boxed
Central before BV151, greamp house. 399 149 Conrad Johnson PV15L preamp boxed Conrad Johnson PV15L preamp boxed Consonance Cyber 10 Signature, excellent boxed CR Developments Calypso, excellent boxed Cyrus 6V52, excellent boxed Linn Majik 1 integrated, excellent boxed Linn Majik 2100 poweramp, excellent boxed Krell KAV300, yog classic integrated c/w remote Krell Evolution 600 Monoblocks 699 699 399 899 799 17.499 Krell Evolution BUJ Monoblocks
Levinson No.27 Power amp, vgc
Lyngdod TDAI/2200 with Roomperfect and DAC
Mendian S01 with MSR and phono boards
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NAIM MAIT SX, excellent boxed
NAIM MAPS 25. excellent boxed 1499 149 2999 299 849 499 999 NAIM NAP180 boxed vgc 399 899 NAIM NAC82 excellent boxed NAIM NAC82, excellent boxed
Pathos Logos, ex demo nr mint boxed
Quad 506, vgc boxed
Quad 34, excellent boxed
Quad 909, as new boxed in black
Rega Cursa 2000 pre, excellent in black
Roksan Kandy L3, excellent in black 1999 399 199 699 249 Call 99 Roksan Caspian M Series all amplifiers available CALL Rotel RC06 & RB06 Pre/power mint boxed 399 179 149 1299 539 Rotel RB981 vgc Rotel RC972 preamp c/w remote Sugden A21SE, as new boxed Tag McLaren 125m Monoblocks, to clear Loudspeakers
AVI Neutron IV, excellent ex demo units boxed 349 B&W SCMs or mint boxed in Cherry 899 349 399 749 419 1249 7-19 BBW SCMs, in mint boxed in Cherry
Castle Hariech, vgc
Definitive Technology Mythos 2, pair, bargan!
Dynaudio Contour 1,3mk2 excellent boxed
Dynaudio Audience 62 Roostanders in mint bargain
Focal JMLab 100/78e, nr mint boxed
Focal Sbis Cinema pack XXI, fronts, XL centre and rears
Kef Reference 103.3, due in CALL Kef TDM34DS, excellent in black Kudos C10, early bi-wire pair in Rosenut 2499 Kudos CTU. early br-wire pair in Hosenut Magneplanar MO1 5, ex review Martin Logan Punty, ex demo, for details MJ Acoustics Rel 150 Subwoofer, excellent Monitor Audio SSW12 Gold series Subwoofer, excellent Monitor Audio MA1800 Gold, large floorstander, bargain 3249 Monitor Audio GS20, boxed in excellent order REDUCED 799 1999 1249 799

425 Mordaunt Short, Performance 6 LE, mint boxed Mordaunt Short, Performance B LE, mint boxed Penaudio Rebel 2 and Chara subs in cherry PMC GB11, excellent boxed PMC PB11, excellent boxed PMC DB1 Centre, excellent PSB Apha Tower, brand new sealed box bargain! PSB Apha B1 Stereophile Product of the year BARGAIN!! Quad L Subwoofer, nr mint boxed Quad 21L in Rosewood finish, nr mint boxed Repa BS1, multi boxed. Rega RS1, mint boxed Hega HS1 , mint boxed Rega HS5 in Chery, mint boxed ex demo Revel Performa F32, excellent boxed, serious value! Sonus Faber Grand Piano, excellent boxed, due in Tannoy Mercury, excellent boxed Theil CS7 2, large floorstander £13k new ... BARGAIN! Velcdyne DD18 in Piano black Wharfedale Active Diamond 7.1s - rare boxed SPECIAL SYSTEM DEALS
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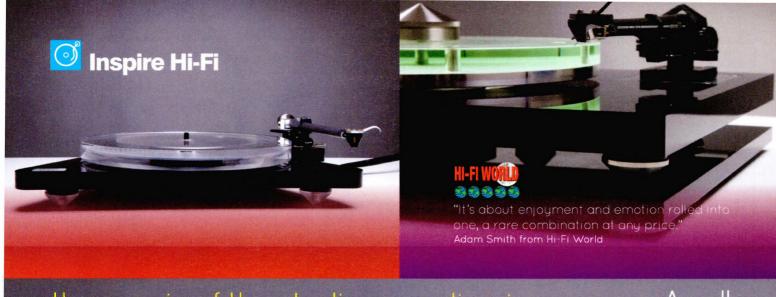
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Irresistible Force

Dominic Todd discovers there's more to this bargain American DAC than meets the eye

he Icon HDP is more than just a DAC. It's also a Class-A headphone and preamp. Furthermore, NuForce claims it leads the field in all three disciplines. These are bold claims, indeed – especially as the Icon faces the likes of Cambridge Audio's budget classic the DacMagic on the high street – but the spec of this everyman DAC certainly stands it in good stead.

The DAC offers 192kHz/24-bit resolution via coaxial input only. Optical and USB inputs are also supported up to 96kHz/24. The optical input is via mini-jack, though a converter is supplied.

Although the Class-A headphone amp is seen as something of a bonus here, it's a high-quality design in its own right and appears much better engineered than your average amp or PC headphone socket. Analogue in and outputs are available via RCA phono with the headphone socket automatically muting the line out.

Both headphones and line out are controlled by the volume control. Disappointingly, no fixed line level output is available – this is desirable for a 'cleaner' signal path. Designed to be used vertically or horizontally, a neat silicon stand is included for the former.

Tweakers corner

Given the price the Icon HDP is exceptionally well finished. Externally, the extruded aluminium sleeve, etched with the company's name, is both smart and solid. Only a lack of stick-on feet, for when used horizontally, mark it down. Internally, the tiny dimensions have instigated the need for some clever packaging

The DAC board sits above the main PCB and features a separately regulated power supply. All switches and sockets, including the ALPS volume pot, are of good quality with all connections being gold-plated.

The inline power supply, with kettle lead connection, is a standard device and would no doubt benefit from upgrade from one of the 'tweakers'.

Aerodynamic sound

Along with the DacMagic, the HDP is amongst the best-sounding DACs below £350. In terms of dynamic reach and depth of bass, there's simply nothing to touch it at this price. With Daft Punk's Aerodynamic, the HDP thundered through the track with a strong, driving bass and soaring guitar. Yet, the excitement doesn't come at the expense of refinement. Although slightly forward sounding, the HDP always remains agile and well balanced.

Classical music reveals precise cymbal decay, suitably rasping brass,



PRODUCT: NuForce ORIGIN: USA

ORIGIN: USA TYPE:

Icon HDP DAC headphone and preamp WEIGHT: 454g

DIMENSIONS: (WxHxD) 150x32x88mm

- FEATURES:
 Digital input:
 24-bit/192kHz
 support by coaxial
- Analogue input:
 RCA phono
- •USB 2.0 (24/96)
- Class-A headphone amplifier
- ALPS volume control for variable output DISTRIBUTOR: HIAudio

TELEPHONE: 08450 525259 WEBSITE: nuforce.com a fine string timbre and the dynamic scale to do justice to large orchestral pieces. Female vocalists aren't formed quite as accurately as some, mostly more expensive, DACs but there can be no criticism of the emotional grip and presence of sound. That is to say, the HDP always sounds believable.

A kind of magic

One important question remains, however: how does this plucky Icon compare with its main rival, Cambridge's DacMagic, group test victor back in issue 331?

Against the DacMagic, the Icon HDP is more dynamic with increased bass depth and a more enveloping sound. In terms of timing, both are excellent. Where the Cambridge does have a slight advantage is in vocal articulation. It also has a digital output, adjustable filters and balanced XLR analogue outputs, all missing from the NuForce. Then again, it doesn't have a headphone socket or preamp capability.

The choice comes down to this: if you're a consistent headphone user, the Icon wins hands down, but if you only need a DAC and prefer a more restrained sound, the DacMagic is better value.

Icing on the cake

That said, the Icon's headphone amp sounds similarly powerful and full-bodied if not quite as lucid as, for example, the £280 Creek OBH-21SE. However, for definition, depth and sound staging, it's miles ahead of any built-in design and plenty of sub-£200 standalone models.

As a DAC, the enveloping sound stage, dynamic clout and excellent separation ensure the HDP is up with the best. Dedicated DACs do little better. The similarly involving headphone amp and pre-amp are simply the icing on the cake.

As desktop PC audio goes, this is as good as it gets. ●





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OUR VERDICT

SOUND QUALITY

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VALUE FOR MONEY

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BUILD QUALITY

XXX

FEATURES

LIKE: Pacey, dynamic sound via all outputs; versatility and value

DISLIKE: Single function DACs cheaper; no fixed line out

WE SAY: Class-leading DAC with excellent headphone output and preamp as a bonus

OVERALL



www.hifichoice.co.uk



Special RECOMMENDED Pro-Jects

Sometimes the smallest kit can produce the biggest sounds, as *Richard Black* discovered when he got to grips with Pro-Ject's Box range

ro-Ject is best known, deservedly, as the company that practically reinvented the budget turntable (an extremely useful accessory) a couple of decades back. The brand doesn't have anything against digital, though, nor other items of audio electronics, as witness the present showing.

But it wouldn't be the Pro-Ject way to follow convention and these are by any standards unusually diminutive units, as are all the 'Box' series components. Despite that, they appear to offer a similar range of functions and abilities to full-size units. Indeed, on paper their most unusual feature is that the amps are separate pre- and power units for the price of a cheapish integrated.

In the boxes

Smallness has its advantages and its challenges. One obvious advantage is the reduction in metalwork and shipping costs. Against that, there are limits to what one can do in the way

DETAILS

PRODUCT:
Pro-Ject CD Box SE/
Pre Box SE/Amp
Box SE

ORIGIN:
Czech Republic
TYPE:
CD player/preamp/
power amp
WEIGHT:
2.7kg/1.2kg/1.4kg
DIMENSIONS:
(WXHxD)

CD 210x70x95mm Pre 105x70x150mm Power amp 105x70x170mm

- FEATURES:
 CD player:
 Slot-loading
- Dimmable display
- Black or silver
 Preamp: Remote controllable
- Dimmable display
- Power amp:
 80-watt output/
 channel rating
 Switching
 output stage

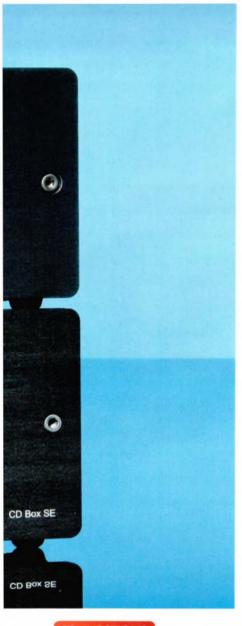
DISTRIBUTOR: Henley Designs TELEPHONE: 01235 51116

WEBSITE: box-designs.com of chunky power supplies, for instance, or heatsinks. For that reason you don't expect a very powerful amp in a tiny case.

Well, here's the good news: that expectation is unduly pessimistic, for the Amp Box SE is rated at 80 watts despite being well under a handspan in its longest dimension and weighing 1.5 kilograms. The trick, if you hadn't already guessed, is switching amplification. This is more efficient than conventional linear circuits can manage, so it's sufficient to dump the heat into the case, which idles just slightly warm and doesn't get much hotter in use.

Switching power stages still need power supplied from somewhere, mind you, so Pro-Ject has stayed with the switching theme and provided an outboard switch-mode power supply as a very large lump in the lead – it actually has similar weight and volume to the amp proper, though it's a bit longer and thinner and it can be kept out of sight as it has a metrelong lead to the amp.

So it's all high-speed switching stuff. The classic audiophile nightmare? We have had enough



experience of very nice audio kit using such technologies to have lost any scepticism we may once have entertained. What's more, siting the power supply remotely like this removes most of the potential for interference to get into the amplifying circuits.

The preamp also has an outboard supply, though in this case it's just a plug-top transformer (the CD player uses an identical supply). In this case, the advantage is just one of keeping bulk and hum fields out of the preamp case. Oh, and there wouldn't have been room on the back panel even for a figure-8 mains inlet, still less an IEC.

Space is, of course, at a premium and this is one slight drawback of these units. The back of both amps is a bit crowded and the speaker terminals are particularly fiddly to use. Still, in the great scheme of things, so what? You only need to get at them once in a blue moon. The preamp manages four line inputs and even recording (marked 'Preout') and subwoofer (mono) outputs too.

The CD Box uses a slot-loading mechanism, but is otherwise the very model of the modern CD player in terms of features and abilities. Both it and the Pre Box have nice clear informative displays. The



SWITCHING amplifiers are becoming familiar across the board. Pro-Ject's Amp Box SE is based on technology from Flying Mole, a name much respected for its amplifiers which, like this one, produce surprisingly high power from a small chassis. It's not strictly a digital technology, but uses 'pulsewidth modulation'. inherently an analogue switching technique that's well-suited to output stages.

The problem with switching outputs is that they produce highfrequency signals in addition to the audio, necessitating filtering at the output. This particular amp has very little in the way of filtering components, but still produces no more ultrasonic 'garbage' than most and manages to keep output impedance quite low over the whole audio band.

latter show gain in dB and though the volume steps are slightly variable, they average out at 1dB, which is a sensible balance between precision and convenience.

Adding some gravitas

One aspect of these units that might cause surprise is how heavy they are for their size. This is almost entirely down to the use of a thick steel sleeve for the top, bottom and sides. It's a sensible design choice because there are few things more annoying than units that slide away when you try to press the buttons. Adding some weight is a practical and cheap way of avoiding that and these feel

"We've now enjoyed enough audio kit that uses high-speed switching tech to have totally lost our previous scepticism"

we're not quite so keen on, then it's the way the front panel can flex away from the top – there's nothing joining the two directly.

Internal assembly is very good, not to say ingenious, as the photos of the Amp Box's insides over the page demonstrate. Each channel has its own circuit board and they are stacked vertically, face-to-face, with components cunningly bent out of each other's way. We wouldn't particularly want to do it, but all the boards can be removed from the case for servicing access in the unlikely event it's needed.

The CD and Pre Boxes are simpler in terms of assembly, but are again neat and efficient and free of nasty-looking bodges. The parts used are nothing fancy, but they aren't the cheapest either: for instance the Pre Box uses decent op-amps chips and the DAC chip in the CD Box is a respectable enough component.

Little amp, big sound?

It's hard to know what to expect from these units, which is just as it should be – preconceptions do nobody any favours at the best of times. But if smallness suggests precision you won't be too confused by what you hear from the Boxes. That's definitely one of their strengths as a system, a lovely way of presenting all the detail in a recording unfussily but very neatly,

CONNECTIONS



- This 12vtrigger is the nearest this amp comes to a frill!
- 2 Speaker connectors: 4mm banana plugs or spade connectors
- CD player has a Digital output: co-axial S/PDIF
- RCA/phonosockets: The Pre Box features 4x line inputs
- Recording output, even though the label says
- Preamp and CD player use identical 16v power supplies

HIDDEN TECH AMP BOX SE, POWER AMP PREBOX SE, Circuit boards areone Slot-loading No heatsink as such. Bypassingcapacitors Input selection and Audiooutput circuitry are plasticfilm types mechanism minimises of two identical boards as the casing suffices volume controlchin is similarly designed to facing each other space requirement fit available space **Output transistors** Smoothingcapacitors Inductor is part of Powersupply circuitry Logicand control Powersupply regulators on boardfor mains powers is tucked behind the the filter to remove attached to an electronics underneath supply ultrasonic carrier from aluminium plate mounted heatsinks **CD** mechanism CD mechanism the output

making it easy to pinpoint instruments and voices. At the same time, there's very good integration and, in fact, one is likely to perceive the whole more strongly than the parts, which again is what one wants.

"What really presses our buttons is the way detail is just there, you don't have to fish for it or listen extra carefully to hear it."

OK, we said 'all the detail' - that might be stretching it a bit, as there's probably a shade more detail that can be discovered by fancy high-end equipment. But for the £1,140 total asking price of this little lot what there is, is

commendable. And what really presses our buttons is the way this detail is just there, you don't have to fish for it or listen extra carefully in order to hear it. Live music's like that too!

Tonally it might be possible to criticise a little unevenness in the bass. Deep bass lacks a touch of impact but that's not serious: what may bother you a little more is a slight feeling that upper bass is a little too present in some recordings. It's most obvious with male vocals, where certain notes seem to stick out more than one is used to and this doesn't seem to be a function of speaker matching as it's the same notes with various speakers we tried. Still, nothing serious and midrange and treble seem very even-handed. Energy and rhythm are good too and if you play something lively through this

THERE'S practically nothing directly comparable with the Pre and Amp boxes, but plenty of integrated amps come in around the same price. One that's just a little dearer would be the Cambridge Audio Azur 840A V2, which has done well in our Blind Listening Tests on more than one occasion. The matching 840C CD player would add up to more than the Pro-lect, butthe cheaper 740C is also very capable.

Intruth, the Cambridge system is more analytical and digs deeper into the bass, with more drive and urgency. It also has very good tonal qualities and twice as many inputs But in general terms, for everyday listening to typical recordings, the Pro-Ject compares very well. It's appealing and communicative and rather less 'in your face' than the Cambridge. We'd choose Cambridge for critical listening but Pro-Ject for simple unfettered musical pleasure.

combination you'll soon want to be up and dancing around.

Taking on the competition

That's not to say that the sound is going to be everything to everybody, but it seems to be unusually well-judged and succeeds in many different ways without really doing anything that one would want to criticise very harshly.

With kit like this, that has something unusual to offer, one is prepared to be a bit accommodating and excuse the odd foible, but we can't really see where that's necessary. There are plenty of other combinations on the market that one could put together around this price point. They also have lots to offer, but we're not sure that any of them necessarily beats this one for all-round appeal. And that's what makes it so easy to recommend. •

TECH LABS **RESULTS AT A GLANCE** Excellent Above average Average Below average DYNAMIC DISTORTION: DYNAMIC FREQUENCY JITTER: POWER: RESPONSE. The Amp Box SE RANGE: The CD player 105wperchannel This would score contributes most Again, the amps behaves very well, is not bad for any higher but for a dominatethis. of the distortion at with just a little amp, and atthis slight roll-off in the lower frequencies. with a net noise increase in the price, but dynamic bass. Treble's very High frequencies, contribution noise floor in the headroom good though for a are dominated by similar to the noise presence of is small poweramp the CD player floorofCD test signals

Choice **OUR VERDICT** SOUND QUALITY LIKE: Very natural **** presentation of detail with neutral mid and treble VALUE FOR MONEY DISLIKE: Slightly over-keen $\star\star\star\star$ upper bass and fiddly connections BUILD QUALITY WESAY: Withadmirable $\star\star\star\star$ space-savingability, this **FEATURES** system offers delightful $\star\star\star$ sound for the price **OVERALL**

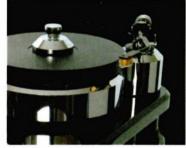
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Universal soldier

A multi-format universal disc player at an unbelievable price might be all some audiophiles need for hi-fi thrills says Jason Kennedy

machine that can play pretty much every audio and video disc format for a mere £400, there's got to be a catch? Cambridge Audio is renowned for bringing competitive products to market, but to offer so many audio and visual features for so little is ambitious by any one's standards.

Format-friendly

The BD650 can handle CD, SACD and the late-lamented DVD-A, as well as HDCD encoded CDs, DVDs and the video format of the moment Blu-ray (BD). Naturally it will also decode all the latest surround formats (including the lossless ones) that are of most interest to us: Dolby True HD and DTS-HD Master. It is also up to speed with the latest features of BD, such as BD Live there is an Ethernet socket to connect to a router - and BD+. So even if you're a die-hard audio fan, you can sample the delights of HD video, too.

Analogue outputs extend to 7.1 channels, but there isn't a dedicated stereo output, while digital output can be found on optical, electrical and HDMI connectors. You can select the sampling rate of the former two right up to 192k, which is useful if you have a DAC that can take advantage. The player has onboard

24-bit/192kHz converters and a Pure Audio mode that switches off all displays, but the player turns them back on if you change discs.

Competition is none

The standard of build is pretty much as good as it gets at this price. The front panel is a nicely finished slab of aluminium and the wrap around casework has a nice touch with the Cambridge logo stamped on top. The steel wrap is damped to minimise resonance, which is also a nice touch at the price.

The remote is a navigator variant on the usual Cambridge handset albeit with rather small legends on the buttons.

In value terms, the 650BD virtually has the field to itself, the only competitor to come close is the Oppo BDP83 at £600, but that's only available online and doesn't have UK distribution and back up. The alternatives from Marantz and Denon cost five times as much and upwards. This will change, but as things stand the Cambridge looks like great value.

Pure audio quality

What, you might ask, do all these features do for the key music format, CD? It sounds a little on the thin side by the standard of dedicated players

DETAILS

PRODUCT: Cambridge Audio Azur 650BD

ORIGIN: UK/China

TYPE: Universal Blu-ray player

WEIGHT:

4.1 kg DIMENSIONS:

(WxHxD) 850x430x312mm

- FEATURES: BD-Video, DVD-Video, AVCHD. DVD-Audio, SACD, CD, HDCD, Kodak Picture CD, CD-R/RW, DVD±R/RW, DVD±R DL, BD-R/RE
- Analogue outputs: 7.1/5.1
- Digital outputs: coaxial, optical
- Video outputs: HDMI, component, S-video, composite
- •Inputs: RJ45 ethernet, USB 2.0
- •Codecs: Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS, DTS-HD **High Resolution** Audio, DTS-HD Master Audio DISTRIBUTOR:

Cambridge Audio TELEPHONE: 0870 900 1000

WEBSITE: cambridgeaudio.com at this point, a Rotel RCD-06 brings useful extra detail alongside a fuller overall sonic picture. But on its own terms it can deliver reasonable energy levels and is as good at timing as most of the competition.

But the 650BD is more than a CD player. SACD, for example, is rather impressive with fulsome but taut bass, solid imaging and a real spring its step. It's still a little short on density of detail, but it gets the musical message across well - be it the intensity of Steve Marriott's vocals or the funk in his rhythm section's bass line. BD is also good considering this is a £400 doeverything player, especially with good discs, offering an ease and spaciousness that puts it in the same league as pure audio formats.

We also enjoyed some of our dusty DVD-A collection, a bygone format perhaps, but one which this player knows how make a good fist of.

Universal appeal

The 650BD works on two levels: it's a play-everything machine that can form the centre of a starter hi-fi or a pretty decent home cinema, but if you hook it up to a decent DAC it is a universal transport at a bargain price. Until the big boys start making something to compete, it's impossible not to recommend it. •





Serving up

Streaming music servers are opening up a whole new dimension in music availability. Malcolm **Steward** checks out the new Olive 4 HD

he 4HD is a hard disk server and streaming media player that promises to put its fledgling manufacturer Olive on the map. The company only began delivering products in 2005, yet of all the hard-disk players we have auditioned here in the pages of Hi-Fi Choice, only a very small number have provided a user interface quite as slick as that of the Olive 4HD.

RECOMMENDED

Of course, the software underpinning any such device is easily the most important element - along with its sound, of course in differentiating the product from its competition and Olive's proprietary Maestro software is superb. With its simple elegance and its logical operation, you can create playlists, add or change album artwork and edit.

Outwardly, it is neither overly complicated nor too minimalist. It strikes a comfortable balance and provides all that any user should need to rip and play CDs easily.

DETAILS

PRODUCT: Olive 4HD ORIGIN: USA

TYPE: Streaming music

WEIGHT: 6kg **DIMENSIONS:** (WxHxD) 435x850x290mm

FEATURES: Digital formats: 16 and 24-bit, up to

- 200kHz. • Formats: WAV, FLAC, MP3, AAC
- HDMI connection for GUI through TV
- Choice of analogue (RCA) or digital
- output.
 Storage: 2 TB **DISTRIBUTOR: Henley Designs** TELEPHONE: 01235 511166 WEBSITE: olivehifi.com

Box of delights

The 4HD comes equipped to operate over a wireless network, but for the best and most reliable performance, we recommend using the wired -Cat 5 - connection. Go into the Network Set-up menu and choose 'Wired' and 'Automatic' and in a few seconds the box will have interrogated your network and found itself an IP address and the internet connection.

If, by chance, your network does not include any DHCP (Dynamic Host Configuration Protocol) service, which simplifies network management, you can select 'Manual' instead of 'Automatic' and enter the details yourself. Either way it is only a moment's work. You access all the settings though the touch-screen along with, should you wish, the navigation buttons to its right.

CD ripping, the 4HD's primary function, takes a few minutes per disc, especially if you choose to store your music as uncompressed WAV or lossless FLAC files, which we also recommend if you want true hi-fi performance. And if you do not want



"The 4HD is a hard disk server and streaming media player that promises to put Olive on the map."

true hi-fidelity, we have to ask why are you spending £2,200 on a server? The Olive will also burn CDs or, more accurately, burn playlists to a CD. The device does not automatically back-up to a second internal hard drive: instead, there is a USB port to which users connect an external drive for that purpose.

Olive wisely suggests performing backups while you sleep, because USB transfers are not exactly high-speed operations. The 4HD provides both digital and analogue (preamp) outputs and its digital input allows users to employ the on-board DAC to convert the output of any other digital source.

As we are using the Olive with a high-resolution Naim system we

positioned it on a Quadraspire Sunoko Vent stand and fed its digital output into the Naim DAC through The Chord Company's Indigo digital cable, to extract the maximum information from its signal. The internal DAC is of good enough quality, but in comparison to the best we've heard (the Naim DAC, for example) its sound seems rather closed in and flattened, with less dynamism. The stereo depth perspective also appeared rather shallow.

We also put some hi-res music alongside the standard resolution CD rips by connecting the 4HD to a networked computer and then dragging and dropping the music from wherever it is into the 'import' folder on the 4HD. An alternative is to play music sourced from a UPnP (Universal Plug and Play) server device which, in this case, is a mini-ITX computer running mediaserver software.

Under the lid

The Olive 4HD, unlike some Americanbuilt hi-fi, is well made but not

TALKING POINT

As mentioned elsewhere, the 4HD is fundamentally a mini-ITX computer in a smart case with control provided by a touch-screen, navigation buttons, and a remote control. It uses a GigaByte motherboard, a **TEAC slim-line** optical drive and a compliantly mounted Western Digital Green Power 2TB Hard Drive. A **USB** port provides connection for an external drive so that you can back-up your ripped music collection.
The spacious Olive case is hardly a

The spacious Olive case is hardly a computer store item and offers far greater freedom and flexibility to the builder.

extravagantly engineered. There are no gold-plated grab handles on show here. The most impressive feature is the shape of the enclosure, which reminded us of the distinctive lines of the exquisite, but unfortunately not equally as reliable Nytech calculator-style CTA series tuner/preamps of the 1980s.

The 4HD uses a proprietary DAC centred on a Burr-Brown 1792A, 24-bit/192kHz chipset, along with an extremely quiet hard drive and passive cooling to make it virtually silent in operation. Despite its hugely advanced technology, compared to the Nytech, it was considerably more reliable even despite having suffered a bump or two in transit.

It performed consistently and its only hiccough was swallowing a disc and refusing to return it. Unfortunately, the Olive has no means by which one can operate the eject mechanism manually, from outside. The second time a CD became jammed we removed the top half of the case and extracted the disc manually from the slim-line optical drive. While the

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Q&A...

WE SPOKE WITH DR OLIVER BERGMANN, OLIVE'S FOUNDER AND CEO, ABOUT HIS COMPANY'S FUTURE STRATEGIES



HFC: Which element of the design of the 4HD makes you most proud?

OB: We always look at the product design from three angles: hardware, user interface and industrial design.

All of them have to support one goal.

user interface and industrial design. All of them have to support one goal: allowing you to enjoy your music in breathtaking quality and with utmost ease of use. As the CEO of Olive, I tend to focus on the overall customer experience, so it is the innovative combination of those three that I see as our strength.

Which part of the design was the most challenging?

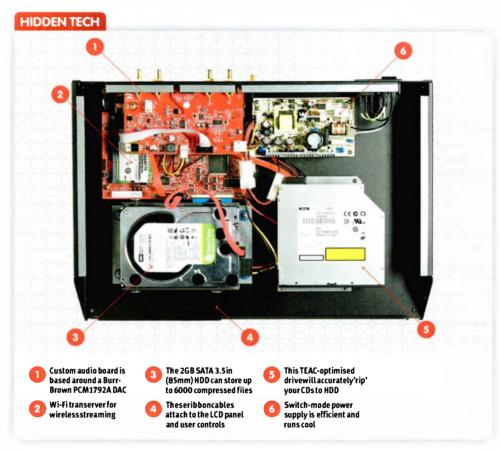
Each of the design disciplines has its own challenges. One key challenge was to reduce the complexity that is inherent to digital and networked music into a simple and easy to use navigation interface. To be successful, a device like the Olive 4HD must make this technology accessible to a whole new type of user, someone who does not want to deal with the IT mentality that is prevalent in the design of many of today's networkable music devices.

What new Olive products are we likely to see in the near future?

Looking at our past product strategy you can safely expect to see more innovative products in two areas: multiroom and high-end audio. We are currently building more strategic partnerships with high-resolution content partners, showing that we see a clear demand for quality music. Our hardware and software development will support this strategy.

Do you envisage any more collaborations like the one with Thiel and its powered loudspeakers that produced a high-quality, threebox hi-fi system that must have had middle-market appeal?

Olive's mission is to provide the best digital music experience at an affordable price. To achieve this we focus on our core competencies and continuously look for partners that can help us to extend our ideal of the perfect customer experience into new areas. We don't want to reinvent the wheel.



bonnet was up we also had a scout around and confirmed our suspicions that, like most of this breed, the 4HD was based upon a mini-ITX computer motherboard, with an additional board for audio I/O components. The interior build is satisfactorily workman-like, rather than obsessively audiophile and it was unfortunate that the review unit appeared to have suffered some internal disruption that caused the occasional disc-ejection problem. As we understand it, Olive is investigating other options for shipping units across the Atlantic and contemplating minor revisions to the build.

Spellbinding sounds

We began listening with the albums we had ripped on the 4HD and its capabilities seemed commendable. It made a fine job of Albert Lee's *Like This*, his lightning-paced country-rock guitar coming across

"The 4HD seems to approve of highresolution material and listening to a host of albums confirmed this." with admirable pace, detailing and tone. His band's contributions are similarly well-handled and the overall presentation is musically coherent and rhythmically satisfying.

Our only reservation comes with Lee and his drummer's sublime vocal harmonising on the cover version of the Everley's *Crying in the Rain*. This, when rendered at its best, is little short of magical. Somehow, in some subtle manner, the 4HD falls slightly short of the mark in this – admittedly highly subjective – respect.

The 4HD seems to thoroughly approve of high-resolution material and listening to a host of 24-bit/96kHz albums confirms this. It truly relishes Dawn Langstroth's Highwire album. Her vocals, in particular, are rendered exquisitely with a convincingly natural warmth as opposed to any valve-like euphony - that helped establish an emotional bond with the listener. The device caters equally well with her backing band, bringing its playing to life with considerable subtle detail, although it is her voice that remains in pole position.

Its communicative power is spellbinding in tracks like *Elevator Music*, where the dynamic range between gentle and gentler is most keenly and deftly explored. Another

HIT Choice JUNE 2010



strength the 4HD displays with this album is its even-handedness and ability to keep recordings in perspective. There are, for example, some powerful bass lines on this album: these are clearly etched – and easy to follow – but they are never allowed to dominate the overall picture. We then switched back to 16-bit/44kHz recordings for the acid test of Sia's album *Some People Have*

"Its communicative power is spellbinding, where the dynamic range is most keenly and deftly explored."

Real Problems. Her voice and phrasing work with her band's accompaniments to deliver music that has an uncanny ability to touch one's heart and brain simultaneously. Her voice also has a particularly distinctive timbral quality that swings

from sounding close to being broken, to amazingly powerful by way of sweet and fragile. On *Day Too Soon*, her rhythm section locks into a funky, but gentle syncopated groove that allows Sia to simplify her phrasing and dynamics, but still create the enchantment she does on her more overtly athletic songs such as *The Girl You Lost to Cocaine*. The 4HD passes the Sia test with ease, emphatically revealing the music's detail in appropriate measure.

Then the Olive 4HD did something that truly amazed us: we even found time to appreciate the Rihanna *Good Girl Gone Bad* recording. It demonstrated that while this popular young lady might not know how many syllables there are in the word 'umbrella', she certainly knows how to pick producers for her music. On that track, the wall of over-damped drum samples demonstrate brilliant speed and attack and sound truly magnificent, despite their distant relationship with reality. The bass on *Shut Up And Drive* sounds just as

TALKING POINT

Our companion boxout on page 73, might suggest that vou could be better served by spending £300 or less building a mini-ITX computer to use as a server. It's an intriguing thought. However the mechanics of any media server are the simple part because the real value in such devices is not derived simply from the bill of materials. The genuine

value comes from the software and the programming that makes it all function – one hopes intuitively, smoothly and reliably. For example, it has to interpret the data structure with which it is presented by a variety of UPnP servers, all of which have to deal with metadata from various ripping engines.

That someone else has taken this responsibility away from you alone can be worth a vast amount of money. And we know of many manufacturers who have had their plans to break into the server market abruptly scuppered by what turned out to be inappropriate software.

implausible, but still creates a tremendous impact.

We ended with a little classical music, Tielman Susato's Danserye performed by the New London Consort. The Olive convincingly demonstrates that its strengths are not solely reserved for rock, pop, and R'n'B, but that it can be equally compelling with orchestral tunes, appearing here to be enchanted by the rich tonality of period instruments and the outstanding realism of the percussion. Rhythmically and dynamically the music is excellent, while the flow and progression of the work is aided by the faithful recreation of note shapes and by maintaining the silences between them.

Ultimately, this born-in-the-USA server manages to produce a sound that will be instantly familiar to British audiophiles. It has fine musical communication skills that we value so highly here in Blighty. There's no doubt that the Olive 4HD certainly deserves Premier League status.

TECH LABS **RESULTS AT A GLANCE** Excellent Above Average Below average Poor DISTORTION: JITTER: DIGITAL FILTER LINEARITY: DYNAMIC from eitherthe Underconditions Low-level signals RANGE: Atypical of frequency and The noise level is hard drive or the are preserved response, dead lowerthanthatof level, distortion CD transport, intactwaydown flatupto20kHz, is kept very low, there is barely into the noise most recordings, but only 6dB which should any sign of jitter. floor, ensuring but not quite the down at 22kHz. keep the sound This will keep the that distortion is level of the best Aliasingoccursat CD players free of 'grunge' sound clean lowatlowoutput high frequencies

OUR VERDICT **SOUND QUALITY** LIKE: The sound is *** alluring with hi-res **DISLIKE:** Networking VALUE FOR MONEY set-up is complicated **** WE SAY: Allows the BUILD QUALITY music fan to dispense $\star\star\star$ with physical storage media and download **FEATURES** their albums from the *** hi-res internet sites OVERALL

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For best prices telephone Dave Jackson on 01775 761880









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C2 C

The superb range of Ayra Speakers now on demonstration. Designed from the bottom up, all drivers and ribbon tweeters are built in house. Ayra use ceramics drivers, superb crossovers and Nordost Valhalla internal wiring. Offering frequency extension to 50khz these speakers are among the best in the World. Trade ins welcomed. Please visit the High End Cable website for call for more information.

C1.0 awarded Hi-fi plus Product of the year 2008



C1.0 and stand

Streets ahead

Bowers and Wilkins has launched its debut 'mobile' headphone. Hardened commuter Dan George found he'd missed his stop

o here it is: Bowers and Wilkins' first-ever hi-fi headphone. Designed for 'mobile' use, the P5 is squarely aimed at the qualityconscious music lover, so there's no need to eBay your 'home-use' Sennheisers and Grados just vet. The promise of Bowers and Wilkins' sound quality, build quality and legendary performance, however, may make the P5s a natural addition to the (travelling) audiophile's kit list.

Hidden talents

The P5 is a closed-back, super-aural (on-ear) headphone that benefits from a good degree of noise isolation, thanks to its cleverly designed sealed ear pads. Coupled with a snug fit, the P5 does a great job of cutting back on intrusive background noise. The diaphragms are 20mm Mylar types, supported by 'specially developed' neodymium magnets and the listed stats are impressive: 10Hz-20kHz response; 115db sensitivity and just 195 grams in weight.

Usefully, the P5s fold flat and its cable incorporates a mic and a remote control for Apple iPhone/iPod users, allowing speech and device control and boosting the on-the-go credentials. The leather-faced headband is adjustable and the single-sided cable is detachable cleverly, the ear pads are magnetically attached and can pop off to give access to the wire beneath.

Notably, Bowers and Wilkins' places great importance emphasising the P5's suitability for long-term listening without fatigue, and to this end, the engineers have strived to keep the balance as neutral as possible.

Exceptionally built

Perhaps the most striking aspect of the P5 is the design and standard of build. The looks were influenced by the early headphone styles seen in

Abbey Road's photo archives and it's clear the company has worked hard on the details. You can 'smell' the quality before they're out of the box - the New Zealand leather used is very impressive - soft, supple and pleasure in use. Build quality is difficult to pick fault with and combined with the iconic design, the P5 gives a genuine pride of ownership that doesn't always come

naturally with a lot of other marques.



ORIGIN:

China TYPE:

Closed-back headphone WEIGHT:

DIMENSIONS: (WxHxD) 150x180x60mm FEATURES:

- Closed-back, noiseisolating design
- Single-sided, detachable cable
- 20mm Mylar diaphragms
- Mic and remote cable included
- Memory foam earnads DISTRIBUTOR: **Bowers and Wilkins** TELEPHONE:

01903 221500 WEBSITE: bowers-wilkins.com

Only time will tell if the flimsylooking cable and the soft, luxury leather will cope with day-to-day travelling, but the P5 has been designed with mobile use in mind. At £250, the price isn't prohibitive, but it's not insignificant for a mobile-use product. Some of our favourite 'home-use' cans sits beneath this price point, but the P5 has few, if any, upmarket 'mobile' rivals to draw comparison with.

House sound

The performance is extraordinary. The parallels between the P5's sound and the perceived Bowers and Wilkins' 'house sound' are all here. First of all they love to play loud and just like many of the company's speakers, they perform best at high volumes, so you need to be careful! They are also composed, beautifully balanced and unquestionably natural, although at times we craved a bit more sparkle in the treble.

Our sample improved with a 60-hour run-in period and got better with time. Although, we experienced no fatigue in long-term listening from the drive units, we did find the snug fit led to some discomfort on our ears. The flip side, however, is that the noise isolation is highly effective, drowning out all but the loudest Underground lines. Leakage is kept under control, too with the closedback, so other than pure jealousy, you won't upset your fellow passenger. The acid test is whether as a reviewer you want to go back to what you were using before. We didn't.

People's P5

For a debut product, Bowers and Wilkins has done a fine job. Retaining the house sound is a credit to the engineering team and the fabulous design touches and obvious build quality strengths make the £250 tag seem, well, fair. Try them for comfort first, but then buy with confidence •



Choice

OUR VERDICT

SOUND QUALITY **** VALUE FOR MONEY

beautiful design; cracking build quality DISLIKE: Fit can be tight, so tryfirst: long-term

 $\star\star\star\star$ BUILD QUALITY **** FEATURES ***

WE SAY: The P5 is a great choice, with Bowers and Wilkins sound and build quality sealing the deal

durability concerns

LIKE: Balanced sound;

OVERALL





Belt-drive innovation!

Japanese specialist C.E.C. employs a very different technology for spinning its audio discs. **Ed Selley** gets excited about the possibilities

E.C's newest CD player features a drive mechanism that's pretty unique. Lift the lid and you'll discover that your spinning discs are fired up via a belt-drive system. This is a very unusual innovation, in that this kind of technology is usually reserved for turntables. What's more, this belt-drive approach not only brings the humble CD player into the 21st century, it also ups the ante for the overwhelming majority of players, both past and present, which are

78

mechanically driven with the motor connected directly to the spindle.

The brainchild of a Japanese company who has been manufacturing audio-related components for over fifty years, including the mighty TLOX transport (see Question Time on page 80), the TL53Z is also one of the quietest CD players that we've ever heard at any price point and will, therefore, certainly be high on the list for anyone sensitive to mechanical noise.

Mind you, belt technology is not without considerable engineering

DETAILS

PRODUCT: C.E.CTL 53.7

ORIGIN: lapan

TYPF. CD player

WEIGHT: 10kg DIMENSIONS:

(WxHxD) 448x108x220mm

FEATURES:

- Belt-driven CD mechanism
- Adjustable sampling rates
- Aluminium
- enclosure
- Remote control DISTRIBUTOR:

Definitive Audio TELEPHONE:

01159733222

WEBSITE: cec-international.de

challenges. While a turntable is expected to spin at a constant 33, 45 or 78rpm, a CD drive varies in speed depending on the section of the disc being read and the rotational speed is very much higher – between 200 and 500rpm.

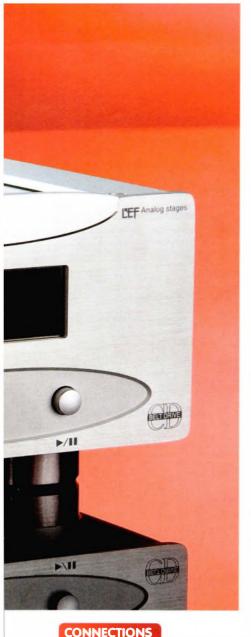
To impart the required stability, the TL53Z uses a heavy, metal puck that sits on top of the CD to give a degree of mass to the spinning assembly and impart a degree of control. C.E.C claims that the reason it goes to this considerable effort is to create a mechanism that is resistant to jitter and extremely quiet in operation.

Close attention

Downstream of this unique mechanism, the player becomes a little more conventional, but still rather different to most other CD competitors. For starters, it uses a pair of Burr-Brown DAC chips in a dual-mono configuration. These then feed their signal into C.E.C's proprietary Current Injection circuit, that creates output voltage without a feedback loop.

Unusually, C.E.C allows the end user to select between three sampling

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rates of 32, 64 and 128fs and two digital filters called pulse and flat respectively. This is done via a pair of switches on the rear panel of the unit which does make comparative listening between settings more difficult. But by the same token it is nice to be given the opportunity to choose.

Considerable attention has been given to power, with separate power supplies for the transport and DAC and extensive regulation to other sections. Perhaps the only omission for the TL53Z is the lack of digital input to gain access to that rather well thought out DAC stage, but the fact that C.E.C produce a DAC in the 53 range would suggest that they believe these two products should exist separately.

Heavy metal

Even judged against other pieces of Japanese mid-market equipment, the C.E.C is extremely well built and feels immensely solid. Perhaps, the only feature that feels anything less than in keeping with the product is the mirrored display, which is slightly reminiscent of a cheap DVD player and did not seem to make the information any easier to read in sunlight.

Access to the belt-drive mechanism is via a sliding door on the top panel that moves with a smooth and



THE TL53Z features adjustable sampling rates and filters via a pair of toggle switches on the rear panel. None of the settings available change the performance of the TL 53 Z beyond recognition, but they do offer subtly différent flavours.

The majority of listening was done with the sampling set at 192fs and the flat filter setting engaged. Reducing the sampling rate had the effect of sweetening the midrange, while the pulse filter seemed to narrow the frequency response again, whilst subjectively increasing the midrange focus and detail.

Not being able to adjust the settings from the remote does rather preclude choosing the best setting for each song but their existence does at least allow you a degree of tuning to vour tastes.

precise feel. The disc will spin-up to read the TOC on the door being fully closed with the puck in place. The TL53Z is an unusual shape, being little more than 200mm wide but nearly 500mm deep. This means that partnered with one of the matching 53 series amplifiers, it will take up a single (deep) shelf which is useful if space is tight. The weight of 10 kilograms should give some indication of how solid the C.E.C is.

A special mention must go to the remote control. C.E.C apparently has no time for slim plastic units and have coupled the TL53Z with a large handset, constructed almost entirely out of metal. As well as being extremely imposing (and, therefore,

"It successfully uses some unusual technology to create a lively and above all very un-digital sound."

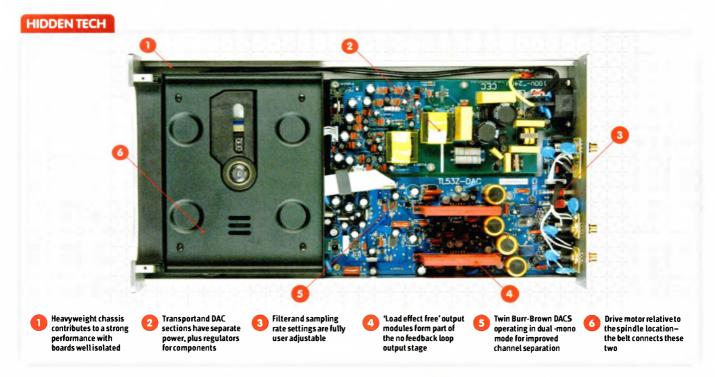
hard to misplace), the large size of the remote makes for well-spaced and easy to find buttons. Controls for the matching amplifier also allow for a degree of system management.

The result of all this is that even though the TL53Z is not short of competition, it still feels a genuinely different proposition to other offerings at the price. Due to the decreasing number of suppliers of CD mechanisms, players from smaller manufacturers can feel like an exercise in tweaking performance from the same parts bin of bits. With its unique mechanism and innovative output stage, as well as the excellent build quality, the C.E.C manages to convey a genuine sense of value even at the relatively lofty price point.

Belt it out

In use, perhaps the most important aspect of the TL53Z is that none of the unusual technology inside the unit makes its presence felt in such a way for you to sit up and say "that's definitely down to the belt drive" or similar. This is important, as the intention of the technology is to provide a more natural sound and for the unit to have a distinctive sonic signature as a result of it would be counter-productive. Instead, from the moment that the C.E.C starts playing, the impression is of an extremely well-sorted and largely viceless digital source. Tonality is excellent giving voices, instruments and percussion a genuine sense of ▶





realism. The sense of position and space around instruments is also extremely realistic and does not seem to be fazed by placing a soloist on stage or an entire orchestra. The quietness of the mechanism and this excellent presentational ability allows you to concentrate totally on the music.

Striking a balance

The C.E.C produces an eloquent and room-filling sound with a neat sense of timing and rhythm. In comparison to some of the key competition, the TL53Z is not the most ballistic of players. It will reproduce a spirited bass line with accuracy and finesse, but will not impart the sort of toe-tapping confidence that many listeners will be seeking. By the same token, low notes are tuneful and start and stop with commendable

accuracy, but it is fair to say that some other players can dig a little deeper and harder. Although this is often at the expense of the detail and finesse that the C.E.C brings to recordings.

Ultimately, there is little wrong with the performance of the TL53Z that attentive system matching will not overcome and doing so is well worth the effort.

The C.E.C offers the option of unbalanced RCA outputs and balanced XLR's. Adjusted for the difference in output between the two connections, the differences are slight, but the XLR outputs are our preferred option, as they offer a greater sense of depth and space to recordings and bring slightly more weight to the low-end performance.

This is not to say that the TL53Z is anything other than extremely

QUESTION TIME

NOTTINGHAM-based Definitive Audio is no stranger to innovative audio components.

Company founder Kevin Scott had auditioned a number of different CD players and transports to partner its existing products, when he became aware of the flagship C.E.C product, the TLO-X; "It intrigued me that the belt drive technology was combined with a massive three-point, high-compliance suspension system to further isolate the drive from unwanted external influences. "Across the board

"Across the board its CD players lack the intrusive digital artefacts that plague most CD replay. The sound is human, organic, unhurried and organised. Very welcome qualities." Scott also likes the longevity of the brand; "C.E.C

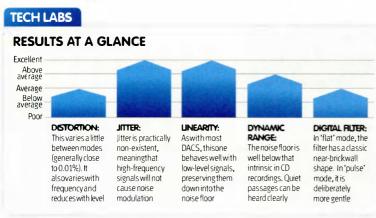
Scott also likes the longevity of the brand; "C.E.C have been making hi-fi equipment in Tokyo since 1954, a reassuring innings, and one which says something positive about the company, at least in Darwinian terms!"

talented when connected by normal phono connections and should not be discounted because the rest of the system it is being connected to lacks XLR inputs.

Digital sounds like analogue

The TL53Z is a genuinely likable product. With the addition of the much-flagged belt-drive technology, it successfully uses some unusual criteria to create a lively and, above all, very un-digital sound. At the same time, the excellent build quality and the addition of the adjustable sampling and filters means that it feels like it will last a very long time and adapt to system changes.

Some may crave a little more bite and drive from their CD player, but in a system with no shortage of this already, the wonderful tonal accuracy and excellent sense of space will be welcome additions.







David Price Hi Fi World

"The Orbit....a brilliant sounding £65 Mains Cable ..over any other £100 + mains cable"

Janine Elliot HI FI News - The Missing Link Family of Cables.... -

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HI FI World 'World Standards' Award June 2009 The Link Cryo Reference Interconnect "Our favourite affordable high-end interconnect out performing designs at three times its cost"

'Wired For Sound' - Adam Smith HI FI World - The Link Interconnect "distinctly out of the ordinary offering a very detailed and crisp sonic picture leading edges of notes were beautifully precise and forthright with no sense of hesitancy or blur...the bass end of the spectrum was lithe, tight and focused



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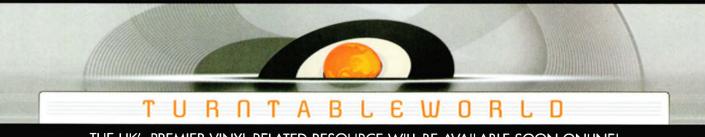
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Xt SE and DAC X have been upgraded with a + suffix. In a recent review, this combination when used with x PSX-R power supplies, received the prestigious 'Editor's Choice' award by Hi-Fi Choice magazine

CYRUS

The XP amplifiers are based on the circuitry of the top of the range DAC XP+. The entry-level 6XP includes 6 line level inputs along with a zone 2 feature while the 8XP d combines the XP series pre-amplifier with a newly revised power amp, and contains an onboard DAC for



K2 SPEAKERS

MICHELL

GYRO SE

Based entirely on the GyroDec, but without the costly acrylic plinth and dustcover, the Gyro SE brings the same qualities in a more affordable and compact package. A Gyro SE can always be converted into a GyroDec by



PROJECT

GENIE MKIII

Denie MKIII includes a new motor, more stable motor base and a new tone arm with traditional anti-skate Supplied with an OM3e Ortofon cartridge fitted, the Genie MKIII is available in a range of finishes.



ARCAM

Combining sleek design, flexible connectivity and a level of reproduction. far beyond that of budget separates.

CD17 A28 CD37 A38 A18 P38

FMJ



ROKSAN

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ROTEL

06 SE SERIES

Rotel's 06 Series includes and updated versions of three stereo amplifiers

> RCD-06SE RA-04SE RA-06SE



MARANTZ

CD6003

The PM6003 ampli-such as an iPod or fier and CD6003 CD MP3 player while player, come housed the amplifier has in Marantz's stylish 'M1' casing. The CD player features a front mounted USB socket allowing improved perfor-

mace from devices

five line-level inputs along with a MM phono stage and two sets of speaker terminals for ease of bi-wiring.

PM6003

SA-KI PEARL PM-KI PEARL

ANTILA II TUCANA II

With stunning sound quality the new Antila II CD player features unique MD2 active differential multi-DAC converter technology to provide breathtaking

The dual mono designed Tucana II amplifer uses three heavy-duty toroidal transformers and is capable of swinging over forty five amps of current, ensuring a vice like orip and precise control of the speakers

STREAM II PULSE

LEEMA

HI-FI SPEAKERS

MONITOR AUDIO PLATINUM

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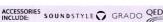
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Remasters of the universe

The Holy Grail of CD sound – the digital remaster – has been elusive, but if lessons are learned, *Mark Prendergast* is confident that the hi-res disc's reign will be golden

he remastering story begins with Led Zeppelin. The band's 1990 *Remasters* 4CD boxset did exactly what it said on the tin, kickstarting the trend and reintroducing fans to their favourite music – like they'd never heard it before.

Executed by Jimmy Page and mastering legend George Marino, the Zep boxset was a universe away from the recent fate of classic albums issued on CD. Before *Remasters*, music lovers were just content to have their beloved, crackly vinyl albums on five-inch, shiny discs, with little noticeable difference in sound quality. But, on hearing Led Zep like never before, few would now settle for anything less than revelatory sound.

Inside the box, Page had rejigged the Zep catalogue to emphasise group dynamics and song structures. Moreover, the sound was astonishing: critics worldwide swooned in disbelief at previously unheard nuances in classics like *Stairway to Heaven*, for example. The age of the remaster was now upon us, and the floodgates soon opened...

Pink fraud

84

The Byrds were the next artists in the rock canon to receive the remastering treatment. *The Byrds* 4CD boxset swooped into view the same year, with Columbia trumpeting the six months of painstaking work by remix engineers in its New York studios. The sound was glorious: the jingle-jangle of *Mr Tambourine Man* never sounded more vivid.

So, with these triumphant first steps, it's frustrating that other classic acts are served less well by the now *de rigeur* boxset. Take Pink Floyd, for example. *Shine On* was released in 1992 – a boxset which seemed to laugh in the face of the public. Containing seven studio albums and one compilation of

early Floyd singles, it was ferociously large and incredibly expensive – and not even the complete Floyd back catalogue. The extra postcards and big hardback book did nothing to stifle the smell of a cash-in.

Worse was to happen to the Bowie catalogue, which boomeranged around the industry at least four times in the 1990s. And when EMI re-issued everything again in 24-bit remasters in 1999, the sound was appreciably worse!

We are now so besieged by so many boxsets and deluxe remasters that it's hard to see the wood for the trees. A quick scan on Amazon for Bowie's *Hunky Dory*, reveals at least 26 entries. Most of the dates are inaccurate and – even worse – you can't really tell one edition from the other. Not to mention that the new 24-Bit Digital Remaster sounds terrible: a quick listen to the acoustic guitar crescendos on *Quicksand*, for example, put paid to the idea that the sound is better. On the original vinyl, the instrument sounds full-bodied, warm and resonant: here, it's clipped and distorted.

The worst heresy was committed only last year when Columbia launched the 50th anniversary boxset Miles Davis', *Kind Cf Blue*. Touted as definitive, it came with a remastered CD of the album, CD of bonus tracks, DVD, hardcover book and an LP pressed on blue vinyl. Sounds great, doesn't it? It's a shame that Miles fans who paid up to £100 for this release received a warped record, damaged discs and a shoddy package which fell apart in their hands. Worst of all, the remastered disc is at the incorrect speed, running too fast.

With hundreds of millions of CDs sold annually, it's unbelievable there are still problems. Even more incredibly, there are numerous classic albums unavailable on CD. Van Morrison's masterpiece Astral Weeks is one such omission. Other classics such as Jimi Hendrix's Rainbow Bridge, Tim Buckley's Starsailor and Neil Young's Time Fades Away are just the tip of a fairly large iceberg of recordings unavailable on CD, remastered or not.

Alan Parsons' project

Despite the uneven treatment that artists and their back catalogues can receive, remastering and repackaging go hand in hand. But what does remastering entail and, more importantly, can it deliver the perfect sound that we hi-fi enthusiasts demand?

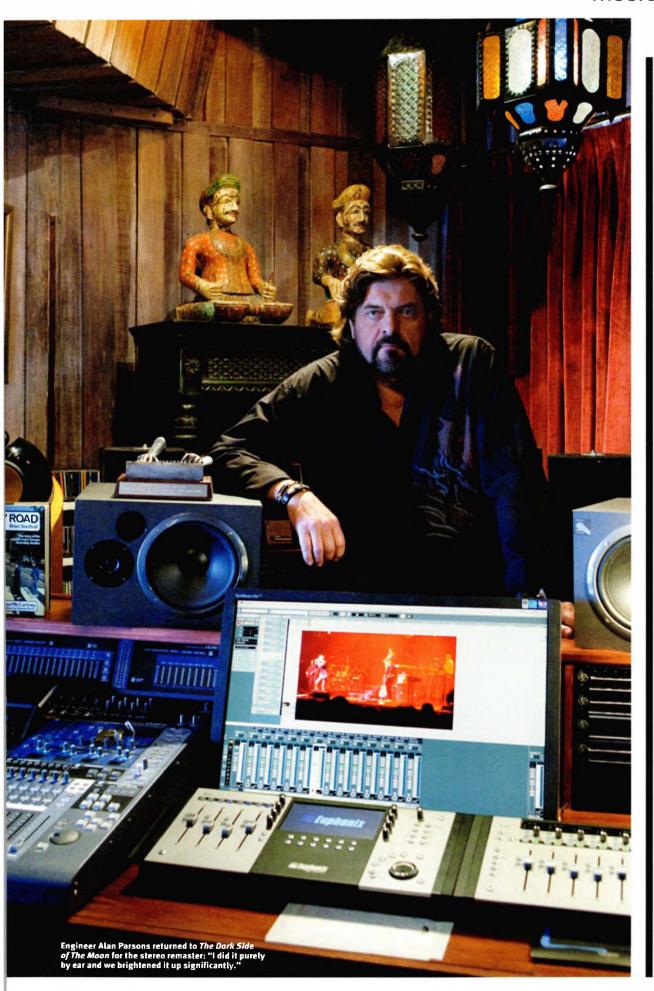
Who better to enlighten us than two of the biggest names in the business – legendary sound engineer and musician Alan Parsons and Simon Hayworth, one of Britain's foremost remastering engineers.

Alan's considerable reputation precedes him. Not only did he cut his teeth with The Beatles on *Abbey Road*, he was in the studio for the recording of Pink Floyd's *The Dark Side of the Moon*, harnessing two 16-track tape machines to deliver a multi-track mix of pure genius. His take on CD is interesting: "It would have been nice if there'd been a format that was just a little bit better," he says. "At the time [CD] came out, it was revolutionary. It was goodbye to cassette tapes – the worst thing of all. CD is a whole lot better, but we are still stuck with 16-bit

"Remastering is not a trick. It's basically the greatest way to show off a recording in its original and best light"

HATChoice JUNE 2010 www.hifichoice.co.uk

MUSIC IN-DEPTH







THE BEATLES REMASTERS

WE HAVE fought shy of discussing the Beatles remasters because of the ongoing controversy about the 2009

Edition. Not only are on-line forums stuffed with questions regarding the 11CD White Mono Box or 14 CD Black Stereo Box Sets and the individual 13 original albums, a huge question hangs over the integrity of the entire issue of Beatles records on CD.

For example, why isn't the 1977 album *The Beatles* At The Hollywood Bowl included? More significantly, when the catalogue originally came out in 1987, many CDs stated categorically they were digitally remastered! A copy of Rubber Soul (EMI CDP 7464402) from that year reveals the word ADD boldly printed on both CD and box. ADD is printed inside as meaning 'analogue tape recorder used during session recording, digital tape recorder used during subsequent mixing and editing and digital recorder used during mastering

(transcription).'
This is ludicrous:
EMI onlyhad 4-Track in 1965 and digital hadn't been invented! Moreover, if many of the 1987 CD's like Abbey Road and Let It Be have Digitally Remastered earth is all the fuss about now?

MUSIC IN-DEPTH



and 44.1khz. The stereo remaster of *The Dark Side of the Moon* was my mix. We brightened it up significantly and I did it purely by ear at Doug Sax's mastering lab."

Remastering engineer Simon Hayworth also shares his enthusiasm for CD. "It was a lovely little shiny disc," he recalls of the CD's arrival. "I was intrigued at how much data it held and how this data was encoded. At the time, digital-to-audio converters were pretty standard. Yes, there were Wadia converters which were really nice, but people didn't really think about it at the outset. It was supposed to be the answer to everybody's prayers but over the years I realised there's nothing like the original analogue tape for sheer sound quality."

Simon also sports an impressive CV. He worked at Richard Branson's Manor studios and was one of the original co-producers of Mike Oldfield's *Tubular Bells*. Since 2000, when he remastered Nick Drake's seminal albums *Five Leaves Left*, *Bryter Layter* and *Pink Moon*, Heyworth has really pushed the envelope in the remastering stakes.

In 2002, he set up Super Audio Mastering in Devon and hasn't looked back. George Harrison, Brian Eno, Scott Walker, Nick Cave, Ennio Morricone, The Human League and even The Incredible String Band have all been his clients.

Ultimate CD sound

The Incredible String Band's ground-breaking, 1960s folk-rock records have now been remastered to perfection, thanks to Simon. "[Original engineer] John Wood and [producer] Joe Boyd came down to the studio," he explains. "We had all these old but beautiful Scotch 201 master tapes from Warner's in America and we spent days transferring them. Joe felt it might be a waste of time, but what swung it was listening to the PCM 1630 tape of the first album. With the other albums it was about rebalancing the way they had been recorded, which was originally just two guys in a room with two mikes. It was a question

"The most important thing is to return to the original intention of the group in the studio with their respective engineer and producer"

of how to deal with the edginess of their music. I've done four of their records and it took a lot longer than any of us thought it would."

Simon swears that the most important thing is to return to the original intention of the group in the studio with their respective engineer and producer as much as possible. "I always refer to the original vinyl cutting notes with regard to any transfer to CD, because references to half a decibel here or there are crucial to fine-tuning the remastered result," he explains. "I always try and get a very good original vinyl representation of the music and play it on my Michel Orbe turntable with SME V Series Tone Arm for exact comparison. Remastering is not a trick, but it's basically the best way to show off a recording in its original and best light."

Looking forward, Simon believes that High-Resolution will be the future. "CD is not going to go away anytime soon and it is the standardised carrier for now, delivering a pristine listening experience for the most part. But the future is with High Resolution. Blu-Ray Disc with Hi-Resolution PCM 192khz or SACD with 64 times the resolution of ordinary CD has to be the future. Mute Records is a great supporter of Hi-Res, and even Linn Records are opening up Hi-Res availability. I just hope we do end up in a Hi-Res world with CD!"

We just hope that companies learn from their previous mistakes as well as building on their triumphs when taking remastered and repackaged recordings to the next evolutionary level.

TOP 10 GREATEST DIGITAL REMASTERS

When they're good, they're very, very good. Try these for starters.



LED ZEPPELIN REMASTERS (Atlantic,1990, 4CD Box)

JIMMY PAGE and George Marino remaster 54 tracks onto the box that kickstarted an avalanche!



THE BYRDS YOUNGER THAN YESTERDAY (Columbia CD. 1997)

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THE JIMI HENDRIX EXPERIENCE PURPLE BOX (MCA 4CD.2000)

GEORGE MARINO and engineer Eddie Kramer gloriously recover 56 lost or unreleased tracks.



PINK FLOYD THE DARK
SIDE OF THE MOON
(30th Anniversary Edition)
(EMI, Hybrid SACD, 2003)
ALAN PARSONS and James Guthrie
hit a peak on the best ever stereo
mix of the Floyd's masterpiece.



YES CLOSE TO THE EDGE (Elektra/Rhino 2003)

ANOTHER DIGIPREP spectacular: bottomless, widthless, it's almost like music from the fifth dimension. Awesome sound.



LOVE FOREVER CHANGES (Deluxe Edition) (Elektra/Rhino 2CD)

AFTER YEARS of muddy vinyl and dodgy CDs, we finally get to hear Arthur Lee's orchestral rock masterpiece in crystalline detail.



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THE STONE ROSES
(20th Anniversary Legacy
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JOHN LECKIE peels off layers of fat to reveal an explosive band. The live DVD is quintessential Roses.

THE BEATLES THE BEATLES (AKA THE WHITE ALBUM) (EMI, Digitally Remastered 2009 CD)

ABBEY ROAD finally get it right on this sumptuous digipak. Clarity, separation and detail in spades.



KRAFTWERK TRANS EUROPE EXPRESS

(Kling Klang/EMI, 2009 CD)

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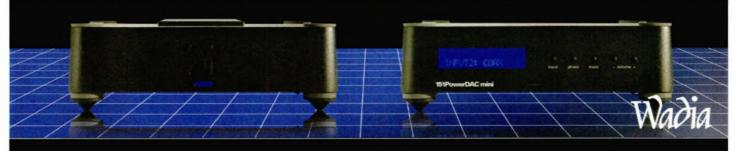
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Wadia 17li (new)

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Wadia 51 (new)

The NEW Wadia 151PowerDAC mini is a true a revelation! The 151 is a high performance DAC combined with a surprisingly powerful amp squeezed into a series 1 chassis. You can use an existing CD/DVD player with a digital coax or Toslink output, your computer with USB or the award-winning Wadia 170iTransport. Add a pair of your favourite speakers to the 151PowerDAC mini for a complete music system. Mini Size - Magnificent Sound!



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Elton John Goodbye Yellow Brick Road Elton's 1973 album gets repressed on viny!



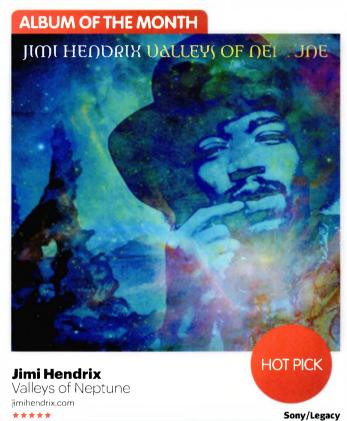
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91 _ Judas Priest British Steel Banging reissue of the Birmingham metalheads' finest hour

Musicreviews

Hi-Fi Choice's pick of the latest high-quality music releases



CD

IN THE LAST 18 MONTHS of his life, Jimi Hendrix embarked on a series of recordings, 12 of which are included on this posthumous album – and one of which, *Valleys of Neptune*, has only recently been unearthed.

When he was found dead in a Notting Hill hotel in September 1970, Hendrix was at the height of his success; after his death, he became a legend. In this way, it's astonishing these last recordings have taken 40 years to be collected and released.

In 1969, after his incendiary *Lulu Show* performance and a London date with John Lee Hooker, Hendrix knuckled down to recording; performing two Albert Hall shows; being filmed and jamming with jazz musician Roland Kirk. The Jimi Hendrix Experience was as big as it would ever be, yet tensions within

the band, especially with bassist Noel Redding, were at odds with management and concert demands (including the two sold-out Albert Hall shows).

Hendrix decided to go back to the studio and cut a fourth Experience album, even involving his old producer Chas Chandler. The London sessions yielded a fantastic version of Cream's Sunshine Of Your Love, plus Lover Man, the poppy Mr Bad Luck and an amazing rendition of Crying Blue Rain

New York bound

By March he was in New York and immediately recorded an entire album with John McLaughlin. He and the Experience then embarked on a US tour which would see them become the highest paid musicians on the

planet. Soon after, Hendrix began pouring money into his Electric Lady studio in NYC, but was spectacularly busted in Toronto in May. Out on bail, Hendrix showed no signs of flagging: he takes in The Who's *Tommy*, records with Timothy Leary, Stephen Stills and sundry jazz musicians and flies to Hawaii for concerts.

Back in NYC he wrote Valleys of Neptune, nailed a concise version of Hear My Train A Comin', a song that would become a concert standard, as well as a plethora of phantasmagorical compositions: Ships Passing Through the Night and Lullaby for the Summer.
Unhappy with the results, Hendrix went on to pursue his Band of Gypsys project and Woodstock.

Emotional

In between all this, Hendrix flew to London, Paris and Morocco. After performing the unforgettable *Star Spangled Banner* in August, he then played an emotional street benefit in Harlem, appeared on *The Dick Cavett Show* several times before recording *Valleys of Neptune* in New York in September. Mitch Mitchell remembered that they had 200 reels of recorded material from 1969 alone!

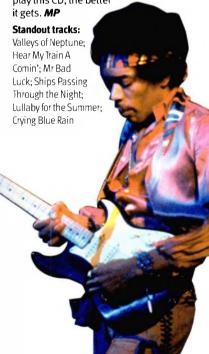
By November, Hendrix had appeared in *LIFE* magazine and had celebrated his 27th birthday by hanging out with The Stones in New York. The year ended as it had begun, with another filmed, incendiary performance, this time with his new all-black group, Band of Gypsys.

Psychedelia

Those looking for the grand sweep of an Electric Ladyland or the complex backwards guitar solos of Are You Experienced or Axis: Bold As Love will be sorely disappointed. Instead, we get a Hendrix more interested in the style he cranked on Spanish Castle

"Forty years after he was found dead in a Notting Hill hotel, we can now listen to Hendrix's last recordings"

Magic - a straight-ahead hard-rocking approach (even though at the time he was recording with John McLaughlin) that in itself would be the death knell to complex, web-like 1960s psychedelia. Hence your system has to be able to take fiercely distorted guitar and pounding drums. George Chkiantz, the Olympic Studios engineer remembers a very crowded Studio B with the amplifiers doubled up just to hear Hendrix's guitar. Instrument separation is minimal, the frequency response is enormous, but the more you play this CD, the better



NE 2010

89

Musicreviews



Iggy and The Stooges

Raw Power

iggyandthestoogesmusic.com

Columbia Legacy

CD

THE FIRST TWO ALBUMS

from The Stooges seethed with deranged energy, but it was the addition of James Williamson's searing guitar on their 1973 comeback that finally provided lggy's rabid vocals with a more focused musical foil.

The album's eight original songs (lasting just 34 minutes) have now been expanded to a four-disc boxset, also including the thrilling mayhem of a 1973 live disc recorded in Atlanta and unreleased studio out-takes.

Originally mixed by David Bowie but then remixed by Iggy for a 1996 reissue, this returns to the long-unavailable more brittle 1973 sound. A handful of Iggy mixes on the disc of out-takes have a more violent, bass-heavy punch and make for an intriguing contrast. The live disc has been sensitively tweaked to suit contemporary hi-fi tastes, without losing the sense of what Lester Bangs once called "the Iggy holocaust at its most nihilistically out of control". NW

Standout tracks:

Search And Destroy; Gimme Danger; Penetration





Bach

Brandenberg Concertos 1 - 6

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Decca

CD

THIS IS THE SECOND set of Bach's Branden bergs to come our way in a short period. This version will appeal to those who veer towards a more modern, large orchestra interpretation, with a band that sounds larger in scale – something the composer may have approved of himself. As Christopher Wolff has stated, Bach made use of 'the widest spectrum of orchestral instruments... in daring combinations.'

The performances are more solid and pedestrian than the recently reviewed English Baroque set, which is more compellingly dance-like, for example, in the finale of the first concerto. Ultimately the latter is the one that more successfully draws the listener in and it digs deeper musically. But this doesn't alter the fact that the Gewandhausorchester is a class act, which is polished and dynamic with the music always beautifully phrased. AG

Standout Track:

Concerto 1 In F, Fourth Movement



Judas Priest

British Steel

CD

IT'S HARD TO BELIEVE that metal veterans Judas Priest's sixth album celebrates its 30th birthday this year. Fitting then, that it's undergone a sparkling reissue and remastering job. While *British Steel* divided die-hard Priest fans on its release back in 1980 (some deemed it too 'poppy' with the inclusion of more MTV-friendly material), time has rendered it a true metal classic.

It sounds awesome this time round too – the metal on metal percussion for *Grinder* and shattering glass (achieved by smashing up milk bottles in the studio) and police sirens on *Breaking The Law* are particularly impressive. The guitars are massive and the drums even huger. Give your speakers a workout. Play this loud. Very loud.

This anniversary re-release is also available as a limited three-disc edition, including a bonus live album and DVD. **SL**

Standout tracks:

Breaking The Law; Living After Midnight; Metal Gods



Mozart

Columbia

Symphonies 29, 31 'Paris', 32, 35 'Haffner' & 36 Linz

linnrecords.com

Linn

SACD hybrid 2/5.1 channels

AWARD-WINNING double act Sir Charles Mackerras and the Scottish Chamber Orchestra have already put their stamp on the late Mozart symphonies with an earlier account on the same label of the final four symphonies (CKD308).

This set adds more of the late symphonies to the list, with polished performances that easily match the virtuosity of the earlier collection.

The brisk, lively nature of this rendition will win it many friends, as will the excellent multichannel recording on this hybrid SACD/CD disc with its enveloping but always civilised sound, which is commendably realistic without ever becoming intrusive. The playing is lively and sparkling throughout, too.

This is a thoroughly enjoyable Mozart collection that's hard to fault, and a great companion to the earlier set. **AG**

Standout track:

Symphony 29 in A major, First Movement

AUDIOPHILE VINYL

Elton John Goodbye Yellow Brick Road speakerscorner.de



**** Speakers Corner

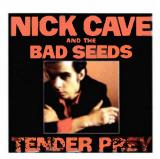
180g vinyl

ELTON PLAYS PROG! The opener on this 1973 classic is a two-part prog opus with an instrumental first half, but this double album has hits in abundance too: the lament of Candle in the Wind, the groove of Bennie And The Jets and the rock 'n' roll of Saturday Night's All Right For Fighting.

The sound has been mixed for maximum impact, there's a lot of energy and quite heavy

compression – a radio-friendly result that can be a bit much in a revealing system. Speakers Corner has done a fabulous job but the album was clearly made to sell, and it certainly did – since its release nearly 40 years ago Elton's flogged over 31 million copies worldwide – enough to buy Watford Football Club. JK Standout track:

Bennie And The Jets



Nick Cave & the Bad Seeds

Tender Prev

nickcaveandthebadseeds.com

Mute Records

CD

FIRST RELEASED IN 1988,

many Cave diehards regard this as his finest hour. The Mercy Seat - about the final moments of a convicted killer on Death Row - sets the scene for an album of mordant bleakness. But it's deliciously tempered with black humour, great tunes and the Bad Seeds playing at the top of their game.

The full package in this collector's edition includes a remastering of the original stereo release, acoustic demos and a 5.1 surround sound remix disc. The latter is particularly effective, honing down some of the more dated excesses of the original production but emphasising the epic, widescreen qualities of many of the tracks. WW

Standout tracks:

The Mercy Seat; Up Jumped The Devil



Robyn Hitchcock & The Venus 3

Propellor Time

robynhitchcock.com

CD

FIFTEEN ALBUMS into his solo career. Hitch hits the motherlode with an album recorded in his London house in 2006. With the help of Johnny Marr, John-Paul Iones and REM's Peter Buck, this jingle-jangles beautifully along with Jones giving it that acoustic, Zeppelin edge on plucked mandolin. Great.

You have to go back to REM's celebrated Automatic for the People from 1992 to hear this kind of stout acoustic production. It's garage or barn music on a widescreen with great vocal harmonies, beautiful instrumental placing and a production depth that works perfectly well at banging loud or gently soft volume. MP

Standout tracks:

The Afterlight; Ordinary Millionaire; John In The Air; Propellor Time



Frankie Goes to Hollywood

Welcome to the Pleasuredome

www.ztt.com ****

Sartorial

ZTT/Union Square

CD (2-disc set)

WHEN AN ALBUM includes three of the finest number ones of the early 1980s (Relax. Two Tribes and The Power of Love) instant classic status is guaranteed, though the inclusion of some covers (Born To Run, Do You Know The Way To San Jose?) sounds less forgivable today than when the band were red hot.

Producer Trevor Horn was a Spector-like studio perfectionist and it shows. Remastered for the first time, the hit singles sound vigorously fresh and the epic remixes (including Relax) are full of adventure and ambition, as is a second disc of previously unheard demos of the big songs. NW

Standout tracks: Relax; Two Tribes; Welcome To The Pleasuredome

HIGH-RESOLUTION DOWNLOADS

Robert Plant and Alison Krauss

Raising Sand

hdtracks.com ****

Rounder Records

24-bit/96kHz stereo



THE UNLIKELY **PARTNERSHIP** of former Led Zeppelin vocalist Robert Plant and bluegrass singer

Alison Krauss, performing mostly 1960s songs by artists as diverse as Tom Waits and the Everly Brothers, may not immediately strike you as a recipe for success. Regardless, it was a critical and commercial triumph and the album collected five Grammys.

The amalgamation of Plant's elfin wailing and Krauss' honeyed country tones is nothing less than amazing, and provides deeply satisfying harmonies on top of T-Bone Burnett's open, back-to-basics production. The sound is warm, natural and crystal clear, bringing out the beauty in those voices and the power and dynamism of the backing band. MS

Standout tracks:

Rich Woman; Please Read the Letter; Gone, Gone, Gone (Done Moved On)

Vishwa Mohan Bhatt and Ry Cooder

A Meeting by the River

hdtracks.com **Water Lily Acoustics**

24-bit/96kHz stereo



TWO TALENTED exponents of the slide guitar come together to improvise, and Bhatt's Hindustani

classical sensibilities present the instrument in a totally different light.

This recording reveals the unique sound of Bhatt's modified arch-top guitar, the 20-string, fretless Mohan Veena, and contrasts it with the more familiar tone and attack of Cooder's western instrument. Brilliantly clear, measured and dynamic percussion provides sublime punctuation for the flowing guitar mastery. MS

Standout track:

Ganges Delta Blues

BLU-RAY AUDIO

Tom Beghin The Virtual Haydn deccaclassics.com



5.0 channel DTS HD Master &

2.0 channel PCM

THE VIRTUAL HAYDN project, extending to more than 14 hours of music, covers the whole of the Haydn keyboard repertoire performed on

seven authentic instruments in nine 'virtual' rooms. Each acoustic was sampled and mapped, and then replayed in a recording studio at McGill University, using a pseudo spherical array of speakers. Much has gone into making the project as authentic as possible, but as the extensive notes relate, fine tuning was done by ear.

This set is a major departure by offering a package that cannot be readily downloaded or duplicated, and which in some respects offers new paradigms of quality and historical depth and

scholarship. The sound varies between good and excellent, and the sampled acoustics turn out to be surprisingly authentic as well as being rich and varied. I have a slight question mark over the use of DTS Master Audio, where Dolby True HD might have been preferred - not least for its apparent spatial superiority. Having said that, it's a small qualm - this impressive collection is on the whole stunning. AG Standout tracks: Andante for

Musical Clock; 63 combinations of instruments and rooms

Get the X-Factor

A complete, state-of-the-art hi-fi system for less than £2,000? *Jimmy Hughes* uncovers one of hi-fi's best-kept secrets: XTZ

t's one of life's little tragedies; Beautiful Systems tend to be very expensive. Great hi-fi equals Big Bucks. You can't get quality on the cheap. Or can you? In recent years we've seen some impressive Chinese-made amplifiers and CD players offering great build and superb sound, at amazingly keen prices.

All the same, this XTZ system takes the concept of 'value' to a whole new level. It costs significantly less than any of the previous set-ups recently featured in *Beautiful Systems*. For example, it's about a third the price of last month's Tri/Triangle system – costing roughly the same complete as the Tri amp or CD player individually.

the Tri amp or CD player individually. We absorbed all this intellectually before the system arrived, yet nonetheless found ourselves gasping with astonishment as we unboxed each item. An amplifier and CD player with this sort of finish and build quality for just £600 and £365 respectively? Unbelievable!

Had you told us in advance that the XTZ's amplifier and CD player retailed for (say) £1.5k each, we'd have easily believed it given the lavish/heavy build quality.

Perhaps, inevitably, the electronics are made in China. The speaker cabinets also hail from China, but are assembled in Sweden using SEAS drive units.

Unbeatable value

However, the real cost-savings are created by cutting out distributor and retailer margins and letting you buy XTZ direct online. There are two purchasing options. With the first, you pay for the system (or individual component) outright. The goods are shipped and you have 21 days to listen and decide.

If after three weeks, you're not satisfied, just return the item(s) in perfect condition for a full refund, minus shipping. With the second

option, you pay a hefty deposit and a set of demo/loan equipment is sent out. Assuming you like what you hear, you pay the outstanding balance and return the demo kit for new components.

Again, if you're not convinced, the demo kit goes back and your deposit is refunded, minus shipping costs. Sounds like a good deal; you get the chance to listen at home for three weeks and obtain massive costsavings. Okay, if you end up returning the kit, you bear the shipping costs. But otherwise there's seemingly little risk.

Bought on spec

Given that you might well be buying XTZ without having auditioned it first, a review is perhaps more important than usual. While evaluating this system, we tried to put ourselves in the place of someone who had bought on-spec, asking the question – would we be happy to keep this system, having spent £1,800?

"An amplifier and CD player with this sort of finish and build quality for just £600 and £365 respectively? Unbelievable!"

First impressions are very positive. We don't think anyone could fail to be impressed by the sheer weight of the amp and CD player, as well as the quality of build and finish. We were bowled over. The amp is a real behemoth, weighing in at a massive 22 kgs. The front panel is made from solid aluminium around three centimetres thick. And there's a choice of finishes – silver-white, silver-white/black, or black. The output stage can run in Class A

or Class A/B, while power output is

either 50w or 180w respectively.

COMPONENTS



O XTZ CD-100 CD PLAYER

DAC samples at 384kHz. Choice of RCA/phono or XLR output sockets. Solid all aluminium chassis with very high standard of finish.



2 XTZ 100D3 INTEGRATED AMPLIFIER

CHOICE of 50w Class A or 180w Class A/B modes. Inputs for four line sources and five digital sources, plus MM/MC phono stage. Outputs for tape, two subs and one set of loudspeakers. Pre/power amps can be separated. Solid all-aluminium chassis – sections individually screened.



3 XTZ 99.36 LOUDSPEAKER £825

REFLEX design with three ports and 90dB efficiency. User-tunable for optimum results. Three drive units, including a high-quality ribbon tweeter.







Set to A/B, the case temperature reaches about 27 degrees centigrade. In Class A, temperatures reach around 35C – which is pretty hot

There's a difference in sound quality between Class A and A/B – while the sonic improvement isn't huge, the music sounds slightly cleaner and more mellifluous in Class A. But, the amp delivers a lot more power in A/B mode, as previously mentioned.

High-quality cartridge

Four unbalanced analogue line inputs are offered, plus four co-axial digital inputs and a single optical digital input. You've two sub-woofer outputs and the pre and power amps can be unlinked so each can be used independently. There's even an MM/MC phono stage – but no balanced analogue line input.

We first tried the 100D3 with an expensive, high-quality low output MC pickup cartridge (costing two or three times more than the amp!), and LPs produced excellent results that were fully comparable with the quality of sound produced by the CD-100. Sensitivity (gain) seemed a wee bit low, but there was virtually no hiss or hum.

Loudspeakers connect via a pair of stout binding posts and the maker claims the amp can deliver over 60 amps of current! There's just one set of speaker outputs and no headphone socket. And, although quite large for an integrated amp, the 100D3 is pretty feature-packed, so there isn't much free space on the back.

The CD-100 compact disc player matches the 100D amp in terms of styling and build quality, weighing in at a reasonably substantial 9kg. It features an AD1955 DAC that upsamples to 384kHz. There are fixed-level XLR outputs and two sets of unbalanced analogue outputs via RCA phono sockets.

The CD-100 can function as a transport driving an external DAC, having digital outputs (coaxial/RCA

"Musically, the presentation is clear and unpretentious — a very nice system that's a pleasure to listen to."

and Toslink optical) for this purpose. We tried the CD-100 with the 100D3's internal DAC, but (as expected) the sound is cleaner with firmer/fuller bass, when using the CD-100 via its internal DAC and analogue outputs.

As last months' Tri/Triangle system was still in situ, one Beautiful System

ABOVE LEFT: Ribbon tweeters, 90dB sensitivity and just £825

ABOVE RIGHT: The XTZ 100D3: Class A or Class A/B, you decide ABOVE: Superb build and onboard upsampling; how

does XTZ do it for

the money?

morphed into another. Retaining the Tri CD player and amplifier, we replaced the Triangle Genese Trios with XTZ's 99.36 loudspeakers. Costing £825, the 99.36 is a tall floorstander featuring a SEAS ribbon tweeter and two SEAS 150mm bass/mid drivers.

First impressions are very good. The 99.36's displayed something of the crisp immediacy and attack we liked about the Triangles, but overall the sound is much more evenly balanced. The treble is detailed and articulate and this was complimented by a nice full-sounding midrange and bass.

The 99.36 makes a pretty good job of reproducing 20-hertz sine-waves – rattling the windows in the process! Smaller speakers tend to 'chuff' and produce 'doubling', whereas the XTZs are impressively clean and solid at low frequencies. The bass is deep, clear, tight and free from boom.

Airy and spacious

The speakers are user-tunable which is useful and you can alter the output of the treble and bass/mid drivers to suit your room and/or taste. Each enclosure is endowed with no less than three rear-facing ports and all three came fitted with user-removable foam bungs.

Removing one, two (or all three) bungs allows further fine-tuning.

M-FI Choice JUNE 2010 www.hifichoice.co.uk

BEAUTIFUL SYSTEMS XTZ

With all three ports closed, the sound is tighter and more firmly controlled. Remove the bungs and things ease up; the sound grows fuller and more voluminous. There's no 'right' combination. It all depends on personal taste, room acoustics, and how loud you like to listen.

The XTZ 99.36 speakers produce a bigger sound than last month's Triangle Genese Trio and give a nice portrayal of ambience and depth. The music sounds crisply focused and immediate, yet the presentation is quite airy and spacious – as thoughthe music is emanating from a place beyond the enclosures.

These first impressions of the 99.36s were formed using the Tri amp and CD featured in last month's *Beautiful Systems*. Substituting the solid-state XTZ Class A 100D3 for Tri's all tube TRV 88SE changed the sound noticeably. The spacious openness seems to evaporate and the tonal balance becomes slightly 'hard' and constrained.

On the plus side, the 100D3 was clearly very focused and controlled. It produces a clean, solid nononsense sort of result, free from brashness. When compared to the TRV 88SE, the sound is less delicate and sophisticated, but very clear and detailed. The Tri's smooth 'liquid' ease is much less apparent, but the sound is still good.

To try and counter this slight sense of constraint and lack of openness, we removed all three bungs from the speaker ports. This produces a slightly fuller bottom end and makes the music seem a little freer – though the sound is still not as see-through and open as it had been with the TRV 88SE.

Clear and unpretentious

Subjectively, the Tri amplifier had really flattered the 99.36s, making them seem very transparent – they all-but 'disappeared' as sources of sound. The 100D3 also sounded good, but this spatial/transparent quality was missing. As a result, our initial reaction to the 100D3 was one of slight disappointment...

But, it's a curious thing; the more we listened, the less of an issue this lack of openness seemed to be. While the loss had been very apparent when going from the TRV 88SE, after a day or two it hardly seemed to matter. Sonically, the 100D3 probably started to 'open out' a little as we used it more – albeit not by much.

The more we listened, the more we started to appreciate that the 100D3 had its own virtues and strengths. It produces a darker more tightly drawn, less 'glamorous' sound than



the Tri. But, once you accept this, you realise its musical presentation is actually very solid and cohesive and highly listenable.

Sonically, there's nothing flash or fancy about any of these XTZ components. Musically, the presentation is clear and unpretentious – solid and free from obvious nasties. XTZ has created a very nice system that's a pleasure to listen to because you're able to hear the music without unwanted/unnecessary additives.

Maybe your ear is not beguiled by amazing finesse or incredible refinement. However, once you forget about 'hi-fi' and just listen to music, a different picture emerges. With XTZ, your attention is always focused on the music – not the sound of the music. That's because the basic sound is admirably clear and cleanly-focused.

The price is right

While price is a big factor here, what's far more important is that the whole XTZ system doesn't leave you feeling dissatisfied or short-changed. Indeed, when we briefly returned to the TRV 88SE after living with the 100D3 for a few days, we actually missed the latter's solid-cohesiveness and control!

The CD-100 CD player produces very good results. It's a very smooth



DISTRIBUTOR: Audio Sanctum TELEPHONE: 07517 889738 WEBSITE: www.xtz.se refined and clean-sounding component that compliments the amp and speakers extremely well. Build quality is extremely solid and like the amp, it could easily pass for something costing four or five times more.

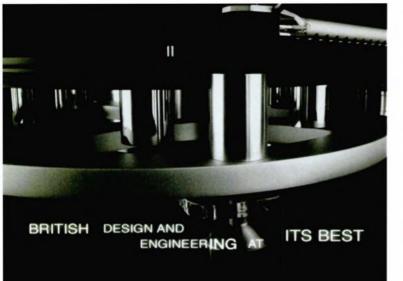
As with a great many sub-£1,000 CD players, the CD-100 sounds focused, crisp, and clean, but not exceptional or extraordinary. However, at just £365 one can't complain – in the context of this system it performs perfectly well and that's what counts. It certainly offers exceptional value.

So, if we'd just spent £1,795 on this XTZ system, would we send it back? Not a chance! In fact, we'd be absolutely thrilled (and feel insufferably smug) to have bought such a great system for so little outlay. The only possible downside might be a slight sense of guilt.

This system offers great sound and terrific value. And for those unable to listen, prior to purchase, we'd simply say this – order with confidence. Trust us, we are the reviewers after all and it's our job to know these things.

Of course, we can't say with absolute certainty that this XTZ system will suit your room, or your musical tastes. Only you can say that. But we do know this – to get something significantly better you'll have to spend a great deal more

www.hifichoice.co.uk JUNE 2010 H-fiChoice

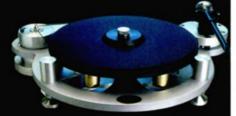


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YOUR EXPERTS



PAUL MESSENGER **EXPERTISE:** LOUDSPEAKERS

HAVING WORKED on both sides of the audio industry for over 30 years, as loudspeaker designer amd reviewer, Paul is ideally placed to offer thorough, in-depth analysis of every speaker reviewed, as well as cutting-edge developments in the field.



JIMMY HUGHES

EXPERTISE: SYSTEM OPTIMISATION

AS EVERY audiophile knows, there's so much more to getting a system to sing than merely throwing components together. Jimmy Hughes has spent 40 years tweaking and optimising systems, as well as voraciously collecting records.



RICHARD BLACK **EXPERTISE: TECHNOLOGY**

WRITING EXCLUSIVELY for HFC, Richard brings his experience as a successful musician and recording engineer to bear in our rigorous Blind-Listening Group Test. As our technical consultant, Richard is the authority on HFC's test and measurement.



JON MARKS

EXPERTISE: DIY AND VINTAGE KIT

FORMER EDITOR of Hi-Fi World magazine, Jon has a wealth of reviewing experience, as well as a passion for high-end vintage audio gear. Handy with a soldering iron, Jon also enjoys bringing classics back to life and pitting them against modern gear.



ALVIN GOLD

EXPERTISE: SEASONED REVIEWER

HAVING WRITTEN for a huge range of magazines, both internationally and in Britain, Alvin has a very full 30 years of reviewing under his belt. A guru of all component types, he's now extending his expertise by building PCs for audio too.



JASON KENNEDY **ERTISE:** TURNTABLES

ANOTHER EDITOR, Jason opted to become a freelance contributor when he relinquished the helm of HFC after 17 years on the magazine. A hi-fi addict since his twenties, Jason fell for the beauty of vinyl and has never looked back.

ASK US A QUESTION TODAY!

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QUESTION OF THE MONTH



I have £1,500 to spend on a turntable and would like advice on the most suitable deck within my budget

cheeseypuff via email

One of the undoubted front-runners within your budget, when it comes to musicality and involvement, is The Funk Firm's V2, fitted with its reworking of Rega's RB301 tonearm. Although

the skeletal build might suggest a lightweight sound lacking drive and pace, the V2 is actually a very enjoyable listen. It also

dynamics. Pushing your budget beyond its

has impressive

current limits is Thorens' TD160HD. With its RDC damping and acrylic platter, it's well worth considering alongside the V2, its only shortcoming being the rather retro look (see below).



Which amps for tri-amping?

Your review about the NAD C245BEE power amp (HFC 331) used to bi-amp loudspeakers has caused me some indecision.

My system contains a Garrard 301, with an SME 3009 Series 2 tonearm and a Clearaudio Aurum cartridge in a heavy, home-made wooden plinth. The CD player is an Usher CD 1. Amplification is a Musical Fidelity A1 FBP preamplifier and XA50 power amps, along with Epos ES22 speakers. Cables are from Black Rhodium and The Chord Company.

Before buying the A1 FBP, I was using a Musical Fidelity A220 class A integrated to drive the mid and treble and the XA50s the bass. I was very happy with the sound, but the A220 developed a fault and was replaced by the A1 FBP preamp (at a great price).

This is the problem with buying without hearing; I am really happy with the A1 FBP, but feel that I may need some more power as the single pair of XA50s now sounds bass-shy compared to the sound I was getting from my system when it was bi-amped. I have repositioned the speakers close to the back wall and this has helped a little, but the slam is just not there at lower volumes.

I was looking at second-hand amps, such as Meridian 556, or another pair of XA50s, but was also wondering what your thoughts would be on using the NAD Ci9060 to tri-amp the speakers. Living where I do, it is very hard to audition components before deciding to buy them.

I am able to spend up £600, if I keep the XA50s and up to about £1,000 if the XA50s go. My musical tastes are very wide-ranging and getting more so since subscribing to Spotify in hi-def. My room is three metres wide by four metres long and the speakers fire across the room due to domestic constraints.

Alan Webb via email

Rather than opting for the six-channel Ci9060, which is designed primarily for multiroom use, we advise you to stick with your XA50s and add the C245BEE. This combination would outperform the Ci9060 and allow you to keep the monoblocs you're already familiar with.

As the MFs did sterling service driving the woofers before (and have a higher power output than the NAD's 35 watts), we suggest you use the NAD to drive the mid and tweeter.





MAIN

SATURDAY 24 JULY 2010

SUNDAY 25 JULY 2010





FOREIGNER GARY MOORE



THE UNION



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The A220 was a very likable amp and going from bi- to tri-amping won't bring huge improvements, so be prepared for your system to sound different (slightly cooler and less rich now that the A220 is gone).

Of course, you could always keep an eye out for another A220, or another pair of XA50s for that matter. Don't rule out the cylindrical XA200 monoblocs either, as they offer plenty of power.

What sub-£1,000 second system should I buy?

I have just had serviced my Quad 66 and 606 amplification, which had been sitting in a cupboard unused for years. I intend to use my iPod with uncompressed files (where possible) as my source and need your advice when it comes to choosing a docking station, cables, speakers and maybe an inexpensive DAC as per your recent Ultimate Group Test (HFC 331).

As this is in a second home I use for work, I would prefer to limit the cost to around £1,000. Any advice would be much appreciated.

Sam Cleps via email

With such capable docks and DACs available for relatively little money these days, you should be able to focus the bulk of your budget on the loudspeakers. Onkyo's ND-S1 is a great dock with a digital output and would really sing with Cambridge Audio's DacMagic. This combo will leave you around £600 for speakers and cables.

You don't mention what sort of size your room is, but your £1,000 limit means you should try demoing speakers like Quad's own 11L2 standmount, for example, if the traits you seek in a system are speed and detail above all else. If not, Bowers and Wilkins' good-looking 685 is a more balanced all-rounder, though Monitor Audio's Silver RX1 offers more by way of involvement and excitement.

Digital interconnects as cheap as Profigold's PROA4801 (HFC 317) can offer surprisingly adept performance, though Kimber's pricier DV-30 will sound noticeably better on DACs which have slightly lower immunity to jitter. Opt for the Profigold and you'll have sufficient change from a grand for pairs of The Chord Company's Crimson interconnects and QED's Revelation loudspeaker cables.

What transport for the Naim DAC?

First of all, I just want to say how much I enjoy Hi-Fi Choice magazine. It's always a good read, with balanced informative reviews.

Second, I'd like your advice on an upgrade. I have been using a Cambridge Audio 840C CD player for the last three years and I am thinking of adding an external DAC. Most of my listening is jazz, rock, blues, folk, chill and trip-hop.

I have just read your review of the Naim Audio DAC (HFC 328) and am wondering if the 840C could be considered a good-quality transport?

If so, what digital co-axial interconnect would you recommend in the £50 to £100 price range?

Dave Charlton, Australia

In his review of the Naim DAC, Malcolm Steward commented specifically on the fact that it needs to feed from a good-quality transport in order to produce the best results. While the 840C has admirably low-jitter levels and would be fine as a transport to get you started, we suspect you'll want to upgrade as finances permit.

Whether you intend sticking with CD, or moving to downloads or rips, will also have a bearing on you choice. If it's the former and you're a fan of Naim gear, you might want to consider the CD5XS or CDX2, with the potential for a DAC upgrade at a later date.

When it comes to interconnects, Kimber's DV-30 is hard to beat at its £75 price, though QED's Reference is worth a look, too.

Cambridge Audio's DACMagic is a universal recommendation



THE HI-FI CHOICE **GUIDE TO:** SETTING UP TURNTABLES



SOME AUDIOPHILES

will tell you that the process of setting up a turntable verges on the arcane, a ritual consisting of expletives and incantations muttered under the breath. The reality is rather different, but still takes care and concentration.

Give your deck the best start by siting it on a level, solid surface as free from vibration as possible. If it has a sprung suspension then go through a rough set-up first, so as to get the cartridge and counterweight in roughly the right positions, as this may affect the levelness of the sub-platter by alteration of weight distribution.

One consideration is to make sure you use the correct alignment gauge for your tonearm (straight, S-shape and J being the main types), though this is usually supplied with an arm.

Correctly position the cartridge in the headshell first, then continue fine-tuning VTF and bias. You're much more likely to get it bang-on listening through decent headphones than via speakers - as headphones are generally so much more revealing.

If adjustable, don't be afraid to experiment with azimuth very slightly as well - occasionally, tips are fitted to cantilevers slightly away from vertical.

Good headphones can provide high-fidelity music whatever the situation, says Richard Black

Audio Technica ATH-AD500

PRICE: £100 CONTACT: 0113 277 1441 WEBSITE: AUDIO-TECHNICA.COM

HERE'S a comfortable and practical headphone, thanks to the clever support system with its two spring-loaded 'wings' providing gentle pressure on the head and keeping the cans reasonably stable over the ears. It's an open-back design, and comes fitted with a long straight lead that's very flexible and seems highly immune to transmitting mechanical noise when one moves, which is a real boon.

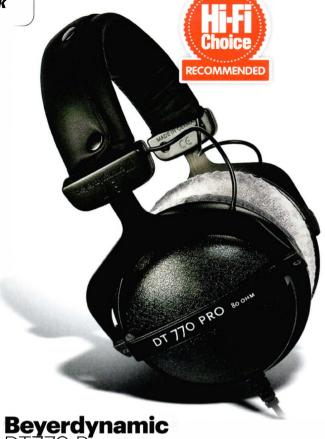
This popular model has been around for a while: long enough to have featured in these pages just under three years ago (HFC 300). But, Audio Technica has suggested that some running production changes have been made to this (and its companions in the hi-fi range). Changes which sounded as if they might address the criticism we originally made of its rather bright output.

The sound is still a little on the bright side, but if our notes on comparisons with long-term references are to be trusted, it certainly has become less so over the years. Sound is delicate and extended, brightness only really becomes apparent when very busy treble comes along. Balance is very even in the midrange and bass, and low bass has very good definition. On top of all this, detail is really rather classy, making this an easy headphone to recommend at its appealing price. It succeeds equally across the spectrum of music and is unfussy about what drives it.

VERDICT

BULKY but comfortable, this headphone offers a generous spread of virtues with just a little brightness on the debit side. Practical and very good value.





PRICE: £179 CONTACT: 01444 258258 WEBSITE: BEYERDYNAMIC.DE

HAVING had some pretty good results from various Beyerdynamic models in the recent past, UK distributor Polar Audio suggested we tested a 'pro' model as these have apparently been attracting something of a hi-fi following of late. The differences aren't vast, but they include such features as a slightly tighter fit to ensure reliable service on stage or in the studio, while the sound of the Pro is also claimed to be more direct and analytical.

Polar sent the 80-ohm version, but one with a different motor system and a 250-ohm impedance is also available. The latter also has a coiled cable, while the 80-ohm model has a long straight cable.

This is a closed-back design and the firm pressure on the sides of the head ensures that there is unusually good exclusion of outside sound. However, the sound inside is really not typical of most closed headphones: it has a much more neutral character, almost completely devoid of the mid/treble resonances that so often impair such transducers. The balance is a little depressed in the lower treble, but bass seems very honest and high treble is present when required. Detail is very good at any playback level and particularly when playing loud.

Listeners who value rhythm highly may occasionally find this headphone a little disappointing, but on most counts it scores well and is comfortable in long-term use.



VERDICT ONE of the most tonally satisfying closed-back headphones around, with a very useful degree of isolation from the world and excellent, unfussy, detail.

Denon AH-D2000

PRICE: £300 CONTACT: 01753 680568 WEBSITE: DENON.CO.UK

ANOTHER closed-back design, this one has the lowest impedance of the group, a characteristic that could give it an unfair advantage in a listening comparison. Denon mentioned the use of acoustically optimised materials, including microfibre in the drive units, while the faux-leather earpads are comfortable and ensure that the headphones don't easily slip off your head. The lead is covered with fabric braid and can be a little noisy when it rubs on clothing.

The sound is interesting. Bass is terrific, with great extension and as much weight as a headphone can plausibly give: it also has speed and good tuning, but it never seems excessive. Midrange and treble are just a little odd, though, for there are various resonances in operation which seem, at times, to reinforce some frequencies. As a result, a favourite test track by the Penguin Café Orchestra seemed a little dull, while familiar classical voice recordings were a shade more sibilant than they should be. Sometimes such resonances are quickly tuned out by the ear, but in this case 'mileage may vary', as they say, depending on the music. Rock is very successful, but classical fans may find more joy elsewhere.

VERDICT ***

BASS is near-impossible to fault, but coloration higher up the spectrum is hard to overlook in many musical styles. Closed back gives moderate isolation.





PRICE: £120 CONTACT: 01279 501111 WEBSITE GRADOLABS.COM

THE BIG difference with these headphones is that being super-aural they sit on, rather than around your ears. If you wear glasses you may find the frames are quite painfully squeezed against the side of your head, while achieving a comfortable balance of cans and specs can take some juggling. However, the earpads are quite soft and with familiarity these can be as comfortable as any 'circum-aural' models, the upside being that you don't get as sweaty in hot weather. Impedance is quite low at 32 ohms, but sensitivity is not among the highest despite that. The fitted lead is on the short side, but usefully, it seems to generate no friction noise.

It's certainly worth getting used to the unusual fit of these cans as the sound they produce is unusually open and natural, with very little in the way of distracting colorations and heaps of detail. In addition, and remarkably for headphones, there's a lot of information about the acoustic in which a recording was made. Headphone imaging is never going to be quite the same as that heard via loudspeakers, but this model gives a more lifelike version than most.

Because the sound is so uncoloured, there is a lovely brisk attack on notes. Deep bass is not quite as substantial as from the Denon, for example, but there is good extension and the way the bass integrates with higher frequencies is admirable •

VERDICT ABEAUTIFULLY neutral and open-soundingheadphone that's well worth taking some trouble to get accustomed to on the comfort front. Lively and energetic too.

HELP & ADVICE

Headphones aren't to everyone's taste, but it often happens that people warm to them over time. The sound is inevitably a bit 'in the head' but good models like these minimise that. Beyond that there are various things one can take into account to maximise headphone performance. The most obvious is a good amp to drive them. Built-in headphone outputs on amps or source components are often not optimal and various dedicated amps

are available across a broad price range. These will help make headphone listening a pleasure. Another very simple step worth taking is to keep your headphones in a bag or drawer when not in use – dust is an enemy.

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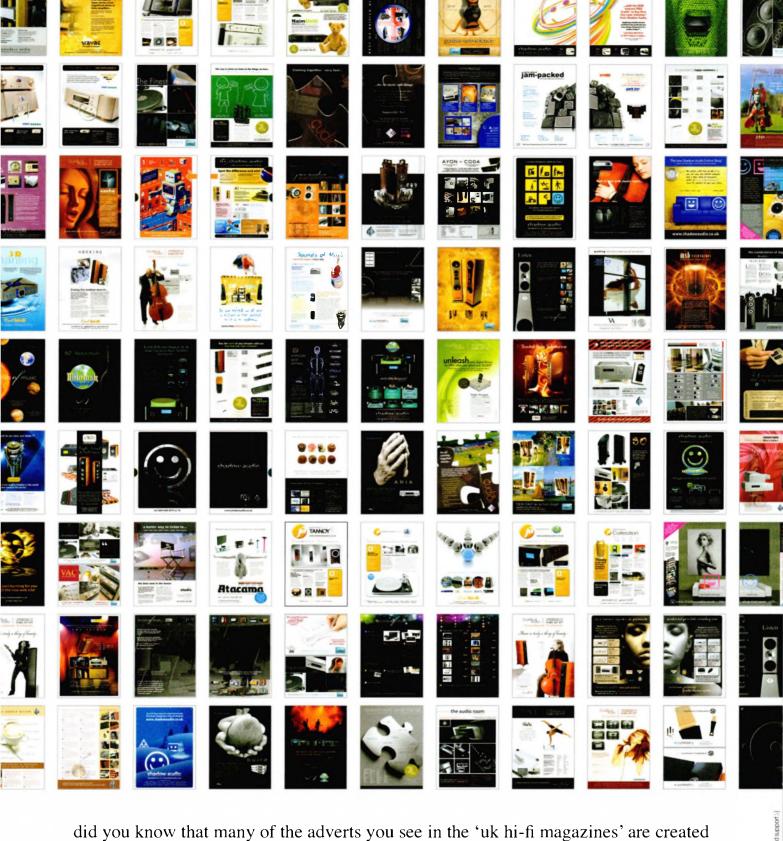
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HFC's Richard Black. gives the lowdown on Creek's new £1,075 5350 stereo amp



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DAC1 PRE Stereo Pre-Amplifier / DAC / Headphone Amp



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Hi-Fi Choice



Welcome to the Hi-Fi Choice Buver's Guide – the ultimate directory to the very best high-performance hi-fi gear that you can buy. Here, you'll find our

favourite current products listed under easyto-use categories, with up-to-date pricing and trustworthy verdicts.

Reviews you can trust

Hi-Fi Choice test results are the most reliable in the business. We employ the UK's most respected hi-fi journalists and use the most stringent techniques to ensure our ratings are the ones you can trust. All the equipment we rate most highly is contained within these pages, from CD and vinyl to the latest disc players, amplifiers, tuners and loudspeakers.

Reviews online

We've also included techradar listings where our reviews appear online. To access selected Hi-Fi Choice reviews, simply type: techradar.com/ into your browser, followed by the six-digit number printed in the first column of our Buyer's Guide.

How to use this guide

The Hi-Fi Choice Buyer's Guide is the best way to make a shortlist of components to audition. Pick the ones that best suit your taste and budget, then consult our Dealer Classified section to find specialist outlets where you can try them with your favourite music and test discs.

THIS ISSUE'S HIGHLIGHT

IN THE LAST ISSUE, we were blown away by a £190 turntable. But this was no ordinary deck. Pro-Ject's Genie III continues in the Czech brand's tradition of creating highperformance, high value turntables. For

anyone venturing into vinyl for the first time the Genie III is an obvious choice. It comes ready to play with a £40 Oftofon cartridge and

offers a an involving sound, thoughtful specification and a high standard of build. For more go to: project-audio.com

SOURCE COMPONENTS

110 CD players

Whether CD or SACD, we list the very best players for the job

Turntables

Everything is listed here, from a £190 Pro-lect to a £115k Continuum

Phono cartridges

The best in both magnetic and moving coil cartridges

Radio tuners

Surf the airwaves with any one of these carefully selected tuners

113 Headphones

Badge-winning headphones for your personal listening pleasure

AMPLIFIERS

Stereo amplifiers

Our pick of the world's best one-box integrated amplifiers

115 Pre/power amps

For those occasions when two boxes seem better than one

CABLES

Interconnects

Our favourite cables for transferring delicate signals are all here

117 Speaker cables

Priced per metre, these are our top recommendations for home use

LOUDSPEAKERS

118 Stereo speakers

An invaluable guide to the best loudspeakers for your electronics

STANDS & SUPPORTS

121 Equipment supports

Our selection of the best equipment supports for your precious kit

121 Speaker stands

Stands come in all shapes, sizes and prices, so take your pick from our list

DEALER CLASSIFIED

124 Dealer guide

A veritable pot pourri of hi-fi dealer classified advertisements

128 Dealer directory

For all your hi-fi wants, check our index of independent hi-fi dealerships





















109

Hi-fi Choice Buyer's guide







BADGES KEY: PRECOMMENDED = ■ PRECOMMEND



CD players



Jp to	£1,000			Marcon Storon	8.0	O'S OU	Con Con	Bar al	1000	tarione so	tole out	e numbe
adge	Product	Price	Comments	. "	, Ko	, T	Ĭ	- Fo	Y	7		9 9
•	Arcam CD17	700	Civilised sound, with a positively deluxe treble. Bass is clear, if not the weightiest ever			•	•	•	•			• 3
•	Audio Analogue Crescendo	599	Simple player that's clear and communicative with the appropriate partnering equipment			•	•	•	•		•	3:
•	CambridgeAudio Azur 840C	700	Superbly capable with a resolution and tonal evenness that's well worth hearing (silver finish)			•	•	•		•		3:
•	Cyrus CD6 SE	900	A combination of detail and sheer musical energy with a hint of high end to the performance				•	•				3:
•	Harman/Kardon HD990	550	Highly detailed with excellent extension at both extremes and impressive resolution	/594818			•	•		•		32
•	Marantz SA7003	600	Highly civilised sound may not be to all tastes, but there's plenty of detail to be heard				•	•		•		• 33
•	Marantz SA8003	830	Classic Marantz sound in a classy and attractive package. Our favourite sub-£1,000 player	/456022			•	•		•		• 3
•	Micromega CD-10	799	The cheapest in the range, the CD-10 has been fine-tuned to please the audiophile					•				3:
•	Moon CD.5	999	Admirably energetic music-making from this very well-built player			•	•	•				• 32
•	NAD C545BEE	350	Apart from slight lack of bass control, sound is very fine indeed – treble is beautifully detailed			•		•		0		• 32
•	Naim CD5i	895	Its competent musical performance exceeds the expectations of an entry-level player					•				30
•	Pioneer PD-D9	850	A mostly well-balanced player that's arguably at its best with classical music	/636734	0	•		•	•			32
•	Roksan Kandy K2	895	State-of-the-art technology and precision-engineering produces a fine CD performance	/483697				•		0		3:
•	Rotel RCD-1520	695	Lacks optical digital output, but feature-count is fine and sound quality is expressive and open	/608305								32

Abov	<i>i</i> e £1,000
Dadas	Decelulat

Badge	Product	Price	Comments									
•	Arcam CD37	1,300	Excellent detail and imaging, neutral tonality and above-average bass resolution	/395096	•	•		•				318
•	Audio Research CD5	5,055	Audibly better than most CD players on the market – assertive and very dynamic	/455309		•	•			•		312
•	Consonance Droplet CDP3.1	1,995	A CD player which gets to the nub of what music is about. Engages the listener every time			•		•				322
0	Copland CDA 825	3,985	This a highly revealing player that delivers music in a realistically engaging form			•				•		332
•	Creek Destiny	1,400	This player presents the music and nothing but the music and is thoroughly recommended			•	•	•				328
•	Cyrus Audio CD 8 SE	1,200	A highly civilised player which can, nevertheless, deal convincingly with raw music	/399370		•	•	•				323
•	Denon DCD-2010AE	1,700	Well equipped, finely detailed and with good support for compressed audio and iPod		•		•	•				328
•	EMM Labs XDS1	18,995	Very high-performance two channel only player with the option of a standalone D/A converter		•	•	•	•	•			327
•	Esoteric X-05	3,995	Superb resolve of fine detail with a perfectly judged balance and an ability to draw you in	/478365	•	•	•	•		•		314
•	Leema Antila II	2,735	Great build and multiple DACs give this a fast, revealing and totally engaging sound	/612396		•	•					323
•	Meridian G08	2,400	Advanced digital processing with special apodising filter that gives a very clean sound	/455040		•	•		•			312
•	Micromega CD-20	1,249	No SACD, unfortunately, but without doubt one of the better mainstream players			•		•		6		332
•	Mimetism 20.1	5,107	An impressive player that produces a very convincing and musical sound			•	•					330
•	Moon CD3.3	2,200	With clear, detailed and energetic sound, this player also offers a digital ouput	/594609		•		•			n partino	328
•	Moon 750D	7,950	Very few CD players can extract as much information off the disc as the 7500			•	•	•				331
•	Naim HDX	4,500	The HDX hard disk player represents an entirely new paradigm for high-fidelity replay			•	•	•				311
•	Rega Isis	5,998	A magnificently musical CD player at a realistic price. USB input is a useful addition			•	•	•			T	329
•	Shanling CD-T1000SE	1,700	This player's valve/direct option gives a choice in terms of performance			•						328
•	Sony SCD-XA5400ES	1,199	Elegant, refined control system and very strong CD/SACD performance	/465933	•	•	•	•	•	•	•	313
•	Unison Research CDE	2,495	Valve CD player with interchangeable DACs doubles as a standalone DAC that oozes musicality	/483759		•						318

SPECS KEY SACD COMPATIBLE Plays high-resolution SACD discs in two-channel mode. ELEC DIGITAL OUTPUT Electrical coaxial output for digital connection to a DAC or digital recorder. **OPT DIGITAL OUTPUT** Optical Toslink output for digital connection to a DAC or digital recorder. **CD-RW COMPATIBLE** Will play CD-RW (rewritable) discs, most CD players can cope with CD-Rs. **CD TEXT** Will display album and track titles from inserted disc. **BAL ANALOGUE OUT** Balanced XLR output connections for similarly equipped amplifiers. **HEADPHONE SOCKET** Quarter inch (6.3mm) headphone jack fitted to the CD player. **VARIABLE OUTPUT** Player features both fixed level and variable, volume adjustable outputs.



After 5 years in production, the Dino is still one of the most popular phono stages around. Highly versatile with accessible switches on the baseplate to facilitate a wide range cartridges.

'Never Connected' power supply technology virtually removes all incoming mains noise allowing only the music to be heard. Visit our website to learn more about this exciting product and the high performance Diablo phono stage.





Turntables



Tho	host	rocard	plavers	monov	canh	1111
ine	Desi	record	blavers	monev	can b	uv

Badge	Product	Price	Comments	ar.com	Strady Of	45.50 CAP	Po	all C	17	Mber
•	Clearaudio Emotion	1,185	Beautifully built with open and clean sound emphasising mid and top, nice timely bass		33/45			•	•	309
•	Clearaudio Performance	2,300	Ceramic-magnetic bearing spells a surprisingly uncoloured performance		33/45			•	•	295
•	Continuum Caliburn	125,000	Luxury turntable with state-of-the-art design includes Cobra tonearm and Castellon stand	/587169	33/45/78		•	•	•	320
•	The Funk Firm Funk V2	1,390	Not only as beguiling as those that preceded it, this turntable is also more substantial to boot		33/45		•	•	•	324
•	The Funk Firm Saffire	2,450	Individual design and a sound that's refined and neutral with strong timing and dynamics		33/45		•	opt	opt	309
•	Hanss Acoustic T-30	3,600	The only multi-armbase deck in its price range, it boasts image stability and precise bass		33/45		0	opt	opt	331
•	Lumley Heliosphere	2,495	A distinctive-looking turntable with a unique sound and a performance that reflects your vinyl	/560765	33/45			opt	opt	319
•	Michell Tecnodec	608	Needs careful partnering but can deliver a very sophisticated result for the money		33/45			opt		309
•	Michell Gyro SE/RB250	1,565	A marriage of shot-putter-strength, build quality and robust audio (including arm substitute)		33/45			•	•	324
•	Pro-Ject RPM-1 Genie 3	190	The Genie is that rare thing of a product with good looks, fine build and excellent sound		33/45			•	•	332
•	Pro-Ject RPM 6.1	750	With its huge platter this is a steady design that's capable of fine results with a decent cartridge		33/45/78		•	•		294
•	Pro-Ject X-Pack	1,000	Combines very strong elements (Ortofon Rondo Red) a killer package with top sound and value		33/45		•	•	•	309
•	Rega P3-24	390	Very competent, uncoloured and musical, improved by £148 outboard electronic power supply		33/45	opt	•			298
•	Roksan Radius 5/Nima	1,375	Sophisticated design with accomplished sound quality, excellent imagery and good isolation		33/45	•				248
•	SRM Arezzo	699	The Arezzo is an excellent source component for those wanting a superb turntable for vinyl replay	/625025	33/45	•				325
•	Townshend Rock 7	1,720	Has the ability to pull detail out of a vinyl groove, making it the most resolute turntable at its price		33/45		•	•		324
•	Townshend Rock V/Excalibur II	7,000	If you want to hear everything that's on a record then there's no better machine for the job		33/45	•		•		307

Phono cartridges



Badge	Product	Price	Comments	20.50	Me.	163/	"Oer
•	Dynavector DV-10X5	295	A high-output MC with superb dynamics and fine timing that s difficult to mount, but well worth the effort and but well worth and but an				307
•	Goldring Legacy	595	An MC cartridge better suited to the smoother-sounding turntable, it unearths a mountain of detail				328
•	Grado Prestige Gold	149	Produces rich, open and expansive music with the minimum of fuss	•			235
•	Ortofon Rondo Red	385	Delivers detail, power and resolution and makes a good case for its price				307
•	Ortofon Cadenza Red	750	There's much to admire in this cartridge's fine detail and unfussy presentation				330
•	Sumiko Blue Point Spec Evo III	239	High-output MC with refinement at high frequencies and a nimble, articulate and revealing sound		0		270
•	van den Hul MC One Special	699	A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light			1	235
•	van den Hul Condor XCM	2,400	A stunning cartridge with stereo imaging, dynamics and resolution to die for			1	265

Phono stages





	•	_	(F)	.com	De 2	200	Par Ph	mbp.
Badge	Product	Price	Comments		-4	4	7 1	
•	Cambridge Audio 640P	100	An outrageously good bargain that suits budget systems, but can confidently survive upgrades			•	•	305
•	Creek OBH15	240	Practical and highly compatible unit offering fine detail and a pleasing, mellow balance			•	•	305
•	Soundsmith Strain Gauge	6,100	Revolutionary kit assembly that rewrites the rules about vinyl playback	/618387				324
•	Tom Evans Microgroove	480	For dynamics and real bass extension with good tonal colour this is the one to beat			•		234
•	Trichord Dino/Dino+	563	Relaxed yet resolute with very good image depth and natural balance, not to mention great flexibility		•	•		234

SPECS KEY SPEEDS Speeds offered in rpm. SUSP SUBCHASSIS Turntables with a sprung or suspended support for the platter and arm. SWITCHABLE SPEED CHANGE Some decks require manual lifting of the belt from one pulley to another to change speed, but not these ones. **SUPPLIED WITH ARM** Deck is supplied complete with tonearm – some require a separate purchase in this department, but the dealer will fit it for you. **SUPPLIED WITH CARTRIDGE** Some decks are supplied with a starter cartridge and this is included in the price shown. **MM** Moving magnet cartridge – see amp and phono stage features to match this type. **MC** Moving coil cartridge – see amp and phono stage features to match this type. **REPLACEABLE STYLUS** Some cartridges have separate styli for ease of replacement, but it compromises sound quality.

HFC TOP PICKS



Cambridge Audio 640P £100

If you need a low-cost way to get your turn table talking to your amplifier, this is by far the best option, just pop into your local Richer Sounds



Dynavector DV-10X5 £295

Fiddly to set up, but dynamics are superb from this high-output MC cartridge, making it a firm HFC favourite for budget-to-mid-priced turntables



Townshend Rock 7 £1,720

A great turntable for those upgrading from an entrylevel deck. Sound engineering at a bargain price sets this deck apart from the competition



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Radio tuners



Surf the airwaves with these carefully selected tuners

27 a a	The Real Property lies
- FAA	funers

Badge	Product	Price	Comments	3		-2	3	20	3	?	G.
•	Creek Audio Evolution	350	Sound is detailed, cohesive and extended both tonally and spatially – very classy		FM,M	80	•	•		•	308
	Rega Radio 3	390	Strong bass, clear treble and a high enjoyment factor makes this an appealing FM performer		FM,M	20	-	•			283
•	T+A T1210R	1,200	High-end looks are matched by the sound, which is detailed and sophisticated		FM	100	•	•			283

DAB/FM tuners

•	Arcam FMJ T32	600	A highly cost-effective way of optimising the airwaves. iPod functionality is a bonus	/559242	DAB,FM	100	•	•	319
•	Onkyo T-4555DAB	400	Admirably free of grain or obvious tonal blemishes, this tuner achieves a high standard		DAB	40	•	•	298

DAB/FM portables

•	Monitor Audio Airstream 10	225	The range of features on this DAB/FM/Internet radio is certainly impressive	/636713	DAB,FM,Web	4	•		•	326
•	Pure Move	80	A feature-packed, beautifully built DAB/FM radio that is a pleasure to use	/608367	DAB,FM	20	•			323
•	Pure Evoke-2S (portable)	170	Attractive and well thought-out. Many useful features and enjoyable with classical music	/516285	DAB,FM	100	•			318
•	Pure Sensia	250	One of the smartest table radios around, offering wireless computer-sourced music		DAB,FM,Web	40	•	•		331
	Pure Avanti Flow	280	One of the best standalone solutions for internet radio with a tonality that's good for voices		DAB,FM,Web	40	•	•		322
)	Vita Audio R2i	300	Very smartly built with a sound that's full-bodied, neutral and detailed	/611865	DAB,FM	30	6			323

SPECS KEY WAVEBANDS Which bands are supported: FM, M - medium wave, L - long wave, DAB - digital audio broadcasting. PRESETS How many stations can be stored in memory. RDS Radio Data System – station names and program titles can be displayed among other facilities (FM only, DAB has more comprehensive display potential). REMOTE CONTROL For the couch potato. SIGNAL STRENGTH METER Useful for setting up an aerial. ROTARY TUNING KNOB An ergonomic alternative to buttons.

Headphones



Audiophile	solutions	for home	and	travel	use

Badge	Product	Price	Comments	.com	drie dure	al alle	a, a	4	ns) ablo	Anber .
•	ACS T2	500	Ear-canal earphones display an impressive midband intelligibility and a knack for digging out detail	/479584				2	28	315
•	Audio Technica ATH-CK10	279	In-ear headphones offer unforced detail, natural dynamics and excellent clarity					1	15	319
•	Beyerdynamic DT880	230	Combines musical involvement with a high degree of analytical virtues. Also very comfortable					2	05	312
•	Beyerdynamic T1	880	A characterful, enjoyable music-maker with a detailed, weighty sound				•	•		331
•	Denon AH-D7000	900	One of the best closed-back designs, bearing comparison with the finest open-back models	/478417		•		• 2	95 •	314
•	Etymotic ER-4P	195	Fiddle with in-ear earpieces and angles of approach and you'll be repaid with super-detailed sound					2	20	319
•	GradoSR60i	100	A strong contender with out-of-class sound in most areas: a brilliant budget all-rounder	/603478	•		•	2	10	322
•	Grado GS1000i	1,100	A superb transducer, capable of astonishingly high performance standards	/624782						325
•	Grado PS1000	1,795	Offer excellent detail and effortless dynamics, but they can be heavy to wear after a while				•	5	00	329
•	Sennheiser IE8	260	With its combination of neutral midrange and treble, this is a great all-rounder					2	20	319
•	Sennheiser HD380	140	Clear and detailed, with very natural tonality through bass and midrange with just a little coloration			•		•		327
	Sennheiser HD800	1,000	These headphones will convert loudspeaker listeners to the delights of personal stereo performance	/619269		•		• 3	50	324

SPECS KEY ELECTROSTATIC Uses electrostatic film instead of more common cone or dome dynamics. SUPRA-AURAL Earpads sit on ear rather than around it. CIRCUMAURAL Earpads rest on the head around the ears. OPEN BACK Vented capsules let sound in and out. CLOSED BACK Sealed capsules. WEIGHT In grams. 3.5MM JACK ADAPTOR Allows connection to personal stereos, computers etc.



PURE Sensia £250

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ACS T2 **£500**

For regular travellers, the ACS T2 with its custommoulded earpieces is an obvious choice, thanks to all-day comfort and a perfect fit for any ear



Sennheiser HD800 £1,000

Sound is simply superb in every way, beautifully balanced across the range and incredibly detailed. Comfortable over extended listening sessions

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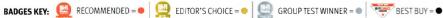
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Up	to £1,000			ST.COM	indus"	indu Col	otros Oc	to wa	to The	mber
Badge	Product	Price	Comments	7	.2.	*	9/	9	9)	**
•	Audio Analogue Crescendo	599	In a room of appropriate dimensions, this amplifier has real musical presence		5			•	50	329
•	Cambridge Audio 840A v2	700	A chunky powerhouse with features aplenty, this amp offers detail and delicacy (silver finish)		8	•	•		120	327
•	Marantz PM8003	750	Detail isn't the utmost, but great vitality makes this amplifier quite thrilling		5	MM	•	•	70	327
•	Moon 1.5	999	A likeable amp in many ways, with admirable bass, treble and imaging		5	•		•	60	321
•	NAD C3226BEE	320	Unusually confident into awkward loads and very assured especially in bass. Treble a touch recessed	/603281	7		•	•	50	322
•	Puresound A10	685	A superbly involving valve amp at a very competitive price and with genuinely excellent results		2				10	331

Superior design and high-performance credentials makes this amplifier a must-have bargain

Roksan Kandy K2

•	Arcam A38	1,480	A winning combination of sonic virtues including highly developed detail and musicality		7	opt			100	332
•	Astin Trew AT2000PLUS	1,740	If you prefer timbral and timing qualities of music to its bone-crunching potential, this is a contender		4		•	•	65	332
•	Audio Analogue Puccini Settanta	1,450	Detailed and lively, particularly in the upper octaves, but lacks a little bass extension		5	MC	•	•	160	320
•	Cyrus 8 XP d	1,500	High on features with a revealing upbeat sound and impressive five input onboard DAC	/608669	6		•	•	70	32
•	Denon PMA-2010AE	1,700	High-class, well-equipped integrated, with a performance that is muscular, refind and detailed		6	MM/MC	•	•	80	32
)	Electrocompaniet PI-2	1,600	A superb all-rounder, with insight on one hand and effortless musical flow on the other		6		•		100	32
	Electrocompaniet ECI-3	1,650	This is an impressively resolute and powerful integrated amplifier for the money	/618304	5				70	32
	Gryphon Atilla	6,995	Exceptional subtlety and definition, has enough power to cope with just about anything musical		5				100	32
	Harman/Kardon HK 990	1,000	Very clever, with built-in DSP room correction – but most importantly a powerful and revealing ampl	/594820	7	MC	•	•	160	32
	Leema Pulse	1,270	Admirable bass which combines extension, tautness and clarity. Higher frequencies are highly detailed		5	мм/мс	•		70	32
	Leema Tucana II	3,425	Highly featured, well-built and not short of power, this is a highly resolute and organic amp	/612396	7			•	148	32
	Lyngdorf Millennium Mk IV	10,995	State-of-the-art digital amp successfully transcends virtually all problems that afflicts others of its type	/603231	5				150	32
	Micromega IA-100	1,125	Fast and fluid performer that brings a touch of panache to its role		5	MM	•		100	33
	Mimetism 15.2	5,415	A powerful amplifier with great dynamics and high resolution that's rare even at this price		6	•			180	33
)	MSB Platinum M200	13,656	This amplifier's devastatingly good all-round sound quality sets a benchmark that few will approach	/603452		•				32
	Myryad MX12080	1,200	Sound is more assured at the top of the frequency range, though bass is melodious and detailed		8		•		80	32
	NAD 375BEE	1,000	A good, solid amplifier that is fundamentally musical and gives a great bang for your buck	/625323	7	•		•	150	32
	Naim Audio NAIT XS	1,250	Its spellbinding, refined musical performance is a challenge to all integrated amplifiers	/498536	6	•	•		60	31
	Rega Osiris	5,998	Very solid all-round performer has massive power reserves and splendid stereo imaging		6				162	32
)	Unison Res. Unico Primo	1,395	Line input can be converted to phono (at extra cost), plus an excellent mix of valve and solid-state virtues	/499279	5				85	317

Pre/power amplifiers Separate boxes can bring cleared to the separate boxes can bring cleared to the separate boxes.



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Up t	o £2,000									r
adge	Product		Price	Comments						
	C							111	,	. 1

•	Cambridge Audio Azur 840E/840W	2,000	Enterprising technology delivers a pre/power combo that always sounds detailed and controlled		8 opt	200	309
•	NAD C165BEE/C245BEE	1,190	An alternative to the usual integrated route and one that offers flexibility and fine sound	• •	6 •	35	331

Above £2,000

•	Arcam C31/P38	2,450	Very civilised sound in the best possible way. Well featured and smartly built			•	7	opt	• 1	100	308
•	Border Patrol Control Unit	3,995	Bluff-looking valve preamp, with one of the most neutral yet dynamic sounds around				5	opt			277
•	Bryston BP16/ 2B SST2	5,700	Preamp and power amp combo offers superb sound quality	/608649	•		6	opt	• 1	100	323
•	Bryston BP26	3,670	Cracking preamp brings detailed results		•		8	opt	•		308
•	Chord Prima/Mezzo 140	7,135	Small, muscular, beautifully made and styled, and sounds like a dream		•		5		• :	120	269
•	Classé CP-700/CA-M400	9,200	Pre plus mono power combo with superb build, huge power and enormous flexibility.		•	•	6	opt	• 1	400	293
•	Cyrus DAC XP (preamp/DAC)	2,275	A DAC/pre with naturalness and resolution to die for and six digital inputs for signals up to 96kHz		•		2		•		266
•	Digital Do Main Ba-1	6,495	By recreating the V-FET, DDM has built one of the most thrilling ampifiers on the market			•	4		1	300	327
•	Hovland HP-100/RADIA	18,900	Uncommonly musical valve/transistor hybrid transcends stereotypes, one of the genuine high achievers			•	9	opt		125	250
•	Naim NAC 152 XS/NAP 155 XS	1,920	Preamp and power amp duo offers excellent performance and classic Naim virtues		•		6	•		60	324
•	Roksan Caspian M Series-1	2,800	A powerful and enjoyable-sounding amplifier combo that brings out the strengths of its CD player		•	•	5		•	85	307
•	Trilogy 909/990	10,390	Extremely musical valve-based pairing with hybrid power and beautiful finish	/625226			6		•	100	325

SPECS KEY LINE INPUTS Input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc. PHONO INPUT Input sockets and on-board phono stage for a cartridge. Either MM (moving magnet) or MC (moving coil), occasionally both. REMOTE CONTROL A remote control is supplied with the amplifier. HEADPHONE SOCKET To drive your cans with. POWER OUTPUT Manufacturer's rated output in watts per channel.

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BADGES KEY: RECOMMENDED = ■ | POITOR'S CHOICE = ■ | RECOMMENDED = ■ BEST BUY = ■



Cables



Cables really can make a difference, especially our top recommendations

_	ogue interconnects			A.COM SILE	Olio Olio	CON CON	200,	Co. Tue	ie number
adge	Product	Price	Comments		_	_	-	-	
•	Audioquest Sidewinder	45	A detailed cable, with fine tonality and excellent rhythm – slight upper-bass warmth does little to detailed	act	•		•		297
•	Black Rhodium Prelude	90	Practical and sensibly priced all-rounder that seems happily compatible with a widerange of kit		•		•		293
•	Black Rhodium Coda	150	Superb bass with neutral and detailed midrange, treble sweet with occasional slight constriction		•		•		298
•	Black Rhodium Polar Illusion	250	A good all-rounder, with clear and purposeful bass and particularly fine treble		•				321
•	Cambridge Azur Reference	50	Performance wouldn't shame a cable at twice the price: especially adept in the treble		•		•		290
•	Chord Co. Indigo Plus	995	Costly, and high-class cable needs running in, but this is a finely detailed design overall	/608313	•				323
•	Clearer Audio Silver-line	283	Complex, well-screened cable which offers good sound all round with exceptional bass		•		0		279
•	CrystalCable Piccolo	348	Thin, tougher than it looks, has some qualities of a solid-core type – resolution, focus and articulation			•			294
•	KimberTimbre	145	A very neutral cable that will complement even very upmarket systems			•		•	312
•	Monster M350i	45	Few cables at this price reveal so much about the recording space.		•		•		281
•	Monster M1000i	230	Very capable, with only a hint of bass dryness to set against excellent results elsewhere		•		•		284
•	Nordost Wyrewizard Dream	110	Slight lack of precision in extreme treble, otherwise detailed and neutral with authoritative bass			•	•		30
•	Oehlbach NF214	63	The bass is a matter of taste, but suits many smaller speakers with good mid and treble		•		•		28:
•	QED Signature Audio S	190	Mellifluous and rounded, this cable is a great choice for lovers of the human voice			•		•	332
•	Supra EFF-IX	77	Lively sounding which maintains a high level of detail and neutrality, musically, a great all-rounder		•		•		30€
•	Townshend Isolda DCT100	99	Particularly enjoyable cohesion and naturalness that makes for great listener involvement			•	•		312
•	van den Hul The Wave	125	Neutral, with a hint of upper-bass richness: images seem to reside slightly further away than most		•		•		312

•	Kimber DV-30	98	A superb performer that lacks very little, even when compared to Kimber's high-end models	•	-		Ε	317
•	Merlin Scorpion Digital	130	Reduces distortion, making sound clear with unusually revealing low frequencies	•			E	317
•	Supra AnCo	30	This cable can give a useful fillip to a good transport/DAC combination, even in a high-end context				E	304

aker cables (price per metre)

•	Atlas Hyper 1.5	12.5	Don't look to this cable to beef up the bass, but at higher frequencies is revelatory at the price		•		•		299
•	Atlas Ascent 2.0	60	A highly analytical cable and very fine detail across the board		•		•		294
•	Chord Co. Silver Screen	6	Screened speaker cable with excellent treble, but just a little light in the bass at times		•		•		310
•	CrystalCable Piccolo	1,395	A chip off the old block, has a similarly fast, fluid and subtle sound (price -3 metre pair)			•		•	302
•	Kimber 4VS	155	In the right system, this cable is a good choice (price reflects 2.5 metre terminated pair)		•		•		329
•	Monster MCX-1s	5	Notable for its bass, perhaps a touch overdone at times but could be a good foil to small speakers		•		•		280
•	Nordost Heimdall	185	Alternative to Valhalla, silver-plated, micro-monofilament construction, suitable for exacting systems		•		•		278
•	QED X-Tube XT300	12.5	A natural and controlled-sounding cable that's cost-effective for mid-priced systems			•	•		310
•	QED Revelation	15	Sensibly priced, this cable offers a performance which is a step-up from budget types		•		•		318
•	Townshend Isolda DCT	50	Cryogenically treated 'impedance-matched' cable with stabilising components added			•	•		241
•	van den Hul The Wind	50	Separate conductors provide room for experimentation, conductor quantity keeps resistance low			•	•		318
•	Wireworld Solstice 52	25	Rather bulky and awkward, but performance amply justifies it with superb bass solidity		•		•		310
•	Wireworld Oasis 6	40	Excellent bass with tunefulness and extension all first-rate. Awkward to handle, though	/617560					324

SPECS KEY STRANDED Cable has a number of (usually) twisted strands to conduct the signal. SOLID CORE Cable has one or more individually insulated strands to conduct the signal. Material used to form the conducting element of the cable. SILVER Alternative material used to form the conducting element of the cable. DIGITAL CABLE TYPE E — electrical, O – optical. Cables are one metre length unless otherwise stated.





QED Revelation £15 (per metre)

Giving a consistent result with a wide range of amplifiers and speakers, the Revelation speaker cable boasts a good performance in all areas.



Kimber DV-30 £59 (0.5 metre)

A superb performer that lacks very little, even compared to Kimber's high-end models. Tonality, detail and imaging are really very fine.



Black Rhodium Polar Illusion £250

This super-cooled, unshielded interconnect with solid, silver-plated copper insulation, delivers a treble performance that's admirably clear and crisp.

Up to £1,000









Stereo speakers The most influential link in the chain



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Badge	Product	Price	Comments	On	3)		·6,	6 3	9, 6	411	
•	Acoustic Energy Aegis Neo 3	363	Pretty, neutral floorstander sounds open with wide dynamic range and good bass weight		20,90.5,24	9	A	24	•		294
•	Acoustic Energy Radiance 1	600	Limited bass, power handling and dynamics, but exceptional mid-to-treble voicing		18.5,32,25		A	33	•		325
•	Amphion Ion L	900	Sharp styling, fine mid/treble coherence a sweet treble, but less happy bass alignment		16.2,32.6,26.5		A	40	9		310
•	ATC SCM11	867	A very fine little speaker t-at its best with natural recordings where it adds little		21,38,25		A-	55	•		293
•	AudioPro Avanti A.10	350	A tough and effective little speaker – overall balance is quite smooth and even		19,29,26		A+	38			319
•	Bowers and Wilkins CM1	488	Luxury miniature has laid-back sound, low coloration and fine imaging, but weak dynamics		16.5,28,28		A-	40			279
•	Bowers and Wilkins 684	699	A fine all-rounder at a realistic price, has a smooth, even and nicely open balance	/483503	20,91,30			22	•		315
•	Bowers and Wilkins 683	879	High-class drivers and a great price makes for a warmly recommended speaker		20,99,34	•		20	•		304
•	DALI Ikon 6	999	Needs care with setup, impressively transparent and obsessively detailed sound		19,100,33	•	A	37	•		271
•	Dynaudio DM 2/10	880	Has fine dynamics, grip, bass and headroom and is well mannered		27.5,45,35		A	22	•		299
•	Focal Chorus 706V	389	Advanced drivers deliver an even, healthy dynamic expression and tension		22,39,25		A	27	•		319
•	Focal Chorus 726V	950	Compact and realistically priced, the Chorus 726V is a good all-round performer		22,99,37.5	•	A	25	•		325
•	JBL Studio L880	700	Good value floorstander with neutrality, massive headroom and plenty of punch		22,99,37	•	A	25	•		275
•	KEF iQ50	599	Looks cute and very discreet, with spacious imaging, good balance and a sweet treble	/483527	17.5,81.5,26	•	Α	23	•		315
•	Monitor Audio BR2	230	Good-looking standmount has a muscular sound with superior coherence		18.5,35,25		Α-	30		•	294
•	Monitor Audio BR5	450	Not the best dressed in its class, but detailed, bold-sounding and good value		17,85,25	•	A-	36	•	1	293
•	Monitor Audio Silver RS8	850	Bold, dynamic sound, it's an easy load that works well in larger rooms		90, 18, 27	•	A	33	•	•	276
•	Monitor Audio GS10	900	More neutral tonally than some recent MAs, the GS10 is is easy to drive		20,36,27		A-	40	•		284
•	PMCDB1i	895	Could be more neutral, but a very effective musical communicator, fine warmth and treble		15.5,29,23.4		A+	30	•	•	310
•	ProAc Tablette Ref Eight	704	Stunning standmount with electrostatic-like imagery. Its brother is even better!		15,27,23		A+	40	•	7	267
•	Q Acoustics 1010	110	Neatly styled miniature has limited bass and power handling, fine midband voicing		15,21.5,19.5		Α	48		•	286
•	Q Acoustics 1020i	140	Outstanding value, t smooth well-balanced and lively sound makes a fine communicator	/516273	17.5,25,26.5		A+	60	•	•	318
•	Rega RS1	390	Clever close-to-wall speaker has a fine coherence and good communication skills		15,32,23.6		A	23	1		319
•	Russ Andrews SP-1	352	This tweaked Focal 705V RA has a sound that is immediate, engaging and, and great fun		19.2,31.5,24.8		A+	65		•	309
•	Spendor S3/5R	750	Lacks dynamic muscle and loudness potential, smooth neutrality and g bass extension		16.5,30.5,190			25	•	•	310
•	Tannoy Revolution DC4T	599	Ultra-compact, lacks bass weight and dynamic tension, but sounds open and coherent	488857	15,85,16	•		40		•	316
•	Tannoy Revolution DC6	900	Pretty compact standmount, delivering a lively bass and smooth, coherent midband		23,36.5,23		A	40			307
•	Wharfedale Diamond 9.1	150	Superior shape and finish. Sound is laid back, but free from boxiness		19.5,30,28		Α-	45	•	1	307
•	Wharfedale Diamond 10.5	480	Despite the price, the 10.5 ticks many of the boxes, with superior voice band coherence	/636778	22,88,30		A-	50			326

Above £1,000

•	Adam Audio Tensor Delta	8,400	This active loudspeaker brings a powerful range of capabilities to its performance		33,56,34		A	50	•	329
•	AE Energy Radiance 3	1,500	This speaker's effective enclosure ensures a wide dynamic range and a very clean sound	/587236	23,92,29.7	•	A	27	•	320
•	Amphion Argon2 Anniversary	1,200	Notably superior coherence, focus, fine neutrality and dynamic range with low coloration		19,38,31		A	24	•	317
•	Amphion Helium 520	1,000	Sharp styling and fine value for money with excellent voice-band coherence		16,104,22	•		28	•	314
•	Amphion Argon 3L	2,300	Solid build ensures an impressively clean sound with loads of bass and fine neutrality		19,92.5,30.5			26	•	322
	Aspara HL6	4,300	Acoustic material sounds great and there are many strengths in design and performance		18.5,93,34.5	•	A		•	332
•	ATC SCM16A	2,376	Makes a great case for the active speaker. Includes built-in amps and is good value		27,45,33		ACT	42	•	300
•	Audioplan Kontrapunkt IVB	2,898	Boasts exceptional stereo imaging and mid-through-treble coherence		16,35,26	•	A	45	•	329
•	Audiovector S3 Super	2,600	Useful ability to upgrade, offers good musical communication and stereo imaging		19,103,31	•	A	50	•	328
•	Aurousal VS	1,650	Fine coherence and imaging of a single driver system, extra help at the frequency extremes	/479149	21.5,107.5,26.8	•		20	•	314
•	AVI ADM9	1,125	Active mini-monitors that are exceptionally accurate and dynamic sounding		20,30,26		ACT	60	•	301
•	Bowers and Wilkins CM9	1,760	Tall, elegant, expressive midband and expansive, but well-controlled bass	/597244	20,102.5,32	•	A	60	*	321
•	Cabasse MC40 Java	1,360	This large and handsome speaker has a notably smooth and evenhanded neutrality		25,110,35	•	A	20	•	325
•	Cabasse Bora	2,200	A real enthusiast's choice with high sensitivity, strong bass and powerful dynamics	/618354	33,27,50		A	52	•	324
•	Dynaudio Focus 220	2,630	Cleverly tapered floorstander has a brilliantly smooth, neutral balance and very sweet treble		20.5,98,29.5	50	A-	20	•	281
•	Focal Chorus 816 V	1,099	Fine, warm balance, superior dynamics and a sweet top end, but could be smoother		28,100,37.5	•	A+	20	•	288
•	Focal Chorus 826 V	1,349	Times nicely, goes loud with ease and will produce precise imaging if appropriately set up		28,104,37.5	•	A	45	•	287
•	Focal Chorus 816WSE	1,499	The W cone makes some qualities associated with Focal's high-end models more competitive		99.8,28.2,37.5		A+	39	•	308
•	Focal Chorus 826W LE	1,879	Focal has turbo charged the 826 resulting in lots of energy, excitement and fine detail		28.2,103.8,37.5	•	A		•	330
•	Focal Electra 1027 Be	4,399	Outstanding mid and top with fine delicacy, low coloration, but lacks some bass grip and drive		26.5,111,35	•	Α-	25	•	276
•	Free FS1	3,500	An elegant design with the minimum of wiring. Wireless with Sonos or Airport Express		16,87,27	•	ACT	35	•	301
	Gamut Phi5	3,040	Lovely discreet floorstander has excellent sound and several very clever engineering touches		17,100,24	•		20	•	305

Stereo speakers (continued) Shapes and sizes for every budget

Badge	Product	Price	Comments	A.COM	J(W) SH	Ze, o	To M	(42) SX	90°C	rall in	noe,
•	Green Mountain Audio Rio	2,000	Fabulously tight timing and coherence makes for a very expressive and musical performer		20.8,40.6,34.9		A	80		•	332
•	Guru QM10	1,595	Avery clever close-to-wall standmountwith fine imaging, that sounds a lot bigger than it looks	/465869	30,25.2,23.2		A	26		•	317
•	jamo R 907	6,600	Arguably the more 'chummy' of Jamo's dipole flagships, powerful bass and open midrange	/498515	44,118.9,7	•	A	30	•		317
•	JBL Everest DD66000	44,000	Awesome performance in the true meaning of the word & exceptional musical communication		111,96.5,47		A	50	•		3.31
•	Kudos Cardea C2	1,950	This floorstander is a fine all-round performer with fine voicing and neutrality		20,92.5,27	•		23	•		322
9	Kudos Cardea C30	5,250	An absolute honey that fully justifies its hefty pricetag, lacking only a little dynamic tension	/394973	20,112,27	•		22	•	-	310
•	Magico V2	18,000	High pricing derives this speaker's superb painstaking engineering & impressive performance	/624700	25.5,115,30	•	A	32	•		325
•	Magneplan Magneplanar 1.6	2,500	Great with acoustic and classical material, this dipole panel speaker has superb sound quality		48,165,5	•	A	43		•	329
•	Mission 796	1,300	Clean, open and detailed, smooth, relaxed loudspeaker does exactly what it says on the box	/594834	20.6,99.8,31.8		A	25	•		321
•	Monopulse 42A	1,995	Oddball styling, fine bass-to-mid balance and dynamics and superb voice coherence		26,110,25	•	A	25	•	I	302
•	Monitor Audio PL200	4,750	A costly, but beautifully presented loudspeaker with outstanding voicing and character		25.5,100,28.5	•	A-		•		330
•	Mordaunt-Short Perf 6 LE	4,799	Striking moulded enclosure minimises coloration, overall balance is smooth, neutral and open		24,115,43	8	A	22	•		308
•	Neat Momentum 3i	1,790	Sounds bigger than it looks, with good coherence and an impressively wide dynamic range		22,38,27		A-	23	•		302
•	Opera Callas	3,195	Technically innovative multi-tweeter system, this is a grown up and articulate performer	/429144	23,37.5,34			32	•		311
•	Opera Seconda	1,995	Fine styling and finish, plus very superior voicing, if a shade lacking in warmth		24,102.5,31.5	•	A	20	•		314
n	Pioneer S-2EX-W	5,200	This speaker offers superb midband neutrality and exceptional clarity	/587272	29.1,56.5,42.5	•	A	37	•		320
•	PMC FB1i	2,100	A floorstander that boasts impressive bass extension and a smooth sweet top end	/429594	20,100,30	•	A	20	•		329
•	PMC OB1i	3,600	This floorstander delivers a smooth overall balance with wide bandwidth and dynamic range	/429697	20,102.5,32.5	•	A	20	•		311
•	PMC fact. 8	4,600	Beautiful styling, alongside a superb all-round sound with a notable wide dynamic range		15.5,105,38	•	A	55	•		327
•	PMC IB2i	8,900	Delivers a top-class sound quality, fine imaging and exceptional dynamic grip	/617595	33,74,46.5	8	A	25	•		324
•	PSB Synchrony One	3,500	Slim and discreet floorstander that delivers superb sound quality and flexible bass	/516267	22,109,325	•	A	45	•		318
•	Revel F32	3,200	Meticulously balanced, tonally neutral design makes for a taut, well disciplined sound		22,105,39	•	A	20	•	1	256
•	Revolver Screen 3	2,799	Visually dramatic and very successful in delivering genuine high-quality hi-fi sound		50,140,11		A	35	•	1	329
•	Roksan Caspian FR-5	2,475	Sharp-looking speaker sounds exceptionally open and lively without aggression		20,100,25	•	A	22	•	1	290
•	Sonus faber Luito Monitor	1,690	Subtly designed, elegant-sounding package, especially with good recordings	/603221	18.5,35,33.5		A -	55	•	1	322
•	Sonus faber Minima Vintage	2,490	Easy, graceful-sounding compact, a natural for acoustic material at moderate volume levels	/455417	20,33,27.5		A-	55	•		312
•	Sonus faber Cremona Audit.	3,350	Open, exciting and with surprisingly good bass, this is 'The Little Speaker That Could'		20,35,37		A	50	•		305
•	Spendor SP3/1R2	1,600	Conservative styling, superb neutrality and coherence with unusually low coloration		22,40,28		A	37	•		317
•	Tannoy Definition DC10T	5,000	Classy speaker has massive base, high sensitivity and precise image focus	/608326	34,112.5,32	•	A+	35	•		323
•	Totem Model 1 Signature	1,975	Expensive, but very seductive miniature delivers a beautifully smooth and balanced midband		17,31,23		A	35	•	i	277
•	Triangle Genese Quartet	2,775	Great material value and a solid all-round sonic performance with great loudness potential		23,117,37	•	A	25	•		302
•	Triangle Magellan Concerto	16,250	New 'sw2' version is less immediate than its predecessor, but it remains highly enertaining		60,160,45	•	A-	32	•	1	290
•	Usher Compass CP-6381	2,500	Lots of speaker for your money, with plenty of deep bass, unusual styling and massive build		35,127,65		A	20	•		270
•	Vivid Audio K1	14,495	With a subtle, fast and wide bandwidth, this speaker is one of the finest on the planet	/625361	28,130,45		A	35	•	I	325
•	Wilson Benesch Curve	5,383	Much (but not all) of the ACT's performance in a much more compact and affordable package		23,91,37	•	A	28	•		254
•	Wharfedale Opus	1,500	Great material value and a solid, if bright and forward sound. Has great loudness potential		26,100.5,41	•	A	23	•		314
•	Yamaha Soavo 2	1,200	Cunningly crafted with a beautiful balance that always sounds lively, open and involving		22,38,35		A	28	•	1	296
•	Zu Essence	3,750	Realism and communication skills are more than compensation for balance shortcomings		30.5,125,30.5	•	A	25	•	1	327

SPECS KEY SIZE W,H,D (CM) Width, height and depth of one cabinet in centimetres. ROORSTANDER Speakers that don't require stands. EASE OF DRIVE. How much power the amplifier needs (approximately) to drive the loudspeaker effectively. A + 25 watts plus A - 100 watts plus A-CT Active – the speaker has its own in-built amplifier. BASS FROM How low the speaker goes – the smaller the number the deeper the bass. FREE SPACE The speakers work best away from wall(s). CLOSE TO WALL The speakers will work best when up against a wall (but avoid corners).



Amphion Ion L £900

A great-looking loudspeaker that also boasts a superb mid/treble coherence and and a supersweet treble, some positioning care needed



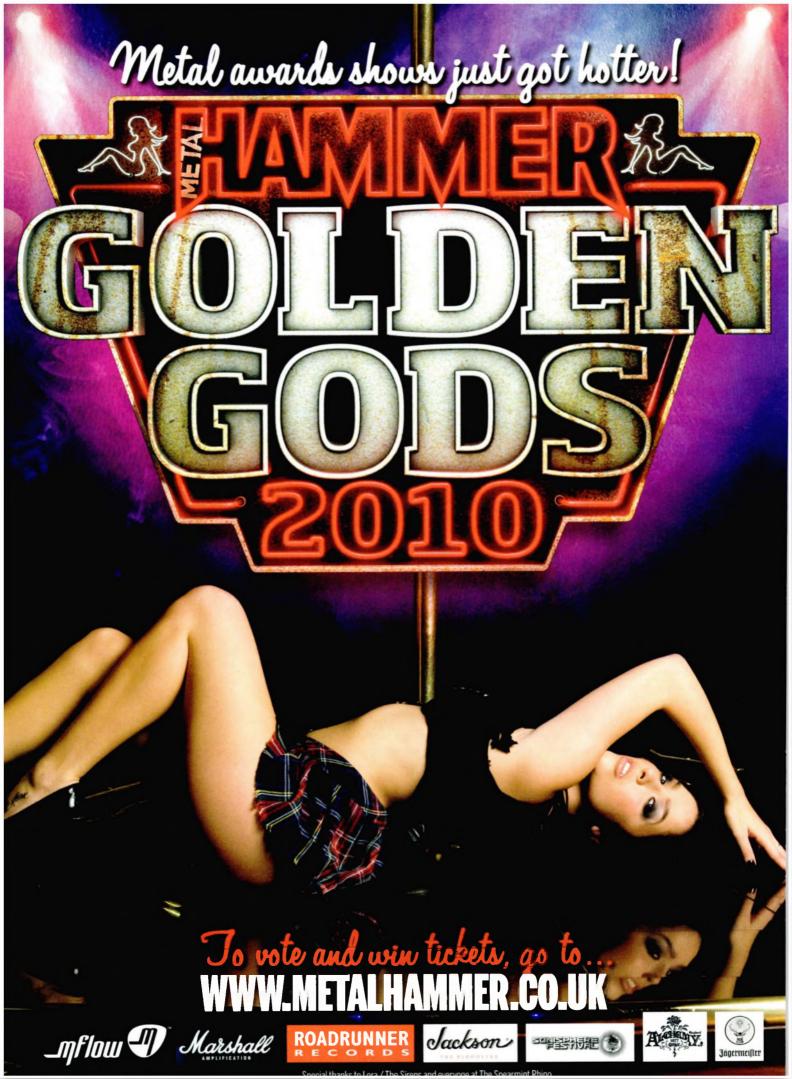
Opera Seconda £1,995

Classy, sealed-box, two-and-a-half-way Italian floorstanderwith a very fine fit and finish and a superior voice band for acoustic work



Audioplan Kontrapunkt IVB £2,898

It's small, it's expensive, but this German floorstander contains the finest ingredients and delivers a smooth sound with some of the best imaging around









BADGES KEY: B RECOMMENDED = DITOR'S CHOICE = GROUP TEST WINNER = FEST BUY = DEST BUY = D



Equipment supports Hi-fi equipment supports come in all shapes and sizes



Badge	Product	Price	Comments		(Ca)	Oso S	Mes "	200	mde.
	Ataca ma Equinox	409	Stable, modular design with style and excellent bass transients	81	50,50	•	4	Glass	217
•	Audiophile Base Std Supp't	1,200	Expensive and quite bulky, but sound is unusually detailed and resonance-free	57	46,35		3	MDF	302
•	Aurios Classic Bearing feet	230	A widely versatile set of three isolation feet for most hi-fi kit, except suspended turntables					Metal	302
•	Custom Design Inert Matt	70	Isolation platform can improve the sound of hi-fi components, but is a bit small for most kit		40x25	1		Metal	311
	Custom Design XL4	380	Simple construction pays off in smart looks. Sound contribution is minimal		60,42		4	Glass	293
	Custom Design Milan	509	Good-looking stand with nothing more to complain of than slight muddying of detail	57	48,39		4	Glass	302
•	Hi-Fi Racks Podium	500	A keenly priced piece of high-class furniture that also happens to sound great		59.5			Wood	320
•	Isonoe Isolation feet	98	A set of four isolation feet that are ideally suited to microphonic kit like turntables					Alloy	327
	Partington Minim	470	Adds its own character to rock, but to the detriment of acoustic sounds	78	45,37	0	5	Glass	302
•	Quadraspire QX25 Support	25	Beautifully simple design, cheap and easy to use. Excellent with CD players					Acrylic	327
•	Russ Andrews Tortyte Platform	146	This unassuming platform can be a godsend, cleaning away mid/treble muddle from the sound	8	48,36		1	Tortyte	302
	Russ Andrews Torlyte Rack	988	Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice	68	54,49		4	Tortyte	240
	Townshend VSSS	1,380	This attractive Seismic Sink retains the same excellent vibration-killing sound quality	76	35,50		4	Glass	273

Speaker stands

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Badge	Product	Price	Comments	(ch)	Ch) ,	4 18 V	They	"der
	Anvil Sound Display Stand	229	A variety of sman looks available – sound is clear and precise	50	20,17	•	1	293
•	Custom Design RS300	110	An attractive stand whose lackof coloration suits it to high-resolution systems	56	16,5,18	•	1	281
o	Custom Design SQ404	220	Robust four-pillar design gives very low coloration and maximises performance	61	18,16.3	•	4	283
•	Partington Ansa 60	119	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent	62	18,15	•	4	232
•	Partington Dreadnought BS	299	Sound is better defined in almost all areas than cheaper, slimmer stands can offer	62	17,23	•	5	309
•	Partington Heavi II	499	Robust to the nth degree, this stand helps produce very precise bass and upper frequencies	53	31,22	•	6	287

SPECS KEY HEIGHT (CM) Height of equipment support and speaker stand (not including spikes) in centimetres. TOP PLATE SIZE (CM) Width by depth of the supporting platform(s). Single figures indicate a square platform (Speakers generally overhang top plates). FILLABLE The stand can be mass-loaded with sand and/or lead to stop ringing. WELDED As opposed to bolt-together construction. NUMBER OF SHELVES To put your kit on (different configurations are often available). NUMBER OF LEGS That support the stand. SHELF TYPE Material that shelves are made of.



Quadraspire QX25 Support £25 Fashioned from two identical pieces of acrylic sheet that slide together, these feet create a very impressive degree of isolation



Partington Dreadnought BS £300 Probably the best speaker stand you can buy for the money - heavily engineered and backed up with sound theory, the Dreadnought is real class



Townshend VSSS £1,380 Although not cheap, Max Townshend's skillfully engineered rack nears the ideal in terms of isolation and spending more doesn't really bring big gains

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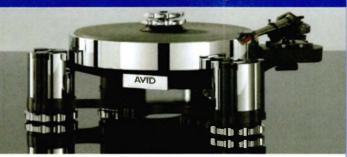
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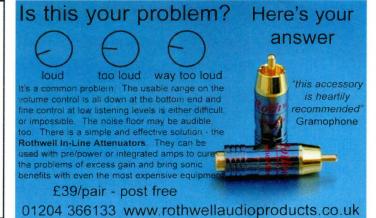
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From LP to HD

In the first of a six-part series exploring the benefits of digital music storage, *Malcolm Steward* reports on his own journey

hen, as a teenager, I decided that my growing vinyl collection deserved something more sophisticated than my Dansette record player hardwired to a guitar amplifier, I had no idea where the audio journey upon which I was embarking would take me - nor the considerable amounts it would extract from my bank account along the way. I certainly wasn't prepared for the biggest shock of all: that I would subsequently wind up jacking in my 'proper' job and earning my living writing about hi-fi.

Back in those early days, many enthusiasts built their own equipment, but the DIY approach held no appeal for me. I didn't fancy sitting at the kitchen table, inhaling sawdust just so that I could say that I built my own speakers, for example.

Tweaking was a different matter altogether, though. I have always enjoyed tinkering with stuff and modifying it - anything from motorbikes to hi-fi separates – to see if I could extract any greater performance from it.

But, now that the manner in which we access music is moving away from physical media and primarily mechanical devices - namely turntables and CD players - towards electronic delivery through computerised equipment, I have joined the kitchen table fraternity, albeit in a sawdust-free way, which I will explain at some later date.

Shifting one's focus from hard media - LPs and CDs - to soft media might prove something of a wrench, though. With the former, one has album sleeves or CD cases that one can admire and study. Some, possibly many, of these will enable you to revisit fond memories.

For example, I have a vinyl copy of Van Morrison's Moondance purchased from a second-hand dealer in Los Angeles. With the favourable exchange rate when I bought it, this heavyweight, pristine slab of vinyl only cost about fifty pence. Every time I look at that LP sleeve, vivid memories of that trip and the people with whom I was travelling come flooding back.

I can still picture the amazing quality of the light shining through the grimy windows of that warehouse illuminating the shoppers and those bins packed with albums. It was a near hallucinogenic experience: the scene resembled an animated impressionist painting. Definitely fifty pence well spent, I'm sure you'll agree!

I also have several albums in my collection that were signed by the musicians after concerts. Those scribbled signatures frequently act as powerful reminders of great gigs, great people, and great after-show parties.

I also have rips of the same songs – and these don't always provoke an identical response. What does this tell us? This suggests that the music itself is not the only reason we like particular recordings, and that part of their appeal comes from the ephemera that surrounds them and our reactions to it. That, it seems, could be a drawback with 'unpackaged' recordings unless there is an unusually intense connection to the music: a song that was playing while you were engaged in some particularly memorable activity, perhaps.

Ironically, that 'disadvantage' can benefit music lovers. The music and its performance now have to stand alone without any additions to bolster their appeal. Not being brought to you on any physical medium gives it one huge advantage at the outset, as a comparison between a good rip and the original CD especially if the disc is a few years old - will quickly demonstrate.

The big question, however, is whether you can live without those frequently magnificent 12-inch cardboard sleeves and those shoddy, little, 5-inch CD inserts. I reckon I can.

A tiny fraction of the space that CDs occupy in my room would far better be devoted to hard disks that would store them all and more besides. And the memories those inserts provoke? They are only nostalgia, and nostalgia is so overrated.

I look forward to embracing unpackaged media fully - and then looking at ways to get maximum performance from the files.

Tag along with Hi-Fi Choice and I on this journey. I'm confident that it will

Llook forward to embracing unpackaged media fully and how to get maximum performance out if it



MALCOLM STEWARD

is the former editor of Hi-Fi Review and one of the most outspoken reviewers around. He writes exclusively for Hi-Fi Choice

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