



CD player supertest: six models compared

£2,000 dream machines from Stello Primare, Densen, Unison and more

Turntable temptation!

Pro-Ject RPM 10.1 we ask: is this the cream of a 20-year crop?



Hi-Fi Choice

PASSION FOR SOUND

August 2011

£3.99

Note perfect

Real-world high-end: Audio Note's Zero system puts luxury sound in easy reach

The 'next level' of digital

We test M2TECH's ground-breaking 32-bit/384kHz high-res DAC

21 considered reviews: DALI, Acoustic Energy, McIntosh, Audio Analogue Weiss, Usher and more ...



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Pathos' passion

Exclusive in-depth test: does the new Ethos integrated sound as sublime as it looks?

COMPETITION WIN!
Electrocompaniet's PD 1 DAC worth **£1,500!**

Everyone's talking about the revolutionary hi-fi that stores and plays up to 5000 CDs

My Brennan

"Ever since CDs were first invented I've wanted a CD player that would hold my entire CD collection."



**Martin Brennan,
Brennan JB7 inventor.**

"Ever since CDs were first invented I wanted a CD player that would hold my entire CD collection.

I wanted something as simple to use as a light switch but at the same time something that would let me find a particular track without leaving the armchair - and I wanted something that could rattle the windows when I was in the mood. So I designed one and up to now I've sold 1000's to people just like me - and probably you. People who love their music, get excited about it, are moved by it. And I've been amazed at the reactions. From just falling in love with their CD collection again to listening to music in a whole different way, the Brennan is changing people's lives in lots of ways I never imagined. I'm very proud of that."

A word about copyright

"In 2006 the record companies said unequivocally that they are happy for you to load your own CDs onto a hard disk but the Advertising Standards Authority have asked us to tell you that it is unlawful to copy material without the permission of the copyright holder. Find out more and have your say at www.brennan.co.uk"



Just some of the comments from happy Brennan owners

"To say that JB7 has transformed my life would be an exaggeration, but it has certainly rendered it more enjoyable."



"It is marvellous to be able to call up all one's favourite music just by pressing a button. I had the boys round on Sunday and they were all, to a man, like kids in a sweet shop jostling for a turn."

"It was a bit of a wait for the box but now I have got it all I can say is 'WOW!' "



"I am a complete techno muppet but even I have managed to set it up - loads of space. I like the ease of set up and it feels solid and well made. Amazing that it can rip and play a track at the same time - 2 functions at once. Really like it and worth the wait."

"It's the best bit of music equipment I've ever bought."



"I'm so pleased that you're doing so well, you deserve it as the Brennan is brilliant."

"Without doubt, the Brennan is a most wonderful piece of clever machinery."



"It has already been said by your many admirers, but I too must thank you for its sheer usability and practicality!"

"It has exceeded my expectations which were already high."



"Very intuitive to use, the manual is almost unnecessary, as everything seems to have been carefully thought through."

"It is, quite honestly, one of the best things I have bought in years!"



"It's easy to use, great looking, and has so many amazing features that it's almost too good to believe. Thank you for designing such an amazing product as the Brennan JB7!"

"It is like a radio station, but the best radio station in the world, which plays non stop music without ads, speech and music of such wonderful variety."



"I now have over 1,300 CDs loaded (17,000 tracks). I must say I am thrilled with the whole concept on what the Brennan is capable of. It is my most treasured purchase. Just heard Brahms Violin Concerto, followed by the Ramones, Miles Davis, The Stones. Absolutely fantastic!"

"Since the day I bought my very first Beatles single I guess the Brennan JB7 is the sort of device I have always dreamed of owning."



"A compact storage facility which is easy to operate and delivers the music I want to hear in seconds - far removed from the days of playing records on a basic turntable! I've linked the JB7 directly to my speakers and the sound is superb - crisper and better defined than I've previously experienced using separate CD player and amplifier. I also love the additional features such as the segue."

"I am delighted with the machine... and then some."



"Working in the music industry for nearly 30 years I found the sound of the machine surprisingly good."

"Put simply, this is a brilliant little box!"



"The Brennan JB7 has changed my life and bought my whole family so much joy."

"Visitors to my home always ask what's that pointing to the JB7. When I say it holds all my CD's - some 1,000 odd discs they just can't believe it!"



"I've been meaning to write to you for ages to tell you the JB7 is one of the best and most rewarding items I have ever bought. I love it to bits! It's wonderful just to come home and select a favourite album whilst unwinding and preparing dinner or reading. No hassle re searching for CD cases or having to change a CD! I like it's ease of use and compact design. I would recommend it to anyone who loves music."

Key features: ● Browse albums by spinning the volume knob - push to play ● Delete tracks you don't like ● Display track names as they play ● Seven rainbow colour coded playlists ● Segue function blends one track into the next ● One touch record from vinyl, cassette or radio ● One button plays the entire music collection at random ● Use it with existing hi-fi or on its own ● Plays MP3 downloads - future proof ● Clock with alarm ● 60 Watt, 4.8 x 16 x 22 cm steel and aluminium construction ● Backup music to external USB hard disk for safe keeping ● Credit card size remote control

To get the whole story on the Brennan JB7 and order visit www.brennan.co.uk



Choose the Brennan that's right for you.

The Brennan JB7 is available in Cobalt Blue and Titanium Metallic and two disk sizes depending on the size of your CD collection. The 320GB version will hold 3200 CD's and the latest 500GB model 5000 CD's.

brennan

Hi-Fi Choice

PASSION FOR SOUND

YOUR EXPERTS



PAUL MESSENGER
EXPERTISE: SPEAKERS

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.



ED SELLEY
EXPERTISE: TROUBLESHOOTING

ED has spent the best part of a decade selling, developing and supporting products from some of the biggest names in audio. As *HFC*'s troubleshooter, he is on hand to help you answer your questions and help you create that perfect system.



NIGEL WILLIAMSON
EXPERTISE: MUSIC

NIGEL has been writing for *The Times* for more than 25 years and has written for various titles including *Uncut*, *Billboard* and *Songlines*. A Mercury Music Prize judge for five years, Nigel has written books on Bob Dylan, Neil Young and the Blues.



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. **348** August 2011



We're just back from High End, Munich (the Munich show) and yet again our European cousins have put on a cracking event. Read Jason Kennedy's full report on p16 in this issue. Despite the show's moniker, there was plenty of affordable high-end product on display, something we've attempted to echo in this very edition.

One of Britain's best known high-end brands, Audio Note, is featured on our cover this month, as we reveal in a world exclusive review (p56) the Peter Qvortrup system you *can* afford! We've also got Pro-Ject's second-from-top turntable, the RPM 10.1, which at just £2,000 truly represents affordable high end. Other noteworthy reviews this month include the stunning Pathos Ethos (p60) integrated and one of the world's most talked-about DACs, the M2TECH Young DAC (p80).

Finally, on p40, the Blind-listening panel has turned its attention to 'serious' CD players.

Dan

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Jordan Acoustics

M6 500i (new)

by musical fidelity

In 1990, Musical Fidelity made the first ever Super Integrated amplifier: the A1000. This received a rapturous welcome and, even today, is selling at high prices second hand. The A1000 was the first of a long line of Super Integrates from Musical Fidelity. The New Vista M3, Tri Vista 300 and kW500, all were well received.

Now comes the M6 500i, which is the latest and the best of the breed. Effortless, fluid and dynamic, it doesn't sound 'loud' it just sounds right. Dynamics are handled with no drama or fuss, they simply come and they go. Pure undiluted music as the artist intended. Call to find out more.

subject to conditions



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“ Taken apart, both the M1 CDT and M1 Clic are excellent products; taken together they make an amazing ‘do-it-all’ CD player for around £1,800, the like of which there is nowhere else. ” Hi-Fi World, July 2011



ML CDT Transport
by musical fidelity

“ Slickly built, attractively styled compact disc digital transport with strong sound. ”
Hi-Fi World, July 2011 Issue



ML Clic Universal Music Controller
by musical fidelity

“ Highly versatile, easy to use network player/DAC/preamp with excellent sound. Superb value for money. ”
Hi-Fi World, July 2011 Issue



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e-mail: bourne mouth@jordanacoustics.co.uk

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Super Titan (new)

by isotek

Hi-Fi World
VERDICT



“ Power conditioning has always been of value, but with the Super Titan, it has finally come of age. Here is a system that never imposed itself upon the music. Here, in fact, the music was king, not the hardware. Yes, the Super Titan might cost a pretty penny but this is one of those high-end components which is actually worth every penny... ”

Hi-Fi World, July 2011 (awarded 5 globes)

To find out how mains conditioning can help you to get the most from your system, please give us a call.

generous part exchange* ▶ large selection of used items ▶ home demonstrations*

With the Geometry Series, only the artist who composed the music and the musicians that interpreted it will be present at the event...



NEW Vector

by wilson tennesch

The Vector is a 2.5 way, highly optimised, advanced materials technology, floorstanding loudspeaker. Thanks to the cleverly engineered A.C.T. monocoque / poly alloy shell structure, complex bracing is no longer accepted as a design compromise. The shell design delivers huge amounts of air volume, despite its small external surface area, which is another key factor in the success of this superior design.



NEW Vertex

by wilson tennesch

The Vertex is a 2-way highly optimised advanced materials technology stand mounted loudspeaker. Unlike many stand mounted designs, the Vertex and its stand, work in harmony to attain structural integrity, vital to the control of key components. Mounted with high tensile bolts, the speaker and stand become one.

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PD 1 DAC

WORTH
£1,500



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"Kudos to M2TECH for doing it and huge respect and admiration for doing it so well."

Richard Black, M2TECH Young DAC p80

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Subscribe and get Blue Horizon accessories worth £45! (p32)

Cutting Edge

KEF's flagship Blade has gone from a one-of-a-kind concept to production reality

PRICE: £20,000

AVAILABLE: AUGUST

CONTACT: 01622 672 261

WEB: KEF.COM

We were very taken with KEF's 'Concept Blade' loudspeaker that did the rounds at the various hi-fi shows in 2010. KEF insisted that the Blade was a 'technology demonstrator', showing directions and design features that the company were considering, rather than an actual example of a future speaker. But, one year on, the Blade is going on sale with a price of £20,000 per pair.

KEF says that the production version is a significant upgrade to the concept, but the key aspects of the original design have made it through intact.

The thinking behind the Blade is the Single Apparent Source

designed to let the opposing forces of each bass driver be cancelled out by the opposite number on the other side of the Blade enclosure.

This is something that is easy enough to describe and rather harder to achieve in practice. KEF has had to bond the massive driver magnets to one another to obtain the full benefit of this technology. The advantage of doing so is not only a massive reduction of the forces acting on the cabinet, but also the fact that the side-firing drivers have an 'acoustic centre' at the same point as the forward-firing driver. This means that, although there are multiple

The effect is a single source of sound that is crossover-free

technology. This is the combination of two separate areas of development.

The first is the latest generation Uni-Q MF/HF array, which combines the midrange driver and tweeter in a concentric arrangement. This is the only driver visible on the front of the speaker and KEF claims that this results in a seamless point source for upper frequencies.

The second part of the effect is created via the four 22.5cm-bass drivers mounted in pairs on either side of the Blade. These are

drivers in each Blade, the effect is of a single source of sound that is almost entirely crossover-free.

The distinctively shaped cabinet that gives the Blade its name is made from a polished glass-reinforced composite that makes for a rigid and heavy enclosure. According to KEF, the parabolic curvature increases rigidity still further and this rigidity (together with the decoupled drivers) means that only driver movement generates sound, rather than activity from the cabinet itself.



SHOWSTOPPERS

'CONCEPT' PRODUCTS are rare in the hi-fi industry, but KEF has some prior history in this area. In 2007, it showed off the Muon Concept at a number of shows worldwide, before announcing a production run of 100 pairs.

The £20,000 Blade is far from cheap, but it represents a considerable reduction over the £140,000 asking price of the Muon.

HFC readers will be the first to discover how good the Blade is with our world exclusive review, coming soon.

fact[®]·3



fact loudspeakers represent the ultimate in luxury and audiophile performance; they convey the unadulterated essence of a recording from a wholly elegant form.

"It does everything so well, but with an air of calm, level-headed restraint that never gets in the way of the music"

April '11

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Bespoke Stand



High Compression ATL™

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Burilliant

High-end artisan Burmester to return to the UK

PRICE: £3,000-£36,000 AVAILABLE: AUGUST
CONTACT: 00 +49 30 787 968 0 WEB: BURMESTER.DE

Burmester, one of the world's most prestigious high-end audio companies has announced its decision to return to the UK in the autumn after a hiatus of 15 years. The brand designs and builds its entire range in its Berlin factory and incorporates a number of unusual technologies into its products.

The range itself is extensive and comprises four levels of two-channel models with AV units also available. Prices begin at just over £3,000 per unit for the Rondo line and rise to over £36,000 for the range-topping 069 CD player, which features a belt-drive mechanism. Other highlights include the 100 phono preamplifier that

includes onboard analogue-to-digital conversion for archiving and the 100 loudspeaker, which weighs in at an impressive 128 kilos

The company also unveiled a new music server at High End, Munich. Burmester will be selecting UK dealers over the next few months.



Sign of the Elipse

ELIPSON has launched its new £1,299 Music Centre. The all-in-one system boasts an internal CD drive and a DAB/DAB+ and FM tuner. The Music Centre will also replay music from a USB stick and has a pair of optical inputs for external digital sources.

The most interesting feature is an onboard 2.4Ghz wireless band receiver which can receive lossless audio files from laptops and PCs via a USB dongle, or from an iPad or iPhone via 30-pin iPod connection. The internal amplification is a Bang and Olufsen

ICEpower Class D unit offering 120 watts into four ohms. All this tech is packed in a 330mm circular, all-metal enclosure with a large front display.

PRICE: £1,299 AVAILABLE: NOW
WEB: ELIPSON.COM



Vinyl Research

AUDIO RESEARCH has launched a pair of new phono stages. As befits Audio Research, the £3,368 PH6 and £6,298 PH8 are both vacuum-tube designs and can cater for both moving-magnet and moving-coil cartridges, with all major loading and impedances supported.

Unusually, a remote control is also supplied for selecting impedance settings on the fly.

Both models are built around a pair of 6H30 dual triodes for the phono stage, but the PH6 uses solid-state power supply rectification, while the PH8 uses full-valve rectification.

Audio Research says that both models are a considerable step forward over their predecessors and that the PH8 shares many of the performance characteristics of the flagship Reference Phono 2.

PRICE: £3,368-£6,298
AVAILABLE: NOW
CONTACT: 020 8971 3909
WEB: AUDIORESEARCH.COM

One night in...

Oracle's Paris turntable incorporates lessons from the Dephi VI

Oracle has announced the new Paris turntable, tonearm and cartridge. The Paris is a suspended design and replicates the effect of the Delphi VI at a more affordable price. The optional tonearm is a modified version of the highly regarded Pro-Ject carbon-fibre arm and the trio is finished with the optional Paris phono cartridge; an aluminium and magnesium-bodied design.



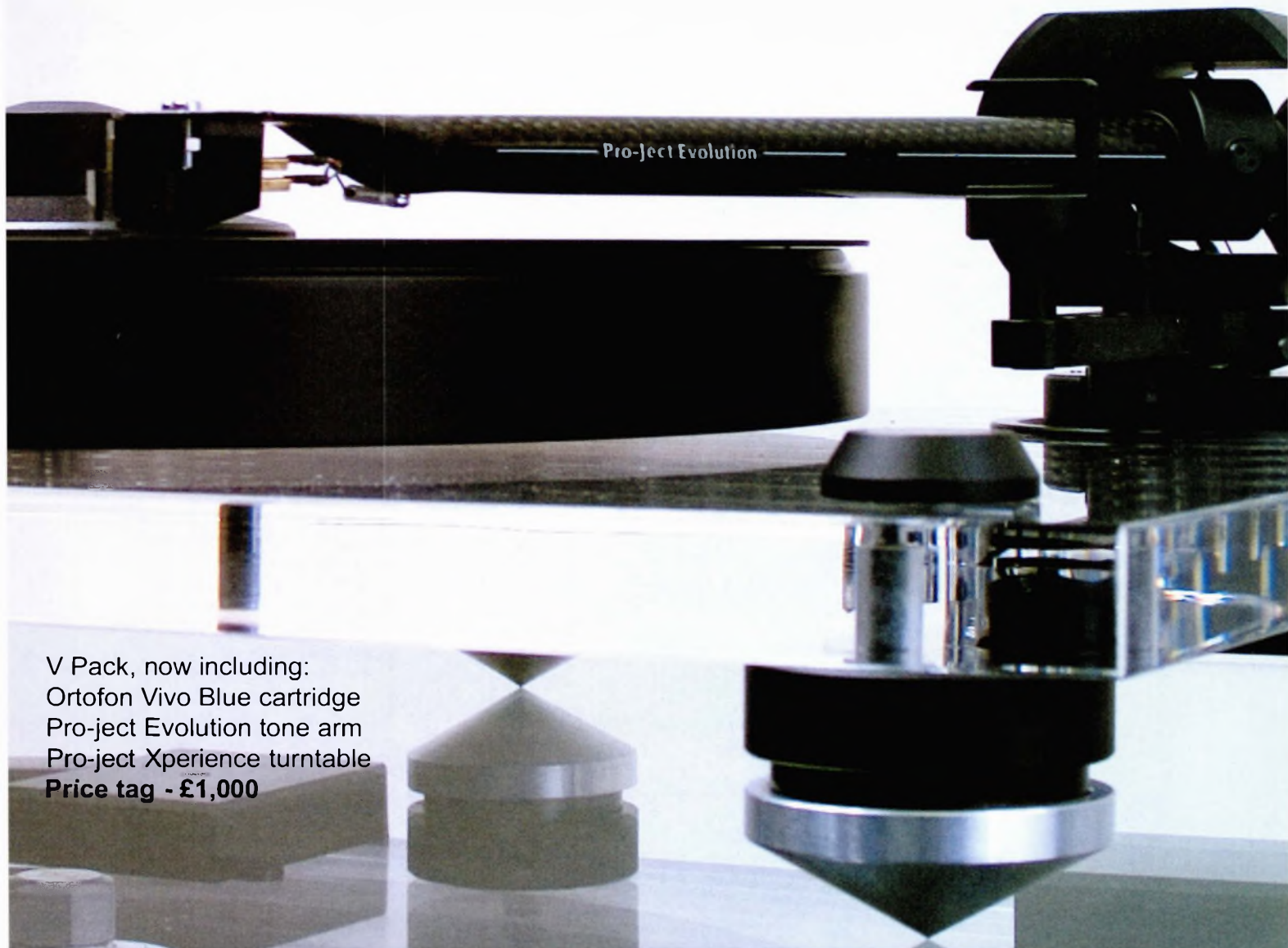
PRICE: £3,200-£5,000 AVAILABLE: NOW
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8000A reborn

New Audiolab 8200A follows in the footsteps of legendary 8000A

Audiolab has launched its new 8200A integrated amplifier. The 8200A is the work of Jason Greenslade, who describes the amp as a homage to the original 8000A, but taking advantage of improvements in materials and design techniques. The result is a 60-watter with six line-level inputs. Unlike the original 8000A, the

8200A is fully remote controlled. The most interesting technical development is that the 8200A has four distinct operating modes. The amp can either be operated as a standard integrated amp, as a pre and power (where the preouts are activated), as a standalone preamp with the power amp shut down and as a power amp controlled by an external AV system.



PRICE: £730 **AVAILABLE:** NOW **CONTACT:** 01480 447 700
WEB: AUDIOLAB.CO.UK



Total Eclipse

AESTHETIX is pulling no punches with its new I Eclipse phono stage, which it describes as 'the world's best.' It uses a valve-based amplification and output circuit with 16 valves. The power supply is completely separate and includes a further eight valves.

The major development from previous Aesthetix models is the use of StealthCap capacitors throughout. According to the company, 'these dramatically reduce corrupting signal reflections in the capacitor plate, just as stealth technology in aircraft reduces radar signal reflections'. Each one is hand-assembled from a variety of exotic materials to optimise this effect.

The I Eclipse is available in four different levels: the 'basic' model with single-power supply is £14,000 and can be supplied with a second power supply for £18,500. A version that features a volume control, using a 46-position resistor control, is also available in one and two power supply versions for £16,700 and £21,200 respectively.

PRICE: £14,000-£21,200
AVAILABLE: NOW
CONTACT: 01252 702705
WEB: AESTHETIX.NET

Legendary LP spinner

Third evolution of the Pro-Ject Debut goes on sale

Pro-Ject has launched the third version of its hugely successful Debut turntable. The £250 S/E3 is still recognisably a Debut, but features a 12-inch platter, instead of the old 10-inch one, while the tonearm uses an improved bearing set. Pro-Ject has also improved the motor which

benefits from an improved suspension and isolation system to further reduce interference and noise levels.

Pro-Ject has also introduced a new circular drive belt to reduce contact and the captive interconnect of the old model has been replaced with a terminal box allowing users to upgrade.



PRICE: £250 **AVAILABLE:** NOW **WEB:** PROJECT-AUDIO.COM

NEWS IN BRIEF

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



•**ELECTROCOMPANIET** has launched the £300 ECT3 remote, featuring two-way RF communication to provide feedback from suitable amplifiers.

electrocompaniet.com



•**MAGICO** says that its new \$25,000 Q1 standmount has 'explosive, true full-range performance'.

magico.net



•**NAIM** has added the Naim Choice option to its internet radio products that showcases the company's favourite online stations

naimaudio.com



•**GIANT KILLER CABLES** has moved into electronics with the MMPhono. The company says that it has concentrated on the highest quality internals.

giantkillercables.com



•**ETYMOTIC** has developed an App for the iPhone-compatible hf3 and mc3 earphones, that channels unusual noise (via the Apple device mic) to alert listeners to danger.

etymotic.com

Very Neat

Ultimatum range expands with the new XLi floorstander

Neat has been hard at work updating its Ultimatum range and debuted the new £6,000 XLi floorstander at High End, Munich.

The XLi is a floorstanding version of the XLS standmount. Neat says that the floorstanding design allows for superior bass response via mass loading, while the acoustically damped enclosure further improves

performance. It has also improved crossover isolation by moving the crossover assembly to a dedicated cabinet section below the bass driver.

The 186mm mid/bass driver is arranged on isobaric principles for improved low-end response. The XLi also makes use of the same separately enclosed SEAS tweeter and upward-firing EMIT supertweeter arrangement found in the XLS.



PRICE: £6,000 **AVAILABLE:** JULY **CONTACT:** 0 1833 631021 **WEB:** NEAT.CO.UK

DESERT ISLAND DISCS

Martin Grenall, of Audio Note chooses four fabulous sonic treats



HUMAN LEAGUE
TRAVELOGUE
It was his or *Reproduction*, but *Travelogue* always comes out the winner thanks to the track *Toyota City*, which is still one of my favourite pieces of music.



CELTIC FROST
TO MEGA THERION
To Mega Therion is the quintessential Frost album. Tracks like *The Usurper* and *Necromantical Screams* still sound wonderfully majestic and powerful today.



MILES DAVIS
BITCHES BREW
I'm not sure to this day whether I've heard everything on the album. Every time I listen to it there are small touches and elements that manage to surprise me.



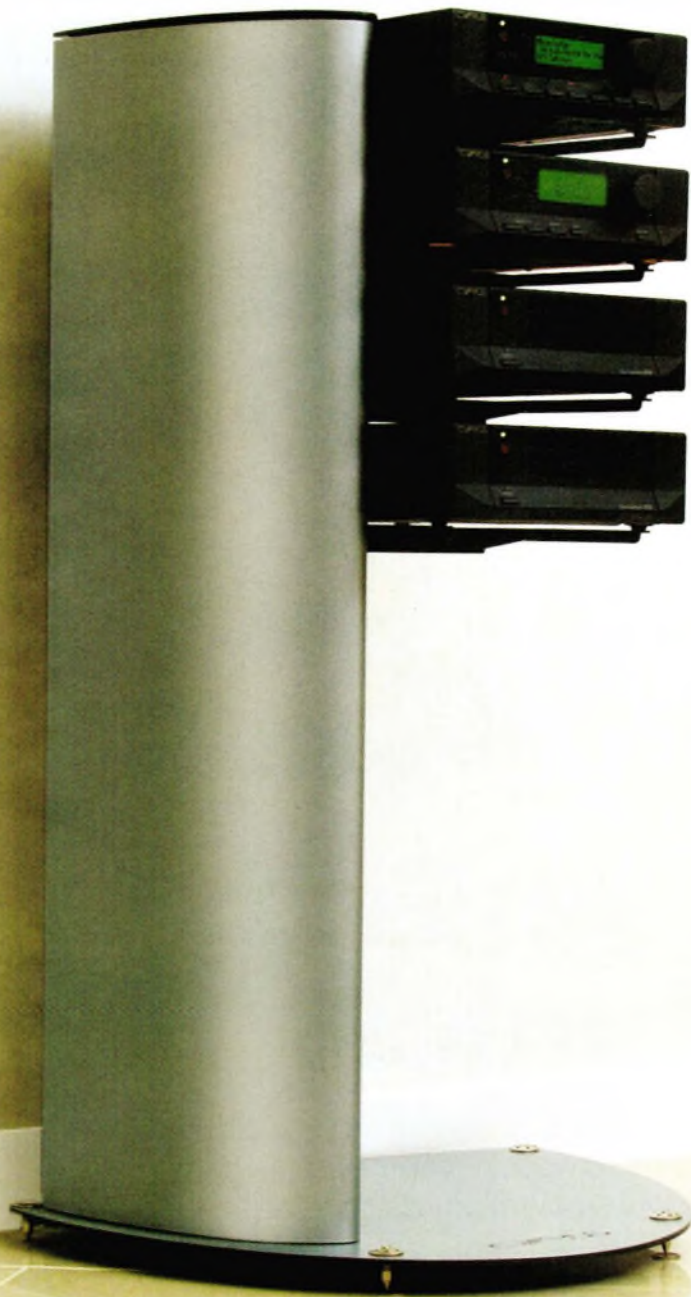
CLIFF MARTINEZ
SOLARIS
I'm not the biggest lover of soundtracks when they are removed from the original film, but this is a beautiful, delicate work and one that I think is truly a masterpiece.

CYRUS

Streaming Audio Excellence

Stream X is the latest model from Cyrus' new range of streaming audio players. Based on the remarkable Stream XP platform, the Stream X is a dedicated source component that delivers high quality streamed audio into hi-fi systems that already have a DAC such as the range of Cyrus XPd integrated amplifiers and preamplifiers. Stream X provides you with immediate access to your entire network music library whilst also featuring a USB connection for an iPod. Plus you can listen to over 30,000 internet radio stations from around the globe using the inbuilt TuneIn radio.

Stream X comes complete with the stylish and intuitive **n-remote** that makes browsing your network music library a real cinch. **n-remote** also has an infra-red learning capability, so that it can swiftly learn to control other products in your home. With its sleek body, two-way control and full colour screen to view album artwork, the **n-remote** is just one of the features that make Stream X very special.



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Cyrus sales 01480 435577



High End, Munich

Celebrating its 30th anniversary, this year's show was audiophile heaven, as **Jason Kennedy** quickly discovered

This year's High End show in Munich was notably filled with top-notch kit from all around the world. While European brands are naturally well represented, there were as many from the far east and North America and we had to be highly selective in order to bring you the cream of a bumper crop.

The theme this year was undoubtedly network streaming, and most of the mainstream

brands and quite a few of the smaller ones had a streamer of sorts to show. It was encouraging to see temptingly low price points for this new technology, facilitating the purchase of a good-quality DAC.

High End is very different to UK shows you may have visited: the show is divided between open, airy exhibition halls where no music is played, to large, spacious rooms around a central atrium that are far more

conducive to music-making than your average UK hotel-based event. Thus giving big, expensive systems (£250,000+) half a chance to shine.

Big speaker systems were extremely popular and horns, in particular, made a real impact on the collective consciousness. But it was PMC's multichannel demo that got the most chins wagging – see story nine.

1 KRELL CIPHER

Cipher is the name that Krell has given to its new range-topping CD player. It replaces the Evolution 525 and adds 2 and 5.1 channel SACD playback to that machine's roster. It's fully balanced, fully discrete and takes its output stage from the Evolution 707; the \$30k pre/processor in Krell's catalogue.

“Speaker systems were extremely popular and made a real impact.”

The company says it has gone to a lot of effort to minimise resonance in the transport by using composite mounts and extensive damping. The Cipher shuns the current trend for offering digital inputs and USB, but we're told these will be part of a future DAC. krellonline.com

2 ESOTERIC A-02

Esoteric has expanded its range with an integrated amp called I-03 (€9,500). This is a double-mono design that takes its Class A preamplifier section from the C-03 preamplifier. An analogue power supply drives the Class D output, which offers a steady 180 watts per channel.

A new A-02 power amplifier (€15k) is the company's biggest yet; a Class A/B design it delivers 200 watts a side. When bridged it can produce a substantial 800 watts for a single channel. esoteric.jp

3 KEF BLADE

KEF showed the Blade as a concept



at Bristol last year and now it has become a reality in the form of a £20,000 high-tech beauty. The Blade is extremely elegant for a high-end design, with a very slim front profile that incorporates a new Uni-Q mid/treble driver with four nine-inch bass drivers mounted in the side of a glass-reinforced composite cabinet.

The bass drivers are arranged back-to-back in force-cancelling fashion, so that the minimum of energy gets into the cabinet.

kef.com

4 CHAPTER NOTEPAD

Chapter Audio has stolen a march on the high-end by producing the first licensed Apple Airplay component outside of the mainstream. This is no mean achievement on account of the many hurdles that Apple and its main partner Bridgeco put in the way of producing official Airplay products. The Notepad is a compact 802.11g wired/wireless streamer which only works with Airplay and incorporates a 125-

watt UCD (universal Class D) amplifier. It's ability to stream Airplay means that it can play anything that you can install on an Apple device, so if there's an app for it, the Notepad can stream it. Price £1,500.

chapteraudio.com

5 MUSIQUE CONCRETE

The French have a reputation for flair and the Grande Castine horn speakers do nothing to undermine it. This magnificent three-way has a concrete midrange and treble horns that are made of incredibly thin concrete; it can't be more than 6mm-thick in places.

They are phenomenally efficient (108dB) and reassuringly expensive at €90,000 a pair, but have an absolutely beautiful sound. This might be because of the beeswax capacitors, but we suspect that the Lars Model 2 valve amps driving them had a bearing as well.

Musique-concrete.com

6 CAMBRIDGE NP30

Cambridge Audio has finally

finished its first network streamer, the NP30 (£400). It will stream 'almost everything, except for Apple Lossless' at up to 24-bit/96kHz over Ethernet or wi-fi. It can also stream from any UPnP device and Cambridge has developed the Uuivol remote app for iDevices with extra features for the iPad.

The Uuivol web portal allows you to search for net radio stations by bit-rate or codec and it can access a number of music streaming services including BBC's iPlayer.

Cambridgeaudio.com

7 AUDIO RESEARCH REFERENCE 150

Audio Research has a new power amplifier. The Reference 150 replaces the Reference 110 and has twice the power supply. It has valve in and output stages; the latter consisting of Sovtek KT120 pentodes; four per channel delivering 150 watts.

The company says that it has a wider band power transformer and considerably lower noise than its predecessor. It has four,

eight and 16 ohm output taps that can be used in combination with bi-wired speakers and has low-noise fan cooling.

Price is £12,495.

audioresearch.com

8 MAD 1920

My Audio Design, flamboyant maker of the My Clapton standmount has a new two-way in a more traditional style. The 1920 is so named because when you listen to music of the twenties 'it's like going back in time'; apparently it doesn't have the same effect on music from other eras.

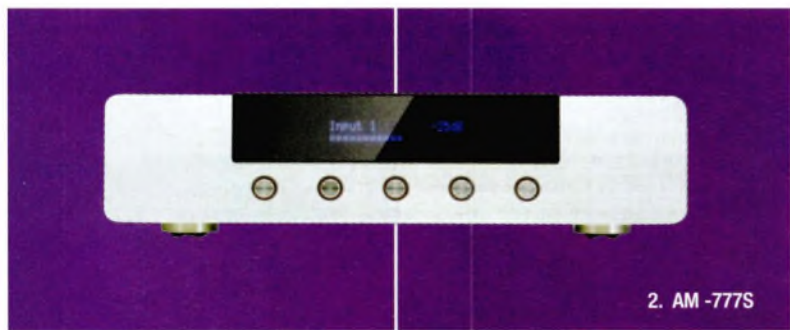
Designer Timothy Jung says, "it's like a Rover 75; classic to look at, but with a BMW engine". The drive units come from engineers who used to work for one of the big Danish manufacturers, forming Wavecor to produce their own designs. The 1920 has a 22mm Supersonic tweeter and a 147mm midbass, both of which sit in a real wood-veneered 280mm-high cabinet. Price is £1,200.

madengland.com



AMR 777 SERIES

1. AMR Compact Disk Processor CD-777 2. AMR Pre-Main Amplifier AM-777 3. AMR Phono Stage PH-77



2. AM -777S



3. PH-77T

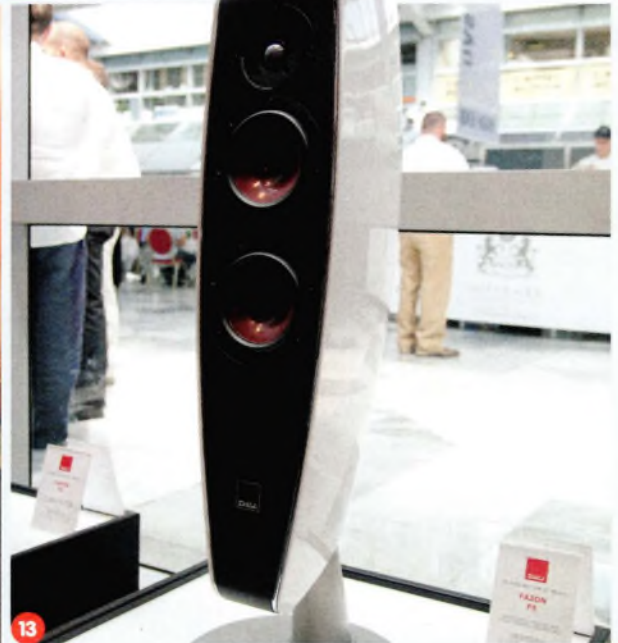


Abbingdon Music Research

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1. CD-777B



9 PMC IS 20

Celebrating its 20th anniversary in style PMC had brought along a serious five-channel active rig, with the BB5 XBD pro speakers providing left and right channels.

Bryston supplied nine power amps, three crossovers and a mains conditioner to keep things under control and make an awesome sound.

In honour of its 20th year, PMC is imitating its preferred electronics brand by offering a 20 year warranty on all its speakers back dated to January this year!

pmc-speakers.com

10 ATLAS ASCENT

Atlas Cables took the opportunity to emphasise that there is an objective way to measure cable performance. This is a measurement of its speed of propagation – the time it takes for a signal to pass through the wire.

Atlas launched the Hyper MkII interconnect (£160), which has 95 strands of 5N (99.999 per cent) purity copper extruded from a

single crystal; the dielectric is low-loss foamed polyethylene and OCC copper RCA plugs are fitted. Ascent (£500) is also an analogue interconnect, but with 64 OCC strands of higher-quality 5N copper for both send and return paths.

atlasables.com

11 PRIMARE I22 AND CD22

Primare has totally revised its entry-level products; the i22 integrated amplifier and CD22 disc player.

The CD22 has a dedicated CD transport and a five-second buffer memory to suppress jitter. It has user selectable upsampling to 192kHz and uses a Burr-Brown PCM1792 chipset. The signal path is DC (capacitor-free) throughout and SMD components are used on multiple PCBs to keep out noise and minimise track lengths.

The I22, like the I32, has given up its Class AB output stage for Primare's UFPD Class D technology and delivers 80 watts a channel; a figure that doubles into four ohms. Prices TBA.

primare.net

12 BOSTON AXPERIENCE

Boston followed the launch of its A series of entry-level speakers with a prototype high-end design from the same design team of Karl-Heinz Fink and Ken Ishiwata.

The Axperience is a sealed box floorstander, with an aluminium and MDF sandwich front baffle and a mid and treble enclosure suspended on three Thorens turntable springs. It has side-firing 10-inch bass drivers, that in contrast to the KEF Blade are offset.

The tweeter is a Boston design that has similarities to a ring radiator. All the cones are polypropylene with glass fibre and mica. Should the project go ahead, then the price is expected to be in the range of €20,000.

bostonacoustics.com

13 DALI FAZON

DALI has combined lifestyle design with high-end engineering for its Fazon 5 compact floorstander (€3,000). Measuring under one metre tall the Fazon has a die-cast aluminium cabinet that houses the

drive units and crossover found in the company's Mentor 5. This includes a 28mm tweeter and a pair of 125mm mid/bass drivers fixed to a dual-layer front baffle. The cast support stand allows cable to be passed through it for minimum spaghetti or for banana plugs to be inserted into the back.

Dali-speakers.com

14 SILBATONE/GIP LABS

The Korean valve amp maker had two speaker systems in action; a 1928 WE16 horn system, that is entirely made of steel and a contemporary pair of WE 9700A made by GIP Labs of Japan, using its own versions of WE drive units.

Silbatone took the opportunity to launch its 'entry-level' preamplifier the €20k L-103, which has a push-pull output and a silver-wired amorphous core, output transformer.

Silbatoneacoustics.com

15 ORPHEUS SP3.0

One of the most enjoyable systems at High End could be heard in the Orpheus room, the Swiss

SHOW REPORT

HIGH END, MUNICH



electronics company has employed the talents of designer Sven Boenicke to produce a no-holds barred flagship speaker to show off its components. The SP3.0 is a 300kg four-way with a 15-inch bass unit and RAAL ribbon tweeter.

Given the superb build and sound it's £60k price seems almost reasonable.
orpheuslab.com

16 PRO-JECT HL SIGNATURE

Pro-ject had a flurry of new kit at the event but sitting right at the top of the tree is the HL Signature turntable. This polished aluminium beauty has two motors that drive a magnetically decoupled central pulley. Magnets are also used to support 60 per cent of the 10kg platter's mass.

The 12-inch unipivot arm has every adjustment under the sun and these are designed to be easy to use even if the set up procedure could be lengthy. Price €8,950 including arm.

project-audio.com

17 CLEARAUDIO OVATION

Clearaudio introduced a Delrin, rather than acrylic platter on its latest model. The Ovation has a panzerholz plinth that is damped by a matt of 100,000 metal balls of varying diameter which are said to turn resonance into heat. It runs at 78rpm, as well as the usual speeds and has an optical speed-sensor under the platter. The bearing is a ceramic type and it costs €3,900 without arm.

clearaudio.de

18 NAD C 446

NAD has dubbed its entry into the streaming world a digital media tuner, because it incorporates a DAB and RDS FM tuner, as well as being a player for digital files stored on UPnP devices and USB drives. It supports most of the popular formats (but not Apple Lossless). It can even access Last.FM which isn't too common.

UK pricing has yet to be confirmed, but the unit was carrying a €799 tag at High End.
nadelectronics.com

19 DENON DNP-720AE

Priced at a competitive €499 in Europe, this Denon streamer supports Napster and Last.FM, as well as the latest killer app Airplay. Like the NAD, it has net radio and an FM tuner, along with a USB input that can extract the digital output from an iPod. The DNP-720AE is designed to work with DLNA sources and can stream at up to the standard 24-bit/96kHz. UK availability is expected in August.
denon.co.uk

20 AUDIOLAB 8200DQ

Audiolab has derived a couple of new products from its CDQ preamp/CD player. The first is the 8200DQ (price TBA), which is a CDQ without the disc drive. This makes it a 32-bit multibit array DAC with asynchronous USB for up to 24-bit/96kHz and SPDIF inputs for signals up to 192kHz. It also has three line inputs and digital and analogue preamp modes.

Joining it will be the M-DAC which offers the preamp functionality of the CDQ in a smaller case with the

same USB input and alternative digital filter settings.
audiolab.co.uk

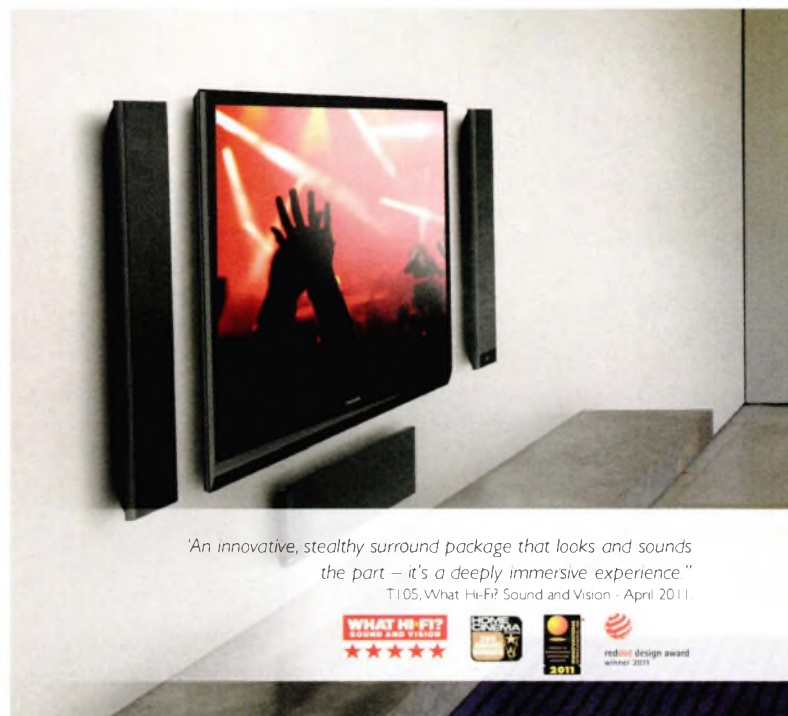
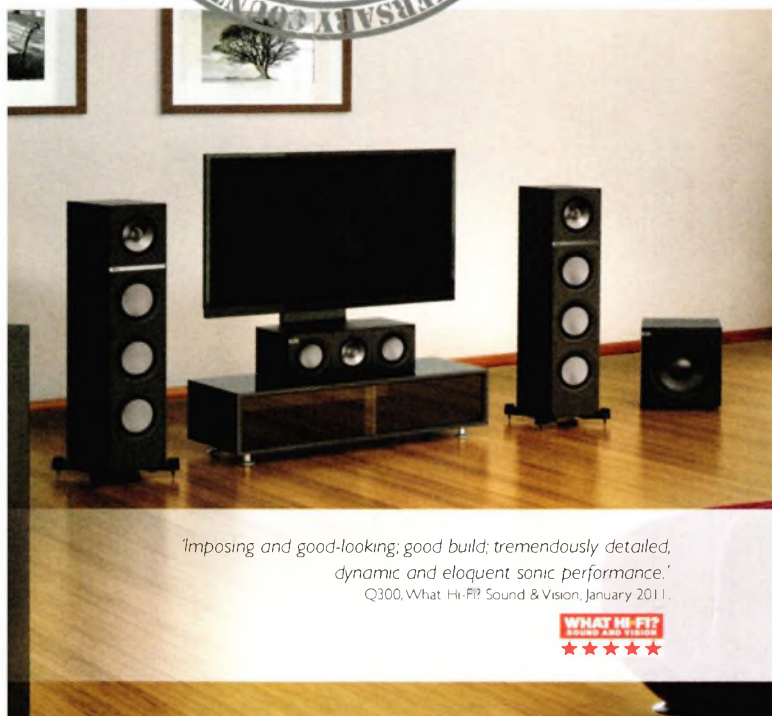
If there's one thing that High End 2011 reminded us, it's that if you want to make great sound, there is no substitute for a large loudspeaker. A number of companies such as KEF, Magico and Sonus faber demonstrated extremely elegant and technologically advanced designs that have superb imaging and very low coloration.

At the other end of the price scale, this year's break-through product was the streamer. Our investigations reveal that many streamers use the same UPnP approach, so it's the DACs and output stages that differentiate various models and you don't have to break the bank with external devices, either. Read Martin Pipe's *Opinion column (HFC 347)* for more details and if you're thinking of joining the streaming fun, Ed Selley shows how good it can be on p130. ●



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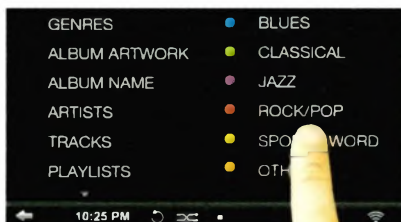


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Analogue's advance

It's not just digital technology that progressing, turntable developments have been unprecedented of late says **Ed Selley**

There is a tendency in this industry (of which I am as guilty as anyone else) to divide products into 'new' and 'mature' categories. We watch streaming and network products develop rapidly and add new technologies and think nothing of it while subconsciously assuming that older categories are a static background. This is something that I believe blinds us to developments in the wider industry. Over the last decade, we have seen significant steps forward in areas that we often consider 'mature' or even 'retro'.

Turntables are an interesting case in point. The idea that technical development would still be demonstrating meaningful improvements after 63 years and its supposed 'replacement' by digital is a hard one to countenance, but it is the case.

The Pro-Ject RPM 10.1 (reviewed on p66) is able to track material that would have most moving-coil cartridges bouncing into oblivion. The one-piece carbon tonearm and magnetic grounding plate are developments that have come to fruition only in the last few years and allow the £2,000 Pro-Ject to more easily overcome limitations to the format, that even stratospherically priced decks of yesteryear may have struggled with.

Sheer magnetism

Pro-Ject is not alone in pushing vinyl technology forward. Clearaudio, another key player in the vinyl rebirth, has also been busy. Its recently announced Magnify tonearm is a genuinely new development. Tonearms have historically relied on conventional bearings to allow the arm to move. In the pursuit of greater accuracy and less noise, Clearaudio has fitted the Magnify with a magnetic bearing to control horizontal movement.

These magnetic bearings aren't simply in tonearms either. Clearaudio has been an advocate in recent years of its CMB magnetic main bearing which has had a measurable affect on the noise floor of the models it is fitted to. Neither is this something that is only the preserve of the high end – all models, but the very cheapest, are now equipped with it.

Turntable manufacturers haven't merely embraced carbon fibre as a new material, either. Recently we have been treated to bulletproof 'panzerholz' plinths of wood and metal employed in specific formulas, as well as the incredible laminates of Dr Feickert at the heavier side of proceedings and Funk Firm's remarkable Achromat acrylic and vinyl 'foam' at the lighter end. Acrylic found favour as it resonates at similar frequencies to vinyl, but manufacturers have recently started to go one better with Delrin; a softer material that matches vinyl more closely still.

All is not quiet in the world of phono cartridges, either. The Rega Apheta has been around for a few years now, but it represents a surprising evolution to the principles of moving-coil cartridges and one that only happened thirty-plus years after the first moving coil appeared. And if manufacturers aren't changing the principles of how they work, they are busy changing what they are made out of – check out the extraordinary Shelter Harmony with its body of layered carbon-fibre composite.

I do not want to infer that every turntable and cartridge up to this point is inadequate – anyone seeking to dispose of a Technics SP10 or Voyd Reference is welcome to drop it by the office for my attention. More, that even with the oldest format in the industry, manufacturers are still pushing materials and engineering to seek improvements.

Over the last decade, we have seen significant steps forward in areas that we often consider 'mature' or even 'retro'



ED SELLEY

Ed worked in retail before joining some of the biggest names in the hi-fi industry creating and supporting audio products

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Google's head in the cloud

Adam Hartley reports on the very latest developments from the digital music world, where you can now upload 20,000 FLAC files

As we all patiently await Apple to make its next major move in digital music with its new 'iCloud' service (or whatever it ends up being called when Steve Jobs lifts the lid later this year) Google has recently made its own move into the booming audio streaming business, going up against the likes of Spotify, we7 and Amazon.

But what the hell is this rather unimaginatively titled new Google Music service? And, most importantly, is it something that might offer audiophiles better quality music streaming, both around the home and to mobile devices, than they might find elsewhere?

Google unveiled its cloud-music plans at the I/O conference in San Francisco, the company's annual shindig for web developers, with Music Beta by Google (music.google.com) currently only being tested out in the U.S. Brits should get access to the service pretty soon though, unless the web giant decides that it's a dud and quietly kills it off.

Google Music is essentially what is called a locker service. The company doesn't (yet) have any licensing deals in place with music labels and artists such as, for example, Spotify. So it will not let you stream music that you don't already own. Neither will it allow you to purchase tunes, as you can with popular online digital music stores such as iTunes or 7digital.

The point of the service is to let you store the music that you already own in 'the cloud' – very much like the recently launched Amazon Cloud Drive – and then stream it to whichever device you wish to hear your tunes on at any given moment (providing you have a new Android mobile phone or tablet, that is).

However, while Google Music allows you to upload up to 20,000 tunes in high-quality FLAC format, what it doesn't allow you to do is stream those same tunes to mobiles with the same audio quality.

Along with thousands of other hi-fi fans, I have Virgin Media's 50Mbps service at home, so I have the bandwidth to stream almost lossless-quality tunes to my phone from my home PC. So why is nobody letting me do it yet?

"I don't think that there's anything in Google Music beta that should appeal to audiophiles," says digital music industry analyst Stuart Dredge, from Music Ally. "You have to upload your own collection and the larger the file-size (so the better the quality) the longer that will take. And if you don't have an unlimited broadband connection, the more it will cost you. 20,000 tracks will take weeks to upload – and the only factor that will reduce upload times for the average household is having lower quality files. If Google offered a scan and match service for your music collection on the upstream then they could differentiate by offering a high-quality streaming service downstream, but they don't, so they can't."

Essentially, Google Music lets you stream lossless music that you have uploaded as FLAC files to your mobile at 320kpbs, the same as Spotify Premium.

"We differ from the new Google Music offering in that we're not a locker service," explains Spotify PR manager, Jim Butcher. "We offer full access to our catalogue of over 13 million tracks. The ability to manage the MP3s you own and take them with you on the go makes up just a part of our overall service."

So while services such as Spotify and, we expect to hear soon, Apple's new iCloud, offer music fans the opportunity to (re)discover music as well as streaming their own CD or digital collections, these types of limited digital locker services that don't offer audiophiles anything more in terms of quality of streaming, such as Google Music, seem pretty much dead in the water right now.

Google doesn't have any licensing deals in place with music labels and artists, so it will not let you stream music that you don't already own



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ADAM HARTLEY
Adam is a technology journalist who regularly contributes to HFC's sister site techradar.com the UK's biggest tech site

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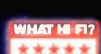
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Rewarding Revox

When Studer-Revox released an amateur tape recorder with professional build and performance, it created a legend, says *Jimmy Hughes*

The 1950s and 1960s saw a veritable explosion of interest in the tape recorder. It was the audio equivalent of the cine boom that occurred around the same time. For the first time in history, it was possible to make sound recording in the home and people were fascinated – nay, mesmerised – by the possibilities this opened up.

Indeed, interest in tape recorders was so great, there were several monthly magazines devoted to the topic and, in the UK, at least one chain of retail shops that exclusively specialised in sound recording on tape. Soon, the more advanced enthusiasts were adept at editing with a razor blade and producing their own documentaries and plays.

Unable to surf the net, because it hadn't been invented yet, some people wasted their time on something called Tapesponding – sending like-minded weirdos pre-recorded messages on tape. A hugely popular hobby, there was even a special postal rate for such activities. It's true – you couldn't make it up!

Naturally, there was a huge range of tape recorders priced to suit all pockets. But, perhaps, the most aspirational of all was the Swiss German-made Studer-Revox. Although its transistorised A77 and B77 models had a longer production life and sold greater numbers of units, it was arguably the G36 (or 736 – G being the seventh letter in the alphabet) that enthusiasts would posthumously worship.

The G36 was the last great all-tube tape recorder. Curiously, Studer had returned to tubes for its G36, the previous F36 model having been transistorised. However, this had used early Germanium-type transistors, which were much less good than the Silicon transistor that began to appear in the mid 1960s.

Got it taped

What made the G36 special? Actually, a number of things. Firstly, it was among the first domestic tape machines to use an AC synchronous motor for the capstan drive. This meant it could only offer two speeds – unlike British machines that featured idler-wheel drive and could offer three, or even four speeds.

By employing a synchronous motor and heavy flywheel, the G36 delivered superior pitch stability. It had much lower wow and flutter than any of its competitors. Moreover, as there were no idler wheels to wear out/change shape, or belts to stretch, it kept its excellent performance despite years of heavy use.

The heads were outstanding too – and long-lasting, too. Unlike British makers, Revox



The Studer-Revox G36 reel-to-reel tape recorder

dispensed with pressure pads – a cause of premature head wear and scrape flutter. This attention to detail, coupled with outstanding electronics, made a big difference – though curiously, the G36's published specifications did not look massively superior to the competition.

Quoted frequency response was just 40Hz to 15kHz and signal-to-noise ratio was a measly 52dB – for the half-rack version running at a tape speed of 7 ½ ips (inches per second). Wow and flutter was given as less than 0.1 per cent.

Indeed, the transistorised Revox A77, which replaced it towards the end of the '60s, boasted much superior specification. However, sonically the G36 sounded massively better and no cassette deck could match it. Alas, few appreciated this at the time; the orthodoxy then was – if something measured better, it had to sound better!

From a manufacturing point of view, the G36 was a far more expensive machine to build compared to the A77. The former's tube electronics were all hard-wired, whereas the A77 featured plug-in circuit boards. The G36's huge capstan motor and massive flywheel were another high-cost component.

The G36 could be had in several versions. Because many enthusiasts built their hi-fi into custom housings at that time, the first option was – without or without case. Next, was a choice of two or four track heads. Four-track gave slightly poorer sound, but halved running costs because you could get twice as much material on to each tape.

The G36 offered tape speeds of 3 ¾ or 7 ½ ips, but for the enthusiast there was a hi-speed two-track version with 7 ½ and 15ips to drool over. This gave the best sound quality, but really ate up tape. And tape was expensive back then. ●

Unable to surf the net, some people wasted their time sending like-minded weirdos pre-recorded messages on tape



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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Computer love

I turned to your excellent magazine when I finally realised that my ageing hi-fi needed updating. I am using a NAD 312 amplifier, a Cambridge CD6 player, an AKAI tuner and TDL-RTL2 speakers. They are all mid-nineties technology.

When I connected a Panasonic Blu-ray player to the amp and played a music CD, I knew it was time to update the system, probably starting with the Cambridge CD6.

It was in your May issue (*HFC* 345), particularly the *Opinion* columns by Kevin Gallucci, Martin Pipe and Jimmy Hughes, that persuaded me that the future belongs to streaming music stored on a computer, along with broadcasts from the likes of Spotify and internet radio.

So with this in mind, I have decided not to replace any equipment, yet, but have bought a Musical Fidelity V-DAC (*HFC* 331) instead. I had already experimented with streaming audio files over the wireless network using my Freevents desktop PC and my Samsung laptop, but the sound quality was awful until I linked up the V-DAC. This device has transformed the quality of the music from both computers. It has also given the CD6 a temporary reprieve.

I have now tested various combinations of equipment using jazz, opera and pop albums, which were played directly from the CD or as ripped WAV files. The Samsung laptop and CD6 were connected to the VDAC by USB and coaxial cables, respectively. I could notice no appreciable difference in the quality of music, no matter which hard disk, CD transport or solid-state drive combination I tried.

I would have expected that the worst performance would be from sourcing the music through the Freevents external hard disk, but linked to the Samsung by a wireless connexion; the result was as good to my ageing ears.

The V-DAC produces far better quality sound than the CD6 or the Blu-ray player connected directly



The Squeezebox Touch still takes some beating

to the amplifier; the sound stage is so much better. I rate it to be exceptional value for money at £150. At last, I have found a very good-quality product at a reasonable price so I am keeping it.

When I have finished the onerous task of ripping all my music, the CD6 will be pensioned off. The TDLs, out of sentiment, are staying put; but what do I buy next? Should I buy a dedicated streamer rather than use a laptop? Should I replace the tuner with internet radio? Your views will be very much appreciated.

Trevor Morgan, via email

HFC We are always pleased to hear from readers who find our columnist's opinions worth considering. We are even more pleased to see people making the move towards computer and streamed audio.

One common theme that is developing is that people are finding low cost ways of 'dipping a toe in the water' to test the practicalities of the process before deciding to spend out on other equipment to improve the results. The good news is that this is easy to do, the better news is that the results from even low-cost solutions seem to surpass people's expectations.

We do feel that dedicated streamers improve the control process and remove the need to have a computer running

all the time somewhere in the vicinity of the hi-fi. The Logitech Squeezebox Touch (*HFC* 338) includes a Spotify plug that is supposed to work extremely well, while also offering the full range of internet radio services. We think it sounds pretty impressive, too, but you still have the V-DAC available if you need it. This would be the ideal option to increase functionality and convenience at the same time.

Calling Elvis

The other evening I experienced late-night audio nirvana, listening to the vinyl double-album, *The Very Best of Diana Krall*, while sipping generously from a bottle of Argentinian Malbec. Ms Krall, besides being an outstanding singer and jazz pianist is, in my opinion, one of the most hugely desirable females on the planet. To my chagrin, however, she is married to Elvis Costello.

While I own umpteen CDs and have lately also gone over to downloaded music files, I still turn to vinyl for that cosy, sumptuous late-night feeling of being wrapped in warmth and real music.

My equipment is a Michell Gyro SE turntable (custom-built in black and gold), with a Rega RB250 arm and Ortofon Rondo Red cartridge: a Musical Fidelity X-LP phono stage and X-PSU power unit (the tubular versions, which my wife affectionately



Digital inputs do not a music centre make

refers to as 'Thomas the Tank Engine'); a Roksan Caspian M Series-1 preamp and a pair of Caspian power amps, bi-amping Living Voice Avatar speakers. Interconnects and speaker cables by van den Hul.

As I slumped in my armchair with Ms Krall's sultry voice and delicious piano-tinkling swirling around me, as well as making heavy inroads into the Malbec, two questions came to mind.

Firstly what wines do you guys find most conducive when listening to jazz, or do you vary the drinks according to different kinds of music on at the time? and secondly, what the heck has Elvis Costello got that I haven't?

Ray Stockdill, via email

HFC It is tempting to suggest that as long-standing members of the hi-fi press, our reviewers will consume anything that doesn't actively result in blindness. Among the team available for comment there do appear to be distinct preferences. Ed Selley, as a relatively uncouth youngster, still swears by German and Polish beer as a tippie of choice, especially when the weather is warm; but is also partial to a St Emillion when winter sets in.

Malcolm Steward is forthright that a single malt

'uncontaminated' by water or ice is his preference and points out that with a well-sorted streaming system, media damage as a result of being 'tired and emotional' is a thing of the past.

Richard Black, on the other hand, is nearly teetotal and Jimmy Hughes prefers a good brew whilst listening, so the two are them are presumably less concerned about that.

With regards to the predilections of Ms Krall, we are reminded of Debbie McGee being asked "what attracted her to millionaire Paul Daniels", but we're sure that Mr Costello has hidden depths.

History repeating

I have been into hi fi since the '70s and find it quite ironic how the audiophile has changed views. Considering that the all-in-one music centre was ridiculed by hi-fi buffs over the last few decades, enthusiasts seem to be heading straight towards all-in-one 'lifestyle systems' with DAC/pre music servers all lumped in one package. I say long live the hi-fi separate!

S. Thompson., via email

HFC We think that although there are similarities between the era of the 'music centre' and the present evolution in hi-fi, we

are not sure they are the same. At the core of most of the changes in recent hi-fi design is a break from the certainty of what the source most likely to be used is by the majority of purchasers. CD is in a state of decline (not one as cataclysmic as some would have you believe, but a decline nonetheless) and the exact method with which large digital files will be sent to an amp is open to interpretation.

The fitting of digital inputs to amplifiers is a logical step, based on the fluid nature of the post-CD world. You could look at it as 'hedging your bets' but equally, when this results in products as flexible as the Onkyo P-3000R preamp (HFC 345), we are pretty sure that a product as flexible as this will be welcomed by many.

At the same time, we have seen an unprecedented growth in the DAC market at every price point and external phono stages and headphone amps remain strong and well-populated categories.

We don't think that the hi-fi separate is in any danger of dying off and being replaced by the all-in-one, but the contents of each separate is changing to reflect the requirements of listeners. We personally don't have a problem with this provided that the standard of performance the boxes deliver continues to improve.

The good news is that most products we have seen lately have been some of the finest and most flexible equipment we have ever tested.

In from the cold

At Black Rhodium, we have been using Deep Cryogenic Treatment (DCT) of our cables for over seven years and can vouch for the improvements that DCT gives to our enjoyment of music.

Most sound quality enhancement processes will

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The key to late night bliss?



improve sound quality in some areas more than in others. But with DCT the change always appears to be of equal value in all areas of performance. The difference in sound between a DCT cable and an identical cable without the DCT process is very small quantitatively, but the qualitative change in terms of listening enjoyment is quite large.

Any attempt to test the benefits of DCT by blind-listening tests will be totally unreliable, as the difference in sound quality can be easily masked by the effect of listening stress trying to spot the differences.

When Black Rhodium attempted to demonstrate the benefits of DCT at two hi-fi shows in 2004, we auditioned two identical systems in which five different cables were changed between DCT or untreated. We asked our audience to give us a written description of the benefits they heard from using the DCT cables and no less than 89 per cent of over 100 people could not only identify a difference, but also give us a verbal description of how they perceived the benefits of DCT.

We have found by experience that cables at lower prices do not benefit from DCT, as the comparatively high cost of the DCT process can buy a bigger upgrade in sound quality by using better materials. But for high-end cables costing over £500 for a one-metre stereo interconnect, or a three-metre pair of speaker cables, I would regard DCT as an essential part of the cable-manufacturing process.

Graham Nalty MA Black Rhodium, via email

HFC Thanks for Black Rhodium's own thoughts on its application. Going back to HFC 343 and Richard's column, the overall impression we have to take from this is that there are enough people convinced there are differences, that the DCT process should be considered a worthwhile part of high-end cable design. Equally, the relatively subtle nature of the changes and the useful value of the cabling that benefits from it, means it isn't a blanket requirement.

Black Rhodium feels that DCT is well worth the effort

LETTER OF THE MONTH

Staying intune

PRIZE WINNER!



THANK YOU FOR THE INFORMATIVE and interesting piece on the future of UK radio in the June edition (HFC 346). I have been moving toward the convenience of digital sources and now listen mostly via a Spotify Premium account through a Sonos Zone player. This is digitally streamed to my hi-fi, consisting of a Musical Fidelity KW250s all-in-one unit and Castle Harlech S2 speakers. Spotify streams album content at 320kbs and the sound quality is only slightly inferior to CD quality.

The convenience and excitement of being able to listen to just about anything you want more than makes up for that marginal difference in sound quality, for most listening purposes – although it is of course, nice to be able to really get the best from my system from time to time by using CD as the source. My 'album collection' now includes the Penguin Jazz Encyclopaedia and Gramophone Classical Good CD Guide – it's almost unbelievable to be able to explore the best of recorded music from the comfort of your armchair for a nominal outlay of £10.

Radio content streams at various bitrates up to 320kbs; Linn streams three stations at 320kbs, which all sound fantastic. Now here's what I don't understand: why is that a small independent record label can manage to do this, but the mighty Beeb can't? The Radio 3 HD stream (at 320kbs) sounds great, but is only available via flash player and so requires a PC to act as the source.

For me, and I am sure for many others, this is simply not convenient and rather wastes the excellent quality and content. Come on BBC, if Linn can do it, surely you can? ●

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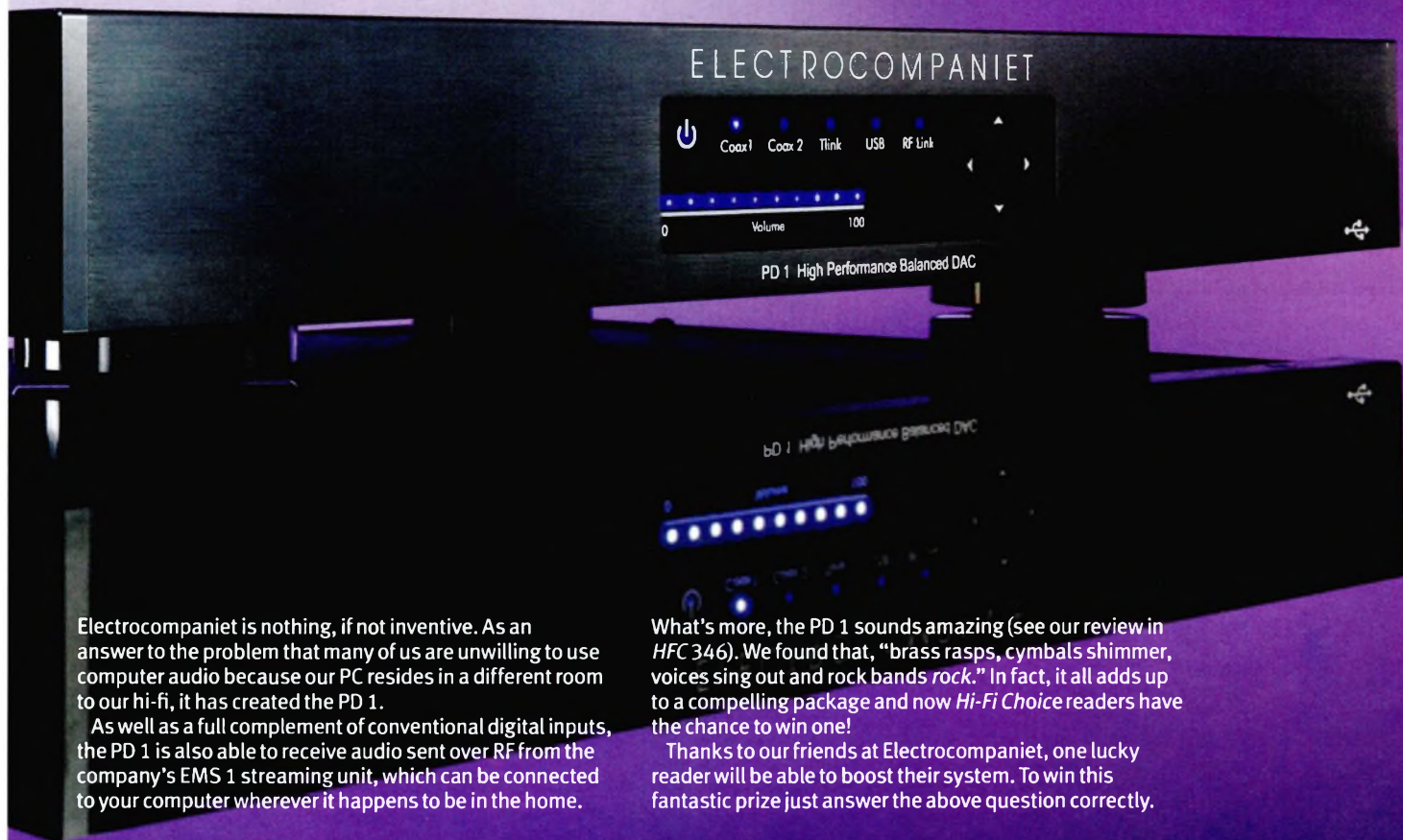
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A: IR B: RF C: ESP

Please text your answer: Electro A, B, or C to 87474 or visit futurecomps.co.uk/electro and follow the instructions, leaving your selected answer and details where prompted



Electrocompaniet is nothing, if not inventive. As an answer to the problem that many of us are unwilling to use computer audio because our PC resides in a different room to our hi-fi, it has created the PD 1.

As well as a full complement of conventional digital inputs, the PD 1 is also able to receive audio sent over RF from the company's EMS 1 streaming unit, which can be connected to your computer wherever it happens to be in the home.

What's more, the PD 1 sounds amazing (see our review in *HFC 346*). We found that, "brass rasps, cymbals shimmer, voices sing out and rock bands *rock*." In fact, it all adds up to a compelling package and now *Hi-Fi Choice* readers have the chance to win one!

Thanks to our friends at Electrocompaniet, one lucky reader will be able to boost their system. To win this fantastic prize just answer the above question correctly.

TERMS AND CONDITIONS To enter the Electrocompaniet competition, you can either (a) text your answer to 87474 at any time between 23.06.11 and 20.07.11, or (b) enter online at www.futurecomps.co.uk/electro with your entry being received between 23.06.11 and 20.07.11. By sending your entry you agree to these competition rules and you confirm you are happy to receive details of future offers and promotions 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 STOP at the end of your text message or at the end of your postal entry. Posts will be charged at £1.00 plus your standard network tariff rate.

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Streaming

As streaming music grows in popularity, **Malcolm Steward** lays out in easy stages the kit you need, the sources available and the performance levels you can expect

The introduction of the computer into hi-fi systems has provided a revolutionary way to obtain, organise and enjoy your music collection. The only problem is that computers metaphorically come from Venus, while hi-fi comes

from Mars, so we have some instant communication problems.

Fear not, however, because in part two of our audiophile streaming guide, we give you straightforward tips to getting the most from your CD-rips and digital music downloads. And all

without tainting your hard drive with a single lossily compressed file, the sound-quality of which is sure to make you wonder why you bothered becoming interested with recorded music in the first place.

This is serious audiophile-quality playback here: computers can

deliver 100 per cent of the original recording, not just the five per cent you get from an MP3. So, if you want better than 'good enough' sound, then computerised audio – especially at high resolution – is definitely an extremely satisfying way to achieve it.

PC VERSUS MAC

In recent years the Mac has been challenging the PC's dominance in the marketplace. It is certainly aesthetically superior: of that there is little doubt. However, it is possibly beginning to compete with the PC in performance aspects, now that it is using much the same hardware and architecture: essentially the modern-day Mac is little more than a Linux PC dressed up with a pretty graphical user interface.

One benefit of this drift towards the Mac is that more

media-appropriate software has become available for the platform; there are now DLNA servers such as Twonky, for example. So you are not forced to buy into PC technology if you are a Mac fundamentalist.

Modern Macs are also supplied with emulation software; meaning that you can run Windows programmes on the Mac platform. This is not an ideal option, though, as emulation software consumes CPU cycles that are far better deployed elsewhere.

HOW THE QUALITY VARIES

Last month we established that a huge quantity of the music is thrown away when it is made into a better-than-average 320kBs MP3 file.

For example, The Rolling Stones' *Street Fighting Man* in hi-res (24-bit/176.4kHz) format shrinks from 196.53Mb to 7.73Mb when you turn it into a 320k MP3. That represents 96 per cent of the original data being discarded! Put another way, the MP3 gives you less than four per cent of the original high-resolution recording.

Process a 16-bit/44kHz version of the same song and the MP3 conversion still manages to throw away 77 per cent of the music.

WAV files, which are outputted by most CD-ripping software, are much larger than any compressed file – whether that is compressed lossily or losslessly. They do, however, sound better, but are not, the best for storage in a 'library', because the WAV container has no provision for metadata.

It is too easy to wind up with a host of 'unknown' songs by 'unknown' artists on 'unknown'

albums. Naim Audio has found a work-around for this problem, but has not yet made public how it works. We feel the best solution is to store music in FLAC format, which enjoys proper metadata support (Vorbis Comments rather than MP3's ID Tags).

If you choose to listen to hi-res FLACs, you will be, in the case of *Street Fighting Man*, transmitting over 8.3 Mb across your network every second, so Cat5e is preferable to a wi-fi connection. At this sort of data rate you do not want collisions or data being lost so high-quality Gigabit switches and Network Interface Cards in your NAS are in order.

It is frequently advantageous to use components all from the same vendor: it is rare that a mix and match approach consistently delivers the same speed or reliability. Remember that manufacturers' throughput specifications always assume absolutely ideal conditions and it is fair to say that you are highly unlikely ever to achieve them in your home.



INTERNET RADIO/STREAMING SERVICES

Let us conclude at the outset that internet radio is not an audiophile-quality service – although the higher bitrate steams sound better than DAB – but that does not prevent it from being an extremely enjoyable and useful facility.

Many people find it ideal when they are working: especially the DJ-free stations such as Radio Paradise. With upwards of 20,000 streams broadcasting it is an easy way to be introduced to music you might not have heard.

In sound quality terms, Radio Paradise is an exception in that it provides a large choice of feeds to suit different connections and players, from 16k MP3 for dial-up users and the standard broadband 128k MP3 to the better quality 128k AAC and the outstanding 192k Ogg Vorbis stream.

Selecting from this variety of feeds is simple for anyone



Q2 internet radio

listening at their computer, but if you are using a media player the easiest option is to use the vTuner service, which is available with players from Arcam, Denon, Harman Kardon, Naim, Pioneer, and Yamaha, and lets you add the particular feed to your list of stations.

Along with media players that incorporate internet radio, there are also dedicated and portable internet radios, such as the Q2 and Logitech Squeezebox radio; the C21 equivalents to the ubiquitous trannie.

There are also what many call personalised radio services: the likes of Spotify, where you can build your own playlists and share them with friends and colleagues through services such as FaceBook and Twitter. You can begin with a free basic version of Spotify and, if you wish, upgrade to the premium service, which gives you an advert-free, up to

320kpbs stream and other facilities for £9.99 a month.

There is also last.fm, which monitors what you listen to and then makes suggestions of what else you might like.

Over the last couple of years these services have become truly widespread and ever more useful despite their, forgivably, non-audiophile nature.



Spotify website listings

WHAT YOU NEED

Fundamentally you need two elements to enjoy ripped CDs and downloads: hard-disk storage and a media player. These can be discrete items – a player and NAS (Network Attached Storage) – or a player with integral storage.

The latter is often the more expensive solution and some manufacturers view putting hard disks and their controllers in the same enclosure as audio electronics as not the greatest idea.

Naim Audio, for example, now produces its HDX hard-disk player with a tiny SSD (Solid-State Drive) holding just the operating system, but not storing any music, which is kept on a NAS.

Bryston has produced its BD-P1 player, which has no internal storage, but draws its music from a USB-connected hard disk or memory stick. Even if your player has internal hard-disk storage, though, you can most likely configure it to use

an external drive for storage (if you are concerned about storing your music on its internal drive).

The attraction of the all-in-one-server is compactness and not needing to accommodate a NAS unit. This is hardly troublesome as most are quite small units and only require minimal cabling: a mains lead and network connection. The VortexBox Appliance range is especially easy to accommodate and there is no need for the NAS to be in the same room as your hi-fi.

Players are simply another source component requiring either an analogue or digital connection to your preamplifier, along with a network connection – either wired or wireless. Wired

Naim HDX hard-disk music player



is definitely preferable as the electrical environment around a hi-fi system is usually never the deanest you will find.

There is, however, a third element if we are talking about music from ripped CDs and that is a ripper to extract the music from the CD. This can be a dedicated unit from the likes of Naim or Olive, or you can use a computer or a ripping NAS such as the VortexBox or RIPnas.

Some people find it hard to believe that rips – even bit-perfect copies – vary in terms of sound quality, depending upon the hardware and software used to make them. It is worth comparing a few rips of the same track before deciding what is going to be your

primary ripping engine. For example, the latest version of DBpoweramp software produces demonstrably better rips than its predecessor.



D-Link ShareCenter Pulse DNS320 server hard drive

CONNECTING IT ALL

Most homes these days have the basis of a home network, a broadband internet connection. Your ripping program needs this for obtaining metadata and artwork for ripped CDs. Music without metadata is useless. You also need a fast internet connection to listen to internet radio and services such as Spotify. In this day and age, dial-up connections are redundant, while slow broadband is not much better. Within the home you want the fastest transmission you

can get, so do not consider anything less than gigabit speed equipment, especially if you want trouble-free transfer of high-resolution files. As mentioned elsewhere in this article, wired connections, using decent quality, shielded cables and patch leads, are preferable to wireless.

The simplest architecture is to connect a gigabit switch (around £40-£50) to the

internet router LAN (Local Area Network) connection and connect to this your media player and your NAS. This puts all your music equipment on the same address space as your household computers. You can avoid this by putting a separate router (£60-£100) with its WAN (Wide Area Network) connection plugged into the LAN side of the first router and set the DHCP (Dynamic Host Control Protocol) on

the second router to use a different address space from the first. If none of this makes sense, buy a network-savvy friend a beer and ask him to set this up for you.



Linksys SRW2008P gigabit switch



Above: Furutech alpha Line 1 shielded cable.
Below: Ethernet patch cable

CONTROLLING IT ALL

All media players come with remote handsets and, usually, a pitifully small fascia display screen. At a push, though, these will let you operate them but other, larger display options

are available and, for most people, preferable.

Most players have an HTTP interface, which means that you can operate them through a web browser on your computer

or laptop. Many have an app for smart phones – the iPhone being the best served to date – or for the Apple iPad, which seems to be becoming the remote control of choice in many households,

taking over from the iPod Touch and the iPhone. Many players also have RS-232 interfaces to allow connection to whole-house control systems such as AMX and Crestron.

Apple iPad 1



Crestron home control system for the iPad



AMX home control system for the iPad

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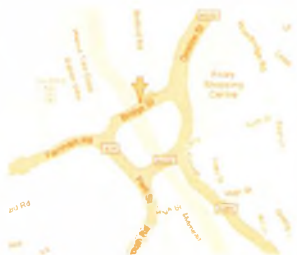
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Hi-fi reviews

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

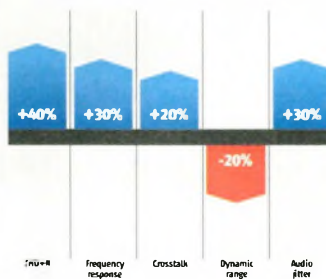
IN ADDITION to the 'blind' test, the author also spends a longer period listening to each system with various items of partnering equipment and a wider range of music. Apart from the obvious fact that this is how most people listen most of the time, this also has the advantage that interesting aspects 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 audio world, while recordings made by the author provide a live reference.

TECH LABS

RESULTS AT A GLANCE



FOR THIS MONTH'S CD player *Blind-listening Group Test*, we pressed into service the APx585 audio analyser (see boxout opposite). This highly sophisticated PC-controlled instrument can simulate many items of lab equipment, including an oscilloscope, audio voltmeter, chart recorder, phase monitor and test signal/sweep generator.

For CD players, the APx585 is used in conjunction with a specially created *Hi-Fi Choice* lab test disc to measure a number of key performance criteria. There are five of these – which are summarised for each of the reviewed products using our unique bargraph system. Anything out of the ordinary is commented on in the lab report which compares like with like across the whole six-way group.

THD+N

Part of our testing procedure involves measuring THD+N with much lower-level signals (-20dBFS and -60dBFS). THD+N will increase as signal level decreases, owing to the limitations of CD's PCM technology.

FREQUENCY RESPONSE

With CD players, you should expect a flat frequency response from 20Hz to 20kHz. The Tech Labs measure this by conducting a frequency sweep between these two frequencies and monitoring the output.

CROSSTALK

We measure leakage from the left channel to the right and vice versa. The higher the figure, the better. There should be little difference between the two figures, and what's listed here is the average of the two.

DYNAMIC RANGE

This spec expresses the difference between the highest amplitude distortion-free signal a CD player can output (a sine-wave is used here). The higher the figure, the better. In theory, a 16-bit CD has a dynamic range of 96dB.

AUDIO JITTER

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

▶ TESTING EQUIPMENT USED

Amplification: Micromega AS-400 integrated

Speakers: Bowers & Wilkins 802 Diamond

Cables: Townshend Audio Isolda DCT

▶ TEST MUSIC USED

KRAFTWERK: MINIMUM-MAXIMUM



LOU REED: TRANSFORMER



GREGORIO PANIAGUA: LA FOLIO DE LA SPAGNA



SARAH McLACHLIN: SURFACING



THIS ISSUE'S BLIND PANEL

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



DUNCAN SHRIMPTON
JOB: CHAPTER AUDIO

DUNCAN IS AN electronic engineer, who started out at Chord Electronics with an encyclopaedic knowledge of network media systems.



PETER WOOLLISCROFT
JOB: 15 AUDIO

PETER WORKED as an engineer in recording studios before getting into video editing. The love of his life is 'great sound'.



PAUL BENGE
JOB: ABC AUDIO

A WHEELER and dealer of secondhand equipment, Paul Benge has heard more high-end hi-fi than most mortals could dream of. Paul is head of sales for distributor ABC Audio.

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.

TESTED THIS MONTH: CD PLAYERS
TURN OVER NOW!

Blind-listening Group test

CD PLAYERS £1,500-£2,500

Which 'serious' CD player is best?

Moving up to a two-grand-plus CD player brings tangible gains in fidelity. **Jason Kennedy** and the blind panel discover 2011's hottest buys

WITH THE COMING OF THE DOWNLOAD age the CD player has found itself out of fashion on the high street, but in audiophile circles, the dedicated CD player is still very much a serious tool.

The fact that CD players have now been in production for nearly 30 years means that engineers have had plenty of time to figure out how to get the best out of the format. As a result, modern players are significantly more capable and musical than they were ten years ago.

The file-streaming age has also meant that many players are now equipped to take a digital input, so that their highly refined digital-to-analogue circuits can be put to good use converting the outputs of streaming devices.

CD players at this elevated price point are beautifully constructed pieces of equipment; they are usually built to last and bring a real sense of pride of ownership. Sometimes styling gets in the way of ergonomics, but our six players are all straightforward to install and use, thanks to a reasonably standardised approach to connections and controls.

Contrast this with many streamers (none of which seem to use the same system) and you realise that CD is a mature format that not only sounds better than it ever has, but has a user friendliness that computer audio can only dream of.

All but one of the assembled players have balanced outputs, which are useful

“Modern players are significantly more capable than they were ten years ago.”

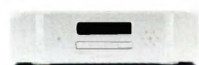
if you run long interconnects, but to keep things consistent we stuck to the single-ended outputs for our listening. All six have digital outputs, too, but given the quality of the internal DACs it's unlikely that these will see much use unless there are some radical changes in future DAC technology. When specialist companies have made as much effort as is apparent in this group, you can be assured of long-term satisfaction.



There are a few notable absentees from this test: Denon, Marantz and Bladelius claimed they were unable to prepare products in time to participate. NAD, Sugden and Micromega 'declined' to submit products and Naim felt there was inadequate time to run a CD5XS in. One's thing's for sure: any of the badge-winning products from this rigorous test would make a fine purchase. Watch this space come the Awards issue.



ON TEST



Audio Analogue Maestro
£2,250 **P43**

The penultimate disc-spinner from a well-regarded range is the biggest player in this group. In its 'REV2.0' guise it sports a TEAC transport mechanism and an Analog Devices 24-bit/192kHz DAC, alongside a classic array of output socketry. The Maestro was designed and built by Italians who clearly know a thing or two about audio electronics.



Densen B-420 XS
£1,850 **P45**

This latest version of Densen's midrange player is very elegant indeed, thanks to slimline build and a precision-engineered aluminium chassis. It keeps things to a minimum up front, but the back panel is where the XS suffix changes can be found. Given its performance, company founder Thomas Sillesen has got to be a Zeppelin fan.



Hanss Acoustics CD-20
£1,800 **P47**

The youngest company in the line-up has made its name with heavyweight turntables and associated electronics, but this substantial player proves that the company is also quietly confident about CD. It's also unusual in having both valve and solid-state output stages and you can also switch on upsampling should that appeal.



Primare CD32
£2,200 **P49**

The CD32 is built to exceptional standards and its stainless fascia and purist selection of front-panel controls mark it out as a flag-bearer for the less-is-more ethos. It has more in the way of socketry than any other one-boxer in the test and can even play MP3 and WMA music files from a USB stick.



Stello CDT100/DA100 Signature
£775/£775 **P51**

The sole transport and DAC combo in the group comes from April Music in Korea and proves that if you want great build at a sensible price, it's still impossible to beat far eastern manufacture. The top-loading transport is classy and the compact DAC includes a connection you'll not find elsewhere.



Unison Research Unico CDE Twin
£2,475 **P53**

The second Italian in our test (see the Audio Analogue Maestro) is a purebred valve design from a company with an enviable reputation in glass audio. It may put the on/off switch in an unusual place, but the quality of finish is superb and we tested the upgraded Wolfson DAC version for maximum sonic thrills.





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www.monkeycable.com



Audio Analogue Maestro £2,250

Elegant Italian has the technical ability and the sonic skills to charm our blind-listening panel

DETAILS

- ORIGIN:**
Italy
- WEIGHT:**
13.4kg
- DIMENSIONS:**
(WxHxD)
445x134x394mm
- FEATURES:**
 - Analogue outputs: unbalanced and balanced (XLR)
 - Digital outputs: electrical S/PDIF
- DISTRIBUTOR:**
Audio Futura
- TELEPHONE:**
0039 0572 954513
- WEBSITE:**
audioanalogue.com

Audio Analogue's Maestro range represents the pinnacle of its achievements: the Special Edition power amplifiers that carry the same badge cost in the region of £20,000. The Maestro CD player is the penultimate Audio Analogue disc-spinner, second only to the SE version which comes in at twice the price.

Our test model is the second revision of the design, or CD192/24 REV2.0 as they call it in the technical dept. It differs from its predecessor in having a TEAC CD-ROM transport mechanism, chosen for its sturdiness and low-jitter output. The display has also been changed to a high-contrast VFD-type (vacuum fluorescent display) that uses white dots to produce a fairly small description of what the player is doing. This, combined with the lack of any direct track access from the remote, makes selecting specific tracks a little tricky. The handset also looks very cool in its jewel-like metal case and is appealingly solid.

The buttons on the player's front are artfully arranged, but have very small legends. After a while, however, you remember that the one at 11 o'clock opens the smooth-action drawer and the central one instigates play, which is all you really need.

Connections are pretty much par for this price area; a pair of good-quality RCA phono sockets sit alongside XLRs and a single digital output.

Sound quality

The Maestro is the most refined solid-state player in this group and the most expensive. The panel particularly liked the quality of its high notes, which avoid the very fine grain found with most transistor designs and allows it to give a detailed, yet natural sound.

It's also strong on timing, thanks to a degree of precision in the midrange that allows you to hear into each mix with considerable clarity; it could almost be a valve-based player, but has a touch more edge-definition and stronger bass than most designs.

While the panel was not entirely in agreement about the Maestro, overall it proved to be the most popular player on the day. In fact, the listeners found a lot to like, mentioning an "open and airy" soundstage that is well projected into the room and the "best image with wide-crowd ambience from the live Kraftwerk track".

There were also a number of comments along the lines of "quite musical, good timing especially in the bass" and "good sense of acoustic, you can hear the hall this was

recorded in" with regard to our *La Folia* piece. It even appeased the most critical panellist who clearly enjoyed the latter track, describing it as, "delicate, open and airy".

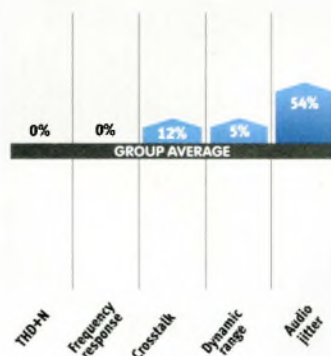
This is a high-quality player in all respects and the only one that can combine superb detail-resolution with genuine musical fluidity. Timing is excellent, as are dynamics and these are the qualities that bring the music to life.

TECH LABS

The Maestro boasts 24-bit/192kHz DACs, but with no mention of SACD, DVD-A or Blu-ray audio support. And with no opportunity to inject a signal (other than with a CD) in front of the DAC there is no way for us to fully investigate this. However, the improved measurements over expected CD player specifications is no doubt due to this 24/192 oversampling process.

It was interesting to see the distortion at 0dB, measured better on the unbalanced lines at 0.002 per cent THD+N. The crosstalk also measured better unbalanced. With a +6dBFS tone, the balanced line crosstalk measured -80dB and -85dB (left-to-right and right-to-left), whilst the unbalanced outputs both achieving -85dB and much closer to each other. The dynamic range test showed the two different output stages achieving an impressive figure, with only 1dB between them; 96dB unbalanced and 97dB balanced!

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY**
★★★★★ **LIKE:** Refined highs; good image quality; high detail level; great build
- VALUE FOR MONEY**
★★★★★ **DISLIKE:** Handset is very tactile but has few functions
- BUILD QUALITY**
★★★★★ **WE SAY:** Detailed, open sound that reveals more than most with a fine sense of timing
- FEATURES**
★★★★

OVERALL



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this player does what it says on the tin; music should be fun. If you can listen through the balance and are not too concerned about imaging qualities, this is a genuinely air-guitar-inspiring player and that can't be a bad thing.

Densen goes to great lengths to build high-quality components and makes first-class casework for both components and the Gizmo remote. This goes a long way to explain the cost of the player and for individuals with a penchant for rock, the B-420XS is worth auditioning.

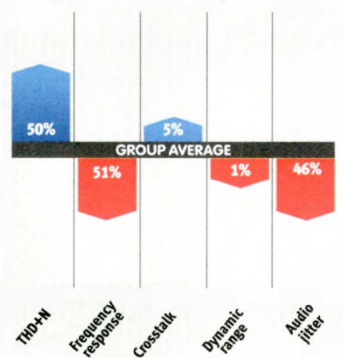
TECH LABS

LAB REPORT

The outputs from the Densen were very well-matched at 1.991Vrms left and 1.990Vrms right. Our results point to a very well-mirrored layout within. However, a disappointing jitter result is likely, contributing to an overall rather disappointing performance with crosstalk in the range of 75dB and dynamic range only reaching 92dB.

The low-level distortion figure of 3.4 per cent tarnishes an otherwise very good result as well. The frequency response only drifts by 0.21dB at the extremes, but a high-performance amplifier and true full-range speaker system will noticeably lack detail in the extremes due to the phase errors occurring. Power consumption may become a consideration for anyone ecologically, or economically inclined as the unit in standby uses six watts. A solid CD player, though by no means anything special beyond the build quality and aesthetics.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Excellent design; pacy sound, good build and upgrade options

VALUE FOR MONEY ★★★★★ **DISLIKE:** Relatively thin and flat sound is not to all tastes

BUILD QUALITY ★★★★★ **WE SAY:** Air-guitar factor didn't sway our panel but there is little else that has quite the same sound

FEATURES ★★★★★

OVERALL



Densen B-420XS £1,850

Naim-esque Dane with a sublime design and stunning remote is high on pace and energy

DETAILS

ORIGIN: Denmark
WEIGHT: 8kg
DIMENSIONS: (WxHxD) 440x64x310mm
FEATURES:
• Analogue outputs: 2x unbalanced
• Digital outputs: electrical S/PDIF
• Digital inputs: electrical S/PDIF
DISTRIBUTOR: Kog Audio
TELEPHONE: 024 77 220650
WEBSITE: densen.dk

In many respects Densen is Denmark's answer to Naim; it eschews feature counting, but provides upgradeable power supplies on its amplifiers and emphasises that audio components should be all about enjoying the music. We couldn't agree more with that sentiment, so the question is; does this latest version of the company's midrange player provide enough entertainment to warrant its asking price?

One factor that you have to consider when it comes to price is the remote handset. The Gizmo, as its dubbed, adds £150 to the cost of the player so is not a minor consideration. It is beautiful, but a plastic 'freebie' could be just as practical in this day and age.

The player is attractively hewn out of aluminium slabs, quite sharp-edged ones at that and the styling is very chic in a minimalist Scandi-style.

The XS suffix indicates that this is a replacement for the B-420+ with the main changes being the addition of a digital input and the option to add one of Densen's external NRG power supplies. The player runs a modified TEAC transport mechanism and has a shielded 24-bit DAC which can be bypassed via a switchable digital output on a BNC connector.

Being an amplifier maker, Densen goes to some lengths to suggest that the power supply in this player is of power-amp quality, scaled down one assumes, to preamp levels for the six-watt output stage. Needless to say it 'goes large' on supply regulation and parts quality.

Sound quality

Much like its Salisbury-based counterpart, Densen components have a sound all their own. So our panellists had two main gripes, one being the lack of image depth, which was variously described as "flat", "small-scale" and "flatter", and the other being a tonal thinness which showed up as "voices lacking in character" and "lacking bass weight".

In fact, the most generous thing anyone could bring themselves to note down was that *Walk on the Wild Side* was "very relaxed", but even this was counterpointed by comments suggesting it has too much attack and "seems compressed".

The issue of attack is what really differentiates Densen components and causes the polarised response to them. If you are after a pacy sound with plenty of emphasis on leading-edges, there isn't much competition (even from Naim whose electronics are a bit more sophisticated these days).

Our panellists didn't respond positively in our sighted, listening tests, but you can't deny that





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"During those all-
important few minutes
when we first got the
amp up and running,
we had an immediate
'I like it' moment..."
Hi-Fi Choice, July 2011

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Hanss Acoustics CD-20 **£1,800**

Digital player from the analogue expert is well priced and impressive for its upsampling capacity

DETAILS

- ORIGIN:** China
- WEIGHT:** 14.4kg
- DIMENSIONS:** (WxHxD) 434x132x354mm
- FEATURES:**
 - Analogue outputs: unbalanced and balanced (XLR)
 - Digital outputs: electrical S/PDIF
- DISTRIBUTOR:** ABC Audio
- TELEPHONE:** 020 8462 1379
- WEBSITE:** hanssacoustics.com

Hanss Acoustics made its debut in these pages with the T-30 turntable (HFC 331), one of three high-mass, multi-motor designs that it produces. Despite the presence of phono stages and even a record-cleaner in the range, it's not just an analogue company, as the CD player proves.

Like the turntables, the CD-20 is a substantial beast with high build and finish quality for the asking price. In fact, the all-metal remote, which is styled to match the player, is the most attractive in the test.

By the standards of the group it's low on features, but has all the essentials in the RCA phono and XLR analogue outputs and a lonely coaxial digital output. Optical outputs have their uses, but not many audio enthusiasts make them a first choice.

The CD-20 has switchable upsampling from the remote to a whopping 705.6kHz which is 16 times the standard 44.1kHz sample rate of CD, but only four times the 176.4kHz produced by the pair of Burr-Brown PCM1792 DACs it houses. Hanss uses four Burr-Brown op-amps in the output stage to produce the balanced output available on the XLR connections.

Interestingly, the quoted distortion figures for this output are

considerably lower than those for single-ended outputs, suggesting that these RCA phono connectors are hooked up to a valve output stage. Although no mention is made of the fact in the spec, the ventilation holes under the box piqued our interest sufficiently to take the lid off and reveal a pair of ECC85-equivalent 6N1 double-triode valves.

Sound quality

The blind panel heard the CD-20's single-ended outputs as it did for all the other players and having auditioned the two options side-by-side, we suspect it's best that way.

The tubes on the single-ended side have a distinctly mellowing effect, which helps the CD-20 to produce a fluid and relaxed, if slightly dark, sound that is a little short on energy.

The panel seemed to enjoy its first presentation rather more than the second – the quality of the preceding player presumably having a bearing on their expectations. Initially, the panel reported an “open and airy” sound with a “wide soundstage” and “good bass that’s tight and full”.

This impression didn't continue throughout the programme, however, and by the *La Folia* piece the novelty seemed to have worn off, with complaints that the sound was “flat with no sense of depth”.



The results were not significantly more consistent the second time around where a panellist enjoyed its musicality. But not everyone was so positive and there was some dissent regarding a “lack of bass weight” and “poor image-projection”.

In its defence, this is the least expensive one-box machine here and it can clearly make music if your tastes are for the acoustic rather than the electronic.

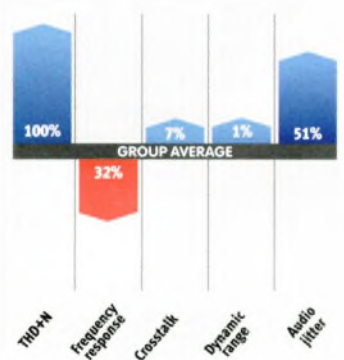
TECH LABS

LAB REPORT

With no way to select between the different outputs (apart from when a balanced line is connected and the unbalanced outputs are disabled), it is likely that the unbalanced outputs are derived from one-half of each differential pair of the balanced lines. This would explain the performance of the unbalanced outputs, which are very lacking.

We measured 2.5 per cent THD+N over a 1kHz test tone at 0dBFS, while the balanced outputs achieved an exceptional 0.004 per cent. The frequency response suggests that the two stages are separated after any audio-band filtering, while the distortion figures suggests the unbalanced output is fed at the last possible point and with minimal or no noise filtering. Maintaining a high standard on the unbalanced output has proven too costly or difficult to engineer in addition to maintaining a well-balanced output stage.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Good with acoustic music thanks to valve output and solidly built
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Not for those who like their sofas to shake
- BUILD QUALITY** ★★★★★ **WE SAY:** The Hanss has a mellow, relaxed sound that lacks the dynamics to be fully engaging
- FEATURES** ★★★★★

OVERALL



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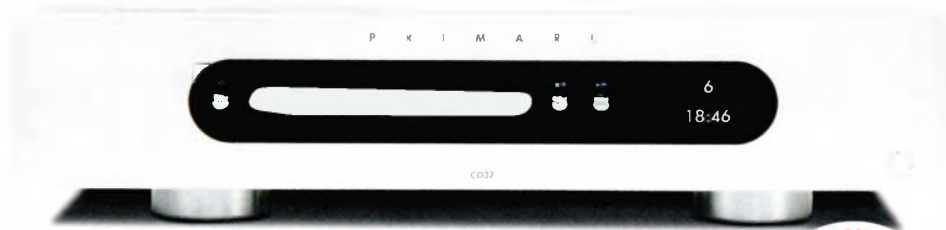
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Primare CD32 **£2,200**



Sublime Sweede is understated to behold, but engaging, muscular and tactile with recorded music

DETAILS

ORIGIN: Sweden/China
WEIGHT: 9kg
DIMENSIONS: (WxHxD) 430x110x385mm
FEATURES:

- Analogue outputs: unbalanced and balanced (XLR)
- Digital outputs: optical & electrical S/PDIF, AES/EBU (XLR)
- Digital inputs: USB A

DISTRIBUTOR: Karma AV
TELEPHONE: 01423 358946
WEBSITE: primare.net

We looked at Primare's latest CD player and its partnering amplifier the i32 in *HFC 344*, so it makes sense to see how it compares with the competition. On paper and in the flesh it's very strong indeed, thanks to a superb OLED display with a crisp Sans Serif style and a stainless front panel with the bare minimum of buttons.

The CD32's natural tendency is to upsample its output to 96kHz via both analogue and digital sockets, but this can be reined in to 48 or 44.1kHz with the remote handset.

Primare has also thought to include a USB input for thumb-drives or bigger storage devices, which is a unique feature in this particular round-up, inconveniently, however, the player can only process MP3 or WMA files.

It has an impressive array of socketry on the back panel; analogue outputs in balanced and traditional single-ended flavours; optical, coaxial and AES/EBU digital outputs; 12-volt triggers; RS-232 interface and the aforementioned USB-A socket.

Under the lid it runs a pair of Burr-Brown PCM1704 DACs through discrete, screened SMD circuit boards. What's unusual

about the design is the use of discrete transistors rather than op-amps for the critical I/V (current to voltage) conversion stage.

The CD32 comes with a system remote that is festooned with small buttons, but a bit of familiarisation provides the key, things like changing sample rate or playing the contents of a USB drive require a bit of work.

Sound quality

The CD32's character is definite, tactile and grounded thanks to taut, muscular bass and a clean and open midrange; open at least in the context of the other solid-state players in the group. Timing is also on the button; it's not overly emphasised by leading edges, but it's precise thanks to the absence of overhang or bloom in the bass. It images well, too, with good height and depth of soundstage if not quite as much width as some.

The Kraftwerk track was considered to have, "good attack and grip in the midrange" according to one panellist and to provide that "all-important sense of emotional attachment" according to another. One listener was less keen on the treble performance, however, describing it as "slightly edgy", but even he had to admit that it had good integration and timing.



In fact, everyone agreed about the high quality of bass and midrange on offer, which inspired comments including "creamy-smooth vocals" and "good musicality". The CD32 is probably the most honest and substantial sounding player in the group, yet remains engaging thanks to its timing and all-round coherence, which are exceptionally strong.

This combined with the large feature-count, high build quality and superb display make it a very hard act to follow.

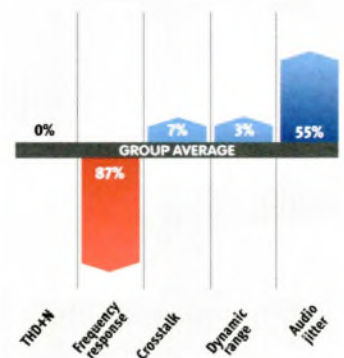
TECH LABS

LAB REPORT

Very close results between the balanced and unbalanced output stages, with slightly better crosstalk measurements through the unbalanced outputs. Perhaps greater care was taken to physically separate the two stages in the layout design. Audio jitter measured about as good as we have seen on any product recently to grace our labs.

The frequency response deviated more than we would expect to see from a modern CD transporter and disparities between the left and right channels suggest some refinement to the design will greatly improve this product. The right channel, for example, measured 0.002 per cent at 0dBFS, against the left performing rather poorly in comparison at 0.02 per cent; the right-to-left crosstalk measured 85dB against the left-to-right 77dB. While both channels plotted the same frequency response, the CD32's saving grace is an impressive 95dB dynamic range.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY
★★★★★ **LIKE:** Good build combined with strong, dynamic and engaging sound

VALUE FOR MONEY
★★★★★ **DISLIKE:** MP3/WMA music file restriction is a pity

BUILD QUALITY
★★★★★ **WE SAY:** This makes genuinely engaging music in a product that's built to last

FEATURES
★★★★★

OVERALL



Guildford Audio

Astintrew
Audio Analogue
Audio Research
Audiophile Base
Copland
Crystal Cable
Dartzeel
Dream Vision
EAT
Gamut
Grado

Heed Audio
Isotek
Jadis
Koetsu
Krell
Lavardin
Magnepan
Martin Logan
Micromega
Mimetism
Musical Fidelity

Nordost
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Prima Luna
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Stello CDT100/DA100 £775 (each)

Well priced two-box solution does things differently, with superb build and a multitude of inputs and outputs

DETAILS

- ORIGIN:** Korea
- WEIGHT:** 5/3.5kg
- DIMENSIONS:** (WxHxD) 212x55x290mm
- FEATURES:**
- Analogue outputs: unbalanced and balanced (XLR)
 - Digital outputs: optical and electrical S/PDIF, AES/EBU (XLR), I2S
 - Digital inputs: optical and electrical S/PDIF, AES/EBU (XLR), I2S, USB B
- DISTRIBUTOR:** Vivid Audio
- TELEPHONE:** 01403 782221
- WEBSITE:** aprilmusic.com

Stello is part of Korean company April Music's roster and we've seen a variant of the DA100

DAC before when Russ Andrews modified it and sold it as the DA-1 alongside a matching pre/headphone amp and power amp. The solid, half-size brick construction remains with this pairing, which by virtue of its two-box nature has the most varied array of socketry in this group.

The CDT100 must be the most affordable top-loading transport in the game; it's well built with a shiny magnetic clamp and acrylic cover that doesn't need to be in place in use. What differentiates it is the provision of an I2S digital output on a mini DIN socket. This allows the transport to send a separate clock-sync signal to suitably equipped DACs alongside the digital bitstream.

In the days before re-clocking DACs, this was a good system for reducing jitter, but it's very rare nowadays. The CDT100 can't tell when you've put a new disc on so you have to inspire it to read the thing by pressing 'disc' before it will play.

The DA100 Signature convertor naturally has an appropriate input

for I2S and accommodates all the more popular digital interfaces as well. It can't tell you what the incoming bit rate is but can upsample to 96kHz or 192kHz, and it will accept up to 96kHz on all but its USB input, which is restricted to 48kHz.

Sound quality

One unusual finding was that the upsampled output was notably darker than the standard result, such changes don't usually elicit an obvious tonal change. Overall, the panel preferred the non o/s result which has some vivacity to it, in all instances we used the supplied mini-DIN I2S cable as digital interconnect for listening.

This pairing got a mixed reception from the blind-listening panel, one thought it rather timid and reserved with slight sibilance in the high frequencies, whereas another enjoyed the quality of image, strength of ambience and timing on *Walk on the Wild Side*. Our third listener was less impressed noting a "lack of perception of the instruments" with the *La Folia* piece and a lack of 'air' in the highs with the Sarah McLachlan track.



Further listening did not greatly enhance these impressions; there is a lack of transparency to the midrange and in timing terms, it likes to take its time; this works with some material but can seem a bit lugubrious with more sedate pieces. It's a pity because the build quality is excellent and you get a lot for your money.

We suspect that the DAC, at least, is beginning to show its age and might not be helping matters. The Stello transport, however, is something of a rare find.

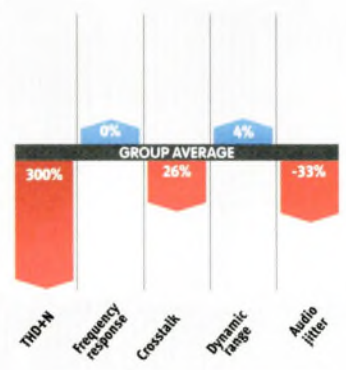
TECH LABS

LAB REPORT

By a small margin, the best measurements were taken with no 'upsampling' on the DA 100. Jitter became a factor with the upsampling engaged at 1363.5ps at 24-bit/96kHz and 1683.5ps at 24/192. Distortion also rose to 0.08 per cent with the unit in its 24/192 setting and the dynamic range fell by 0.3dB. These figures don't look or, perhaps, amount to much, but you would be forgiven to expect them to go up.

We measured a +14dB gain above standard line level from the DAC when injecting a 0dBFS test tone from the generator and receiving +14dB on the balanced analogue outputs; +7.6dB unbalanced. This could potentially generate when connected to a sensitive power amplifier stage. CDT 100 delivered textbook results for a CD transporter when measuring its digital output. Test tones and sweeps all tracked perfectly.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★☆☆☆ **LIKE:** High build quality and wider range of inputs
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Sound is not quite as inspiring as hoped
- BUILD QUALITY** ★★★★★ **WE SAY:** A well-equipped transport combined with an equally well made DAC that has a powerful, but slightly dark sound
- FEATURES** ★★★★★

OVERALL



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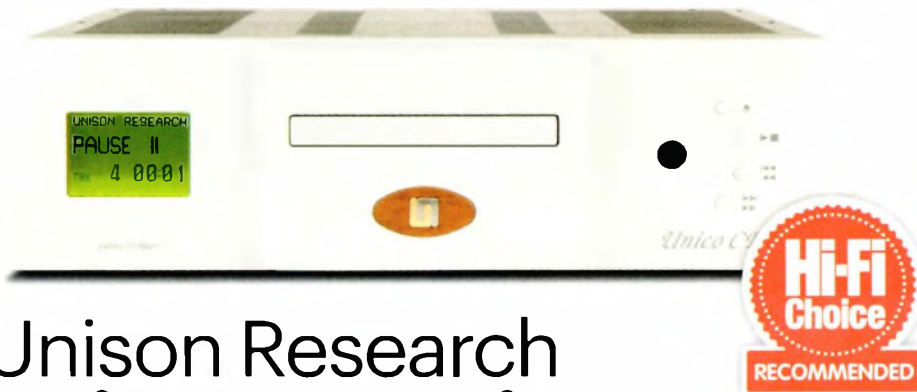
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Unison Research Unico CDE Twin £2,475

This Venetian charmer isn't cheap, but it's superbly built and delivers on romance, atmosphere and musicality

DETAILS

ORIGIN: Italy
WEIGHT: 12kg
DIMENSIONS: (WxHxD) 435x130x430mm
FEATURES:

- Analogue outputs: unbalanced and balanced (XLR)
- Digital outputs: electrical S/PDIF
- Digital inputs: electrical S/PDIF

DISTRIBUTOR: UKD
TELEPHONE: 01753 652669
WEBSITE: unisonresearch.com

Italians seem to love valve equipment. As a nation they produce a broad array of stylish glass-powered electronics; it must be something to do with the romance that valves bring out in music!

Unison Research makes a number of amplifiers and three CD players of which this is the top dog. In fact, it's slightly higher than that because it's the upgraded DAC-OP2 version of the Unico CDE. This is an optional upgrade to the standard CDE which costs £150 if you fit it yourself, but adds £175 to the price of the normal player.

It replaces a single Crystal DAC with a pair of Wolfson convertors, albeit leaving the Crystal in place (which allows you to switch between the two via the front panel), a unique if not entirely essential feature. The CDE runs a TEAC transport through a Crystal digital interface to the Wolfson 24-bit/192kHz DACs, which run in dual-differential mode. The glass can be found in the output stage, which has four ECC83 double triodes in a parallel cathode-follower arrangement. There is little chance, therefore, of running this thing in standby with less than a watt.

On/off switching is placed on the right hand side of the case which seems perverse but keeps the bead-blasted fascia minimal and with only

four buttons, it's hardly busy. What gives it a bit of sparkle is the large backlit LCD display, which can be switched off if required.

Sound quality

The Unico clearly exerted its charm on the listening panel, two thirds of which were very taken with it, while even the most critical managed to find something positive to say. It's valve complement undoubtedly inspired the comments like "very musical – more sense of ambience" and "good sense of liveness and atmosphere".

The bass is usually where such designs come undone, but even here it found a lot of favour, the panel noting that the, "bass is light but not low on energy" in one case and "good bass, tight but not the deepest" in another. About the most critical point raised was that it's "not exciting" and "controlled yet timid", but that seemed a unique view as there were more comments along the lines of, "piano sounds like a piano" and "good projection into the room with a big 3D image".

Further sighted listening generally backed this up; the Unico has a very natural presentation that suits acoustic instruments to a tee, thanks to a very transparent midrange and a generally musical style. It lacks the precision of the

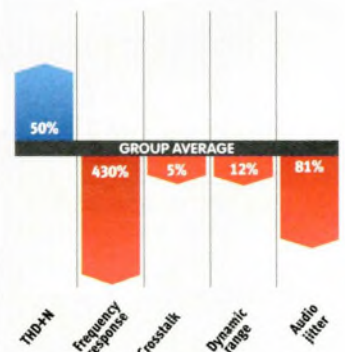
TECH LABS

LAB REPORT

Having to keep voltages on the valves means this unit consumes a lot of power, even when it's not in use; 30 watts is consumed while idling and up to 46 watts during playback. There is no standby option and the power switch is in an awkward location on the side of the unit. A thirty second 'valve warm up' timer on power-up is a nice touch, though the manual recommends allowing ten minutes for the system to warm up to its optimum operating conditions.

On investigating the better-than-expected distortion results we see a predictable second and fourth harmonic making up the majority, giving that 'analogue warmth' is so desired by analogue's fans. This, at the cost of the dynamic range, it seems. The third harmonic measured nearly as high as the sixth, so under gain the sound may become rather rough.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY

★★★★★

VALUE FOR MONEY

★★★★★

BUILD QUALITY

★★★★★

FEATURES

★★★★★

LIKE: Engaging and musical sound with strong tonal realism

DISLIKE: Not as exciting or precise as some and relatively low on features

WE SAY: This player has charm in spades, if you can live without clear cut edges

OVERALL

★★★★★



Lab conclusions

Our six players' overall performance was a close run, but technical specifications were often wide and varied as our comprehensive lab test results show

TECH LABS

Audio jitter varied substantially in our batch of CD players: the Audio Analogue Maestro; Hanss Acoustics CD-20 and the Primare CD32, achieving what we consider to be audiophile standard results of 180-200 pico seconds of jitter, while the remaining three players lagged behind somewhat.

Crosstalk also varied between the products, although the dynamic range measured by all the units set a very high standard and is surely testament to modern electronic engineering.

All the products produced a remarkable frequency response plot. This, arguably, may be

considered a more crucial parameter for our measurements as the CD player is a signal source in a listening system. Whilst distortion and noise should be kept to a minimum, frequencies cannot be reproduced if they are lost.

One curious observation is how varied the output levels were between the Unico CDE's 0.9Vrms and the Audio Analogue 2.93Vrms, when apparently reproducing our 0dBFS test tone. Given that we expect to see 2Vrms, and ignoring the rather larger measurement for Stello's CDT 100/DA 100 system (5Vrms!), the difference to the end user may be apparent at several decibels.

This could potentially offset our results from the first stage as the distortion, crosstalk and dynamic range measurements are relative to this input/output and sensitive to any gain or reduction in level.

For example, the Stello CD transport/DAC combo generated 0.06 per cent THD+N, which looks slightly better when we realised that we were actually looking at +14dB relative to its input 0dBFS. The implications of this, however, are that a sensitive amplifier stage may produce more distortion. Meanwhile the other players achieved convincing 2Vrms for output level and we felt more confident in the results.



WE INVESTIGATED the type of total harmonic distortion the Unico valve CD player produces compared to the other units and while it by no means measured the highest distortion, it consisted primarily of the even harmonics we might expect. A higher second and fourth harmonic, indicative of valve technology, relative to the odd third and fifth. These, still, measuring less than -50dB relative to a 0dBFS test tone.

RESULTS AT A GLANCE

						
Make/model	Audio Analogue Maestro	Densen B-420 XS	Hanss Acoustics CD-20	Primare CD32	Stello CDT100/DA100 Signature	Unison Research Unico CDE Twin
Price	£2,250	£1,850	£1,800	£2,200	£775/£775	£2,475
Sound	★★★★★	★★★★☆	★★★★☆	★★★★★	★★★★★	★★★★★
Value	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Build	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Features	★★★	★★★	★★★★★	★★★★★	★★★★★	★★★★★
Overall	★★★★★	★★★★☆	★★★★★	★★★★☆	★★★★☆	★★★★☆
Conclusion	Excellent player with detailed sound and fine sense of timing	High air-guitar factor is a result of forward, yet slightly flat sound	A relaxed and musical machine that's well put together for the money	Strong contender that makes engaging music in a well-built product	Well-equipped transport and DAC has a powerful, but slightly dark sound	This has charm in spades and a very good handle on tonal realism

Key features

Digital output elec/opt	1/0	1/0	1/0	2/1	3/1	1/0
Digital inputs	0	1	0	0	4	0
Balanced output	Yes	No	Yes	Yes	Yes	Yes
USB input	No	No	No	Yes	Yes	No
CD text	No	No	No	No	No	No
Remote	Metal	Opt extra	Metal	Plastic	Plastic	Wood

Lab conclusions E = Excellent | AA = Above average | A = average | BA = average | P = poor

THD+N	0.02% AA	0.013% AA	0.004% E	0.02% AA	0.06% A	0.01% AA
Frequency response	+/- 0dB E	+/- 0.21dB AA	+/- 0.13dB E	+/- 0.36dB AA	+/- 0dB E	+/- 1.77dB BA
Crosstalk	-80dB AA	-75dB A	-77dB A	-77dB A	-53dB BA	-68dB A
Dynamic range	97dB E	92dB AA	94dB E	95dB E	96dB E	82dB A
Audio jitter	190.2ps E	601.9ps BA	201.9ps E	185.2ps E	548.6ps BA	743.6ps P

Blind-listening verdicts

Our test of 'serious' CD players demonstrates that a jump to this price level brings tangible rewards in terms of detail-retrieval, refinement and build quality

ALL SIX OF THE PLAYERS assembled for this group are superb pieces of machinery. They are built by small, dedicated companies whose founders and designers take considerable pride in their creations, both mechanically and musically. Each, therefore, has a lot to offer, but some offer rather more of what our listeners like than others.

Nearly all of the players use 24-bit/192kHz converters, but this has very little, if any obvious bearing on the eventual sound produced. Rather it's the way these DACs and their surrounding architecture are implemented, not to mention the all-important output stage, that makes the difference.

The output stage of two players is valve-based: the Unison Research and the Hanss, yet the former was clearly preferred over the latter for its open sound that makes the most of the technology's virtues. The Unison was probably the most charming player in the contest, not necessarily the most revealing or widest in terms of bandwidth, but in the context of neutral and revealing loudspeakers and amplification, a bit of romance is often very enjoyable if it suits your preferred genre.

Much is made of neutrality in audio components, after all if you are colouring the sound then you don't get to hear what's on the recording properly. But there is an extent to which digital formats take away some of the humanity and warmth in the music and a component that puts it back in is thus quite appealing.

Both the Primare and the overall group winner, the Audio Analogue, do this to a more subtle degree. They are clean and revealing machines, which focus on the important musical detail and avoid revealing the less enjoyable aspects of the format.

In fact, this is what all these players do to an extent and it's a good reason to move up to a player at this price level. Only the Densen was poorly received by the panel and this largely for reasons of tonal balance, which given the brand's popularity suggests that our reference system might not be sympathetic to the Densen take on musicality.

What you get at this level is considerably more musical refinement and superb build. If you are after a statement of quality to put at the heart of your system, the best in this bunch are definitely that. ●

THE WINNER IS...

THE AUDIO ANALOGUE Maestro is the most revealing and entertaining player in this strong group. It's more resolute than the Unison Research and produces more fine detail than the Primare.

It's combination of impressive stage depth, precise, yet fluid timing and low level resolution makes it very hard to resist with a range of different music types. This is demonstrated by its ability to do justice to the natural openness and tonality of our classical piece as well as the power and scale of the live Kraftwerk track.

It manages to combine masses of detail with high musicality, which is the hardest trick for any source component to pull off. Build quality is also first class and there is a slight sense of style over ergonomics in the compact metal handset, but you soon get used to it.



Given the extra musical character that players at this level reveal, you'll need transparent components in your system to appreciate the quality on offer

AMPLIFIER: Leema Tucana II £3,425

If you want to hear everything that's coming out of the highly evolved outputs of these CD players, it pays to have an amplifier that's both explicitly revealing and capable of driving the loudspeakers so that the dynamics they produce are not wasted.

The Tucana II has bags of power and can handle pretty well any loudspeaker you throw at it, thanks to 148 watts and a serious power supply. It also has balanced inputs should you wish to try this connection option, as well as great flexibility and genuine transparency.



EQUIPMENT SUPPORT: Townshend Seismic Sink Stand From £1,450

It might seem odd to include a stand in the 'Try with these...' list, but you won't hear what any component is capable of if it's being vibrated by the output of the loudspeakers.

The Townshend SSS actually suspends the support shelves on springs which isolate the electronics and gives them an optimal environment to work in. The effect is a dramatic reduction in perceived distortion and an increase in bass extension. Even on solid floors it has a surprisingly positive effect.



LOUDSPEAKERS: Bowers & Wilkins 805 Diamond £3,750

We did our blind and sighted listening with the 802 Diamond, which is a very fine loudspeaker, if rather an expensive one. It's sibling, the standmount 805 Diamond, is more approachable and provides a similarly enlightening experience.

This two-way has phenomenal coherence and remarkable bandwidth for its size, but more importantly, it can do dynamics and imaging like few others. You don't need to go to quite these lengths to hear what players of this order can achieve, but there are plenty of good reasons to do so.



DETAILS

PRODUCT:
Audio Note CD/II,
IZero, AZ-Two

ORIGIN:
Lithuania/(speakers)
Denmark

TYPE:
CD player, integrated
line level tube
amplifier, two-
way bi-wireable
quarter-wave design
loudspeaker (with
simple crossover)

WEIGHT:
3.5kg, 7kg, 14kg

DIMENSIONS:
CD/II and
IZero (WxHxD)
300x96x310mm,
AZ Two (WxHxD)
250x90x300mm

FEATURES:
• (CD/II) Philips
L1210 CD transport
modified by
Audio Note

• TDA 1543 DAC –
used without
upsampling and
AA filterless

• Long-life 6111WA
tube used for the
analogue output

• Coaxial digital
output

• (IZero) Paired
ECL82 tubes
delivering 8-watt
output per channel

• Special Audio Note-
designed mains and
output transformers

• Short signal paths

• Class A output
over most of the
operational range

• Long-life tubes

• (AZ-Two) Folded
parabolic rear-
loaded quarter-wave
quasi-horn

• SEAS Drivers –
8-inch bass/mid
3/4inch tweeter

• Wood pulp or hemp
bass/mid driver
(wood pulp
extra £250)

DISTRIBUTOR:
Audio Note (UK Ltd)

TELEPHONE:
01273 731498

WEBSITE:
audionote.co.uk

Why Zero is our hero

Makers of some of the most exotic hi-fi on the planet, Audio Note's Zero system is, says *Jimmy Hughes*, refreshingly affordable

High-end audio tends to be a tad expensive. When a manufacturer sets out to employ specialised military-grade internal components that are large and massively over-specified, you can't expect prices to be low.

Nevertheless, some high-end manufacturers relish the challenge of designing products that deliver a taste of high-end performance at more wallet-friendly prices. After all, it's not easy to produce

outstanding results within tight budget constraints, but Audio Note's Zero System aims to do just that. It offers high-level performance at prices that are realistic.

Individually, each item boasts sonically excellent results which compare favourably with similarly priced (and more expensive) competition. But, at the same time, there's the promise of something more: an overall result that's greater than the

sum of the parts. And it's when you put the whole thing together that the magic begins.

Less is more

In keeping with the minimalist ethos of high end, each Zero System component is a simple no-frills design. Audio Note takes a less-is-more approach, so don't expect to find anything more than the absolute basics. The IZero integrated amplifier offers four line-level inputs, plus a set of loudspeaker outputs. There's a volume control and an input selector, and that's it!

The Zero CD/II CD player is only a little less Spartan: you get the usual operational controls, a single set of unbalanced analogue outputs, plus a digital output.

A remote handset is supplied with the CD player and there are buttons for direct track-selection and fast-search, a button to dim or turn off the illuminated display, plus buttons for repeat (one track or the whole disc), random track playback and time – either track elapsed time, remaining time (track or disc) and



total elapsed time. There are additional buttons for volume and input selection that, unfortunately, have no effect on the IZero amplifier.

Both amp and CD player feature tubes. The amplifier employs four ECL82 output tubes (two per channel), run in Class A up to about 80 per cent of their power and then switched to Class A/B.

The CD player features a single 6111WA tube in the analogue output stage, with a Philips TDA 1543 filterless DAC used without up-sampling. The transport is a modified Philips L1210. The 6111WA tube is soldered in place and Audio Note claims its lifespan should exceed 100,000 hours.

Retro appearance

Audio Note offers its Zero electronics with a choice of fascia plates – silver alloy, or black acrylic. Our review samples came in the former and look understated, but smart.

There's nothing flashy about the build quality. Each item is nicely finished, but the plain somewhat 'boxy'

“The ECL82 tubes help ensure a gorgeously smooth and richly detailed sound.”

styling means there's not much 'wow' factor. Both amplifier and CD player exude a distinct retro appearance and will appeal to those who prefer hi-fi with a traditional look.

The AZ Two loudspeakers can be obtained in black ash, rosewood, beech, or cherry veneers and again styling is fairly traditional. No grilles are supplied, but these can be bought as accessories for about £60. Given all this, it's unlikely that anyone will choose the Zero system for 'battleship build quality' or stylish appearance. So, whether or not it offers good value is intimately related to how highly you rate its sound quality.

The CD/II and AZ-Two speakers are both very fine-sounding products that will easily stand comparison with comparably priced (and dearer) equivalents from other

manufacturers. The CD player is especially good, giving a rich warm, yet open tonality that is unusually 'analogue' in nature. The amplifier is excellent too. While its lack of power makes it expensive on a pound-per-watt basis and limits its usage to efficient speakers only; it sounds absolutely gorgeous – the audio equivalent of smooth rich chocolate!

Lively and assertive

Since the IZero amplifier offers just eight watts per channel, power output could be an issue. Fortunately, the speakers offer reasonably high sensitivity (around 93dB) and make the most of the power available. They seem fairly easy to drive, too; our guess is they don't represent a nasty difficult load and this helps maximise the IZero's limited output.

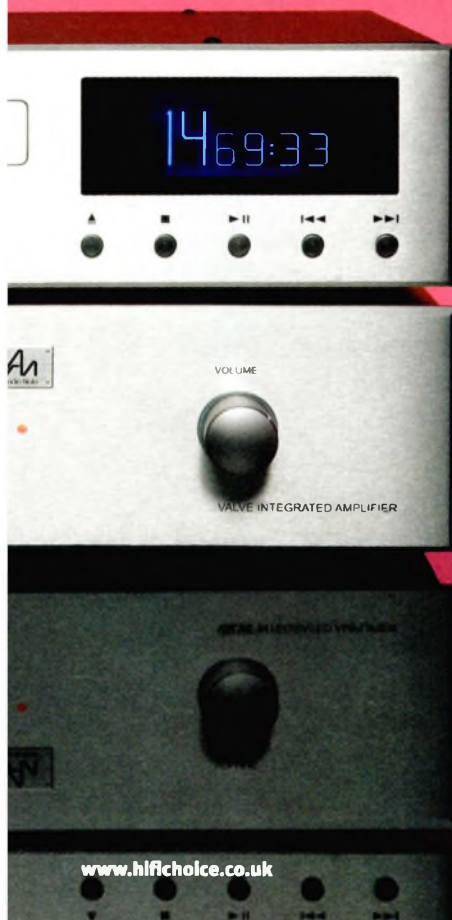
The innate naturalness of the amplifier's ECL82 output tubes helps ensure a gorgeously smooth and richly detailed sound that has excellent clarity and definition. And, although 'only' eight watts, the sound has remarkable presence,



WITHOUT DOUBT, the main technical feature of Audio Note CD players and DACs is their avoidance of oversampling and an anti-aliasing filter. When CD was new, many unconvinced audiophiles pointed to limitations in CD's 16-bit/44.1kHz specifications. The reason CD did not sound as good as analogue was, it was said, the inadequacy of 16-bit/44.1kHz technology to capture subtle tones and delicate dynamics.

Is the way-forward to find evermore clever ways of 'tricking' 16-bit/44.1kHz CDs into performing as though the bit rate and sampling frequency were much higher? That's certainly what many CD players and discs seem to promise, and the benefits of this approach seem very plausible. Or, is getting better sound from CD achieved by greater precision and increased accuracy?

But what if the real limitation with CD (and digital) is down to the implementation of the technology used? On the basis that the cure is worse than the Disease, many recommend getting rid of the AA filter altogether. Although the measured performance of filterless DACs is not encouraging, the results subjectively seem very good.



Q&A...

WE SPOKE WITH AUDIO NOTE'S PETER QVORTRUP.



HFC: What are the benefits of having a filterless DAC and why do you avoid oversampling?

PQ: Non-oversampling and filterless DAC technology offers several advantages sonically. The energy of the notes is more focused and the bass is better defined, allowing you to hear subtle timbral differences between bass notes more readily. On massed voices, you hear a more open individual character, removing that nasty glassy 'sheen' most digital suffers from at higher frequencies. Each note has more intensity and there's a wider range of tone colours.

What about measurements?

Unfortunately, none of these sonic improvements are measurable. Indeed, filterless DACs measure quite poorly in many respects. But, since Audio Note strives exclusively for superior sonic performance, measurements always take a back seat if the listening experience confirms better sound.

What's wrong with oversampling?

Oversampling is a corrective mechanism and performs largely the same function in digital circuits that negative feedback does in amplifiers; it improves the measured performance, while significantly degrading sound quality. This is really obvious when you compare an oversampling DAC to one where the oversampling has been removed. Audio Note realised this back in 1995 and we're surprised no-one else seems to have noticed. Non-oversampling DACs were used in the early days of CD, but with aggressive 'brick wall' analogue filters – which have an even bigger adverse effect on sound than oversampling.

What were your reasons for choosing the ECL 82?

The ECL 82 is a triode-pentode. It contains the driver/phase splitter within one glass envelope, which brings significant cost advantages. In addition, the ECL82 produces a really gorgeous sound – something that makes smaller amplifiers like the IZero special and unique.

CONNECTIONS



- 1 Main in
- 2 Digital output
- 3 Analogue output
- 4 Mains on/off switch
- 5 Speaker outputs
- 6 Four analogue inputs

plus surprising weight and drive, with impressively crisp transients.

When partnered with sensitive speakers, like the AZ-Twos, you never suspect the IZero has so little power – it sounds unfeasibly immediate and assertive. If you push it past its power limits, the sound tends to compress slightly and maybe gets a wee-bit congested. But, on most music, most of the time, you can play as loudly as you like without obvious power-limitation problems.

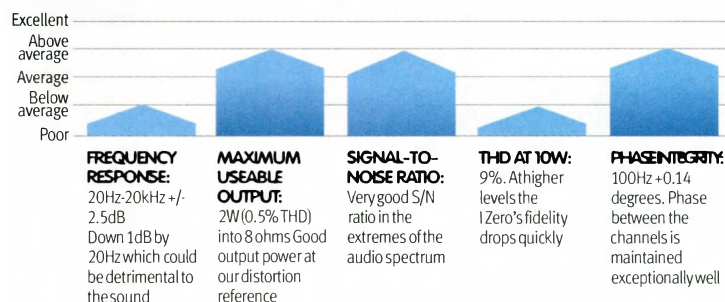
The CD Zero/II provides a smooth, clean, refined-sounding source that combines dynamic presence with a rich, beguiling silky-liquidity. It really is a CD player for those who don't like CD.

The AZ-Two loudspeakers make the absolute most of what they're given, sounding lively and assertive, with lots of brilliance and detail. A slight forwardness in the upper midband, ensures the music projects into the room with plenty of authority and presence.

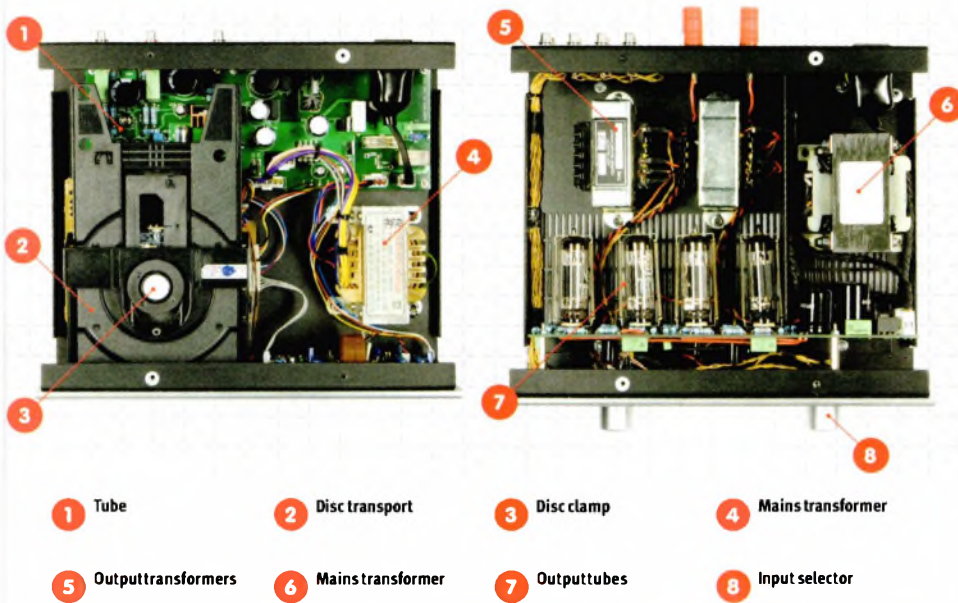
We used the Zero system in a fairly large room and found it able to fill the space with relative ease. It went as loud as we would ever want. Even on uncompressed recordings of vocal music (opera, choral, classical lieder), which normally test low-powered amps to destruction, the system covered its tracks. If the amp was under pressure, it hardly ever showed signs of distress.

TECH LABS

RESULTS AT A GLANCE - IZERO AMP



HIDDEN TECH



1 Tube 2 Disc transport 3 Disc clamp 4 Mains transformer
5 Output transformers 6 Mains transformer 7 Output tubes 8 Input selector

We're not recommending this system for headbangers. But, although (on paper) somewhat challenged in the wattage stakes, lack of amplifier power is much less of an issue than you might think. On rock or classical, the sound is sharp, transparent; very clean and nicely balanced. It's subtle and delicate, yet suitably gutsy and immediate when the music demands muscle.

As previously mentioned, the tonal balance exhibits a mild degree of upper midband forwardness and this sometimes results in a sense of peakiness. However, after listening for a few minutes, this impression diminishes and one quickly adjusts to what's on offer.

The AZ-Two is very good at pitch-differentiation and has excellent timing. You're literally drawn into the music. We found the Zero system

very good at conveying the impression of people singing or playing in a unified coherent manner, so that the music (and performance) makes sense. Our review samples had hemp-coned bass/mid drivers. What's more, the clarity and definition proved excellent, conveying a clear impression of forward momentum.

Subjectively, the speakers produce nicely extended bass – the bottom end might not seem obviously 'full' or powerful, but it's clean and free from smearing. Claimed low-frequency point is about 28Hz, but we found a reasonably healthy output down to 20Hz. Placing the speakers near to walls or corners will increase bass output.

A winning combination

Audio Note's Zero system is a great advertisement for the benefits of partnering a good low-powered



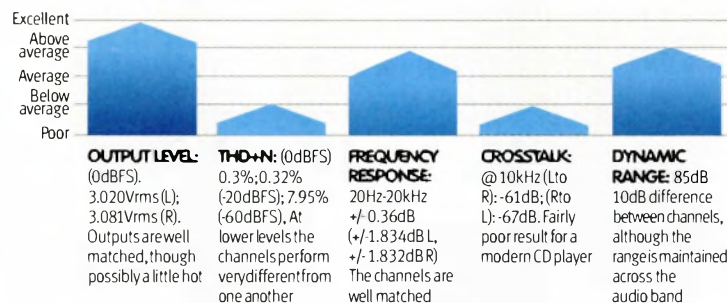
ASKING HOW MUCH power output is necessary is like asking 'how long is a piece of string?' Much depends on the sensitivity (efficiency) of the speakers. The more efficient they are, the less hard an amplifier will need to work.

Audio Note's IZero amplifier only offers eight watts per channel, but what it lacks in muscle, it more than makes up for in refinement. The IZero produces a very smooth flowing 'liquid' sort of sound.

A larger more powerful amplifier might well be able to play much louder than the little IZero, but the resulting sound won't necessarily seem quite so effortlessly smooth, natural, and 'real'. It's like comparing a powerful car engine with a smaller one; the latter is likely to be far more responsive, though its top speed will be limited.

TECH LABS

RESULTS AT A GLANCE - ZERO CD/II



amp with sensitive loudspeakers. It's a winning combination of cohesiveness and integration; brilliance and detail; dynamics and attack. With each individual component being very well matched, the overall result is superb and, as we've already indicated, as separates they need no excuses making for them.

Obviously, the lack of power is a potential limitation that needs consideration. But, when partnered with an efficient loudspeaker like the AZ-Two, even this is hardly an issue. Indeed, if you play your Zero system at full tilt, you'll probably get complaints from your neighbours! ●

Hi-Fi Choice

OUR VERDICT - CD/II

SOUND QUALITY ★★★★★	LIKE: Rich, smooth, open and detailed sound
VALUE FOR MONEY ★★★★★	DISLIKE: No digital input and it would have been useful if volume control worked with amp
BUILD QUALITY ★★★★★	WE SAY: With its fine performance, this really is a CD player for those who don't like CD
FEATURES ★★★★★	

OVERALL



Hi-Fi Choice

OUR VERDICT - IZERO

SOUND QUALITY ★★★★★	LIKE: Clean, open, natural, tonally realistic sound
VALUE FOR MONEY ★★★★★	DISLIKE: No remote control and limited output power.
BUILD QUALITY ★★★★★	WE SAY: The innate naturalness of the IZero's output tubes makes for a fine performer that provides a catalyst for both CD player and loudspeakers
FEATURES ★★★★★	

OVERALL



Hi-Fi Choice

OUR VERDICT - AZ-TWO

SOUND QUALITY ★★★★★	LIKE: Sensitive, immediate, good bass for size
VALUE FOR MONEY ★★★★★	DISLIKE: Slight emphasis in the presence region
BUILD QUALITY ★★★★★	WE SAY: This is the perfect partner in this system, delivering all the best attributes of the CD player and amp, together with excellent definition
EASE OF DRIVE ★★★★★	

OVERALL





Sound Ethos

With high output power, balanced inputs, a DAC and USB ports, could the striking new hybrid Ethos be all things to all men? asks *Jimmy Hughes*

The increased use of music sources other than CD has led to the need for hi-fi components with a broader range of options. In particular, the ability to accept digital source material stored on computer hard drives has become an added factor.

With the Ethos, Pathos has created a powerful hybrid tube/transistor integrated amplifier capable of accepting a wide range of sources – from balanced analogue via XLR, to digital via USB (via an optional

DAC). Here's an amplifier that meets the needs of two-channel purists, while catering for those interested in using digital sources.

Five alive

The Ethos makes provision for five unbalanced line sources via RCA phono plugs, two balanced line sources via XLR plugs, plus four video inputs. There's an optional built-in 24-bit/192kHz digital-to-analogue convertor, with inputs via two USB ports type A and B, and

DETAILS

PRODUCT: Pathos Ethos
ORIGIN: Italy
TYPE: Integrated amp
WEIGHT: 20kg
DIMENSIONS: (WxHxD) 430x150x485mm
FEATURES:
• Class A tube preamp
• MOSFET solid-state output stage
• Two unbalanced inputs
• Preamp and subwoofer outputs
• Optional 24-bit/192kHz DAC with USB and S/PDIF inputs
• With built-in DAC an extra £600
DISTRIBUTOR: UKD
TELEPHONE: 01753 652669
WEBSITE: pathosacoustics.com

a S/PDIF co-axial RCA socket. A stereo pre-out and mono subwoofer output, are also provided.

The preamp section is entirely tube; pure Class A and based around a pair of ECC88s (6922) valves, one each per channel.

The power-amp section is a true dual-mono solid-state design that delivers around 100 watts per channel into eight ohms – or 200 watts into four ohms.

It's also possible to bridge the output, creating a single-channel output of 270 watts. All circuits are feedback-less. The electronic volume control has 180 steps with digital readout and is entirely resistive – using laser-trimmed resistors for accurate channel balance and precise adjustment.

Each volume 'step' is around 0.5dB, allowing specific repeatable control of loudness. An alpha-numeric fluorescent display indicates things like volume setting (in dB values), and input selected.

Specifications are impressive, with a claimed frequency response from 2Hz to 200kHz (+/- 0.5dB) and less

than 0.01 per cent distortion (see *Tech Labs* p62). Each tube sits in its own little well and would be easily removable should the need for replacement arise. The tubes produced some heat but not that much – even though surrounded by casework, the tubes seem to run fairly cool, but during use, the casework gets mildly warm after an hour or so.

A slight mechanical transformer buzz was just audible with our review sample when sat close by, but this wasn't felt to be serious. The amp is fully protected against things like excessive temperature rise and accidental short-circuit.

There's a relay-protection system that mutes the amp while everything warms up and settles down – this takes about 30 seconds. After switch-on, the amplifier defaults to Input One (XLR) and the volume control is set at –52dB. If you switch the amplifier off from the front panel, your previous volume and input settings are remembered. However, if you switch off from the wall socket, or disconnect the mains supply, your settings are lost.

Each input has its own individual volume control memory and can be set independently. This means you can adjust levels to cope with sources of differing sensitivities – a nice touch. There's provision to adjust left/right stereo balance, available from the remote handset via button five.

The remote allows volume control, input selection, mute, and lets you



BALANCED OPERATION features three wires – live (+), neutral (-) and ground – compared to unbalanced, which just has live and ground. So, why is balanced better?

Well, one benefit is the rejection of something called Common Mode Noise. When the live and neutral signals are finally unbalanced, any noise common to both is effectively cancelled out. This means increased freedom from RF interference. But there's also a subjective benefit. Because the 'neutral' signal is active (it's an inverse version of the 'live' signal) you get an increase in output – anything from +3dB to +6dB, depending on the type of balanced input used.

While this increase in gain is often quite useful, you also get a subjectively better sound. The music not only sounds louder, it's somehow 'bigger' and more dimensional.

put the amp into Standby. It has six press buttons, but these are not labelled. This means you have to remember what each one does – a free memory test with each amplifier!

Massive beast

Weighing in at a hefty 20 kilograms, the Ethos is a massive beast. Just lifting it tells you it's a well-made piece of kit. The casework features a combination of steel top and bottom plates, with heavy cast-alloy heatsinks and front panel.

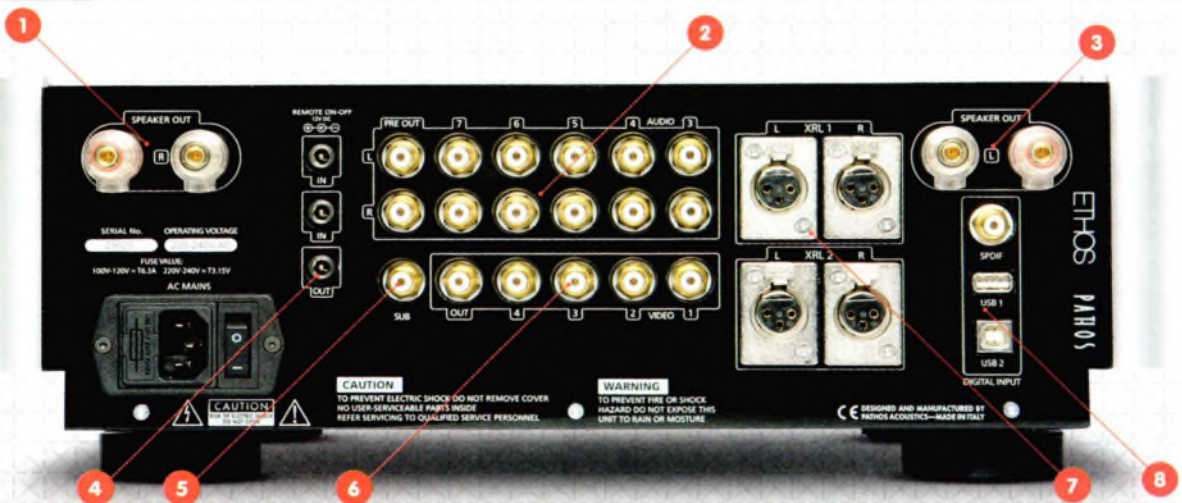
It's pretty large for an integrated and quite a bit deeper than usual. The heatsinks are extruded in the shape of the Pathos brand name logo when

“The casework is well finished and solidly built – oozing quality from every pore.”

viewed from above. The two valves each have their own little 'well' for protection, but the glass apex of the tube sits slightly proud of the top-plate – so take care not to place anything over them for fear of breaking the tubes.

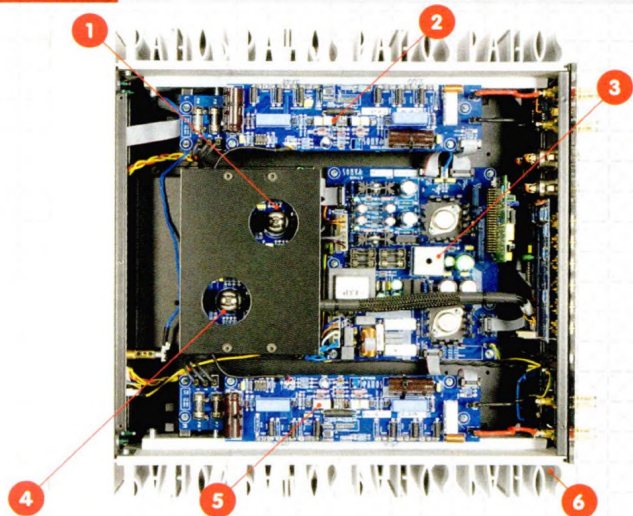
Although the amp doesn't get massively hot, you need to keep the ventilation slots clear. The casework is very well finished and solidly built – oozing quality and class from every pore.

CONNECTIONS



- 1 Loudspeaker output
- 2 Unbalanced inputs/ outputs
- 3 Loudspeaker output
- 4 Remotelinks
- 5 Sub out
- 6 Video in/out
- 7 Balanced inputs
- 8 Optional USB/co-axial in/out

HIDDEN TECH



- 1 Preamp tube (left)
- 2 Power amp (left)
- 3 Power supply
- 4 Preamp tube (right)
- 5 Poweramp (right)
- 6 'Pathos' heatsink



DOES A HYBRID tube/transistor design like the Ethos really give you the best of both worlds? Or is it something of a fudge?

Our listening tests for the Ethos followed on from the all-tube Unison Research S6 integrated (HFC 347).

The Ethos delivers a far more immediate presentation, while the S6 is quintessentially tube; rich, warm and glowing.

The Ethos sounds leaner and crisper; more tactile and immediate, with a stronger more purposeful drive; tighter and more assertive.

Due to its limited output power, the S6 sometimes compresses dynamics when pushed hard. The Ethos offers greater headroom. It can play much louder, and seems better able to meet the demands of 'difficult' music – say, massed choral voices or uncompressed solo voice.

So, on paper, the Ethos emerges as the more capable performer. That said, the S6 had a certain 'magic' about it that the Ethos never quite matched. The hybrid amp is a shade matter-of-fact, compared to the subtle fantasy created by the all-tube S6.

with no hint of compression. The use of tubes in the preamp probably adds a degree of richness and warmth, but the Ethos is not obviously rose-tinted or soft. Listening blind, we're not sure you'd automatically register the use of tubes.

We initially used our review unit via its unbalanced inputs and sonically the results were extremely good. However, we later tried the balanced option and noticed a very worthwhile improvement in tonal depth and richness, plus a heightened sense of scale and dynamics.

The sound seemed bigger and more dimensional. It was louder, too – by about 6dB. However, even after adjusting volume levels to compensate, the unbalanced option never seems to match the extra 'something' we noticed with balanced.

To exploit the balanced option, you'll need a CD player with balanced outputs, plus a set of balanced cables with XLR plugs at each end. These will obviously add to the cost, but we think you'll find the difference well worth it.

Mix of virtues

The Ethos is a sophisticated highly accomplished stereo integrated amplifier that is good enough sonically to appeal to discerning purist two-channel audiophiles, while offering lots of 'extras' to interest those looking for something more versatile.

It's very well made and offers a lot for the money. It delivers the kind of smooth refinement you expect from a good valve amplifier, but has the extra power, drive and control you get from solid-state. Given such a mix of virtues, it should enjoy a wide appeal. ●

The styling is a matter of taste; we love it. For sure, it's a big, uncompromising unit and not everyone will like the way it looks (the price is also fairly high for an integrated).

However, given the features and facilities offered (balanced inputs, optional built-in DAC and USB inputs) you undoubtedly get a lot for your outlay. This is a highly versatile unit that should be pretty future-proof. So it's a good investment for reasons other than sonic ones.

Immensely impressive

Straight from the box, the unit needs time to burn in. Initially, it sounds rather bright and forward. But after a week or so it settles down nicely, producing a winning combination of immediacy and clarity. While

it hasn't the smooth creamy richness you get with the best all-tube amps, the Ethos does have a certain tonal allure. It's very lucid and detailed, but not excessively 'topy' or over-bright.

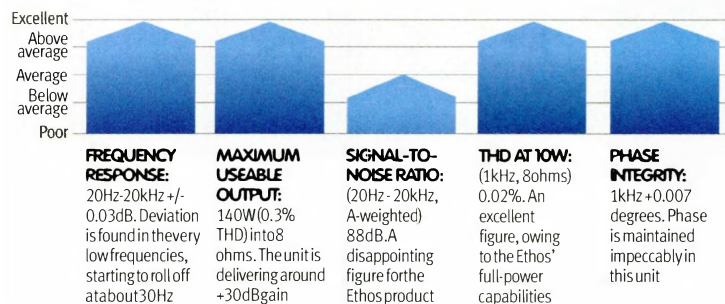
The sound has excellent focus, lots of fine detail and there's plenty of power. The bottom end is taut and powerful, with better control than most transformer-coupled tube amps.

The Ethos features a MOSFET power amp and being direct-coupled (rather than transformer-coupled like an all-tube amp), there's an immediacy that is immensely impressive.

Transient attack is very good, and wide dynamic swings are handled with aplomb – the sound expands impressively,

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Big dynamic sound; balanced input options; DAC/USB option

VALUE FOR MONEY ★★★★★ **DISLIKE:** No labelling on the remote handset

BUILD QUALITY ★★★★★ **WESAY:** A highly capable two-channel amplifier that offers great sound, plus a versatile equipment interface

FEATURES ★★★★★

OVERALL



Reference-grade audio cables. UK-designed & built. Available worldwide.



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DETAIL. DYNAMICS. DYNAMIQUE...



Review, Issue 80, Alan Sircom

"There is a common sound to the Dynamique Audio range. Every cable brought out deep and powerful bass, with a broadly neutral midrange, a silken sheen to the upper mids and fine soundstaging... also very well-extended, although not to the point of exaggeration and, as you might expect, a dynamic sound too."

"As a newcomer, this is a brilliant rollout of quality products from the get-go. There are brands that have been making cables for years that don't have this kind of consistency and neutral midrange. Dynamique roques!"



Review, June 2011, Richard Black

"Near faultlessly neutral in the midband...precise and stable images with very good depth definition...with the brand's name in mind, we were delighted to hear excellent dynamics on offer; swinging from loud to soft effortlessly without compression or exaggeration."

"They are both rather characterless; that is, they don't impose themselves on the music. Unless you are of the mindset that likes to regard cables as tuning devices, that's very much a point in their favour; neutrality being a hi-fi Holy Grail".

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Silvercore

Deco Audio are very proud to be exclusive UK dealers for the wonderful Silvercore product range.

These beautiful precision German crafted products include step up transformers, interconnects and pre amplifiers.

The Silvercore Pre Amp One pictured here is their entry level TVC. It is wired throughout with silver wire (including the transformers) and is housed in a stunning stainless steel and delrin chassis. Sonically it has all the strengths of a good transformer volume control - great dynamic range, accurate tonal colours and superb resolution. It sounds effortless yet never boring and simply 'gets out of the way' more effectively than any design close to its £2,000 price point that we've come across.

Brands stocked include: Advanced Acoustics • Audio Note • Audion • Aspara Acoustics • Atlas Cables • CFC • Consonance • Croft Acoustics • Dynavector • Edwards Audio • Living Voice • Michell Engineering • Nottingham Analogue • ProAc • Pure Sound • Quadraspire • Rega • Silvercore • Something Solid • Sennheiser • Stax • Talk Electronics • Talk Cable • Tsakiridis Devices • Usher • Verdier and many more...

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Energy provider



Acoustic Energy's new Neo V2 Four looks like a lot of speaker for the money, but does more equal better? **Jason Kennedy** weighs up the facts

The latest addition to Acoustic Energy's extensive range is a substantial three-way at a very competitive price. But while it's easy to build a big speaker for a good price with Far Eastern manufacturing, it's another thing to make the speaker communicative and dynamic. Acoustic Energy has a strong track record for getting its designs right so what can we tell you about the new £700 NeoV2 Four?

Quality firepower

Standing 1,200mm tall this is an imposing speaker in a very smart finish (there's a black version and a Vermont walnut option – neither is real veneer, but you have to look twice to spot it).

The driver array is pretty serious, too: a pair of 160mm alloy bass units combined with a 130mm alloy mid and a ring-radiator tweeter. And you don't need a monster amp to get it jumping; the high 91dB sensitivity means that most decent amps will be up to the job and the better ones more than sufficient in level terms at least.

The NeoV2 Four comes with a separate bolt-on plinth that extends the footprint for greater stability and provides an anchor for the shiny floor spikes. It also comes with magnetic grilles, so that the front baffle is devoid of holes should you be sensible enough to run them 'naked'.

Three reflex ports pepper the back of this speaker and these partly explain the high-sensitivity. Acoustic Energy recommends you place them well away from side and rear walls. A single pair of cable terminals keeps connections simple.

Hard act to beat

The cabinet is built with 18mm MDF for the most part, with a hefty 32mm front baffle, where

stiffness is most needed. It's unusual to see a ring-radiator tweeter at this price, as these drivers are taking over from domes at higher prices because they have wider bandwidth and lower distortion. The only drawback on paper, at least, is reduced dispersion.

In terms of scale, this is a hard package to beat. The competition is devoid of anything over a metre high, but scale is not everything,

DETAILS

PRODUCT:
Acoustic Energy
NeoV2 Four

ORIGIN:
China

TYPE:
Floorstanding
loudspeaker

WEIGHT:
28kg

DIMENSIONS:
(WxHxD) 203x
1,200x300mm

FEATURES:

- 25mm neodymium ring-radiator tweeter
- Midrange: 130mm pressed-alloy cone
- Bass: 2x 160mm pressed-alloy cone

• Sensitivity/
impedance:
91dB/8 ohms

DISTRIBUTOR:
Acoustic Energy

TELEPHONE:
01285 646580

WEBSITE:
acoustic-energy.
co.uk

of course, and we would expect the Bowers & Wilkins 684 to be a hard act to beat, this two-and-a-half way did well in its last *Blind-listening Group Test* (HFC 315) and hits the same price point.

The right match

We tried a number of alternative amplifiers with the Neo Four in order to find a good match. First up was a Cyrus Streamline, which is not particularly powerful, but revealed the speaker's strength in midrange projection. The bass proved difficult for the Cyrus to get swinging, however, and only the finest of recordings sounded timely with this pairing.

A Cambridge Audio 840A brought out more body, space and low-level detail in the mix and added serious punch to dynamic tracks, but the bass seemed congested. Our final partner, the Rega Mira 3, did the trick; its excellent sense of timing allowing the speaker to start strutting its stuff. Now the picture hung together with aplomb and we were free to listen to the music rather than the equipment.

Personal audio

With careful partnering this substantial floorstander is capable of revealing and engaging results. It's not quite as transparent as a similarly priced two-way standmount, but can muster a lot more bass extension and power.

If you want to create a full-scale soundstage and immerse yourself in the music, then there is no substitute for large speakers. Bass is not totally open and the mid will be a shade exposed for badly matched electronics, but get these bits right and you have a surprisingly open and well-balanced speaker that can deliver a shapely bottom end and a detailed midband. It gets you up close and personal with the music. ●



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



LIKE: Lots of box that produces a coherent and engaging sound

VALUE FOR MONEY



DISLIKE: Needs careful amp partnering to avoid bass becoming congested

BUILD QUALITY



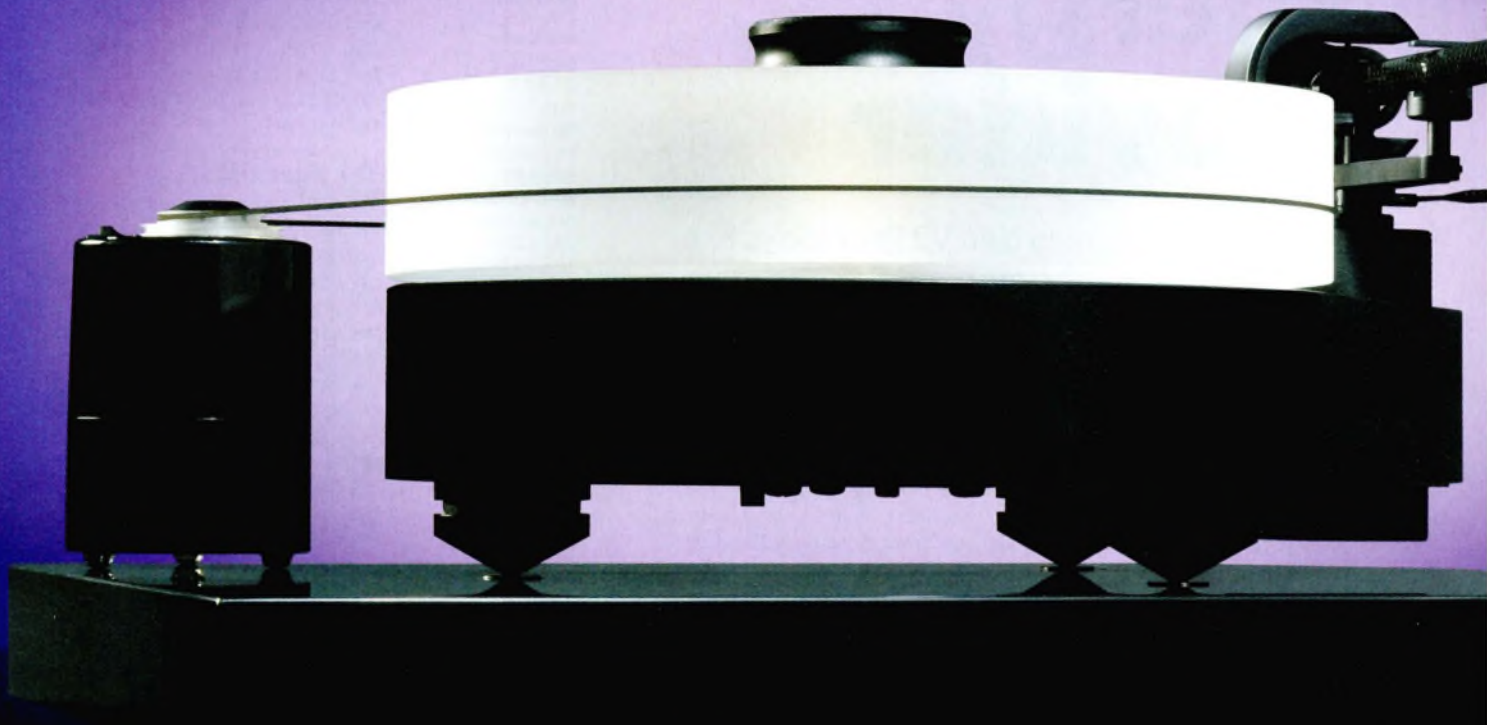
EASE OF DRIVE



WE SAY: A speaker that's both agile and entertaining

OVERALL





Heavyweight contender

There are two types of turntable: suspended subchassis and high-mass; Pro-Ject has combined the two! **Jason Kennedy** braces himself

Pro-Ject's founder Heinz Lichtenegger is no longer satisfied with just cornering the budget market, he's now set his sites on the turntable high end and his latest weapon, the RPM10.1, is a substantial and shiny beast. Heinz is a classical music lover and this turntable directly addresses one of the key issues with such music on vinyl: trackability.

The RPM10.1 comes with not one, but four alternative counterweights, which are supplied so that the arm/cartridge resonance can be kept totally under control in order that the system can track anything you throw at it.

Pro-Ject has also produced a test disc and by combining the two you can establish which counterweight gives the best tracking and thus the least distortion.

► DETAILS

PRODUCT:
Pro-Ject RPM10.1
Evolution

Origin:
Czech Republic

Type:
Turntable and
tonearm

Weight:
Turntable/arm 8kg,
Ground It 13.4kg

Dimensions:
(WxHxD)
480x210x330mm,
Ground It
500x80x400mm

Features:

- Mass-damped magnetically sprung base
- 60mm acrylic platter
- High-torque free-standing motor
- Single-piece carbon-fibre tonearm

Distributor:
Henley Designs

Telephone:
01235 511166

WEBSITE:
project-audio.com

0 to 90

The canon in Tchaikovsky's 1812 Overture requires the highest stylus acceleration on record at $90\mu\text{m}$ – a rate with which most moving coils struggle to cope, yet Pro-Ject's engineers have managed to get an MC to track its test disc at $100\mu\text{m}$. Lichtenegger is quick to point out, though, that there is more to a great turntable and arm combination than theoretical tracking ability. He appreciates that setting up turntables well requires more than a test disc, but is clearly aiming to bring a little bit of science into the process.

The RPM10.1 is a revision of the RPM10, but quite a significant one. There are two key differences: one in the base, or Ground It Deluxe 3 (which is the rectangular slab that supports everything) and the other in the tonearm.

The Ground It incorporates magnetic decoupling through its four adjustable feet and provides a literal physical ground on account of its 13.4 kilogram mass.



The 10cc version of the Evolution arm has had a lot of attention applied to controlling resonance and Pro-Ject has used more carbon fibre in a tighter weave than the previous incarnation. It has also incorporated Sorbothane damping in the four counterweights, each of which covers a range of cartridge weights ie: 4-6g, 5-8g etc, but there is some overlap between them.

In other respects this 10-inch arm is made of a single piece of carbon fibre with a conical shape, in order to combat standing waves. The bearing is an inverted type that uses ABEC7 ball races in a substantial ring-shaped housing for maximum rigidity. You can adjust armbase height in order to vary VIA and the armtube can be rotated so that azimuth can be changed. As with most Pro-Ject tonearms, the arm wiring is terminated in a pair of RCA phono sockets, so that alternative cables can be used to connect with the amplifier.

The rest of the RPM10.1 is hardly less substantial than the Ground It, the plinth is made of 63mm-thick MDF, with the same dark-grey gloss finish as the base. It sits on three sorbothane-damped aluminium cones and incorporates the armbase and a magnetically supporting inverted bearing for the platter. This part is 60mm-thick and made of acrylic, but is described as 'a sandwich construction' which seems odd as it's clearly one-piece, albeit one five-kilo-plus piece that's topped off by a brass record puck.

The motor is effectively free-standing and sits atop a piece of metal of the same diameter and



THE STYLUS and cantilever in a cartridge are fixed to the body of the cartridge with a compliant suspension, in order that the stylus can freely trace modulations in the vinyl groove. This compliance forms a spring to which is attached the low mass of the cantilever and stylus at one end and the relatively high mass of the tonearm at the other. When the stylus traces the groove it vibrates the entire system of cartridge and arm and depending on the compliance of the suspension this vibration requires more or less mass to control.

Typically MC cartridges are low-compliance devices that require greater arm mass than high-compliance MMs. But given the variation in cartridge suspension-types and the aim of setting resonance somewhere between 9 and 12Hz, you can see that a degree of fine-tuning in the mass department might be a good idea, which is where Pro-Ject's alternative counterweights are useful.

finish. Pro-Ject supplies a spacer device so that it can be placed the correct distance from the platter and connected by a thin square-section rubber belt. On/off switching is atop the motor and speed-change a case of switching pulleys.

Every picture...

The pictures do not lie: this is a superbly finished turntable with plenty of attention to detail and the tonearm is particularly inspiring, thanks to the chunky bearing housing, although the thread and weight anti-skate system seems a shade old-school these days.

There's no doubt that Pro-Ject offers excellent value for money in its turntables and this is just as apparent here, as it is with its budget models.

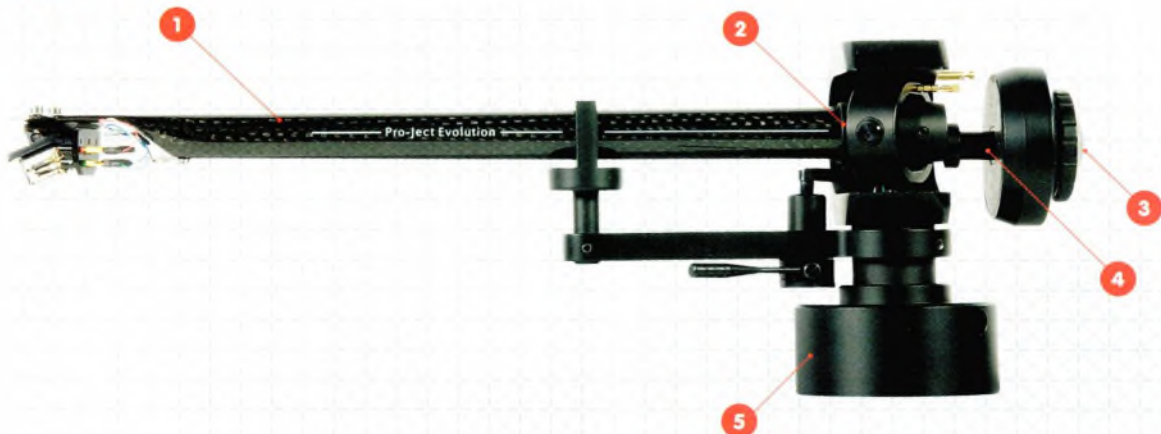
“This Pro-Ject is clearly a sophisticated beast, thanks to good dynamics and timing.”

Next to last month's Well Tempered Simplex (HFC 347), it looks twice the price, but as we know great record players are about more than scale and finish.

Our current favourite in this price range is the Michell Gyro SE (HFC 345), which is equally impressive for the level of sheer engineering it delivers. But high-mass designs are always more expensive than conventional ones.

This price sector is becoming one of the most hotly contested, with a number of established designs being available with and without a

CONNECTIONS



1 Single piece carbon-fibre headshell and arm tube

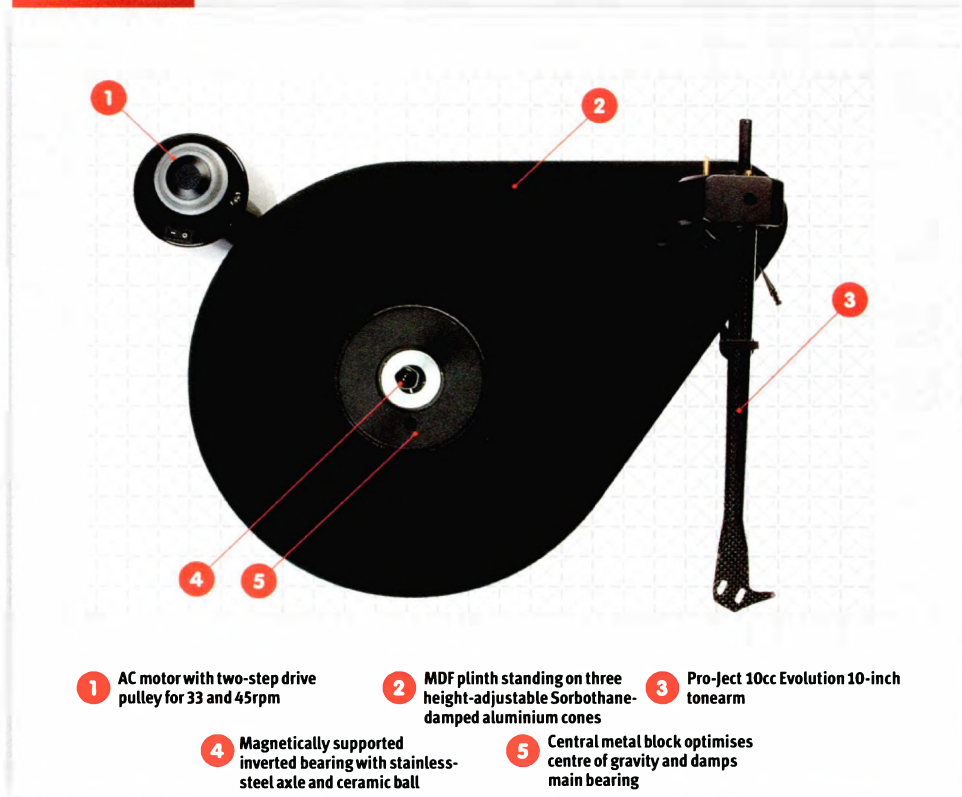
2 Inverted tonearm bearing with four stainless tips

3 Sorbothane-damped counterweight

4 Counterweight shaft reduces cantilever forces

5 Armbase permits height of armtube and VTA

HIDDEN TECH



tonearm. From the Gyro SE (£1,450) including a TecnoArm to the Townshend Rock 7 (HFC 324) sans arm and Well Tempered's relative newcomer the £1,495 Simplex with its damped golf-ball arm bearing. The latter two have a technological advantage, while the Gyro SE is a well executed suspended design at a great price.

The RPM10.1 on the other hand offers good isolation, thanks to its Ground It base and combines a truly evolved tonearm with a range of counterweights that offer a real advantage in resonance control.

Feel the quality

All that mass in the platter confers a certain stability to the sound of this

turntable; we fitted a van den Hul Frog LO moving coil into its carbon-fibre arm and used the supplied interconnects to connect it with a Trichord Dino+ phono stage and got a smile-inducing result. Tom Waits picked a very fine band for the album *Swordfishtrombones* and this turntable certainly brings out the quality of the recording, with plenty of acoustic around the percussion and double bass.

The tiny fingerlift is a bit tricky to drop into inner grooves, but the lift/lower device can be used for this purpose, while the arm is notably microphonic when you move and dock it in the clamp. This is not a problem while playing, however, and

where resonances are higher, this is not necessarily a bad sign.

There is very little sense of the 'halo effect' that can challenge acrylic platters because of the deck's mass and clamp and while it's not the most luxurious-sounding turntable around, it's pretty damn smooth – capable of delivering weighty, tuneful bass which helps to create good image depth. In fact, the bass can be sumptuous when the record delivers the goods. Rickie Lee Jones' *Flying Cowboys* does it with a chewy bass guitar beneath and a crisp high-hat up top, while another track reveals superb string tone above a beautifully timed bottom end. This is a classy turntable no doubt about it.

We investigated the benefits of the Ground It base by using the turntable both with and without a Custom Design stand. It certainly proved its worth by allowing the RPM10.1 to deliver a considerably more open sound that lifts and separates in true 'cross your heart' style. The bass gets a lot more room to breathe in and you can hear distinctly more fine detail across the range.

QUESTION TIME

WE SPOKE TO Pro-Ject's general manager Heinz Lichtenegger about the RPM10.1

HFC: Do you recommend a heavier counterweight that sits closer to the bearing or a lighter one that sits further away?

HL: The former option always works best, because it offers more damping and greater control.

HFC: What resonant frequency are you aiming for in the arm/cartridge?
HL: The correct frequency is between 9 and 12Hz, but if you can achieve a lower level of resonance at a frequency just outside this range I prefer to set it there.

HFC: Does the RPM10.1 have a new motor?

HL: The motor on the RPM10.1 is selected for high torque, but because the platter can absorb resonance this is less critical.

It's a contender

With its comprehensive approach to cartridge set-up and the efforts put into keeping resonance at bay with the Ground It base, this Pro-Ject is clearly a sophisticated beast. A state of affairs that's reflected in a resolute and engaging sound.

Whether it would better our recent *Blind-listening Group Test* winner, the Michell Gyro SE, is hard to tell. It doesn't have the pace of a Well Tempered or the solidity of the Rock 7, but it does have a certain finesse and calm resolution that is very enticing. Thanks to good dynamics and timing, not to mention excellent separation of detail – it needs to be auditioned. ●



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★
VALUE FOR MONEY ★★★★★
BUILD QUALITY ★★★★★
FEATURES ★★★★★

LIKE: Very nice with its multiple counterweights; good isolation from Ground It base
DISLIKE: Finger-lift is a bit small and arm seems microphonic
WE SAY: A good combination of high mass and effective suspension

OVERALL
 ★★★★★

WHAT satellite

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Multi-purpose

Could Onkyo's TX-NR609 receiver be the best-featured audio tool on the planet? **Ed Selley** thinks he's found a great way to spend £500

It's been a good few years since we featured an AV receiver in *Hi-Fi Choice*. But following Onkyo's recent return to hi-fi (*HFC 345*) we were made aware of a truly groundbreaking new product with an astonishing spec-list, one that we felt should be put through its paces.

The TX-NR609 is a seven-channel AV receiver with 160 watts (albeit into six ohms) per channel and six-HDMI inputs able to receive 3D video and every audio format you can think of. Additionally more conventional digital and analogue inputs are fitted, as well as an internal tuner.

Connected to an Ethernet connection or via a UWF-1 wireless adaptor, the receiver is also capable of accessing internet radio stations, music over network and music-on-demand services, such as Spotify and LastFM. Last, but by no means least, it can automatically set levels and allow for room interaction.

Whizz-bang

All this functionality is impressive, but at an asking price of £500 it is fairly astonishing. What we have here – on paper at least – is a device able to handle the inputs expected of

a budget amplifier with network streaming and music-on-demand access, while also offering the whizz-bang experience of home cinema.

The TX-NR609 is not in the same league as its bigger brothers, but it feels solid and well-assembled, with all seven channels having proper three-way binding posts.

Setting the amp up is necessarily more complex than a conventional two-channel amp, but once the auto-setup has done its thing and the receiver is live on the network, operating it is relatively simple.

Subscriptions are required for Spotify, Napster and LastFM, but the internet radio functionality goes live straight away, as will network streaming. Control-wise, the Spotify functionality is straightforward, but rather less effective than a laptop in search and use terms.

Room correcting bonus

Sonically, the most interesting aspect is how much the room correction still plays a role in stereo listening. The TX-NR609 is able to avoid resonance and room nodes and can present a tonally flat presentation. If you use a subwoofer for two-

channel listening, there is little question that the receiver offers superior integration to virtually any two-channel amplifier. It can feel slightly artificial, but switching to the 'direct mode' will give a presentation more like a hi-fi product.

Spotify material

Not the most subtle of performers, the result is still tonally even, but a little artificial as a result, with very strong accentuation on particular mixes. This can lead to a slight lack of delicacy with more gentle material, but it does manage to sound very similar with Spotify material and even heavily compressed internet radio stations stay listenable.

By the standards of the best sub-£1,000 stereo amps, the TX-NR609 is slightly larger than life – everything is placed in a large soundstage and given a slightly exuberant edge.

Value added

The exuberance of the Onkyo is undeniably good fun listening to upbeat and fast music. There is slight awareness that it isn't, perhaps, the last word in tonal neutrality, but this is rather overwhelmed by the energy and sense of fun that it brings to the performance.

The internal tuner is of a more than listenable quality and we feel that the combination of analogue FM and internet radio is the best for both future-proofing and acceptable sound quality.

We were pleasantly surprised by the TX-NR609. Not only does it do a truly remarkable number of things, it does most of them very well. In an absolute sense, if your system will only ever have two speakers attached to it, a stereo amp will still make more sense, but if you want an amp that combines the role of film and music hub at a great price, then the Onkyo deserves an audition. ●

DETAILS

PRODUCT:
Onkyo TX-NR609

ORIGIN:
Japan/Malaysia

TYPE:
Network receiver

WEIGHT:
11.3kg

DIMENSIONS:
435x173.5x328mm

FEATURES:
• 7-channel THX-certified AV receiver
• Spotify, Napster and LastFM support
• Internet radio and DNL streaming
• FM/AM tuner
• Six HDMI 1.4 inputs

DISTRIBUTION:
Onkyo UK

TELEPHONE:
01628 473350

WEBSITE:
eu.onkyo.com



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



VALUE FOR MONEY



BUILD QUALITY



FEATURES



LIKE: Huge feature set, with an exciting and gutsy sound

DISLIKE: Not very subtle; some limitations to streaming services

WE SAY: A remarkable product for £500 and very capable in a number of areas

OVERALL





Magnificent Seven

DALI's IKON 7 MKII boasts proprietary drivers and Danish assembly, a combination that as *Paul Messenger* finds, gives them high-end sparkle

DALI (the name is actually an acronym for Danish Audiophile Loudspeaker Industries) debuted its new IKON range at the May 2010 Munich High End Society show and while the overall sizes and configurations of the various MK2 models do correspond closely to those of the original IKON range (first launched in 2005), they also incorporate plenty of engineering and cosmetic changes.

The IKONs are Danish-made loudspeakers, so manufacturing isn't cheap. Furthermore, the value of the Danish Krone (linked to the Euro) has appreciated significantly compared to sterling in recent years, so a significant price rise for this MK2 range was inevitable. Even so, an increase from £999 to £1,699 over a six-year span is pretty hefty, especially for a speaker finished in vinyl woodprint.

While the IKON 7 MK2 might, therefore, seem to be rather less of an obvious bargain as its predecessor, it's still a lot of hi-tech speaker at a decent enough price.

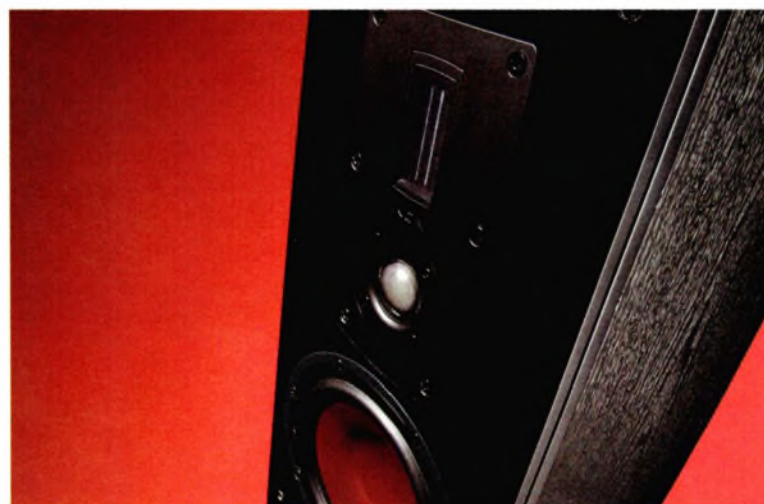
Speakers made in China certainly appear to offer rather more for rather less and customers who shy away from vinyl woodprint might not be won over, but the combination of advanced drive units and European manufacture are arguably benefits that justify the price premium.

Top-of-the-line

The new IKON range consists of five stereo pairs, alongside three extras oriented towards multichannel duties. This IKON 7 is the largest in the line-up and is a tall, quite deep and substantially built floorstander, though fashionably slim in the modern idiom.

Our samples were dressed in black woodprint vinyl covering the back, top, sides and base, while the extra-thick front panel is plain matt-black. The net result is a rather dour and monolithic appearance. A 'light walnut' woodprint over five faces is also available, though that is the only alternative option.

The entire enclosure is stiffened by carefully positioned internal bracing, while the front panel is constructed



The Hybrid Tweeter Module (HTM) is a combination of a conventional 28mm fabric-dome tweeter and a 17x45mm ribbon unit.

DETAILS

PRODUCT:
DALI IKON 7 Mk2
ORIGIN: Denmark
TYPE: Floorstanding two-and-two-halves-way loudspeaker
WEIGHT: 21.5kg
DIMENSIONS: (WxHxD)
200x1,117x364mm
FEATURES:

- Black or light walnut wood-effect finish
- Twin port-reflex bass loading
- 28mm transparent doped fabric-dome tweeter
- 17x45mm ribbon supertweeter
- Dome and ribbon for hybrid tweeter module
- 2x165mm wood fibre cone bass-only drivers
- 1x165mm wood fibre cone bass/mid driver

DISTRIBUTOR:
DALI UK
TELEPHONE:
08456 443537
WEBSITE:
dali.dk



DALI DESIGNS its own drive units, including the 'hybrid tweeter module' (HTM). This mounts a soft doped-fabric 28mm dome unit operating from 2.5kHz upwards, with a 17x45mm ribbon coming in above 14kHz on a common faceplate/chassis. The reason for adding the ribbon to the regular dome tweeter is all to do with geometry. Although the dome can generate frequencies beyond audibility, a 28mm dome is the same diameter as the wavelength of a 13kHz sound wave. When a diaphragm is smaller than the wavelength it's reproducing, the sound is radiated in all directions, but when the source is larger, it forms a much narrower beam. However, adding a 17mm-wide ribbon tweeter improves the overall power response.

from two substantial layers of MDF, bonded by a glue that provides a measure of damping. Since the enclosure is quite narrow, alloy outrigger feet are supplied and fulfil the two functions of improving the physical overall stability and ensuring proper spike-fixing.

Desirable drivers

Not that there's anything wrong with out-sourcing drive units from experienced OEM manufacturers, as is relatively common practice amongst the smaller brands, but one important feature that distinguishes

“It does offer a substantial percentage of high-end performance at a realistic price.”

DALI from many competitors is that it uses its own proprietary drive units.

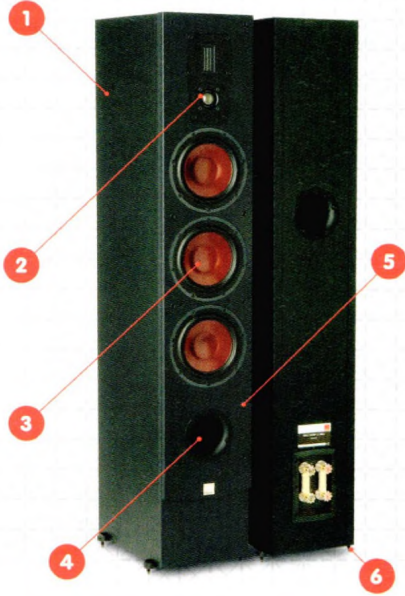
The IKON 7's front panel has an impressive array of five drivers, topped by DALI's exclusive 'Hybrid Tweeter Module' (HTM), which is featured in all the IKONs (bar the subwoofer). It's a combination of a conventional 28mm fabric-dome tweeter that starts operating around 2.5kHz, plus a 17x45mm ribbon unit that starts coming in at around 14kHz, maintaining wide lateral dispersion well beyond audibility. Both are mounted on the same chassis/faceplate.

The bass and the midrange are handled by three apparently identical 165mm cast-frame units, with dish-shaped diaphragms made from a reddish-brown mix of wood fibres and paper pulp, 115mm in diameter. The lower two only operate through the bass region, rolling off above 700Hz, while the uppermost one handles both bass and midrange duties, right up to the main 2.5kHz crossover, where it hands over to the HTM.

The driver line-up looks just like its predecessor from the outside and only the change in baffle colour from silver to black really provides a visual clue to the new MK2s. In fact, a lot of development work has gone on under the surface, resulting in numerous detail changes to most of the 'invisible' parts of many of the components.

A design target was to 'warm up' the tonal balance in order to deliver a 'richer, warmer sound', to which end the main drivers have been significantly revised, particularly to optimise airflow – rather successfully it would seem from our measurements.

HIDDEN TECH



- 1 Surface finish: vinyl woodprint (black or walnut)
- 2 Fabric-dome tweeter with ribbon supertweeter
- 3 Bass and bass/mid drive units
- 4 Reflex bass loading has two ports (front and rear)
- 5 Double thickness 'satin matt' front panel
- 6 Spikes fixed by discreet alloy outriggers

Engineering excellence

It's not possible to estimate just how much improvement DALI has wrought when taking the IKON 7 to MK2 status, but there's no denying it's a thoroughly impressive performer that remains very competitive, even at its new and significantly higher price.

The enclosure engineering seems particularly good here, in that there's very little evidence of it making unwanted contributions that add colorations and muddy up the sound. The result is superior freedom from boxiness and a very low 'noise floor', giving a wide overall dynamic range, even though dynamic expression itself is unexceptional.

The tonal balance that we mentioned earlier is also an improvement on its

rather dry-sounding predecessor and that has certainly been achieved. The bass end here could, perhaps, go deeper, but it's generally full and reasonably even with it, bringing a welcome warmth to the overall character.

One might wish for a little more grip and power, of the sort one occasionally finds amongst genuine high-end speakers. But the bass end of the IKON 7 is as good or better than any of its immediate competition, bringing the requisite richness to the proceedings and acting as an appropriate foil to the sweet and open top end.

The twin tweeter arrangement seems to work very well indeed. It's certainly smooth and well extended, without ever drawing

HOW IT COMPARES

THE £1,699 PER PAIR DALI IKON 7 MK2 sits in a very competitive sector of the market, and goes head-to-head with a number of commercial rivals.

For rather less money, the Dynaudio DM3/7, £1,299 (HFC 345) and the Bowers & Wilkins CMB, £1,250 (HFC 344), offer tough price competition. The vinyl-finished Dynaudio has a smooth, weighty sound, while the Chinese-made Bowers & Wilkins has a fine midrange and attractive real wood veneer clothes.

At prices very close to the DALI, the British-made Rega RS7 (£1,685) and ProAc Studio 140 Mk2 (£1,690), both come in real wood finish. The bright, sensitive, lively ProAc is particularly impressive through the bottom half of the audio band, while the super-slim Rega fine mid-to-top coherence helped make it the stand-out performer in our recent *Blind-listening Group Test* (HFC 347).

Last, but by no means least, the slim Danish Audiovector Ki3 Signature, £1,890 (HFC 343), has an attractive wood finish and arguably the smoothest and best balance of all.

unwanted attention to itself and presumably contributes to the fine transparency and precise stereo imaging that this speaker delivers.

The midband might not be the smoothest around, but it's expressive and involving and doesn't seem to add significant coloration either.

Superior coherence

Perhaps the most important feature of the IKON 7 MK2 might well be its overall top-to-bottom coherence. While this doesn't perhaps, quite match that achieved by those speakers that use a solitary 'full-range' driver (the inverted commas are quite deliberate, as 'full-range' is invariably optimistic), it does, nevertheless, possess fine overall timing across the whole audible frequency range.

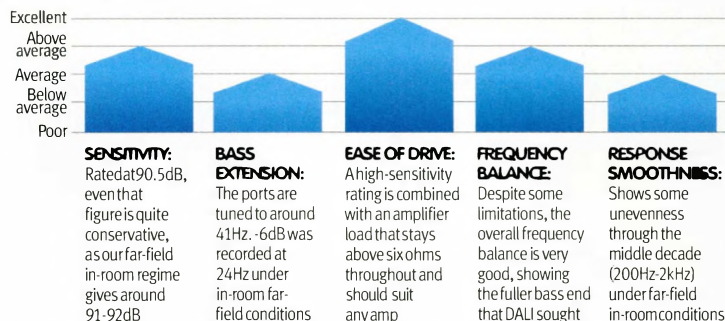
Wind the volume up high and there is a mild tendency to emphasise the extreme top and bottom frequencies at the expense of the midband. But at most normal listening levels the speaker sounds 'just right'. This is an unavoidable consequence of the way human hearing works: at low sound levels it shows greater relative midband sensitivity than when perceiving much louder sounds.

We're getting into a very complex area of psychoacoustics here, the simplified upshot being that the speaker designer has to make choices that are related to personal preferences. While it's not exactly a game-breaker, this is a speaker that marginally favours low and medium listening levels.

The IKON 7 MK2 might not be the most attractive-looking speaker around, but it does unquestionably deliver the sound-quality goods. It's not a high-end model, but it does offer a substantial percentage of high-end performance at a far more realistic price. ●

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Wide dynamic range and fine coherence; sweet and smooth top end
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Rather dull black vinyl woodprint finish
- BUILD QUALITY** ★★★★★ **WE SAY:** Not the prettiest speaker around, but it does offer a good high-end performance at a realistic price
- EASE OF DRIVE** ★★★★★

OVERALL



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ADL

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Wood you?

aircoustic
BY VIVANCO

Wood is good

for some things at least

The greatest speakers and instruments in the world are crafted from wood; this is of course due to its renowned acoustic properties.

In striving to create perfection, we chose not to ignore this natural choice.

aircoustic Wood is good
BY VIVANCO



Space saver



For hi-fi-like sound in the office, kitchen or bedroom, **Richard Black** reckons the new, improved Vita R4i is the right tool for the job

Back in *HFC* 310, we had our first experience of the excellent R4 from Vita Audio – now here's the latest version of the same model, the R4i. The 'i' evidently doesn't stand for 'iPod', as that family of devices was supported from the outset. Indeed, you'll look in vain for features that weren't present on the original model. Vita Audio has put all the revisions under the bonnet, improving sound quality, the company claims, by a significant margin.

DAB+

Actually there is one new feature, though you can't make use of it yet: support for DAB+ radio transmissions. The standard has been formalised since the original R4 was launched and it's nice to know it's available for whenever transmissions start.

Regular DAB, of course, continues to be available, as is FM. For the rest, this is a well-supported player of all sorts of formats. We've already mentioned iPods (and iPhones etc.), but you can also plug in USB sticks and similar music players carrying files in the usual formats, play CDs (including MP3 and WMA data CDs) and connect external audio sources via phono sockets at the rear or a mini-jack at the front.

It already seems almost old-fashioned that there's no wireless link to a home computer network, so you can't play files from your PC/Mac or listen to internet radio. There are ways of adding that externally, though, and many people will manage perfectly well without.

Vita Audio is at pains to point out that this unit is more about sound quality than gimmicks, and its substantial chassis includes not only the front-facing stereo speakers, but a base-mounted subwoofer and 80-watt amplification.

Now say AAAA

We have one or two minor reservations. For one thing, the subwoofer is a little vulnerable and it's wise to be careful how one picks the unit up. Less serious, but perhaps more annoying on a daily basis, is that the ever-so-funky remote is the only way of controlling the unit and even when it's docked it relies on a pair of obscure AAAA batteries. Unlike AA and AAA sizes, these are not available from every corner store in the world and it would be a good idea to keep a few spares. Talking power, we love the simple fact that a three-metre mains lead is supplied – the kind of little detail that can save a few curses!

DETAILS

PRODUCT:
Vita Audio R4i
ORIGIN:
UK/China
TYPE:
One-box system
WEIGHT:
8kg
DIMENSIONS:
(WxHxD)
450x145x255mm
FEATURES:
• Slot-loading CD transport
• iPod dock
• USB (type A) socket
• DAB/DAB+/FM
• Line input (phono)
• Line input (mini-jack)
• Headphone output (mini-jack)
• Alarm functions
DISTRIBUTOR:
Vita Audio
TELEPHONE:
01702 601410
WEBSITE:
vitaudio.com

Natural or enhanced

There are various sound 'enhancement' options available in the shape of Loudness, Equaliser and 3D Sound. Last time round, we rather liked 3D Sound, finding that it added constructively to musical enjoyment with most sources. On this occasion we found it more of a mixed blessing and, from our memories and notes, that's mostly due to the improved basis sound the unit offers.

There seems to be more immediacy to the sound than before, better detail and a greater sense of rhythmic 'snap' and taken together with the surprising volume on offer this all adds up to a very enjoyable listen. We're not just talking about background listening, either. With enhancements off and the volume turned up a bit, it's possible to get properly involved in the music – toes tapping and all.

Like most of its breed, the R4i is a little bright if one sits directly on axis, but the balance has been well judged and from most points in a room one gets a lively, but unforced balance along with a surprisingly good sense of space – though genuine stereo imaging is, as you'd expect, well behind any separate-speaker system.

Attractive option

As for the individual sources, CD and line in, of course, lead the way, but well-encoded files on USB sound very decent, too and iPod does its thing as well as we've heard from any analogue – connected dock. The FM radio is good: admirably noise-free, even via the supplied telescopic antenna and DAB is also fine.

It's a little bulky but if you want a single-box convenience system for non-critical listening this is still a very attractive option. ●



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY

★★★★★

LIKE: Offers solid, powerful sound

VALUE FOR MONEY

★★★★★

DISLIKE: Useless without remote control; no built-in way to connect to a computer or the internet

BUILD QUALITY

★★★★★

FEATURES

★★★★★

WE SAY: The latest sound-quality tweaks ensure it continues to appeal

OVERALL

★★★★★

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Aural XTZ



Ed Selley discovers a high-value standmount that combines a SEAS driver and a ribbon tweeter to sparkle in the sub-£800 price bracket

Hailing from Sweden, XTZ has expanded rapidly to produce a bewildering array of electronics and loudspeakers. The company focuses on trying to provide strong value for money and its products seem to be very competitively priced.

The 99.26 is the second most costly standmount in the range, but still only sells for £670. Marketed under the ambitious strap of, 'The world's most affordable high end,' the 99.26 has a lot to live up to.

First impressions are good. The pairing of a 6.5-inch SEAS mid/bass driver with a ribbon tweeter is extremely unusual at the price, and the cabinet is solid and finished to an extremely high standard in a smart piano gloss. The only area that meets, rather exceeds, expectations is the grilles: they are affixed using old tech lugs rather than magnetic trim tabs. This minor quibble aside, we can't think of another speaker built like this for under £1,000.

Removable links

Internally, the 99.26 is clever as well. The crossover is adjustable by means of removable links that allow the listener to alter the treble output between -4 and +4dB.

The large rear mounted bass port is supplied with a full-length foam bung for tuning purposes. How a speaker interacts with a room plays a considerable role in the overall performance and XTZ has to be commended for giving owners more flexibility than most in getting this relationship right.

Sensitivity is quoted at 88dB/w which is respectable, although the fact that impedance is given as four to eight ohms leads us to

suspect that the figure quoted is more likely to be into four ohms, rather than eight.

The speaker faces no shortage of competition, but the combination of high-quality components, excellent fit and finish and tuning options mean it has to be considered extremely good value for money. Even allowing for the need to budget for a decent pair of stands to allow them to perform at their best (XTZ sell a dedicated pair for £100) they are still a very strong proposition.

Best results

We began listening with the bungs removed and the treble attenuation set to 0dB. Experimentation with placement resulted in us obtaining the best results with the bungs in place, a -2dB set on the attenuation and placement 25cm from the rear wall.

Like many designs with ribbon tweeters, the 99.26 delivers an amazing insight into recordings. This is not the clichéd 'hearing things we'd never heard before', but more that it is astonishingly easy to follow every detail of recordings,



DETAILS

PRODUCT:
XTZ 99.26
ORIGIN:
Sweden/China
TYPE:
Standmount
loudspeaker
WEIGHT:
10kg
DIMENSIONS:
(WXHXD)
244x379x352mm
FEATURES:
• 2-way standmount
speaker
• Ribbon tweeter
• 1x 6.5-inch SEAS
Excel, magnesium
driver
• Adjustable
crossover output
• Tuneable bass port
DISTRIBUTOR:
Audio Sanctum
TELEPHONE:
01623 857707
WEBSITE:
xtz.se/uk

however busy. The handover to the mid/bass driver is seamless and perfectly handled, and it presents a cohesive and tonally even version of events.

Voices and instruments have a tangible reality to them, which is something many more expensive designs often struggle to pull off. This detail is well presented in a small, but believable soundstage. The presentation is relatively direct – the XTZs will not create the sense of space that some designs will, but neither is it a single beam of sound.

Bass response is good. Fitting the bungs reduces the amount on offer, but the pay-off is an increase in speed and control that is lacking with the port in full flow.

Foot-tapping

The negatives of the XTZ are relatively small. The extremely high resolution does mean that the 99.26 is unforgiving of poor recordings and will also show up limitations in sources and amplifiers.

Although it costs £670, it really ought to be partnered with an amp that costs rather more. That amp will also need to be relatively powerful, as the 99.26 does seem to be somewhat insensitive.

The final criticism is in the subjective area of timing. In comparison to the Epos Epic 5 (HFC 347), the XTZ seems less able to get the feet tapping, but then the Epic 5 is something of a sector leader.

A must-audition

There is a huge amount to like about the 99.26. This is a superbly built and very adaptable speaker. It offers a very even presentation and all at a competitive price. So, if your partnering electronics are up to the job and you mainly listen to well-recorded music, they are a must-audition. ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



LIKE: Superb build, flexible design and excellent sound quality

VALUE FOR MONEY



DISLIKE: Won't flatter poor recordings and is rather insensitive

BUILD QUALITY



WESAY: Astonishing value for money and a very talented performer with well-recorded music

EASE OF DRIVE



OVERALL





We're converted

M2TECH's Young DAC is one of the most talked-about hi-fi products in enthusiast circles.

Richard Black looks at the next level of digital

There are a lot of good DACs around, but few of them really stand out on technical grounds. Just recently, a few have appeared which support high-sampling-rate USB operation (previously limited to 48kHz) and that's obviously a good thing.

M2TECH, however, has upped the ante by introducing a feature that was previously the sole preserve of some rare and expensive

ultra-high-end kit, in the shape of 384kHz sampling.

Yes, that's eight times 48kHz (and yes, eight times 44.1kHz, or 352.8kHz, is supported too). This means that a full three octaves of frequency response is now, in principle, available above CD's regular 20kHz limit. No one is suggesting we can hear as high as 160kHz, but ever since the dawn of digital audio there have been voices arguing that that much bandwidth

headroom, if one can call it that, is necessary to reproduce sound in its full glory to the full satisfaction of a critical human ear.

New ear's resolution

What's more, 32-bit resolution is supported. CD, of course, uses 16-bit to give resolution of one part in 65,536, or just under 100dB signal-to-noise ratio (SNR) in more familiar audio terms. 32-bit increases that by a factor of 65,536, giving a theoretical SNR of about 194dB. That's a completely unrealisable figure in practice, equivalent to about 100 microvolts of noise on the national grid 400kV supply network, but it does, at least, mean that the digital part of the system is not a limiting factor in any sense. Noise in a 32-bit system is down to good old analogue sources.

One slight drawback with a product like this is the availability of software to play through it that will really tax it. If you search the internet you'll find plenty of high-res material, but it's mostly only 96kHz, 24-bit stuff.

► DETAILS

PRODUCT: M2TECH Young DAC

ORIGIN: Italy

TYPE: DAC

WEIGHT: 3kg

DIMENSIONS: (WxHxD)
200x55x200mm

FEATURES:

- 24-bit/32-bit (USB only)
- Custom digital filters
- Maximum sample rate 96kHz (Toslink), 192kHz (electrical S/PDIF, AES/EBU), 384kHz (USB)
- S/PDIF input (phono and BNC electrical, TOSLINK optical), AES/EBU input (XLR), USB input

DISTRIBUTOR:

Purité Audio

TELEPHONE:
020 8815 5878

WEBSITE:
m2tech.biz



Future-proofing is a great thing, though, and indeed we're delighted to see a bit of forward-thinking in practice as it can only help to kick-start ultra-high-res recording and replay as an everyday reality rather than audiophile pipe dreams. In the mean time, it's good to know that more mundane digital standards are also catered for. If one can call 24-bit/192kHz 'mundane'.

You might expect some deeply arcane technology inside such a DAC, but M2TECH has employed some surprisingly familiar parts. The all-important DAC chip is one we've seen before in a few products and although it's usually used with its own digital filter, it can also be fed a signal via a different route, bypassing internal filters and increasing the maximum sampling rate. In fact, a handful of chips offer this possibility and we first saw it employed in the Cambridge Audio Azur 840C CD player (HFC 306), which rather impressively has 384kHz upsampling built-in.

Freshly filtered

As with the 840C, M2TECH has built a custom oversampling filter, implemented here on a large gate array chip. That, in fact, is the fanciest part of the Young DAC's internal technology and in day-to-day terms the part that most clearly marks it out from the competition. Digital filters are only now coming to be appreciated as defining components within digital-to-analogue conversion circuits, but they can make quite a difference. This one has a 'minimum-phase' response, which lacks the pre-ringing of more conventional 'linear phase' filters.

For the rest, analogue circuits use familiar high-performance op-amp



WITH A MAXIMUM bitrate of 480Mbps, USB looks as if it should be more than capable of handling ridiculously high sample rates – 384/32 audio runs at roughly 25Mbps.

The only reason why most USB DACs were, until recently limited to 16-bit/48kHz, is that they all used receiver chips with that maximum sample rate designed in.

You don't have to use an off-the-shelf receiver, though, as the recent Arcam R-DAC (HFC 341), for instance, proved. It's not quite a trivial job, receiving audio data over USB, as the interface was never intended for real-time data delivery. A decent amount of buffering is required and a very large 'safety margin' in terms of data rate is no bad thing.

chips and good-quality passive components, while the power supply is an external unit. Digital inputs include one of each kind, while analogue output is unbalanced only. The front panel display is unusual but tells you what you need to know.

Lacking native 384kHz source material and conscious that few users would even have access to 192kHz recordings (we had a few in-house ones to call on), we did most of our listening to the Young at 44.1 and 96kHz sampling rates, via both S/PDIF and USB.

It's worth mentioning at the outset that we didn't reckon we could reliably tell a difference between the two: USB did sound worse fed from a desktop PC, but that's probably a conducted interference issue as a

“Little details don't just exist, they practically reach out and tap you on the shoulder.”

small laptop gave results practically indistinguishable from S/PDIF. Our comments, therefore, can be taken as representative of the DAC rather than of its connection mode.

High-end is as high-end does

The first thing to make clear is that the sound is certainly of high-end breeding. We would have been most disappointed had it lacked anything significant in terms of resolution or neutrality and, indeed, it scored highly for both of those. It's actually exceptionally revealing and brought out details we had forgotten about in some of our own recordings – things we remembered from the recording

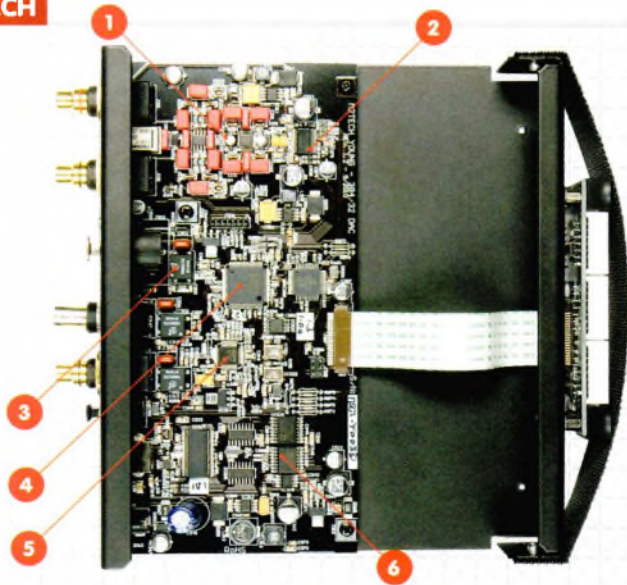
Even 192kHz sampling is hard to find and either 384kHz or 32-bit, never mind both together, is basically unavailable. What's more, at typical UK internet connection speeds you'd have to leave a download running all night to get a couple of hours' material.

CONNECTIONS



- 1 AES/EBU input accepts up to 192kHz sampling rate
- 2 Electrical S/PDIF on both phono and BNC connectors
- 3 USB accepts sampling rate and also 32-bit data
- 4 Phono sockets – but no balanced output
- 5 Optical S/PDIF accepts up to 96kHz sampling rate

HIDDEN TECH



- 1 Analogue output stagewith components (active/passive)
- 2 Burr-Brown DAC chip
- 3 Digital input transformers
- 4 Gate array chip handles digital filtering functions
- 5 Digital input receiver chip
- 6 Signal isolator chips help avoid interference from USB

session but hadn't heard in a while via more prosaic replay equipment.

At least, we'd probably heard them, but not been made aware of them. It's a subtle difference but in some ways it's a nutshell definition of high end: little details don't just exist, they practically reach out and tap you on the shoulder. If there were nothing but little details the sound could soon become tiresomely fussy, but here they are kept in context as part of a structured, cohesive whole.

A concrete example may help illustrate this. One recording we've used a few times with high-res kit is of two voices and piano, a technically fine minimalist recording which sadly we can't recommend as it never got issued commercially. At one point the singers change places in front of the piano, one moving forward and to

the right as the other joins in. On most systems this is audible if one listens out for it, but just occasionally a system will show it up sufficiently clearly that it really captures the attention, as was in fact intended at the time. With excellent amps and speakers in its train, the M2TECH DAC had no trouble at all pointing up this little bit of choreography, but at the same time kept the piano stable and the tonal nature of each voice unaltered.

Familiar commercial recordings were similarly flattered, with insights popping up in all sorts of unlikely places. Hearing a recording completely afresh might be slightly overstating it, but things like appreciating a subtle change in a vocalist's inflection, or a slightly different sound from a drummer, can add new meaning and interest to a well-loved track.



WITH THE RIGHT software, computers will handle completely arbitrary sampling rates: the computer on which this review is being written has in the past dealt with audio at about 50MHz sampling rate. That doesn't mean one can play it, though.

Even with 'legal' sampling rates, home computers tend to resample everything to 44 or 48kHz. To avoid this, you need to use 'Kernel streaming', which is provided for the Young DAC by drivers available from M2TECH's web site. You also need to use the right audio-playing software.

We had good results from freeware Foobar software on a PC, which we proved was doing the right thing by playing out a 150kHz testtone which we observed on an oscilloscope. You can't cheat analogue test gear!

If we have any criticism, it's of the very low bass. Now and then, in recordings which really plumb the depths, we were convinced we missed just a little clarity of pitch in the bass. There's plenty of impact, and extension, as such, is pretty much peerless, but tuned low frequencies (church organ, upright bass, orchestral timpani and so on) don't always quite seem as certain of their tuning as can sometimes be the case. That's quite a minor point, though, and we have found over the years that getting extension, attack, and tuning in the bass all just so is one of the hardest tricks in audio – one largely confined to equipment in the high reaches of the high end.

There's also something of an irony in the treble, which is beautifully pure and open, even with CD-format source material. That could somewhat undermine the case for high sampling rates, were it not for the fact that at 96kHz and upward it gets even better.

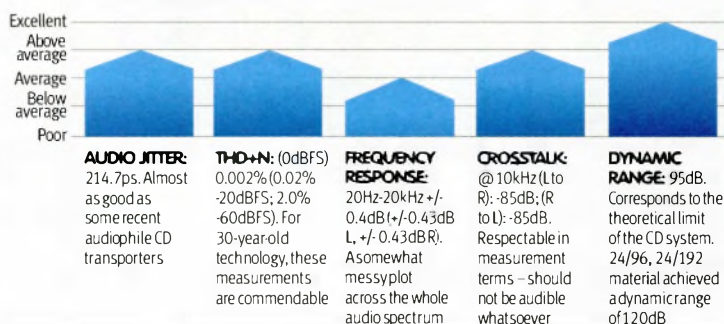
Roll your own upsampler!

We'll close by suggesting a shorter-term use for the 384kHz sampling capability. Having set that up, it's possible to implement customised upsampling on a home computer, getting one more (small) step up with 'standard' digital source recordings. Treat computer-based upsampling with caution as some of it is frankly dodgy, but our experiment with the upsampling provided within Izotope products (by consent of most users, just about the best upsampling on the planet, and flexible in operation, too) suggested that this is a worthwhile tweak.

This isn't the first 384kHz DAC, though it's the first affordable one. It won't be the last, either. But kudos to M2TECH for doing it and huge respect and admiration for doing it so well. ●

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LUKE:** Detailed sound full of life and vibrancy; particularly fine treble
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Lack of balanced outputs may put some off
- BUILD QUALITY** ★★★★★ **WE SAY:** For affordable ultra-high-resolution operation, its performance is dominated by excellent results
- FEATURES** ★★★★★

OVERALL





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★★★★★
HI-FI CHOICE MAGAZINE JUNE 2011

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1971



SIMON BERKOVITCH

A music historian, ex-record shop guru and Production Editor on HFC's annual high-end celebration, *The Collection*, Simon not only knows music, he lives it though his love of vinyl and high-class hi-fi

WHAT DO YOU THINK

Hawkwind or the *Top of the Pops*-type tunes of Donny Osmond? Which did you prefer?

Email us now: hifichoice@futurenet.com

With Glastonbury on our minds, we take a trip back to 1971 and the best of the year's musical underground. **Simon Berkovitch** is your hippie archaeologist

This summer you won't need a time machine to navigate ley lines, pitch a tent and mingle with recumbent hippies. The festival season is upon us and the greatest outdoor live extravaganza of them all – Glastonbury Festival – will see thousands either battle the mud or bask in a beautiful English summer, soaking up some serious sounds at the end of June. This year's headliners – U2, Coldplay and Beyoncé – could suggest that this national institution has moved far from its countercultural roots, but dig deeper into the bill and you'll find plenty of bands – old and new – that evoke the freewheeling spirit of our chosen year on the festival's Spirit of 71 stage.

Memory of a free festival

The 1971 Glastonbury Festival may not have been the first – that honour goes to the T-Rex-headlined event from the previous year, when the price of admission was a whopping £1 – but it's certainly one of the most significant. This event, entitled Glastonbury Fayre, was free, the first to celebrate the summer solstice (man) and was filmed. Available on DVD (amazon.co.uk) and directed by Nicolas Roeg, the man behind legendary films *Performance* and *The Man Who Fell To Earth*, *Glastonbury Fayre* captures the likes of Traffic, Terry Reid and Fairport Convention, and offers a glimpse of the embryonic festival, including the beginnings of the now iconic Pyramid Stage. Other acts on the bill, but sadly undocumented in the film, included David Bowie (whose seminal *Hunky Dory* came out this year) and Hawkwind. And it's the latter group that concerns us the most here in our flashback to 1971. As figureheads of the UK underground, Hawkwind are our conduit to the most exciting music of the year.

Underground, overground

The difference between the mainstream and the underground scenes in 1971 was considerable. Both The Carpenters and Donny Osmond may have been riding high in the UK

charts, but musicians around the world were flexing their musical muscles, stretching out and pushing the LP format to its limits. Sleeve artwork was changing, becoming more complicated and sophisticated. Free from the restraints of the seven-inch single, LPs also became more elaborate, with songs – or pieces – becoming lengthier – and in some cases dominating entire slabs of vinyl. Often, recognisable musical structure was even abandoned as European musicians rushed to embrace the true experiment.

Although the releases of The Rolling Stones' *Sticky Fingers* and The Faces *A Nod's As Good As A Wink to a Blind Horse* are admittedly significant entries to the classic-rock canon, and both released in 1971, it's the wilder experimentation that concerns us here. Some of the music in this article will definitely be cherished within your collection, loved since its release. But we hope that other artists will pique your interest too – and the adventurous among you will not be disappointed. So, let's begin our overview of 1971 with the album that was another significant signpost on the road to *The Dark Side of the Moon*...

Strong as the more song-based material is on the first side of *Meddle*, it's the gigantic track *Echoes* that expresses much of the experimentalism of the year. Clocking in at just over 23 minutes, *Echoes* is arguably the pinnacle of Pink Floyd's achievements as a progressive rock band. The band had previously executed a side-long composition in 1970 with *Atom Heart Mother*, but *Echoes* is in another league entirely. From the opening, instantly recognisable 'ping' of Rick Wright's piano, apparently fed through a Leslie speaker, a piece with definite movements develops and never outstays its welcome despite the track's length. Classic components that make up *The Dark Side of the Moon* can be picked out here – the fantastic blend of David Gilmour and Rick Wright's voices, Roger Waters' lyrical concepts and strident bass-playing, sound effects and improvisatory sections.

The fabulous sleeve itself is also one of the most iconic of the times. Housed in a glorious Hipgnosis sleeve (the design company formed

by band friend Storm Thorgerson and also responsible for the none-more-iconic prism sleeve of *Dark Side*), the image looks like a weird psychedelic light show at first, but opening out the gatefold and stepping back to view reveals the a human ear photographed in water – clearly this LP is all about the sonic vibrations. The inner gatefold itself is an exercise in austerity: portrait shots of the four band members are in themselves a portrait of anonymity and the decision to conceal them on the inner gatefold, again suggests that this transitional album is all about the music and studied design.

Although some elements of Pink Floyd's earlier work can be detected in the music of Germany's Tangerine Dream – specifically the church organ sounds, an aural nod to Rick Wright's shifting chords on 1968's group improvisation *A Saucerful of Secrets* on the LP of the same title – the methodical structure of *Meddle* is largely disregarded in favour of wild improvisation.

Tangerine Dream's second LP is as spacious and cosmic as the album title – *Alpha Centauri* – suggests it might be. If your perception of Tangerine Dream is one of a throwaway, lightweight synthesiser ensemble, then be prepared to leave that at the door. All of the pre-*Phaedra* LPs owe more to free rock – carved from guitar, drums, woodwind and primitive synthesisers – and *Alpha Centauri* is one of the most accomplished. Synths fizz



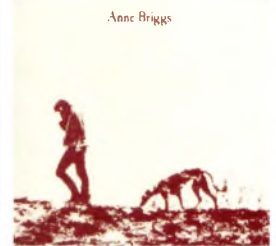


CHIRPY CHIRPY CHEEP CHEEP

The music that dominated the UK singles' charts is an equally potent snapshot of the year – and the taste of the nation. Here's what was topmost of the poppermost in 1971. From the sublime to the ridiculous...

- Benny Hill**, *Ernie (The Fastest Milkman In The West)*
- Slade**, *Cos I Love You*
- Rod Stewart**, *Maggie May*
- The Tams**, *Hey Girl, Don't Bother Me*
- Diana Ross**, *I'm Still Waiting*
- T-Rex**, *Get It On and Hot Love*
- Middle Of The Road**, *Chirpy Chirpy Cheep Cheep*
- Dawn**, *Knock Three Times*
- Dave and Ansil Collins**, *Double Barrel*
- Mungo Jerry**, *Baby Jump*
- George Harrison**, *My Sweet Lord*
- Clive Dunn**, *Grandad*

“Both The Carpenters and Donny Osmond may have been riding high in the UK charts, but musicians around the world were flexing their musical muscles and pushing the LP format to its limits.”



Anne Briggs

FOLK IMPLOSION

Significant leaps forward were also happening in the world of traditional music – and its mutant strains – in 1971.

Two of folk music's most significant voices, Shirley Collins and Anne Briggs, made important contributions to the year's stellar releases. Collins' *No Roses* offered an eclectic and electric take on traditional folk songs, accompanied by The Albion Country Band, featuring luminaries like Richard Thompson and Nic Jones in its ranks.

Anne Briggs explored the power of the unaccompanied voice on her self-titled release, again dealing with the traditional folk song. Unusually prolific this year, she also released a collection of endearing self-composed efforts entitled *The Time Has Come*, backed by sympathetic musicians.

Elsewhere, the genius pool of multi-instrumentalists Pentangle branched out individually and collectively. Guitarists Bert Jansch and John Renbourn released solo albums *Rosemary Lane* and *Faro Annie* respectively, while the jazz-folk group itself reconvened for a strong studio album entitled *Reflection*.



and uninhibited than, say, the complicated time signatures and pseudo-classical posing of groups like Yes (spitting out two LPs this year, *The Yes Album* and *Fragile*) and Emerson, Lake and Palmer (*Tarkus*, complete with horrible artwork, was also released this year). Take Ash Ra Tempel, for example. Originally released on the often brilliant Ohr label, the band's debut album looks fantastic – a lavish, Egyptian-themed fold-out front cover – and sounds like nothing else. Although the instrumentation – bass, guitar and drums – may suggest a power trio in the vein of Cream, little prepares you for the two musical trips barely contained within. One side is an energising, propulsive guitar avalanche courtesy of Manuel



as fresh as ever and is a trip on vinyl and the remastered SACDs that appeared in 2005 – hunt either down if you can.

and pan across the speakers; kettle drums explode into action; ambient landscapes unfold over the album's second side; ghostly voices hover, and the only words are some mysterious and heavily echoed German towards the album's end. This is an album with few peers – and most of them from Germany itself. Experimental group Cluster released their eponymous debut on the Philips label – three massive meditations in sound with zero commercial consideration – and Popol Vuh, headed by keyboard genius Florian Fricke, who also detonated the

Göttsching, ably supported by a near telepathic rhythm section; the other is a more ambient excursion, complete with a beautiful, levitational chord sequence. Lumpen Brit blues this was not.

Perhaps the most international – and most appreciated in the UK – of the new German groups was Can, a true force to be reckoned with. This year saw the release of the quintet's essential double LP *Tago Mago*, released in the UK on the Liberty label (more of these groovy cats later) in suitably lavish packaging. From the moment the needle touches down on opening track, *Paperhouse*,

Statue of Liberty

Back in the UK, the Liberty label seemed to offer a safe haven for 1971's freakier musicians. Partially shaking off the blues obsessions and embracing the possibility of the guitar freak-out, The Groundhogs dropped a bomb this year with their classic LP *Split*. Keeping with the times, the first side of the album – again housed in a sensational gatefold sleeve – was a four-part meditation on a mental breakdown, with some suitably fractured guitar work from Tony McPhee. For many, this is the album on which their reputation rests, although as the decade shuttled on, it was often a case of diminishing artistic returns for the band.

But, any label that could handle Ladbroke Grove loons Hawkwind deserves a medal. More commercial fare may have clogged the charts, but these longhairs were the real deal – and 1971's *In Search of Space* was a major step forward for the band.

Listening to this seminal LP in the 21st century, it's apparent to these ears that Hawkwind's real contemporaries were German. The propulsive bass lines, trance-like rhythms, weird electronics and lengthy, linear structures had more kinship with groups like Neu! (for whom Hawkwind's leader Dave Brock supplied sleeve notes for the band's UK debut) and the aforementioned Can. That said, there's more of conventional song sensibility at work in the music of *In Search of Space* – a nod to Brock's roots as a Ladbroke Grove busker. From gigantic opener *You Shouldn't Do That* to campfire singalong *Children of the Sun*, the album works brilliantly as a whole piece. And did we mention the artwork? Lavish is not the word for it. Housed in a beautiful, interlocking fold-out sleeve designed by graphic artist Barney Bubbles, original pressings of the album came with a 24-page booklet – The Hawkwind Log – that was an event in itself. Crammed with period drawings, photos and suitably far-out text courtesy of future band frontman Robert Calvert, this was less an album, more a multimedia event – and one that deserves greater standing in the 21st century. ●

“Any label that could handle Ladbroke Grove loons Hawkwind deserves a medal, but these longhairs were the real deal and 1971's *In Search of Space* was a major step forward for the band.”

magnificent *In Den Gärten Pharaos*, two side-long tracks of eerie beauty. Evidently, Krautrock was hitting its first artistic peak.

From Ash Ra Tempel to Can

The German movement that was imaginatively titled Krautrock by the British press now sits apart from the progressive rock scene: although there are some similarities, the music gathering pace in underground circles in Germany in 1971 is much more free

it's immediately apparent that there are some seriously proficient musicians working together – Michael Karoli was more than worthy of axe hero status, for example. But, the beauty and power of Can lies in its dedication to the cause of the overall *sound* – there's no ELP-style showing off here.

Instead, the aim to move forward as a whole, ably assisted by the incredible rhythm section of Jaki Leibzeit (drums) and Holger Czukay (bass). Forty years on this LP sounds





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90 Randy Newman
The Randy Newman
Songbook Vol 2



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Orchestra

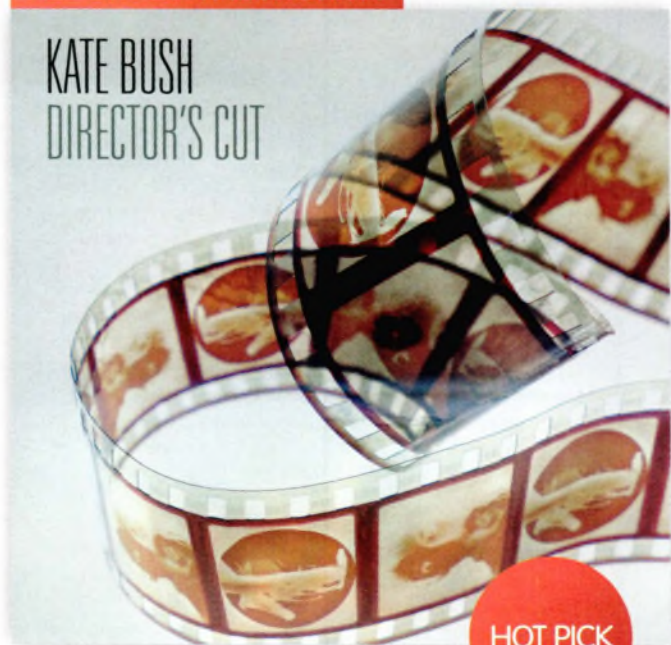


**91 The Rolling
Stones**
Through the
Past Darkly

Music reviews

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

ALBUM OF THE MONTH



HOT PICK

Kate Bush
Director's Cut

katebush.com

★★★★★

CD

Fish People

THIS IS NOT a new Kate Bush album (surely too much to hope for – it's only been six years since *Aerial*), but a re-imagining of four tracks from *The Sensual World* (1989) and seven from *The Red Shoes* (1993).

Though the two albums sounded very different on release, there's a homogeneity about these versions that makes it sound as though they were all conceived as a piece.

Some elements of the originals, remixed with new vocals and drums (real ones this time) and some new instrumentation, but three, including *This Woman's Work*, were completely re-recorded from scratch. There are new contributions too from the likes of Steve Gadd and Danny

Thompson, with backing vocals from Mica Paris.

All are much longer than the originals, and to good effect, with *This Woman's Work*, a less fraught, more considered and moving version than it was at the end of the eighties.

The Sensual World, renamed *Flower Of The Mountain* (it's original title), now includes Molly Bloom's soliloquy from *Ulysses* (permission was refused first time around), and *Deeper Understanding* has a new voice for this creepy tale of computer love (courtesy of her son, Bertie) and an extended improvised sequence with harmonica accompaniment.

The strength of the material is what makes this exercise worthwhile and it's a pleasure

“All the tracks here were recorded using analogue, rather than digital equipment.”

to hear these songs revitalised and improved. It'll certainly do until her next 'new' album, much of which has apparently already been recorded.

Bush has long been a bit of an audio innovator. For her first and only full-length tour in 1979, she had a microphone developed that would strap to her head allowing her to dance while she was singing, thereby inventing that stadium staple, the headset mic.

On 1980's *Never For Ever*, she pioneered the use of the Fairlight synthesiser to produce the otherworldly sounds developing in her head and built her own studio long before it was fashionable or even cost-effective to do so, just so she could spend all the waking hours she needed there. Around the time these tracks

were first recorded, Bush was fully embracing the new digital possibilities in the studio and, by the sound of it, she hasn't remained pleased with the results. A few are sung in lower keys and there's certainly a richer, more mature timbre to her voice these days that contrasts sharply with the helium squeak that marked her 18-year-old debut with *Wuthering Heights* on BBC's *Top of the Pops*.

All the tracks here were recorded using analogue, rather than digital equipment, in a quest to produce a warmer sound than the originals were favoured with. Sure enough, the digital crackle and occasional brittleness of the original recordings has gone, replaced with a warm, enveloping sensuality that conversely helps them sound bang up to date, or at least frees them from being stuck in time. **DO**

Standout tracks: Flower Of The Mountain; Lily, Moments Of Pleasure; Never Be Mine; Deeper Understanding





Randy Newman
The Randy Newman
Songbook Vol 2

nonesuch.com

★★★★★

Nonesuch

CD

HOUSEHOLD NAME he may not quite be, but giant of American song Randy Newman most certainly is.

This second volume of his songbook follows the same formula as the first; stripping back a selection of his songs from the last 40 years to their most basic, but also quite possibly their most profound interpretation, with arrangements for just Randy's voice and his piano. The lyrics have more room to breathe, the man has more room to express them and his ivory-tickling is really very fine, too.

Co-producers Mitchell Froom and Lenny Waronker seem to have very little to do with an album like this; they just let Randy do his thing. This he does admirably and it's to his credit that it never feels like a recital, but an intimate performance. So draw up a chair and listen to the man expound with wit, pathos and buckets of charm. **DO**
Standout tracks: My Life Is Good; Laugh And Be Happy



Smetana
Ma Vlast (My Country)

Bis.se

★★★★★

BIS

SACD

THE MALYSIAN Philharmonic play with passion and Claus Peter Flor's direction is spirited and imaginative. He fully conveys the many picturesque moments of Smetana's varied sound-portrait of Czechoslovakia and even manages to make the final two movements sound exciting and interesting.

This is a rare achievement – usually one struggles to stay focused during Tabor and Blanik, which usually seem four-square and devoid of inspiration. Flor does this by setting fairly fast tempi and emphasising the rhythmic qualities of the music.

The orchestra play with daring and commitment and this BIS SACD recording sounds spacious and detailed, with excellent dynamics. **JH**
Standout track: Vlatava (track 2)



Mozart
Complete Concertos
For Piano And
Orchestra

deccaclassics.com

★★★★★

Decca

12-CDs

BRENDEL'S CYCLE of the Mozart Concertos originally appeared on the Philips label, and was recorded between 1972 and 1985. This budget-priced Decca box is a straight reissue of the Philips *Mozart Edition* set, with Ingrid Haebler and Ton Koopman performing the early concertos. Brendel's playing is sensitive, full of subtlety and finesse, and he is ably partnered by Marriner and the Academy.

The set mixes analogue with digital recordings; many of the original LPs being hi-fi demonstration-room favourites in their day and representing Philips engineering at its best.

Clarity is excellent and lots of detail can be heard without any microphone spotlighting. **JH**
Standout track: CD 7, track 6



Frankie Miller
That's Who!

chrysalismusic.co.uk

★★★★★

Chrysalis

4-CDs

DURING THE 1970S, the gritty-voiced Glaswegian singer recorded a series of albums, which to this day his fans compare favourably to the output from the same era of Rod Stewart, the one British singer with whom there are obvious similarities. Indeed, Stewart once said Miller was the only white singer, "that's ever brought a tear to my eye". More than 30 years on, Miller's artistry sounds better than ever and this collection, featuring seven albums over four discs, will hopefully lead to a major rediscovery of his criminally underrated work.

The voice holds centre stage, of course, but Miller always worked with top producers who created a classy sound-bed for his soulful voice. **NW**
Standout tracks: A Fool In Love; Ain't Got No Money

AUDIOPHILE VINYL

Jeff Beck *Wired* musicconvinyl.com



★★★★★ Epic/Music on vinyl
180g

BECK'S NAME does not always figure in lists of the great rock guitarists, he is often eclipsed by more stellar figures like

Page, Hendrix, Clapton and even Townshend. Yet, for the true connoisseur, he has few equals when it comes to range and intensity, and on *Wired* you can hear precisely what makes him so highly revered.

Most of the songwriting here is by Narada Michael Walden, who also contributes drums. His influence is important, but ultimately it's the guitar that makes *Wired* one of the top five fusion albums ever.

It's fabulous to see this back on vinyl from a new

company that seems to know what it's doing. It feels lighter in balance than the original, but there's plenty of bass power and superb detail definition – we love the buzz of the guitar amp on *Pork Pie Hat*.

The bass guitar is particularly fat and juicy and Narada's kick-drum on *Led Boots* is borderline punishing on a big speaker, but everything hangs together thanks to George Martin's skills at the helm. **JK**
Standout tracks: Led Boots; Goodbye Pork Pie Hat; Love Is Green



Caravan

In The Land of Grey and Pink

universalmusic.com

★★★★

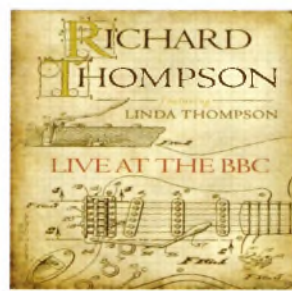
Universal

3-CD

THE THIRD ALBUM from Caravan, who emerged in the late 1960s alongside Soft Machine, Gong, Robert Wyatt and Kevin Ayers from the so-called 'Canterbury scene', holds a special place in the affections of prog-rock fans and its cult status has ensured it has never been out-of-catalogue since its original 1971 release.

This new edition eclipses all previous versions, expanding the original 40-minute LP to more than three hours of material, while the band's attractively quirky mix of psychedelic, classical, jazz and art-rock influences still sounds 'progressive' in the genuine sense of the word to this day. **NW**

Standout tracks: Golf Giri; Nine Feet Underground; Winter Wine



Richard Thompson

Live At The BBC

universalmusic.com

★★★★

Universal

4-CD

THERE HAVE BEEN various box sets chronicling the 40-year post-Fairport Convention career of Richard Thompson – but all but one of the 61 tracks here has never seen the light of day before. Thus what we get is a complete 'alternative history' of the revered songwriter/guitarist, presented through BBC studio and concert performances of many of his classic songs.

Despite being recorded 'live', the sound quality is consistently high. This is particularly true of the solo acoustic material and the performances with former wife Linda Thompson.

A DVD of six BBC television performances, unseen since the 1970s and 1980s, completes the cornucopia. **NW**
Standout tracks: Gethsemane; Wall Of Death; Valerie; Shoot Out The Lights



Roy Harper

Songs Of Love And Loss Vols 1 and 2

transgressiverecords.co.uk

★★★★

Transgressive

2-CD

FOR THIS REVIEWER, Harper was the greatest of the post-Dylan British troubadours and the more you listen to his work retrospectively, the more inexplicable it seems that he never sold as many records as such lesser talents as Donovan and Al Stewart.

As a prelude to the reissue of his entire back catalogue to mark his 70th birthday, comes this intriguingly chosen two-disc retrospective.

From the engaging early folk-pop of his unadorned solo acoustic material, via his collaborations with Jimmy Page and David Bedford, to the more elegiac style of his maturity, it's a sonic journey of considerable versatility, warmth and discernment. **NW**
Standout tracks: Francesca; East Of The Sun; South Africa; On Summer Day

BLU-RAY DVD

Rory Gallagher Irish Tour '74 eagle-rock.com



★★★★

Eagle Rock

Blu-ray LPCM stereo, Dolby Digital 5.1, DTS HD Master Audio

THE CORE OF THIS release is Tony Palmer's film of Gallagher's 1974 Irish tour, which was released in

cinemas at the time and which has been available on DVD.

For the Blu-ray, Eagle Rock has restored and remastered the footage and added a 1972 RTE TV documentary, plus footage of a Japanese concert. It's an excellent piece of work that fully reveals the charisma, talent and, indeed, humility of the much-lamented Irish guitarist. The way he plays his battered strat puts him in contention for the title greatest white bluesman in the world, ever.

Seriously, Gallagher's playing is electric even when

he's strumming an acoustic or a mandolin. The sound is not fantastic, unfortunately: it doesn't have any bass in the modern sense and the vocals are often distorted.

On the plus side, there is plenty of space and no shortage of live atmosphere; more importantly the electric guitar sounds superb thanks to the quality of playing. The sound has not been revamped, but the Japanese tracks contain a better version of *Bullfrog Blues*. **JK**

Standout tracks: Walk On Hot Coals; Cradle Rock

HIGH-RESOLUTION DOWNLOADS

The Rolling Stones Through The Past Darkly

hdtracks.com

★★★★

ABKCO

24-bit/176kHz and 24-bit/88kHz



HOT PICK

HERE ARE the Stones arguably at their best, from the era when record shops asked if you wanted

mono or stereo. As well as a couple of mono tracks you also get loads of classics, many benefiting from Keef's open-D-tuned rhythm guitar ringing out like some sort of supercharged bell along with Bill Wyman's solid, stygian bass and Charlie Watts relentlessly driving drum kit.

You'd struggle to present a convincing argument for anyone to bother with anything above the 24-bit/88kHz version. There's no discernible difference between that and the 24-bit/176kHz recording on most systems. **MS**

Standout tracks: Jumpin' Jack Flash; Honky Tonk Woman

Sonny Rollins

Saxophone Colossus

hdtracks.com

★★★★

Concord Jazz

24-bit/96kHz and 24-bit/192kHz



ROLLINS EARNED the soubriquet Saxophone Colossus at the tender age of 26 and every track here

demonstrates clearly why, with playing full of vitality and subtle musical gestures that delight the ear. And it would be criminal to underestimate the contributions made by his band: Tommy Flanagan on piano, Doug Watkins on bass and in particular, drummer Max Roach, whose feel for percussion and superb timing matches Rollins' extreme sensitivity on the tenor sax.

The 24-bit/96kHz recording brings his music vividly to life, even on a modest system – in short, if you want an introduction to great jazz, this album is probably the place to begin. **MS**
Standout tracks: St Thomas; You Don't Know What Love is

Jordan heads south

Jordan Acoustics has opened brand new premises in Dorset. Audiophile perfectionist **Ed Selley** dropped in to experience three stellar systems, from affordable to aspirational

Jordan Acoustics is a relative newcomer by the standard of UK audio dealers. Although its founding store has been providing audiophile expertise in Glenrothes, Scotland for some years now, we chose to drop by its second home in the grounds of Parley Manor, near Bournemouth.

Founder and owner, Tim Jordan explains that the location is absolutely ideal for successful expansion and his philosophy for all things 'hi-fi'. First and foremost, this part of the south coast with its disposable income areas, such as Sandbanks (where real estate prices of £10,000 per square foot are the norm), has not previously been targeted by the audiophile dealer. This is good news for Tim, allowing him to focus on being both a high-end dealer in the classic sense of the word, while offering high-performance lifestyle systems from companies such as Chord Electronics, who combine top-notch product with a most desirable aesthetic.

With a background in Pro Audio, Tim strives to produce systems that capture the essence of a performance with accuracy and honesty. The brand portfolio has been specifically selected with this in mind, with Tim often choosing only a single brand from a given distributor to achieve the desired results.

The store has not been open long enough yet to establish an 'average' sale price, but Tim is able to build systems from £5,000 to well over £100,000 and early feedback is encouraging.

THE EXPERTS



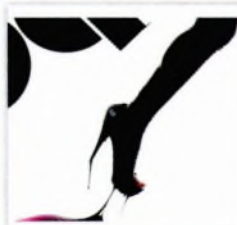
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SYSTEM 1 - BIG MAC AND WEISS

There is a slight feeling of guilt watching the guys struggle to get this system into the demo room and up and running. This is a big system and the components are very, very heavy. Tim has been the distributor for McIntosh for some years now and is a massive advocate of the company's philosophy.

American Gothic

There are four boxes in total comprising the £12,500 C500 preamp with vacuum-tube module and a pair of 600-watt MC601 monos (yours for £15,000). The gothic displays and VU meters on both the preamp and power amps, coupled with the illuminated window in the tube module give this quartet an almost unlimited 'want one' factor before they are even powered-up.

Swiss Pro Audio maestro Weiss provides the digital front end. The Jason transport and Medea DAC are £30,000 as a combination, although – with the growth of streamed systems – Tim notes that some customers will choose the Medea and a computer front end. These are some of the most sophisticated digital products available and manage to look remarkably unassuming, although this may be down to the sheer visual exuberance of the McIntosh units.

The speakers for this system are the £26,000 Art Deco 20s. These metal-enclosure floorstanders pack a pair of 260mm drivers, a 150mm midrange and a 27mm tweeter. The demo pair was finished in a dignified dark grey, but Art will spray them any colour you like if you are after something a bit more personal.

Jump in scale

Demoing Joel Grare's *Paris, Istanbul, Shanghai* album, the system combines a propulsive vigour with immediacy and realism, and then adds a drive and forcefulness that is spellbinding.

The Art's are comparatively large in the demo room, but manage the neat trick of being able to produce titanic low end without excessive room resonance. Low-end notes



are felt rather than heard without any sense of bloat or overhang. This system is incredibly fast, but still hits very hard indeed.

Tonality is vivid and rich, with instruments managing a tangibility that is simply astonishing. Plucked bass strings combine sufficient heft to be felt in the chest with wonderful decay, and at all times are placed perfectly in an accurate and enormous soundstage.

The impressive *Tron Legacy* soundtrack allows the system to demonstrate an imperious control over the orchestra and immense scale and presence. Even poorer recordings such as the early electronica of

Bernard Le Fevre is treated well, showing off its brilliance, rather than its shortcomings.

We spent a great deal of our day in the company of this system, simply because it was a hard business to tear ourselves away from it. It is unquestionably expensive and rather large, but it is also one of the most assured music-makers we have had the good fortune to hear. We also like the flexibility it offers.

The Medea can easily accept additional digital sources, while the C500 preamp boasts an excellent internal phono stage, should you wish to add a turntable. In short, this masterpiece has it all.



- 1** WEISS JASON CD TRANSPORT AND MEDEA DAC
£30,000
weiss.ch
- 2** MCINTOSH C500 PREAMP AND VACUUM TUBE MODULE
£12,500

- 3** MCINTOSH MC601 MONO POWER AMPS
£15,000
mcintoshlabs.com
 - 4** ART DECO 20 LOUDSPEAKER
£26,000
loudspeaker-art.com
- TOTAL SYSTEM PRICE:
£83,500**

SYSTEM 2 – OBEY THE MASTER



The second system Tim provided was less than three times the price of the first one and very different in the constituent ingredients. This has proved to be popular with customers and combines state-of-the-art audio streaming with one of the oldest type of amplifier designs, the single-ended triode.

Heavy Metal

The amplifier is the £4,600 Mastersound 845 Compact integrated amp. 'Compact' is a relative term when dealing with 845 valves, as neither they nor suitable output transformers to run them are small, so the result weighs in at 34kg.

The valves are used in a single-ended configuration with an output of 30 watts. The fit and finish is exemplary: the Mastersound feels incredibly solid to the touch and even with the volume cranked right up is totally silent – no humming or buzzing is audible at any stage.

The source is a £4,600 Weiss DAC 202, a domesticated variant of the studio-friendly DAC2 and features a 192kHz-capable firewire input, as well as more conventional coaxial and optical fittings.

While operating as a straight DAC in this system, Tim also sells many on the strength of its internal preamp, which allows direct connection to active speakers. A Macbook, loaded with the same Joel Grare album, was on hand to act as source material.

The speakers are the £5,000 Wilson Benesch Trinity. This innovative carbon-fibre-bodied standmount features a supertweeter that extends its frequency response to a staggering 100kHz. Tim often sells this system with the Wilson Benesch Torus 'infrasonic generator' (sub), which adds considerably to the bass response of the system.

Fast and explicit

Forget any preconceived notions about valves and softness, this is a staggeringly fast and explicit system. Bass is fast, focused and indecently deep for a relatively small standmount loudspeaker. 30 watts of Mastersound seems to have more intensity than 200 watts of Musical Fidelity as we were to discover!

At the same time listen in for any length of time and there is tangibility to plucked strings and struck keys that seemingly only comes from the most sorted of valve amps. The Mastersound has many solid-state behavioural traits, but give it a well-recorded instrument and the performance is entirely and wonderfully believable, and possessed of a magic that is pure vacuum tube.

The air and space to the presentation is also truly remarkable. Give the Trinity an orchestra to present and, backed by the Mastersound, the size of the performance has almost no relation to the size of the standmount.

The Weiss almost manages to go unnoticed in the excitement, but this is, in part, what it is designed to do. It is an incredibly neutral source and adds precious little of its own character to the ensemble. It is only after a while that you realise there is not the slightest hint of a sense of digital in the sound. Rather existentially, the Weiss simply 'is.' It does its job with the minimum of fuss and allows the system to shine.

In fact, it would have been easy to listen for much longer than we did but time was getting on and we still had one system left to listen to.

- 1 APPLE MACBOOK (NOT SOLD BY JORDAN)**
FROM £867
apple.com/uk
 - 2 WEISS DAC202 DAC**
£4,600
weiss.ch
 - 3 MASTERSOUND COMPACT 845 AMPLIFIER**
£4,600
mastersoundsas.it
 - 4 WILSON BENESCH TRINITY STANDMOUNT**
£5,000
wilson-benesch.com
- TOTAL SYSTEM PRICE:**
£14,200

SYSTEM 3 – USHERING IN

The last system we listened to was actually the least expensive of the three and right at the entry point of what the Bournemouth store sets out to do. Be under no illusion though, that this is anything other than very serious hi-fi, with the Jordan philosophy all present and correct.

M Power

The electronics are provided by Musical Fidelity. Jordan has been a fan of these products from the outset and feels that they offer performance right at the top of their respective price points.

Tim has combined two different ranges of equipment with the £999 M3 CD player acting as source and the £2,500 M6 integrated providing the amplification. The M3 is a neat design with an 'inhaler'-type drive in a slim, all-metal chassis. With some customers making the move to computer and streamed audio, the M1 DAC or DAC and transport combination (HFC 346) could, if necessary, act as substitutions.

The M6 integrated is from the range above the M3, but the new Musical Fidelity aesthetic allows for the ranges to be mixed and matched without conflicting styling. The M6 produces a hefty 200 watts, which allows for a wider variety of speakers to be driven without any sign of strain.

Tim feels that the character and performance of the Musical Fidelity amps is ideal for use in Jordan systems as they combine excellent detail-retrieval with strong dynamics, without tipping over into harshness or stridency.

Speaker power was provided by the new £1,800 Usher Audio BE-781 DMD. This Taiwanese standmount combines a relatively conventional seven-inch mid/bass driver with an all-new diamond tweeter. This is a remarkable achievement on a loudspeaker that

costs under £2,000 and the fit and finish of the BE-781 is absolutely top notch. The relatively low sensitivity of 86dB/w was not a huge problem, given that we had 200 watts on tap to drive them.

Propulsive force

Once again, selecting *Paris, Istanbul, Shanghai* by Joel Grare, this trio is immediately impressive. The propulsive force and effortless timing they bring to the performance is superbly judged and makes for a compelling listen. This is backed up by the startlingly insightful and open top end that the Usher provides.

The system is able to extract remarkable amounts of detail from recordings and present it in a believably real soundstage. Tonality with voices and instruments is incredibly lifelike as well. The Usher is a superb advertisement for the diamond-tweeter concept and we can see why Tim is so keen on the brand.

This detail isn't bought at the expense of harshness or stridency, though. When we switched to the rough and ready recording of *Fields* by Junip, the BE-781 still kept the spectacular levels of detail and the same drive and vigour, but the limitations of the recording are not laid bare. This is a fantastic attribute and means that this system can extract the absolute best from

your sublime recordings, without rendering the poorer ones unlistenable. This might have been the least expensive system, but there is no doubting its considerable talent.



1 USHER BE-718 LOUDSPEAKER
£1,800

usheraudiousa.com

2 MUSICAL FIDELITY M3 CD PLAYER
£999

3 MUSICAL FIDELITY M6 INTEGRATED AMPLIFIER
£2,500

musicalfidelity.com

TOTAL SYSTEM PRICE:
£5,299



Jordan Acoustics has clearly put a great deal of time and effort into the move down south. Tim has chosen a location that is more than up to the task and the product portfolio is focussed, but still able to cater for a variety of needs. Tim's enthusiasm and determination to make the store a

standout destination for south coast audiophiles is apparent from the outset as well.

All three systems showed a wide range of talents – from the propulsive musicality of the Musical Fidelity/Usher combination, to the incredible insight of the Mastersound/Weiss and

Wilson Benesch trio. For us though, it was the mighty Weiss/McIntosh and Art system that showed beyond all doubt that if you are in the privileged position to be choosing a very high-end system, the Jordan approach and philosophy is one that makes a compelling case for itself. ●

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YOUR EXPERTS



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EXPERTISE: LOUDSPEAKERS

HAVING WORKED on both sides of the audio industry for over 30 years, as loudspeaker designer and 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.



ED SELLEY

EXPERTISE: DIGITAL AUDIO

RESIDENT IN the audio industry for over a decade, Ed has considerable experience of both CD and SACD formats on disc, as well as an increasing personal interest in streamed high-resolution audio and network based systems.



MALCOLM STEWARD

EXPERTISE: COMPUTER AUDIO

WITH DECADES OF experience in audiophile journalism, Malcolm now combines his legendary status as an ex-editor and writer on all things hi-fi, with his unquestionable expertise on streaming, networking and computer audio.



JASON KENNEDY

EXPERTISE: 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.

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QUESTION OF THE MONTH

Q I have decided to change my old Sonus faber Gran Piano Domus, because I am not satisfied regarding the lack of soundstage. My room is 5x5 metres and full of objects.

Nikos Tzotis (Athens), via email

A You don't specify an exact budget, but if you were looking to make a reasonable step forward over the Gran Piano, we would stay with Sonus faber and look at the fabulous Cremona Auditor. The same tonal balance is accompanied by a real jump in scale and presence and some of the most beautiful cabinets in the business. Be sure to budget for the dedicated stands.



General Dynamics

Q Over the last decade, I have built what I consider to be a most satisfactory system. It is comprised of an SME 30/2A and a Soundsmith Strain Gauge Cartridge, a Linn LP12 with Ekos arm, ArkivB, Lingo and Linto, (which I just could not sell after I bought the SME), a Dynamiked Linn Akurate DS, an Ayre K1xe preamp, V5xe amp and Quad ESL2905 speakers. Cables are from Nordost and Cardas. I mainly listen to acoustic music, jazz, blues, folk-rock and classical.

Last month, I purchased a Cary Audio Design Xciter amp and Grado GS1000i. What a shock! The music is presented in a completely different way, of course, but the realism is amazing. The soundstage is huge and precise, the timbre rich and full bodied, but, in comparison with the Cary and Grado, it lacks dynamics.

So I'm wondering how I could begin my quest for more dynamic sound, without sacrificing soundstage and rich harmonics. I think the first solution could be to go to valves, but which amp suits best?

Or, perhaps, change the loudspeaker? Maybe I should go for a big Tannoy Prestige? Would you agree? If not, what would you suggest?

David Nowicki, via email

A The likely candidate for this perceived lack of dynamics would probably have to be the Quads. Most physical speakers will suffer, in comparison to the sense of drive and impact that a good headphone amp can bring to performances.

The Ayre combination is not something we would consider as being short of realism or dynamic ability, so while there are plenty of valve amps that are able to generate an equally dynamic sound, we don't think that they are the answer in this case.

Finding speakers that have a greater sense

Martin Logan make electrostatics with bite



of absolute dynamics than the Quads is not that hard. Finding a pair that combines this with the incredible midrange coherence and soundstage of the Quads is rather more difficult.

Large Tannoys – a variant of which we tested in HFC 323 (DC10T) – do generally present an excellent soundstage, while offering rather more impact. We do think that you would miss some of the benefits of electrostatic designs, though.

With this in mind, keeping the electronics as they are and looking at the Martin Logan range of hybrid electrostatics is another option. We reviewed the Ethos in The Collection 2010 (available to buy via zinio.com) and feel that these might be the place to start looking at retaining much of the sweetness of the Quad speakers, while benefitting from a considerable increase in dynamics and attack.

Life in the old dog yet

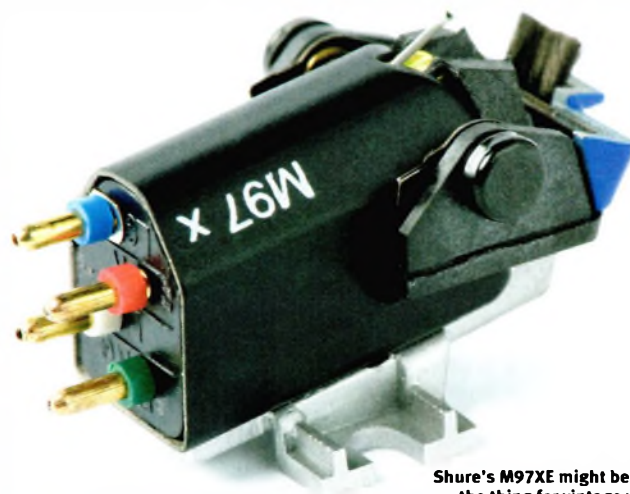
Q I have what you would rightly call a 'dated' system, but I'm very much attached to it, with some of the components having been with me from new for around 25 years. The system is a Linn Sondek LP12, Naim NAC 32 pre/NAP 160 power amps, Arcam CD92 CD player and Monitor Audio GR60 speakers, fed through Nordost cables.

In contrast to much of the hi-fi equipment around today, this seems like a budget system and would certainly feel like it if I was to sell pieces to upgrade. With a growing family, recent house move, rising fuel costs, etc., I simply can't afford to buy a similar system all over again, so this leads me to the question of what affordable upgrades I could make to my system without necessarily parting with some of my old faithfuls.

For example, would it be better to buy a couple of 'budget' mains cords for my CD player and amp (my pre/power Naims only use one mains connection), or buy one more expensive power cord and use it on either my CD player or Naim?

If you have any recommendations on mains cords, hi-fi stands, or even isolation platforms, I would be very grateful.

Daron Harvey, via email



Shure's M97XE might be just the thing for vintage vinyl

A We don't feel that there is too much amiss with the set-up you describe. Yes, some of it is of a reasonable age, but the basics appear to be sound.

Isolation is an area where both your deck and your amps might benefit. If the Linn is not on a wall shelf, then is probably worth considering, as dedicated shelves (such as those made by Apollc) start around £85. Isolation platforms that might help the Naim units vary in price, from the simple experiment of sticking a section of kitchen work surface under the units (something that can help your loudspeakers as well) to specialist isolation platforms that generally cost between £100 and £250.

If the cartridge has been in situ for some time, a replacement cartridge might also be an option and need not cost much more than a mains lead. Good budget examples, such as the Ortofon 2M Red or Shure M97XE (tested in HFC 345) could be just what you are looking for in a performance upgrade.

Finally, one of the more expensive, but potentially worthwhile additions is an external DAC. The CD92 is no slouch, but both the Musical

Fidelity M1 DAC and Rega DAC (HFC 346) would offer a step-up in performance and the flexibility of attaching computers and other devices for more flexible listening.

Akurate readings

Q Your recent reviews of the Linn and Naim DAC/streamer models in HFC 343 and 345 were not only timely, but very helpful, especially considering the dearth of expert opinion in this area.

I have been researching a number of high-end DAC/streamers to match my recently purchased system (Audio Research DS160 integrated amp, plus Sonus faber Guarneri). I auditioned this system with an Audio Research DAC, but my intention has always been to audition both Naim NDX and Linn Akurate DS at my home, once my new equipment arrived.

However, this appears to be impractical, given the time and effort to set up both streamers, as well as the need to run in my new amp/speakers for, at least, 100+ hours in order to get an accurate assessment.

Therefore, my only option has been to audition both streamers with a full Linn Akurate system (including speakers). The Naim and Linn inputs sounded, to my

surprise, completely different. The Linn DS was exceptionally accurate, but clinical; while the Naim was more engaging, but aggressive.

In your opinion, which streamer would sound better with an Audio Research amp and Guarneri speakers? I listen to mostly jazz, blues, classical and opera.

A number of experts have advised going for the more neutral input, considering the distinct musical sound of the DS160 and Sonus faber Guarneri and recommend the Linn Akurate.

You mentioned in your review of the Naim that it 'clearly makes music sound far more natural and soulful.' Does this comparison also apply to the Linn Akurate DS and also the Audio Research DAC (which you have not mentioned in your reviews)? And if so, would the Naim be a good match with my system, which is already natural and soulful?

Lastly, as far as upgrading the NDX, do you think the Naim power supply provides a justifiable improvement in sound quality? I presume you would also go for the power supply before adding the dedicated Naim DAC?

Anthony Karibian, via email

A The good news is that in an absolute sense, neither of these two units is going to provide anything other than a top-notch performance. That said, in the context of your existing equipment, we think that the Linn might be the more suitable candidate. It is neutral without being overly matter-of-fact and we think it is a better match for the Audio Research.

The Naim is phenomenally good, but would not be our first choice to partner with a valve amplifier.

As you say, you have qualities in your system that you are very fond of and, with this in mind, an essentially neutral source



The Akurate DS is a fabulous example of high end streaming



Spendor's A3 is a lovely speaker and ideal for crowded spaces

that keeps these qualities intact seems like the best option to us.

Night at the Opera

Q I have had my present hi-fi system for over ten years and would like to replace it. My system at present consists of a Musical Fidelity A3 CD and an A3 integrated amp, QED speaker cables and interconnects and Opera IIIa floorstanding speakers.

I have listened to three systems and they are: Naim NAIT5i amp and CD player with Neat Petite speakers and Naim cable; PMC GB1i speakers, Exposure 2010s2 integrated amp and CD with Chord Company speaker cable and interconnects; Musical Fidelity M3i and M3CD, Dynaudio Excite X16 speakers, plus Dynaudio speaker cable and interconnects.

Of the three systems it will be either the PMC/Exposure set up or the Musical Fidelity/Dynaudio Excite. I feel that the best would probably be the PMC GB1i speaker with the Musical Fidelity M3i/CD. I listen to classical music all the time and play my system every day.

Critics don't seem to have a good word to say about the Opera III loudspeakers, but with the Musical Fidelity amp, CD player and QED cable, it has given me

much pleasure over the past ten years. At present I am listening to the CD from the May issue of the BBC Music Magazine (the organ recital from Freiburg cathedral). It is so good that I am tempted to keep my present system for another six months before changing.

My listening room is small – about 200-250 square feet, but floorstanding speakers are alright, especially the slim PMC GB1is.

I would be most grateful for any advice and suggestions you could give me.

Bryn Williamson (Hong Kong), via email

A It sounds like you have carried out some thorough auditions and we cannot fault the reasoning behind the choices.

Both the Exposure pairing and the Musical Fidelity M3i have been highly rated by Hi-Fi Choice, so we think that you've made a good selection. But, if you are not in a position to try the Musical Fidelity and PMC pairing, then we would urge caution, as you might find that such a partnership is a bit too much of a good thing.

The Neat's may be worth trying with other electronics though, as although they have a spectacular relationship with Naim, we achieved strong results using Neat speakers to review the Musical Fidelity M3i back in HFC 337.

We do hope that you caught the Blind-listening Group Test in HFC 347, as this featured most of the likely loudspeaker candidates to partner the electronics you mentioned.

Given the size of your room, all these speakers would be appropriate, but if you feel that space is a premium, then the Spendor A3 and Kudos X2 are very compact indeed and might be worth considering.

We haven't reviewed the Opera speakers that you refer to, but our experiences with the Opera Callas standmount (HFC 343) and the Opera Seconda (HFC 314) were very positive, with the latter at a price equivalent to some of the models you have been recently auditioning.

Loudspeakers are by far the most room-dependent products you can buy, so extensive demoing (at home, if at all possible) is essential before making a decision.

THE HI-FI CHOICE GUIDE TO: POWER HANDLING



EXPERT ADVICE

EVERY SPEAKER THAT

we review is supplied with some information on power handling – the maximum amount of power that the speaker is designed to take. This can lead to a degree of confusion. The first is because there are often two sets of figures, a 'continuous' and a 'peak.'

Continuous power is the figure that the speaker is designed to handle indefinitely (within reason). The peak figure represents the amount of transient power the speaker can handle.

People are often concerned about the prospect of pairing a speaker with a lower power handling than the output of an amplifier. This need not be a concern. The main reason for this is simply that, unless you happen to listen to the amplifier at full tilt for sustained periods, you are unlikely to exceed the actual power-handling of the speaker. The second consideration is that exceeding the rated maximum of a speaker can be less damaging than driving it too hard on an amp of insufficient power. When an amp is driven at near-maximum output, it is likely to begin inducing increasing amounts of distortion. It is this distortion that usually causes loudspeakers to suffer failure, rather than the same output at lower distortion. ●

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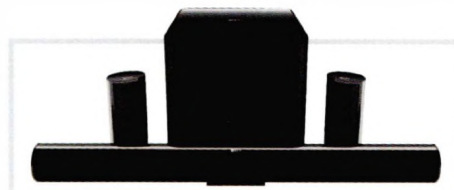
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world, all in true hi-fi quality. With the n-remote you can quickly find specific albums, artists or tracks and it makes browsing your network music library a real pleasure. With its sleek body, full colour screen and two-way control, the n-remote is just one of the features that make the new Cyrus streaming music players very special.



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Minitest

Good-quality in-ear headphone sound *can* be had for under £100 says **Richard Black**

AKG K350

PRICE: £70 CONTACT: 01707 278100
WEBSITE: AKG.COM

AKG DOES A BUSY LINE in in-ear phones and this model is brand spanking new (this is its first UK test, indeed) and replaces the K330, a well-liked model that's been around for a while. AKG's marketing includes a prominent claim that these weigh only three grams (we're happy to accept that they are among the lightest around, if only by a gram or so), but we could hardly spot a difference in practice. More importantly, perhaps, they are well sculpted to fit a typical ear and come with a choice of easily removable soft earbuds. The cable is quite long at a little over one-metre and includes a volume control for iPod duty – that is, it controls the volume of the iPod itself rather than putting an extra volume control in the way of the signal.

This is certainly a model that will appeal to lovers of loud music as it plays louder than most from a typical portable music device. We found its tonal balance a little on the treble-rich side, but there is certainly bass there. In fact, very deep bass turns out to be very good and initial impressions are a touch misleading because the overall balance tilt is something one very quickly learns to ignore. Detail is good, if not quite as revealing as some, except in the lowest bass where it is excellent. Overall, we found the sound exciting, but not invariably the most beguiling.

VERDICT Deep bass is rather wondrous, upper bass and midrange slightly less impressive, treble a little bright. Informative, but not as involving as some



Jamo wEAR In30

PRICE: £80 CONTACT: 01923 205605
WEBSITE: JAMO.COM

JAMO MAY BE BEST KNOWN for speakers, but the company also offers a small range of in-ear phones of which this is the middle model. The drive unit is identical to that used in, at least, one Klipsch model (Klipsch being Jamo's parent company these days), but other details are different and there's no reason to suppose that this would be a Klipsch retread. Jamo's description mentions 'passive noise-cancelling', by which is simply meant noise-blocking, as this model (like the others here) has no active anti-noise features.

As it happens, we felt this was by a small margin the most effective at blocking external noise, but there's not really much in it. We also felt that it had the most noisy cable, very much prone to convey friction noise (against skin and clothing) into the ears.

We're not sure the frequency extremes of the In30 are entirely honest; the response seeming to have a bit of a bathtub profile – lifted at both ends. Bass is persistently more present than we're used to, while treble has a little added fizz. Neither of these, however, prevented us appreciating the model's very good resolution of detail. It enables one to hear deep into any mix of instruments without ever stripping away the overall cohesion of the musical image. From classical to rock to avant-garde electronica, the music was presented in a convincing and communicative way.

VERDICT DESPITE A DEGREE of over-emphasis of both frequency extremes, sound is beguilingly musical and very detailed across the board



JAYS t-JAYS Three

PRICE: £80 CONTACT: +00468 1220 1900
WEBSITE: JAYS.SE

DEDICATED TO HEADPHONES and earphones, Jays designs in Sweden, but manufactures in China, maintaining several ranges of products each of which is closely targeted, for instance at the phone/music-player user. The t-JAYS range is where the hi-fi lives and boasts a 10mm driver and an angled sound tube, in an assembly which is shown on the company website as nestling securely in the ear. We didn't quite manage to duplicate such secure mounting but with a little experimenting with earbuds (several sizes are supplied) we contrived a comfortable and secure fit. The cable is quite short, though an extension is provided and there's a neat little toggle which can be used to adjust the amount of cable that's split.

We enjoyed the sound of this model, but in general would have liked a little more insight and precision. Even after extensive fiddling and prolonged listening, we couldn't persuade ourselves that the bass is entirely honest: it seems more than a touch over-present and, perhaps more disturbingly, generalised in quality. That is, it's easy to hear that bass is there, but sometimes tricky to discern which instrument is playing it. Midrange is more exact and, at best, quite pleasingly detailed, but it still lacks some of the finesse we've heard from other models. Treble is quite well-balanced, perhaps a shade bright, but not worryingly so and very informative.

VERDICT ★★★★★ **BASS IS STRONG**, perhaps a little too strong and not greatly detailed. Mid and treble are more neutral but a little more subtly across the board would be welcome



Sennheiser CX880i

PRICE: £83 CONTACT: 01494 551551
WEBSITE: SENNHEISER.CO.UK

THIS IS ANOTHER MODEL that includes an i-thing remote control in the lead and a microphone too, so you can make and receive phone calls via your mobile hi-fi. The earpieces quote an unusually wide frequency range, right down to 17Hz – we've no reason to question that, though every time we look at a headphone frequency response specification we are reminded how far ahead of most loudspeakers even quite modest headphones are in that particular respect. We do find it a little bizarre that Sennheiser seems to have omitted to mark the earpieces for left and right ear, but otherwise we've no complaints. Three sizes of earbud are provided and the fairly generous cable is one of the least noisy in terms of friction noise.

Having identified the best earbud, we settled down to enjoy some of the best in-ear sounds we've heard in a while. Balance is excellent from the upper bass up: there is a little deep bass enhancement, it seems to us, but not enough to be really distracting. Treble sounds quite mellow compared with most in-ear models, but that's a good thing as the breed is justly renowned for brightness. Perhaps because of that mellowness, detail can seem a little underwhelming at first, but in the longer term, it is very good indeed; natural and unforced but really delightfully lifelike. Add to that the natural musicality of these 'phones and their success is assured.

VERDICT ★★★★★ **A LITTLE BASS LIFT** does no great harm and treble is unusually honest. Detail is excellent for the price and results overall are most impressive



By far the most important factor in getting the most out of in-ear phones is the earbud. If this doesn't suit your ears the seal will be poor and the sound is likely to be tinny at best.

Try all the supplied options. You might also want to try the 'Comply' foam tips, which have given us excellent results and help earpieces stay in place when one is on the move.

Do also make sure you're not listening too loud (on buses, trains etc), as this will do you no favours in terms of genuine quality and in the long term can damage hearing.

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NAIM SBL speakers, upgraded bass drivers, owned 14 years and excellent condition, £550. Naim SNAXO active crossover for SBLs £250. Mana SBL bases £100. Phone for package price. **01376 331712 (Essex).**

QUAD system 99 pre, CD, 909 amp various ages, plus 2905 speakers. All very good condition. Must collect. No boxes. Will demo. £3,750 ono. **01773 856828 (Derbyshire).**

LINN LP12/Beautiful Fluted Afrosia fully upgraded with Akito/Grado Platinum cartridge/Cirkus Bearing/Trampoline 2 £1,500. Project Phono Box SE11 £120. Nakamichi CR4, near mint/full service history from 1986. £300. **07875 719136 (S Wales).**

ATACAMA Uropa 8SE, four-shelf hi-fi/AV rack (£520) £225. o.n.o. **01634 842874**

or email: p.evans11@live.co.uk (Kent).

MARTIN LOGAN Clarity electrostatic speakers in excellent condition. Finished in black and silver, wonderful open sound, £1,250. **02380 224003 (Southampton).**

BOWERS & WILKINS CM8 speakers (black) £895. B&W PV1-subwoofer black £575. Mint. New buyer collects **020 8951 3178 (Middx).**

PRO-JECT record deck and Pro-Ject phono amp/ Musical Fidelity XA-1 preamp/Arcam Alpha 9 CD player/Arcam P60 power amp/Rogers Studio 5 speakers. Includes all power cords (Russ Andrews) and cables/speaker stands and equipment stand. (£3,700) £1,300 ono. Must be heard. **+00353 87 637 6623 (Ireland).**

OPTIMUM equipment rack, eight glass shelves, brushed steel spacers, 52cm x 61cm, £100TQ4 5AT **07905 472293** or email: rodneymoorhouse@btconnect.com (Devon).

MUSICAL FIDELITY A1 CD Pro in immaculate condition. Comes with original box,

manual, receipt and remote. **07814468747 (North London).**

FOCAL Mezzo Utopia loudspeakers. Cherry and black piano finish. As new, boxed, manuals. Light use, (£8,700), accept £3,500. Currently in Naim system, can demonstrate **07747 620856 (London).**

HARBETH p3esr speakers, special edition, mint condition, rosewood finish. £850. **02920 419226** or email: frank&bush@ntlworld.com (South Wales).

ARCAM FMJ CD33T (Silver) CD player, very good condition, boxed with original manual and remote. £350 ono. Buyer collects. **01482 865162** or **07760 407871 (E Yorks).**

EPOS ES22 speakers (cherry) £500. Audiolab 8000Q preamp £250. 8000M power amps pair £400. 8000C preamp £200. Arcam Alpha 9 CD player £250. All in excellent condition. **01590 674669 (Hampshire).**

GRADO PS1000 headphones. As new and boxed, won in competition, £900.

01332 233011 or **07796 912295 (Derby).**

PS AUDIO 4.6 preamp with separate p/s, inputs, phono MC, MM, tape x2, tuner, CD, speaker outputs x2, straight wire or high-gain output, plus mono, £285. **01923 855359** or email wombat.jr@talktalk.net (Hertfordshire).

VECTEUR I 4-2 integrated amp, 80 watts. Excellent condition, including remote and original power cable, (£1,200) £475. Can demo. **07748 652009 (Portsmouth).**

NAIM SXPS burndy cable for connecting power supply to CD player etc. Excellent condition, £250. **01933 405875 (Northamptonshire).**

MARANTZ CD10 CD player, boxed with remote. Datasheet available as PDF, £300. **07771 776877 (Herts).**

MUSICAL FIDELITY A5 CD V2.5. Box, manual, remote, valve output stage, optical and coaxial digital outputs, £650. **07812 935242** or email dubmaster@talktalk.net (Croydon).

PRIMARE Pre30 preamplifier and matching A30.2 power amplifier. As new condition (black), boxed with manuals, remote etc. Preferably for sale as a pair, but will split. If bought together, will include a pair of MIT Proline XLR interconnects, £1,500 ono. **07725 525001** or email alan.strudwick@googlemail.com (S Wales).

SONY SCD1 SACD/CD player, as new condition.

£2,000 of Audiocom modifications including Ultralock, (£5,000) £1,850 ono. **01462 670786** or email jr812@hotmail.com (N Herts).

NUFORCE P9 preamp. One-year old and a true audio bargain, (£2,200) £1,400 obo. **01296 437334** or email jes35@btinternet.com (Bucks).

MARANTZ SA-7S1 CD/SACD. Owned from new. Stunning sound quality and build quality, (£5,199) £2,900. **01296 437314** or email jes35@btinternet.com (Bucks).

ROKSAN Kandy LIII amp and CD £240 each, Rega P3 turntable £120. Epos M5 speakers £120. All boxed with manuals and in good condition. **01279 465521 (Herts).**

NAIM Uniti amp/CD/FM/DAB all-in-one system. Immaculate condition with latest specification. Only 14 months old, with box and accessories, £1,600. **02380 738935 (Southampton).**

KIMBER KCAG interconnect 0.5m -14dB attenuation, (£438) £200. Kimber D-60 interconnect 1m, (£335) £190. Other items, filters mains cables etc, half price. **01902 884694 (W Midlands).**

NAIM NAIT2 £400, Pioneer A300R Precision amp £200, Pioneer PDS505 Precision CD £200, Rogers Cadet 3 £300, Cambridge CD4SE £80. **07818026427 (Yorkshire).**

BUYING TIPS **BUYING SECOND-HAND** can be a great way to pick up a bargain. A formerly expensive second-hand component might well prove a better long-term bet than a brand-new product if the price is right. **DO SOME RESEARCH** on which brands have a good service back-up, so if something does go wrong, you can get it fixed. Unless you purchase from a dealer, you're unlikely to get any warranty, so it's up to you to ensure the fitness of any gear that you buy. **USUALLY**, speakers should be less prone to breakdown than amps, and amps should be more reliable than CD players. But any abused component could be trouble – have a proper demo and judge the seller as well as the goods!

BRYSTON SST9B 5-channel power amplifier (silver) and Bryston SP2 preamp/processor (silver). Excellent condition £1,500 (each) or £2,500 less shipping, if purchased together. GradoS1000 headphones, immaculate condition. Brilliant-sounding and comparable to Stax Omega headphones. £750 less than half the new price. **00353 18373490 (Dublin).**

SONOS Z90 and c100 controller with cradle, booklet and install CD, fully working. Good intro for streamer, £220 including postage. **07736 773830 (Yorks).**

BOWERS & WILKINS 703 (cherry) '90s model, £2,900, Primare SPA21 surround amp £950. Other items also available, please call. Offers welcome. **01707 392743 or email scotk421@hotmail.co.uk (Herts).**

SONY BDP-S5000ES Blu-ray player, 3 weeks' old with UK dealer invoice, £495. **0208951 3178 (London).**

CREEK 4140 integrated amp, Linn Index speakers plus stands (black ash), Arcam Alpha Plus CD player. £50 each item or £130 for all. **07900 273612 (W London).**

ARCAM FMJ CD17 (black) with user guide/remote, light use from new, can demonstrate, (£600) £350. Cash, no offers. **01606 79032 Tues-Fri, (Cheshire).**

ROTEL RA-05 amplifier (black), with remote, hardly used (£495) £200. Acoustic Energy Radiance 2, £625 as new, could deliver by arrangement. TCI Viper interconnect 1-metre long, £27. **07979 151445 (W Sussex).**

MARTINLOGAN SL3 electrostatics, (black), mint condition (£3,400) £1,150. Living Voice speaker cable 4.2m pair (£1,000) £300. Audio Synthesis Silverblue interconnects from £50. New and s/h vinyl from £3. **01453 519700 (Gloucs).**

WANTED: Revox 260S tuner, in very good cosmetic condition and fully functional. Would wish to have working demo in West Midlands/Warwickshire. Please contact with details and price. **01789 842336 (W Midlands).**

BOWERS & WILKINS 803D (rosenut). 4 year's old, still under 5-year warranty. Excellent condition. Boxed and complete with all accessories, £3,700, no offers. Any trial welcome, prefer buyer to collect. **077255 78792, or email sme1203@tiscali.co.uk (W Midlands).**

GRADO PS1000 professional headphones. 1-year old, original packaging, inclusive 5m Grado extension, plus 3.5 mm to 6.3mm mini-jack adaptor cable, (£1,795) £1,495. **01179 688543 (Bristol).**

NAD T585 universal player in titanium, plays DVD, CD/SACD. In very good condition with remote and box, £130. **0121 7774318 (W Midlands).**

ARCAM FMJ integrated amplifier A32 £560. Arcam DT81 digital radio tuner £350. Arcam T61 AM/FM tuner £130.

All items purchased in 2003 and in excellent condition. **01752 340727 (Devon).**

NAKAMICHI LX5 cassette deck, fully documented with box. Offers invited. **01258 450928 (Dorset).**

ARCAM DIVAA85 amp (black), with fitted phono card. Complete with remote and handbook, £250. Audio Alchemy DE-V1-0 DAC convertor with Chord Company analogue and digital cables. Boxed with manual in excellent condition, £125. Linn Helix LS150 speakers (black ash), with matching spiked stands, £150, Linn K20 speaker cable, 4x4-metre, terminated, £90. All in very good condition, can demo, buyer collects. **07941 015908 (Dorset).**

VAN DEN HUL TeaTrack speaker cable, 11-metre pair £175, plus carriage. **01825 722936 (E Sussex).**

BOWERS & WILKINS 686 speakers, award-winners. Not used since run-in (£278) £95. **07716 139026 (N Ireland).**

LINN Majik CD player (black), 2.5 years old in superb condition. Boxed with manual, remote and power lead, £995.

01924 478157 or email rockhill-steve@zen.co.uk (W Yorks).

MUSICALFIDELITY A1000 Class A amp (black), beautiful condition with MM/MC phono stage and separate power supply. Buyer collects. **07941 174804 (Berkshire).**

MARANTZ PM66SE amp and CD50SE CD player, £140 the pair. Pro-Ject Debut II turntable with speed box and phono box £95. Aiwa A30 amp and R30 tuner, £50 pair. Technics 8022 Graphic £60. **01708 457691 (Essex).**

SONY XA333ES CD/SACD player (black). Boxed with manual and remote. Can Demo £275. **01394 274350 (Suffolk).**

TOWNSHEND Mk1 stand, four shelves, black with chrome columns. Seismic sink isolation built-in (£1,500) £350. **01772 315723 (Lancs).**

ECA AUDIO Vistra pre and Lectern power amp. Previous award-winners, (£1,650) a bargain at £500, Rega Planar 3, RB300 with AT cart £190. **07729 600847 (W Sussex).**

NAIM NAIT 5i amplifier £395. Rega Apollo CD player £250. Both boxed in excellent condition. Very little use **07754 507519 (Derbyshire).**

KEF speakers, 05/3 Reference (mahogany), 104/2 £340. Reference (walnut) £200, 100 centre speaker £70. REL Storm

Active Sub £150. All good condition with boxes. **07545 141104 (Devon).**

WANTED: Naim NAT 02 tuner. Good price paid, must be in very good condition. **01246 232085 (Derbyshire).**

PRO-JECT Debut/phono SB (silver) turntable. £40. Buyer collects. **0208655 3539 or email adelesluce@hotmail.co.uk (Surrey).**

QUAD ELS 2805 new, unmarked, £2,950. Michell Synchro, Linn Basik arm, with cartridge £300, Audiolab 8000 C and P pre and power amp, £350. **01952 728 773 (Shropshire).**

QUAD ESL 63 speaker, excellent condition, with stands, total Quad rebuild in 2002, cost £1,400+(receipt). Quad enthusiast upgraded to 2805s. No crackles/distortion etc. £1,095. **01296 770632 or 07881 658689 (Bucks).**

GRADO Professional Series PS1000 headphones in mint condition, brilliant-sounding with deep bass. £850 including delivery. **003 5318 373490 (Eire).**

AUDIO INNOVATIONS S700 valve amp, 25w, boxed, vgc. £300. Marantz CD10 CD player, boxed with remote. Datasheet available as PDF. £300. **07771 776877 (Herts).**

KEF Reference 4 monitor speakers. Superb bass and near-electrostatic soundstaging make these involving speakers a bargain. New and pristine (£3,200) £1,700. **07841 011397 or 01132 843770 (Leeds).**

MARTINLOGAN Source electrostatic speakers in mint condition, as new £1,250. **02380224003 (Southampton).**

GRADO SR125 Prestige Series headphones in mint condition with original box, purchased January 2010. Sale due to upgrade, £75. Also Grado storage case to protect your valuable cans £10. **01233 713250 (Kent).**

AVI pre/power amplifier, 215w, class A. Super sound (black). Almost new, original boxes only £1,500. **003902 2150930 or email fedepenzo@hotmail.com (Italy).**

BANG & OLUFSEN Beocenter 2600, two Beovox speakers £90. **01723 375222 (N Yorks).**

ARCAM T61 tuner (silver), brilliant-sounding with deep bass. £850 including delivery. **003 5318 373490 (Eire).**

PMC DB1i speakers. Purchased March 2010. Mint condition, book-matched walnut veneer, fabulous sound. Genuine reason for sale, £600. **01233 713250 (Kent).**

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Buyer's Guide



Welcome to the *Hi-Fi Choice Buyer'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 easy-to-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.

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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.

BADGES EXPLAINED

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

NEW ENTRIES...

Every month, our buying bible is updated to include our latest reviews. These new entries are highlighted in yellow and reflect the very best reviews from the previous issue.

SOURCE COMPONENTS

108 _ CD players

Whether CD or SACD, we list the very best players for the job

109 _ Turntables

A selection of our favourites, from a £190 Pro-Ject to a £115k Continuum

109 _ Phono cartridges

The best in both magnetic and moving coil cartridges

113 _ Radio tuners

Surf the airwaves with any one of these carefully selected tuners

113 _ Headphones

Badge-winning headphones for your personal listening pleasure

117 _ Streamers/servers

Our favourite next-gen hi-fi, from streaming clients to full-on servers

117 _ DACs

Digital-to-analogue converters are once again revolutionising quality



AMPLIFIERS

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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

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Cables can provide a useful tweak to your system, check out our choices

117 _ Speaker cables

Priced per metre, these are our top recommendations for taming speakers



LOUDSPEAKERS

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An invaluable guide to the best loudspeakers for your system

STANDS & SUPPORTS

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The best equipment supports: sprung; solid; air-filled; glass; MDF and more...

123 _ Speaker stands

Stands come in all shapes, sizes and prices, so take your pick from our list



DEALER CLASSIFIED

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A veritable *pot pourri* of hi-fi dealer classified advertisements

129 _ Dealer directory

For all your hi-fi wants, check our index of independent hi-fi dealerships



BADGES KEY: RECOMMENDED = ● EDITOR'S CHOICE = ● GROUP TEST WINNER = ● BEST BUY = ●

CD players



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SACD compatible
ELEC digital output
OPT digital output
CD-RW compatible
BAL analogue out
Headphone socket
Variable output
Issue number

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Badge	Product	Price	Comments	SACD compatible	ELEC digital output	OPT digital output	CD-RW compatible	BAL analogue out	Headphone socket	Variable output	Issue number
●	Advance Acoustic MCD-204	795	CD player with warm valve sound. Harmonically rich and inviting performance		●	●	●	●	●	●	342
●	Audiolab 8200CD	700	No SACD support, but excellent detail, neutrality and communication		●	●	●	●	●	●	340
●	Cambridge Audio Azur 650BD	400	Musical, precise, involving and with great energy at a superb price		●	●	●	●	●	●	340
●	Denon DCD-1510AE	900	If the SACD format is what you're into, then this player is capable of some impressive sounds		●	●	●	●	●	●	335
●	Exposure 2010S2	710	Paired with the 2010S2 amp, this CD player is a fine performer with plenty of detail		●	●	●	●	●	●	344
●	Marantz Pearl Lite SA-KI	899	A key CD/SACD player at an attractive price, with support for digital		●	●	●	●	●	●	338
●	Marantz KI Pearl Lite	750	Excellent sound, this CD player has also dropped in price from £920 to £750 since our review		●	●	●	●	●	●	344
●	Micromega CD-10	799	The cheapest in the range, the CD-10 has been fine-tuned to please the audiophile		●	●	●	●	●	●	328
●	Moon CD.5	999	Admirably energetic music-maker from this very well-built player		●	●	●	●	●	●	335
●	Musical Fidelity M1 CDT	600	Reviewed in combination with the M1 DAC, this CD transport holds its own against the competition		●	●	●	●	●	●	346
●	Oppo BDP-95EU	999	This universal player is revealing, transparent and musically involving		●	●	●	●	●	●	347
●	Pro-ject CD Box	300	This player belies both its size and its price with sounds worthy of a decent mid-range system		●	●	●	●	●	●	338
●	Rega Saturn	898	Strikingly full-voiced, the Saturn offers a sound that feels remarkably real		●	●	●	●	●	●	344
●	Roksan Kandy K2	899	State-of-the-art technology and precision engineering produces a fine CD performance		●	●	●	●	●	●	335

Above £1,000

Badge	Product	Price	Comments	SACD compatible	ELEC digital output	OPT digital output	CD-RW compatible	BAL analogue out	Headphone socket	Variable output	Issue number
●	AMR CD-777	3,195	Extremely natural and engaging sound that brings analogue to the digital world		●	●	●	●	●	●	332
●	Arcam CD37	1,300	Excellent detail and imaging, neutral tonality and above-average bass resolution		●	●	●	●	●	●	340
●	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
●	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		●	●	●	●	●	●	323
●	Icon Audio CDX1 Signature	1,350	Has an open, vinyl sound with a very high listenability factor		●	●	●	●	●	●	341
●	Krell S-350A	2,695	Accomplished CD player with real breeding underpinning its excellent performance		●	●	●	●	●	●	341
●	Leema Stream III	1,495	This is a superb CD player that improves on the performance of its predecessor, the Stream		●	●	●	●	●	●	339
●	Marantz UD 8004	2,450	Sophisticated and highly capable universal player that just about does it all		●	●	●	●	●	●	336
●	Meridian 808.3 Signature	10,000	Extraordinarily revealing and open CD player with a first-class performance level		●	●	●	●	●	●	339
●	Micromega CD-20	1,249	No SACD, unfortunately, but without doubt one of the better mainstream players		●	●	●	●	●	●	332
●	Mimetism 20.1	5,107	An impressive player that produces a very convincing and musical sound		●	●	●	●	●	●	330
●	Moon CD3.3	2,200	Excellent detail and a fine choice for those who like their music straight from source		●	●	●	●	●	●	328
●	Moon 750D	7,950	Very few CD players can extract as much information off the disc as the 750D		●	●	●	●	●	●	331
●	Naim CD5 XS	1,790	Its composure and openness results in a musical performance that is extremely seductive		●	●	●	●	●	●	334
●	Primare CD32	2,200	Smart, slick and with balanced outputs, this CD player looks every bit the high-end part		●	●	●	●	●	●	344
●	Resolution Audio Cantata	5,995	CD player/streamer that's revealing enough to set it far apart from the competition		●	●	●	●	●	●	336
●	Roksan Caspian M2	1,600	This impressively engineered CD player is punchy and dynamic, with excellent timing		●	●	●	●	●	●	338
●	Theta Compli Blu	2,998	A very accomplished universal player with support for Blu-ray and HDMI		●	●	●	●	●	●	337

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.

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Badge	Product	Price	Comments	www.techradar.com	Switchable speed change Suspension subchassis Speeds	Supplied with arm Supplied with cart	Issue number
●	Clearaudio Concept	1,100	One of the easiest ways of getting into analogue, with excellent results for the price		33/45	● ● ●	338
●	Continuum Caliburn	125,000	Luxury turntable with state-of-the-art design includes Cobra tonearm and Castellon stand	/587169	33/45/78	● ● ●	320
●	Dr Feickert Woodpecker	2,995	Offers superb bass, excellent build quality and range of arm choices		33/45	● ● ●	335
●	Edwards Audio TT1	325	Classic, no-nonsense design, with exemplary performance at the price		33/45	● ● ●	342
●	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
●	Hanss Acoustic T-30	3,600	The only multi-armbase deck in its price range, it boasts image stability and precise bass		33/45	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	1,150	Excellent timing really propels a very good performance. Plenty of detail and insight, too		33/45	● ● ●	345
●	Michell Gyro SEducation	2,245	Limited edition version of above with TecnoArm, HR power supply and blue-steel finish		33/45	● ● ●	342
●	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 Xperience 2 Pack	775	Holds its own against all competition (arm included)		33/45	● ● ●	345
●	Pro-Ject 6 Perspex	1,280	Plenty of detail and good rhythmic qualities (arm included)		33/45/78	● ● ●	338
●	Roksan Radius 5.2	1,399	Sophisticated design with accomplished sound quality, excellent imagery and good isolation		33/45	● ● ●	338
●	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	1,750	Very well-defined bass; good detail; well judged rhythm and pace (reviewed with Excalibur arm)		33/45	● ● ●	345
●	Well Tempered Simplex	1,495	Superb timing makes this one of the most entertaining turntables in its price range		33/45	● ● ●	347

Phono cartridges

MM and MC recommendations



Badge	Product	Price	Comments	Replaceable stylus	Issue number
●	Dynavector DV-20X2L	499	Revealing and open sound from a well-built and easy-to-align MC cartridge	MM	342
●	Dynavector Karat 17D3	699	One of the most thrilling-sounding cartridges on the market	MC	334
●	Golding Legacy	595	An MC cartridge better suited to the smoother-sounding turntable, it unearths a mountain of detail	MM	328
●	 Grado Prestige Gold 1	150	Unusually assured 'presence' region is the basis of a beautifully musical and involving presentation	MC	338
●	Ortofon 2M Red	80	A little fussy about set up, but sound is admirably balanced and full of unforced detail	MM	345
●	Ortofon Vivo Red	200	Never less than musically convincing, this all-in-one cartridge is remarkably capable	MC	338
●	Ortofon Cadenza Red	750	There's much to admire in this cartridge's fine detail and unfussy presentation	MM	330
●	Shure M97xE	82	A budget cartridge, but bass and midrange are to high-end standards and treble is just as assured	MC	345

Phono stages

Make your turntable sing



Badge	Product	Price	Comments	www.techradar.com	MC phono inputs MM phono inputs	Adj impedance Adj gain	Issue number
●	Dynavector P-75 MkII	595	A stage that will put spring in the step of any decent cartridge you can throw at it		● ● ●	● ● ●	344
●	Lehmann Audio Black Cube	335	This phono amp is a very distinguished performer with an MM source		● ● ●	● ● ●	335
●	Linn Uphorik	1,850	Exceptional sound quality, the Uphorik could easily win over the next generation of LP enthusiasts		● ● ●	● ● ●	334
●	Primare R32	850	If you are into vinyl for the music, then this is one of the most revealing examples on the market		● ● ●	● ● ●	345
●	Pro-Ject Tube Box SE II	435	The big picture is the most evident thing here, but the finer details are there, too		● ● ●	● ● ●	335

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



Dynavector Karat 17D3 £699
The 17D3 gets very close to the results achieved with MCs at twice the price and few can touch it in terms of sheer musicality and resolution of detail



Pro-Ject 6 Perspex £1,280
Our Product of the Year 2010. A winning combination of open and even-handed sound, handsome design and excellent build quality



Dr Feickert An. Woodpecker £2,995
A very flexible and well-thought-out deck that offers brilliant build quality and excellent bass. Able to work with a wide variety of arms, too

The Music Chain

Much is written about music and the musicians who entertain us, and we rightly exalt great musicians. But there is an interlinked chain of participants, two of which are I believe are crucial to our music scene in today's world. For centuries the music chain was a very short one – composers or songwriters, musicians and listeners, and the judgement on quality was immediate. Recording technologies have changed all this exponentially.

Today, we listen to most of our music from a recording and this gives recording engineers the opportunity to avoid poor acoustics, duff notes and off days. This, of course, means the chain has grown to include the recording engineers, the music distribution system (retailers or downloads), hi-fi manufacturers, hi-fi sellers and the hi-fi purchasers, the latter being the listeners. I should start by saying that hi-fi has become an adulterated term that no longer has its original meaning because it's applied to much equipment that certainly should not be termed high-fidelity.

It's said that a chain is only as strong as its weakest link. However, I believe there are two particularly strong links that, if removed from the chain, would seriously damage the quality of recorded music. These are the audiophile, or hi-fi connoisseur, and the specialist hi-fi retailer, the latter in nearly all cases also being the former because it's their interest that has driven them into their particular business. These are the people who most appreciate how exciting and involving music can be and how it can deliver an emotional experience.

Hi-Fi Connoisseurs

So why is the hi-fi connoisseur so important to the music industry? By their nature, audiophiles are generally avid music lovers who enhance their enjoyment through listening to music at its very best quality level, which means playing great recordings through hi-end hi-fi to achieve the most outstanding results. Without the audiophile, the main driver for quality would probably be removed from the chain. Let's be honest, over recent years the majority of music listeners now settle

for MP3 convenience and, therefore, mediocre sound quality. If the pendulum ever swings so far that all but a few listen to highly compressed formats such as MP3, music producers will not waste their resources on producing high quality recordings because it would be commercially unnecessary, even if their recording engineers wanted to achieve the best they could. After all, an MP3 or AAC file, the iTunes default format, downloaded at 128 kbps (the most popular download speed), is about one-eleventh the size of a full resolution CD track, 1411 kbps, so the quality is inevitably far inferior. Information is irretrievably lost and the full dynamic range is lacking. Using an iPod while jogging does not really raise a quality issue but playing low-resolution tracks through an iPod docking station that feeds into a decent hi-fi system, is a disaster area. It's rubbish quality made louder. Fortunately, there is still significant demand from audiophiles committed to sound quality to sustain the production of high quality recordings, but it would be a tragedy if there weren't. For example, most classical recordings downloaded as

THE TOP 20



an MP3 or AAC file are a complete waste of time because there is so much information missing that they are reduced to just the essence of a tune.

Specialist Hi-Fi Retailers

Just as essential a link in the chain as the hi-fi connoisseur is the specialist hi-fi retailer and the two are rightly dependent on each other. Without the specialist retailer the hi-end hi-fi manufacturer would have to rely on the internet and hi-fi magazine reviewers to try and assess the relative merits and performance of their products against that of their competitors – a notoriously unreliable decision making process. Specialist hi-fi retailers are constantly being offered new products for assessment and potential stocking and, as it is also their hobby as well as their livelihood, they are greatly interested in achieving the best performance and seeking out the most outstanding products and combinations. More than that though is their relationship with audiophiles for, if they are to stay in business, they must satisfy the most discerning customers in the industry.

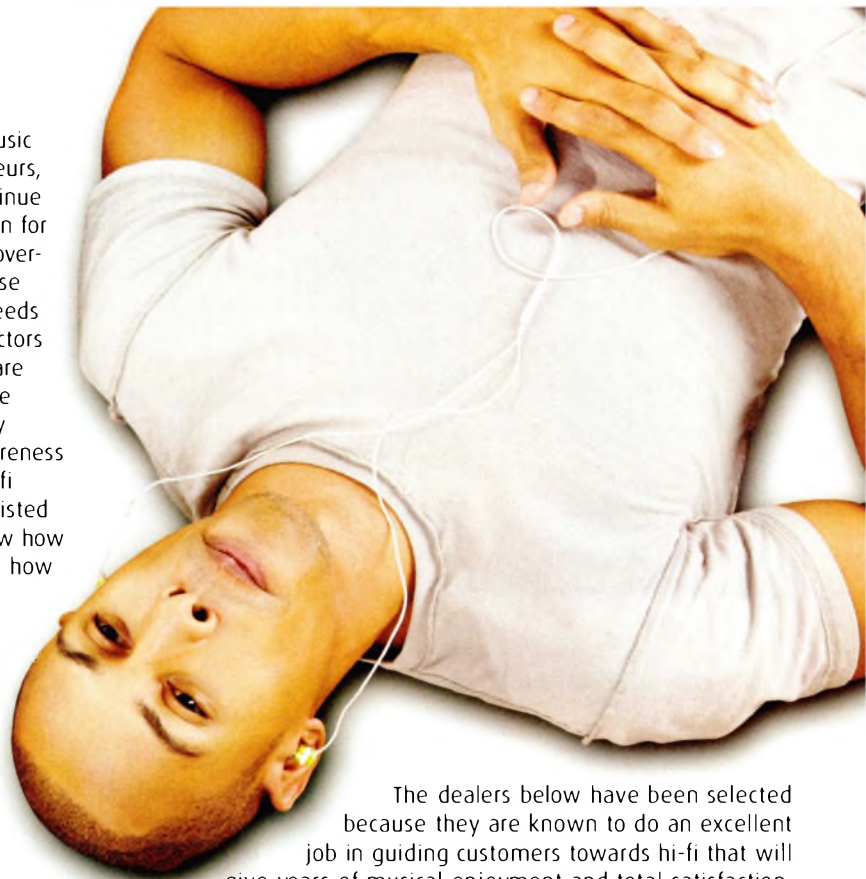
The reality is that audiophiles and specialist hi-fi retailers are essential to each other.

Future of Recorded Music

What are the future prospects of maintaining high quality music recordings? We must hope that audiophiles, or hi-fi connoisseurs, or perhaps most accurately described, music lovers, will continue to drive the demand for quality. But another important reason for hope within the mass-market is that there is no longer any overriding reason for MP3 and AAC to have such a following. These formats were designed to overcome very slow download speeds and expensive memory capacity. These are not significant factors for most people now. Full resolution, CD quality, downloads are already available and should become the norm as long as the general public can be made aware of the tremendous quality benefit. This has happened with HD TV so we know this awareness can grow rapidly. In the meantime, we must highly value hi-fi connoisseurs and specialist hi-fi retailers, of which the ones listed on this page represent the UK's finest. Specialist dealers know how to choose the products that combine as a superb system and how to get the best out of it by expert installation in the home. If there's a price premium over an internet purchase, it's probably a small one, but it's unquestionably worth the difference.

STAR QUALITIES

VALUE FOR MONEY	★ ★ ★ ★ ★
SERVICE	★ ★ ★ ★ ★
FACILITIES	★ ★ ★ ★ ★
VERDICT	★ ★ ★ ★ ★



The dealers below have been selected because they are known to do an excellent job in guiding customers towards hi-fi that will give years of musical enjoyment and total satisfaction.

GUIDE

TO BUYING A HI-FI SYSTEM

OUR TOP 20 UK HI-FI DEALERS

SOUTH

Ashford, Kent
SOUNDCRAFT HI-FI
40 High Street.
t: 01233 624441
www.soundcraftthifi.com

Chelmsford
RAYLEIGH HI-FI
216 Moulsham Street.
t: 01245 265245
www.rayleighhifi.com

Colchester
RAYLEIGH HI-FI
33 Sir Isaac's Walk.
t: 01206 577682
www.rayleighhifi.com

Kingston-upon-Thames
INFIDELITY
9 High Street,
Hampton Wick.
t: 020 8943 3530
www.infidelity.co.uk

Maidenhead
AUDIO VENUE
36 Queen Street.
t: 01628 633995
www.audiovenue.com

Rayleigh, Essex
RAYLEIGH HI-FI
44a High Street.
t: 01268 779762
www.rayleighhifi.com

Southend-on-Sea
RAYLEIGH HI-FI
132/4 London Road.
t: 01702 435255
www.rayleighhifi.com

Southampton
PHASE 3 HI-FI
37 Bedford Place.
t: 023 8022 8434
www.phase3southampton.co.uk

LONDON

Ealing
AUDIO VENUE
27 Bond Street.
t: 020 8567 8703
www.audiovenue.com

N1
GRAHAMS HI-FI
190a New North Road.
t: 020 7226 5500
www.grahams.co.uk

SW11
ORANGES & LEMONS
61/63 Webbs Road.
t: 020 7924 2043
www.oandlhifi.co.uk

SOUTH WEST

Bath
AUDIENCE
14 Broad Street.
t: 01225 333310
www.audience.org.uk

Exeter
GULLIFORD HI-FI
97 Sidwell Street.
t: 01392 491194
www.gullifordhifi.co.uk

MIDLANDS

Banbury
OVERTURE
3 Church Lane.
t: 01295 272158
www.overture.co.uk

Birmingham
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363 Hagley Road,
Edgbaston.
t: 0121 429 2811
www.musicmatters.co.uk

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163 Spon Street.
t: 024 7652 5200
www.frankharvey.co.uk

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www.cymbiosis.com

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www.castlesoundvision.com

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THE AUDIO WORKS
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t: 0161 428 7887
www.theaudioworks.co.uk

Chester
ACOUSTICA
17 Hoole Road.
t: 01244 344227
www.acoustica.co.uk

Hull
THE AUDIO ROOM
2 George Street, Hedon
t: 01482 891375
www.theaudiroom.co.uk

York
SOUND ORGANISATION
2 Gillygate.
t: 01904 627108
www.soundorg.co.uk

SCOTLAND

Aberdeen
HOLBURN HI-FI
441 Holburn Street.
t: 01224 585713/
572729
www.holburnhifi.co.uk

Edinburgh
LOUD & CLEAR
Bonnington Mill,
72 Newhaven Road.
t: 0131 555 3963
www.loud-clear.co.uk

Glasgow
LOUD & CLEAR
520 St Vincent Street.
t: 0141 221 0221
www.loud-clear.co.uk

Glasgow
GLASGOW AUDIO
135 Great Western Rd.
t: 0141 332 2200/4707
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Radio tuners

Surf the airwaves with these carefully selected tuners

FM tuners

Badge	Product	Price	Comments	www.techradar.com	Wavebands	Presets	RDS	Remote control	Rot tuning knob	Issue number
●	Creek Audio Evolution	350	Sound is detailed, cohesive and extended both tonally and spatially – very classy		FM,AM	80	●	●	●	308
●	NAD C426	220	If you aren't already wedded to DAB, then this is a very attractive purchase		FM,AM	80	●		●	339
●	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	●		●	337
●	Pure Sensia	250	One of the smartest table radios around, offering wireless computer-sourced music		DAB,FM,Web	40	●	●		331
●	Roberts Revival	200	A handy way to get internet radio and media streaming throughout the house		DAB,FM,Web		●			344
●	Tivoli Networks+10	239	FM reception is excellent and a cut above everything else this radio has to offer		DAB,FM,Web	5	●	●		344
●	Vita Audio R1 MkII	160	Limited to DAB/FM and line inputs, but the sound quality is very good		DAB,FM,Web	10	●	●		337
●	Vita Audio R2i	300	Very smartly built with a sound that's full-bodied, neutral and detailed	/611865	DAB,FM	30	●		●	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

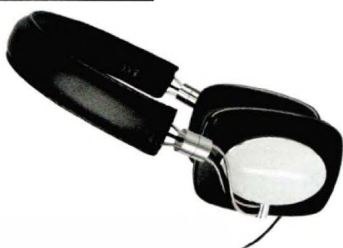
Audiophile solutions for home and travel use



Badge	Product	Price	Comments	www.techradar.com	Electrostatic	Supra-aural	Open / Closed back	Circumaural	3.5mm jack adaptor	Weight (grams)	Issue number
●	AKG Q701	500	A welcome addition to the ranks of the world's finest transducers				●			235	341
●	Audio Technica ATH-W1000X	649	Fine advert for the virtues of closed-back headphones, with great bass and background noise reduction				●			350	334
●	Beyerdynamic DT770	179	One of the most tonally satisfying closed-back headphones around with excellent detail				●			270	333
●	Beyerdynamic T1	880	A characterful, enjoyable music-maker with a detailed, weighty sound				●				331
●	Bowers and Wilkins P5	250	A superb headphone with B&W's sound and build quality sealing the deal				●			195	333
●	Grado SR60i	100	A strong contender with out-of-class sound in most areas: a brilliant budget all-rounder	/603478	●		●			210	322
●	Grado SR80i	120	A beautifully neutral and open-sounding headphone that's lively and energetic too				●				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				●			500	329
●	Klipsch Image X10i	229	Natural sound and fit; lightweight and unobtrusive in-ear headphones							10	342
●	Sennheiser HD380	140	This model offers good sound and is a worthy alternative to in-ear monitors				●				327
●	Unique Melody Miracle	775	Great build and sound, the custom-moulded Miracles are one of our favourite in-ears				●				346

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.

HFC TOP PICKS



Bowers & Wilkins P5 £250

The P5 is a no-brainer for iPhone users but this well built and attractive design should be able to win friends from outside the Apple camp as well



PURE Sensia £250

PURE's ground-breaking touch-screen DAB radio has changed the way we interact with radio forever and sets the standard for innovation



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Amplifiers



Our pick of the best one-box amps out there

Up to £1,000

Badge	Product	Price	Comments	Line inputs	Phono input	Remote control	Headphone socket	Power output (watts)	Issue number
●	Audio Analogue Crescendo	599	In a room of appropriate dimensions, this amplifier has real musical presence	5				50	329
●	Cambridge Audio 840Av2	800	A chunky powerhouse with features aplenty, this amp offers detail and delicacy (silver finish)	8	●	●		120	327
●	Denon DCD-1510AE	900	Offers a taste of high-end excellence at an affordable price	5	MM/MC	●	●	70	335
●	Exposure 2010S2	752	Impressive amplifier with preamp output, the 2010S2 was a blind group test winner	6		●		75	344
●	Marantz KI Pearl Lite	750	Impressive performer with a well-filled phono-amp board and now down to £750 from £920	5	●	●	●	90	344
●	NAD C3226BEE	320	Unusually confident into awkward loads and very assured especially in bass. Treble a touch recessed	/603281	7		●	50	322
●	Rega Mira 3	460	Competent performer that makes an excellent system with the matching Saturn CD player	5	●			60	344

Above £1,000

●	Cayin Audio A-55T	1,460	Despite some minor shortcomings, this valve amp can be a very rewarding listen	4				40	346
●	Consonance Cyber 10 Sig	1,595	Gorgeous tube amp delivering high-end performance at a realistic price	5				11	345
●	Creek 5350 Evolution	1,075	One of the most attractive amps in its price range, with a sound that's immediately satisfying	5	MM/MC	●		120	334
●	Creek Destiny 2	1,600	Excellent tonal balance and gorgeous, effortless detail	6	opt	●	●	116	342
●	Cyrus Bxp d	1,550	Best heard in the context of a Cyrus system, this amp nevertheless has some great qualities	6		●	●	80	342
●	Electrocompaniet EC15	2,750	Big, characterful and beautifully built amp, with equally big and unforced sound	6				120	340
●	Emillé Ara	2,450	An extremely competent valve amp in its own right with a useful set of features	2			●	22	343
●	Icon Audio Stereo 60 Mk 3	1,700	An energetic valve amp that offers high power and delivers it with confidence	4			●	65	346
●	Leema Pulse III	1,495	Offers a clean, smooth sound and has an unusually wide array of inputs	6	MM/MC			70	342
●	Luxman L550A-II	3,000	An accomplished all-rounder that's able to handle virtually any system	4	MC	●	●	20	335
●	Micromega IA-100	1,125	Fast and fluid performer that brings a touch of panache to its role	5	MM	●	●	100	332
●	Musical Fidelity M31	1,000	Extremely engaging performer, this power amp boasts excellent sonics and solid build	6	●			70	337
●	Peachtree Audio iDecco	1,000	A well-equipped amp/DAC one-stop solution for iPod and digital audio users	2			●	40	344
●	Peachtree Audio Nova	1,099	This amp/DAC combi is a fine heart for a computerised desktop system	3		●	●	80	341
●	PrimaLuna Prologue Two	1,820	This valve amp has many fine qualities that will endear it to many audiophiles	4			●	30	346
●	Primare I32	2,200	Gorgeous sound, while the prospect of future upgrades is truly mouth-watering	3				120	344
●	Resolution Audio Cantata	3,995	This perfectly formed amplifier reveals that the language of music is easy to understand	4	opt	●		50	342
●	Roksan Caspian M2	1,600	This muscular-sounding amplifier is load tolerant and more powerful in practice	6		●		85	338
●	Unison Research S6	2,990	This valve amp creates a big spacious soundstage with ample depth and width	5				35	347

Pre/power amplifiers

Separate boxes can bring clear advantages



Up to £2,000

Badge	Product	Price	Comments	Line inputs	Phono input	Remote control	Power output (watts)	Issue number
●	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/C275BEE	1,550	An alternative to the usual integrated route and one that offers flexibility and fine sound	●	●	6 MM/MC	130	336

Above £2,000

●	Audio Research DS450	7,000	Power amp features a very neutral transparent sound with lots of power and low-running temperature		●	2	450	337
●	Bryston BP16/ 2B S5T2	5,700	Preamp and power amp combo offers superb sound quality	/608649	●	6 opt	100	323
●	Bryston BP26	3,670	Cracking preamp brings detailed results		●	8 opt		308
●	Cayin SP-30S/SP-40M	3,346	Smooth clean sound quality, this combo is well-balanced and natural-sounding		●	4 MM	40	343
●	Cyrus Stream XP	2,000	An easy to use streaming DAC/preamp with a great combination of sound quality and features		●	5		346
●	Cyrus Mono X300	2,495	A power amp with a rare combination of speed and resolution		●	2	300	341
●	Linn Akurate Kontrol/2200	7,550	Reviewed as part of an entire system (streamer and speakers), this combo offers a crisp, open sound		●	2	200	343
●	Mark Levinson No. 326S	8,000	Excellent USB implementation, natural sound and solid build. Excellent performance levels		●	7		338
●	Musical Fidelity M6PRE/PRX	4,998	For those wanting a powerful high-end pre/power combo at a realistic price, this is a fantastic package		●	9	260	340
●	Onkyo P-3000R/M-5000R	4,200	Superb sounding combination with excellent build, flexibility and connection options		●	6 MM	80	345
●	Rotel RC158/RB1582	2,100	It looks high-end and it really sounds the part, too		●	5 MM/MC	200	336
●	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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Streamers/music servers

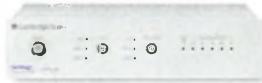


Streaming and music servers are opening up a new dimension in listening pleasure

Badge	Product	Price	Comments	www.techradar.com	Internal drive Wireless	iPod compatible internet radio	Balanced output Apple Airplay	Digital output	Issue number
●	Linn Akurate	4,500	Fast album/track access and the extended playing times make this a winner		●	●	●	●	343
●	Marantz NA7004	720	Easy to use, the NA7004 makes getting into streaming simple and all for a great price, too			●	●	●	344
●	Naim Unitiqute	1,350	All-in-one streamer/player has excellent features and is easy to set up with strong performance		●	●	●	●	339
●	Naim NDX	2,995	The ideal combination of vivid performance and understated styling		●	●	●	●	345
●	Yamaha NP-S2000	1,429	Drop-dead gorgeous and it sounds appropriately sophisticated			●	●	●	346

SPECS KEY: **WIRELESS** Able to receive files wirelessly **INTERNAL DRIVE** Fitted with its own hard drive **USB** USB Sockets fitted **INTERNET RADIO** Able to receive web radio **IPOD COMPATIBLE** Able to connect directly to an iPod **APPLE AIRPLAY** Able to function as an AirPlay receiver **BALANCED OUTPUT** Fitted with a balanced out **DIGITAL OUTPUT** Fitted with a digital output

DACs



Digital-to-analogue converters are back and the price has come right down

Badge	Product	Price	Comments	www.techradar.com	Coaxial input	Optical input	Sampling rate (kHz)	Headphone socket	Volume control	Issue number
●	Antelope Audio Zodiac Plus	1,895	Remarkable resolving capabilities and more inputs than the majority of DACs		●	●	192	●	●	345
●	Benchmark DAC1	950	Very clean sound with plenty of detail and also good rhythmic drive		●	●	192	●	●	341
●	Cambridge Audio DacMagic	230	Detail and imaging are very good and a decent feature count only adds to the appeal		●	●	96	●	●	331
●	Electrocompaniet PD1	1,250	Great sound and superb build, the PD1 allows you to access music on your computer hard drive		●	●	192	●	●	346
●	Furutech GT40	395	The perfect 'missing link' between analogue and the home computer			●	96	●	●	342
●	Lavry DA10	1,028	Can be ruthlessly revealing of deficiencies in once-admired recordings		●	●	96	●	●	341
●	Musical Fidelity M1 DAC	400	Tested with the M1 CDT CD transport, this DAC boasts excellent sound quality and features		●	●	192	●	●	346
●	Naim Audio DAC	1,950	Sounds meticulously detailed without detracting from the cogency and flow of the music		●	●	768	●	●	328
●	Rega DAC	498	A little stunner, combining genuinely high-end sound with a good feature set		●	●	44	●	●	346
●	PSAudio Digital Link III	899	A simple no-fuss product that just sounds great and at its price is something of a bargain		●	●	192	●	●	341

SPECS KEY: **COAXIAL INPUTS** Fitted with a coaxial input **OPTICAL INPUTS** Fitted with an optical input **USB** Fitted with a USB input **WIRELESS** Able to receive material wirelessly **SAMPLING RATES** Maximum sampling rate of the DAC **BALANCED OUTPUTS** Fitted with a balanced output **HEADPHONE SOCKET** Can operate as a headphone amp **VOLUME CONTROL** Can be connected directly to an active speaker or power amp.

Cables



Cables really can make a difference, especially our top recommendations

Analogue interconnects

Badge	Product	Price	Comments	www.techradar.com	Stranded	Solid core	Copper	Silver	Digital cable type	Issue number
●	Black Rhodium Polar Illusion	250	A good all-rounder, with clear and purposeful bass and particularly fine treble		●	●	●	●		321
●	Chord Co. Indigo Plus	995	Costly, and high-class cable needs running in, but this is a finely detailed design overall	/608313	●	●	●	●		323
●	Peerless Sigma	70	A cable that belies its modest price with sound that's detailed, neutral and full bodied		●	●	●	●		343
●	QED Ref Audio Evolution	63	Tonally favours the bass, but overall detail and imaging are very good		●	●	●	●		343
●	QED Signature Audio S	190	Mellifluous and rounded, this cable is a great choice for lovers of the human voice		●	●	●	●		332

Digital interconnects

●	Atlas Mavros	285	By any reckoning this is a very revealing wire		●	●	●	●	E	336
●	van den Hul The Wave	65	The results this cable achieves are excellent and it scores highly for value		●	●	●	●	E	336

Speaker cables (price per metre)

●	Black Rhodium Jive Bi-Wire	14	Bi-wire cable which is full of sonic virtues. It's highly practical, too		●	●	●	●		339
●	Kimber 4VS	155	In the right system, this cable is a good choice (price reflects 2.5 metre terminated pair)		●	●	●	●		329
●	Monster MCK-1s	5	Notable for its bass, perhaps a touch overdone at times but could be a good foil to small speakers		●	●	●	●		280
●	van den Hul The Teatrack	35	A bi-wire cable with a sound that's impeccably timed, neutral and full of detail		●	●	●	●		339
●	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. **COPPER** 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.

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BADGES KEY: RECOMMENDED = ● EDITOR'S CHOICE = ● GROUP TEST WINNER = ● BEST BUY = ●

Stereo speakers

The most influential link in the chain



Size: width, height, depth (cm)
www.techradar.com
Floorstander
Ease of drive
Bass (from Hz)
Close to wall
Free space
Issue number

Up to £1,000										
Badge	Product	Price	Comments							
●	Acoustic Energy Aegis Neo 3	363	Pretty, neutral floorstander sounds open with wide dynamic range and good bass weight		20,90,5,24	●	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	●	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
●	Cambridge Audio S30	130	At its best with energetic, rhythmic music, this bookshelf speaker has class-leading bass		16,22,6,23,5					347
●	Castle Knight 2	400	A true resurgence for the Castle brand, the Knight 2 has a beguiling sound quality		20,38,33,5	●	A+	42	●	338
●	EB Acoustics EB2	669	Excellent value speaker, its composite enclosure gives a very clean and neutral sound		22,5,45,30	●	A	64	●	341
●	Epos Epic 5	750	Excellent aesthetic and lively, involving sound, this is a superb performer		28,6,98,38	●	A		●	347
●	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	●	A	23	●	315
●	Mission MX5	600	An engaging listen and worth an audition, if you have the room		25,99,5,39	●	A-		●	341
●	Monitor Audio BX5	500	Attractive and compact design with fast and engaging sound		21,5,86,8,24,8	●	A-		●	345
●	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
●	PMC DB1i	985	Could be more neutral, but a very effective musical communicator		15,5,29,23,4	●	A+	30	●	334
●	ProAc Tablette Ref Eight	704	Stunning standmount with electrostatic-like imagery. Its brother is even better!		15,27,23	●	A+	40	●	267
●	Q Acoustics 2010	115	The sheer cleanliness of this speaker's sound is astonishing		15,23,4,20,3					347
●	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	●	319
●	Roth Audio Oli10	100	An even-handed bookshelf loudspeaker with very good upper-bass energy		15,3,199,178					347
●	Spendor S3/SR	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 DC6T	820	Good-looking and compact floorstander with a beautifully judged overall balance		20,2,95,25,3	●	A		●	346
●	Teufel T500	568	Good value, solid build and an extended warranty		19,5,105,32,5	●	A-		●	340
●	Wharfedale Diamond 10.0	130	A strikingly energetic bookshelf speaker that's notably communicative with voices		14,5,23,6,16,5					347

Above £1,000										
Badge	Product	Price	Comments							
●	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 2	1,000	This speaker boasts fine neutrality, sweet top, fine imaging and wide dynamic range		18,5,92,25	●	A	30	●	334
●	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
●	AE AE1 MkIII	2,000	This speaker has a lovely midband smoothness and superior image focus		18,5,31,25	●	A	24	●	337
●	Amphion Argon 3L	2,300	Solid build ensures an impressively clean sound with loads of bass and fine neutrality		19,92,5,30,5	●	A	44	●	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 Ki3 Signature	1,890	Very attractive and discreet, with fine stereo imaging and low coloration		14,98,27	●	A		●	343
●	Audiovector S3 Super	2,600	Useful ability to upgrade, offers good musical communication and stereo imaging		19,103,31	●	A	50	●	328
●	AVI ADM9	1,125	Active mini-monitors that are exceptionally accurate and dynamic sounding		20,30,26	●	ACT	60	●	301
●	Bowers and Wilkins CM8	1,250	Exceptional looking speaker with a fine midrange and superior imaging		16,5,96,28	●	A	60	●	344
●	Bowers and Wilkins 802	11,500	This high-end speaker has an airy, spacious midband, with clean bass reproduction		36,8,138,56,3	●	A	27	●	337
●	Cabasse Bora	2,200	A real enthusiast's choice with high sensitivity, strong bass and powerful dynamics	/618354	33,27,50	●	A	52	●	324
●	Canton Vento 820	1,200	Really emphasises the benefits of the standmount, with great freedom from boxiness		22,36,31,5	●	A+		●	342
●	Dynaudio DM3/7	1,299	Sound has a fine overall balance and impressive bass weight		20,4,96,27,5	●	A		●	345
●	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	●	A-	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
●	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

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Stereo speakers (continued)

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Badge	Product	Price	Comments	Size - width, height, depth (cm)	Floorstander	Ease of drive	Bass from (Hz)	Free space	Close to wall	Issue number
●	Guru QM10	1,595	A very clever close-to-wall standmount with line imaging, that sounds a lot bigger than it looks	/465869	30,25,23,2	●	A	26	●	317
●	Jamo R 907	6,600	Arguably the more 'chummy' of Jamo's dipole flagships, powerful bass and open midrange	/498515	44,118,97	●	A	30	●	317
●	JBL Everest DD66000	44,000	Awesome performance in the true meaning of the word & exceptional musical communication		111,965,47	●	A	50	●	331
●	Kudos X2	1,350	Attractive presentation alongside a lively sound makes for an involving experience		16,6,78,20,6	●		27	●	337
●	Linn Akurate 242	7,300	Wide, smooth high-frequency dispersion, with excellent sound		21,100,38	●			●	343
●	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	●	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	●	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
●	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 GB1i	1,525	Fine voice reproduction, overall agility and well-judged balance		155,87,23,4	●	A	40	●	347
●	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 fact .8	5,250	Beautiful styling, alongside a superb all-round sound with a notably wide dynamic range		155,105,38	●	A	55	●	327
●	PMC IB2i	8,900	Delivers a top-class sound quality, fine imaging and exceptional dynamic grip	/617595	33,74,46,5	●	A	25	●	324
●	ProAc Studio 140 Mk2	1,690	Headroom and high sensitivity are an encouragement to play it loud		19,104,28	●	A		●	347
●	Rega RS7	1,685	Lively and transparent with superior dynamic range		24,6,98,8,34,6	●	A		●	347
●	Revolver Screen 3	2,799	Visually dramatic and very successful in delivering genuine high-quality hi-fi sound		50,140,11	●	A	35	●	329
●	Roksan Caspian FR-5	2,475	Sharp-looking speaker sounds exceptionally open and lively without aggression		20,100,25	●	A	22	●	290
●	Sonus faber Luito Monitor	1,690	Subtly designed, elegant-sounding package, especially with good recordings	/603221	18,5,35,33,5	●	A-	55	●	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 SA1	1,295	Very high-quality sub-miniature with notably superior sound		16,5,30,5,19	●	A	30	●	334
●	Spendor SP3/3R2	2,295	Lovely overall balance with fine voicing and transparency		27,54,5,32,5	●	A		●	343
●	Tannoy Definition DC8	2,500	Stylish-looking, this speaker is a fine communicator with clean, crisp and dynamic sound		27,47,26			55	●	343
●	Totem Sttaf	1,695	This speaker delivers good scale with a fine midband		16x85x24.2	●	A		●	340
●	Triangle Genese Lyr	3,300	A well-balanced speaker with generous sensitivity, fine imaging and good expressiveness		23,30,3,113,3	●	A	30	●	338
●	Teufel Ultima 800	2,498	Exceptional value for money due to direct sales and easy system-matching		22,98,37	●	A	42	●	335
●	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	●	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	●	296
●	Zu Essence	3,750	Realism and communication skills are more than compensation for balance shortcomings		30,5,125,30,5	●	A	25	●	327

SPECS KEY **SIZE W,H,D (CM)** Width, height and depth of one cabinet in centimetres. **FLOORSTANDER** 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** 50 watts plus **A-** 100 watts plus **ACT** 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).

HFC TOP PICKS



Castle Knight 2 £400

The Knight 2 continues in the great Castle tradition of excellent finish and solid build and climbs to the top of the pile with excellent sonic performance



Focal Chorus 826W LE £1,879

Focal has taken the 826 and turbocharged it, keeping the virtues of the stock model but with increased energy, excitement and detail



PMC fact.8 £4,600

A fantastic combination of elegant design, well-thought out room-tuning features and superb sonic performance. A 2010 Product of the Year nominee

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BADGES KEY: RECOMMENDED = ● EDITOR'S CHOICE = ● GROUP TEST WINNER = ● BEST BUY = ●

Equipment supports

Hi-fi equipment supports come in all shapes and sizes



Badge	Product	Price	Comments	Top plate size (cm) Height (cm)	Number of shelves Welded	Shelf type	Issue number
●	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
●	Blok Stax 300	180	A simple and effective design that gives some useful isolation across most of the audio band		40,46	3	MDF 334
●	Custom Design Inert Matt	70	Isolation platform can improve the sound of hi-fi components, but is a bit small for most kit		40x25		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
●	Magic Racks MR1	600	At its best it's very effective and gives real isolation across the audio band	59			Rubber 344
	Partington Minim	470	Adds its own character to rock, but to the detriment of acoustic sounds	78	45,37	● 5	Glass 302
●	Quadraspire QX25 Support	25	Beautifully simple design, cheap and easy to use. Excellent with CD players				Acrylic 327
●	Quadraspire Sunoko-Vent T	800	The sound is detailed and largely uncoloured, while the design is rigid and beautifully veneered		59,47	4	MDF 334
	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	Torlyte 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

Not all stands are made equal - try one of our top buys



Badge	Product	Price	Comments	Top plate size (cm) Height (cm)	Number of shelves Welded	Fillable	Issue number
●	Atacama Duo 6	65	Maintains high standards in mid and treble, with excellent tonality and good detail		17,13	●	1 346
●	Custom Design FS104	190	Gets excellent results out of speakers small and large, and excels in fine detail and precise imaging			●	1 346
●	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
●	Quadraspire QV60	250	This stand helps maximise detail and tonal resolution				1 346
●	Soundstyle Z2	70	Bass can be a little imprecise, but there's plenty of detail on offer		17,13	●	1 346

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.

HFC TOP PICKS



Atacama Duo 6 £65
This value-priced loudspeaker stand adds a hint of vibrancy to the sound and there's plenty of life and energy in the midrange and treble



Quadraspire Sunoko Vent T £800
A clever solution to the twin problems of equipment cooling and resonance, thanks to a unique shelf design, makes this a worthy 2010 award winner



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

JENA LABS

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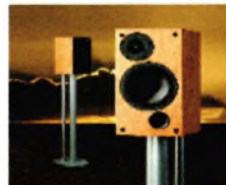
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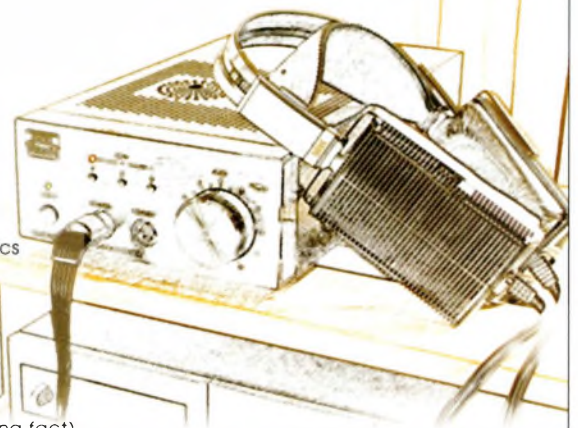
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Leading from the front?

'Front end first' has dominated system-building for decades. **Ed Selley** wonders if in the streaming age it is time for a rethink

Last month (*HFC 347*), Martin Pipe put forward a strong case that the technical ability of sub-£1,000 DACs is now such, that regardless of the price of the rest of the components, they are all the front end that you would ever need.

Hot on the heels of this bold statement comes the M2 Tech DAC (reviewed on page 80) that not only has a top-drawer performance, but also offers a USB input that has capabilities not currently available on any other device irrespective of price. Is it now the case that the 'Front end first' philosophy is no longer logical in the face of the performance that some entry-level products are offering?

Front end first dates back to the analogue age and dictates that a system can never be better than the source material it works with. This evolved into a policy of dividing a budget equally over source, amplification and speakers and sometimes even a larger amount on the source.

Turntables by their very design require a considerable amount of mechanical engineering and the costs for this are fairly consistent – the Pro-Ject RPM 10.1 costs a considerable amount more than the Genie, but the constituent parts cost proportionally more as well.

With digital, it is still perfectly feasible to follow Front end first if you are assembling a system with an amp and speakers at less than £1,000 each, but should you automatically look to spend more on a source if your amplification and speakers cost more? Increasingly, it is harder to automatically say 'yes' to this. Freed from the mechanical requirements of spinning discs, DACs are as good as the their remaining parts. As these parts need not be hugely expensive, the price of true brilliance is lower than ever before.

Stream on

As the requirement to spin CDs at all looks to be diminishing, this asks questions of whether dedicated streamers will restore the policy of Front end first or degrade it further. There are arguments both ways in this regard.

It is hard to argue that the recently reviewed Cyrus Stream XP (*HFC 346*); Naim NDX (*HFC 345*) and Iinn Akurate DS (*HFC 343*) do not justify their asking prices. These are beautifully built pieces of equipment with sensational performance. The quality of their components and casework is unashamedly high end as well. They are considered the replacement for high-quality CD players and are priced as such.

Equally, thanks to the inclusion of internet radio (all of them), digital inputs, (Naim and Cyrus) and a complete preamp (Cyrus), they are still doing more than their predecessors were. As a Stream XP, in particular, might replace a CD, preamp and tuner, the proportion of the budget it takes up, relative to the roles it performs, is quite possibly reduced. Nobody would consider devoting a third of their overall budget to a product this flexible as being unsound.

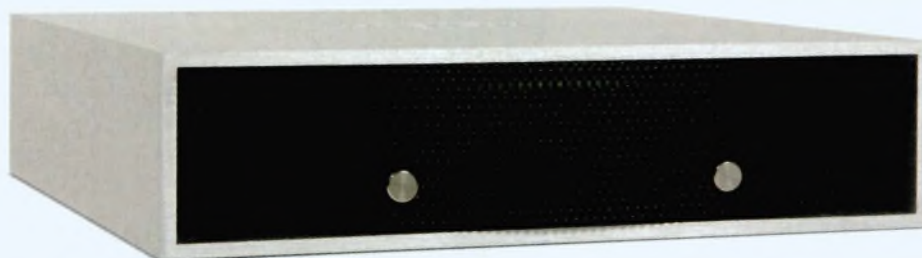
The counter argument for streaming following the Front end first rules comes from the cheapest streaming product we have reviewed – the Squeezebox Touch (*HFC 338*). Here we have a brilliantly intuitive product with a superb interface and options, such as Spotify, that the big boys don't. Connecting a Touch to a Young DAC gives us a device with superb functionality and top-line performance. It does this at an all-up cost of less than any of the three high-end streamers mentioned earlier. Why devote a third of your budget when you don't have to?

Part of the problem is that as equipment becomes ever more software-driven, the volume a piece of equipment is sold in is more important than the overall price. The Squeezebox community, by dint of its size and multiple platforms, has more clout than the high-end streamers do.

Recent innovations and developments in digital are certainly the biggest spanner in the workings of Front end first as a philosophy. Very little in this industry changes overnight, but I can see the market for DACs growing ever larger and the technical differences between the top and the bottom of the market becoming rather less clear cut. The very best digital will still cost, but the percentage attainable for much less money will be significant.

The sheer satisfaction that comes from owning something built like a piece of high end will be enough for some, but in a world with no moving parts, the premium people will pay for it is going to put the brakes on Front end first for many people. We shall see if another rule of purchasing is waiting in the wings. ●

The M2Tech Young DAC – as good as digital needs to be?



Is it now the case that the 'Front end first' philosophy is no longer logical in the face of the performance that some entry-level products are offering?



ED SELLEY

Ed worked in retail before joining some of the biggest names in the hi-fi industry creating and supporting audio products

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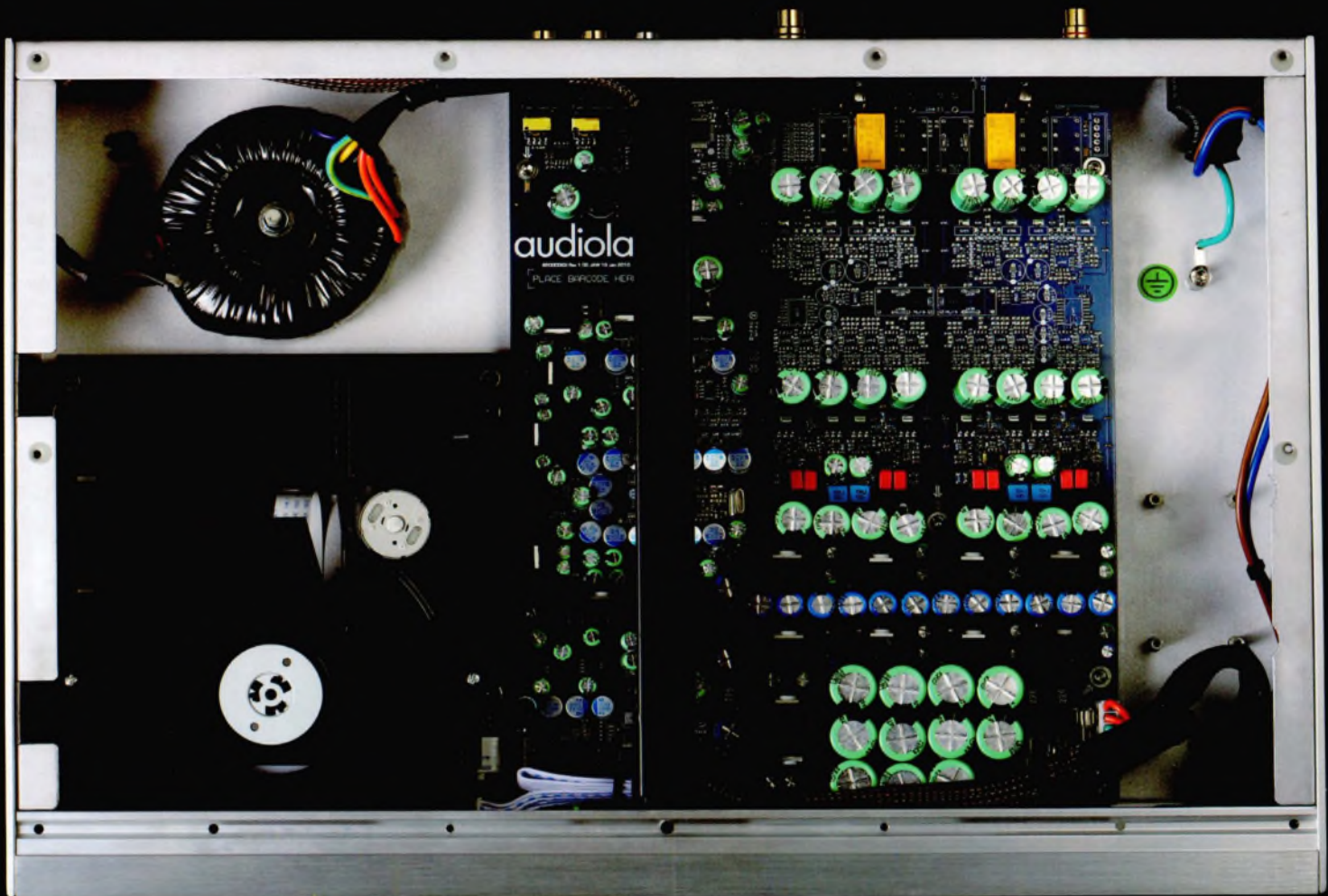
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