

## Turntable super test: six compared

Rega, Pro-Ject, Funk, Townshend  
Michell and Scheu: £750 to £3,100

## Marantz: inside Ken's den

We reveal the secrets of Ken  
Ishiwata's £100k listening room



# Hi-Fi Choice

**PASSION FOR SOUND**

www.hifichoice.co.uk

May 2011

**£3.99**



# Naim changer

## Star quality

The DAC with a difference:  
Antelope's Zodiac transforms  
even the best sources

### Streamer vs CD: will the promise of high-definition be delivered at last?



**25** specially selected products including: Consonance, Dynaudio, Primare and Monitor Audio

## What lies beneath

Onkyo's first-ever audiophile pre/power shakes-up big-name rivals



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# How many CDs do you own but never play?



Comes with credit card size remote control

## Store, browse and listen to your complete CD collection on the revolutionary Brennan

What's the point in owning hundreds of CDs worth thousands of pounds if you never listen to them? The problem with CDs is that it's quicker to make a cup of coffee than dip into a CD. Try timing how long it takes to pick a CD, load it in the CD player, play a snippet from a track or two, eject it and put it back where it came from. Then there is the problem of finding music. The print on a CD spine is tiny. What if the track is on a compilation CD? What if the CD is in the car? Then there is the clutter. You need to keep your CDs near the player or you won't play them. So you are forced to share your living space with literally hundreds of cheap plastic boxes.

CDs are a great way to listen to music but they are also inconvenient, inaccessible and a bit of a chore.

### The Brennan JB7 is a CD player with a hard disk that stores up to 5,000 CDs - and that's not all

It saves space and clutter and delivers near immediate access to an entire music collection. JB7 owners rediscover then fall in love with their music again simply because the Brennan makes it so accessible.

The Brennan also records from vinyl and cassette so you can enjoy your entire music collection but keep the originals in another room or retire them to the attic.

Small enough to pick up with one hand yet big enough for a lifetime of music, the Brennan JB7 is one man's brilliant idea for everyone's forgotten music. Starting at just £366\* it's only available direct from Brennan at [www.brennan.co.uk](http://www.brennan.co.uk).

### Key features

- ▶ Browse albums by spinning the volume knob - push to play
- ▶ Display track names as they play
- ▶ Delete tracks you don't like
- ▶ 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
- ▶ 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
- ▶ You can use it with your existing hi-fi or on its own



*"I've suddenly re-discovered my love of music - it's amazing"*

*"I feel like a teenager all over again - thank you Brennan"*

The Brennan JB7 is available in Cobalt Blue or Titanium Metallic



### Money back guarantee

If you're not suitably impressed with your Brennan JB7 we'll collect it free of charge and refund you in full.

\* Plus P&P

### The face behind Brennan

Martin is a physicist, computer engineer and silicon chip designer. He co-designed the world's first 64-bit games computer.

"I always liked the promise of CDs. It wasn't so much the quality but the quick access to a given

track. After vinyl and cassette that was a real plus. My first CD player was a five CD multi-changer. I liked the idea of quick access to more than one CD and music that didn't repeat after 40 minutes. A few years ago I had a go at loading

my music onto a computer - but I never listened to it - I needed something simpler, more immediate. In the end the computer got a virus and the music files were lost - I still had the originals thankfully. The JB7 is really my personal ideal music player"



Martin Brennan

To get the whole story on the Brennan JB7 and order visit [www.brennan.co.uk](http://www.brennan.co.uk)

**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.



**ALVIN GOLD**  
**EXPERTISE:** PERFORMANCE AUDIO

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



**JASON KENNEDY**  
**EXPERTISE:** TURNTABLES

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



**MALCOLM STEWARD**  
**EXPERTISE:** EMERGING TECH

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

# Welcome...

www.hifichoice.co.uk Issue No. **345** May 2011



It's official – *Hi-Fi Choice* is Britain's *only* growing hi-fi magazine! Recently published independent results from the Audit Bureau of Circulations (ABC) have shown that *HFC* has grown its copy sales in 2010. It's proof that more and more of you are dumping outdated and out-of-touch rivals to enjoy the unique benefits of Britain's best hi-fi magazine.

Regular readers will already know what makes *HFC* the smart choice – from unrivalled six-way *blind-listening group tests*, to the UK's most respected hi-fi reviewers – our formula is without equal, so if you've recently joined us, I'd like to formally welcome you onboard.

This issue is fine example of what puts *HFC* ahead – we've got the world exclusive on Naim's new HDX streamer, a scoop on Onkyo's first-ever high-end hi-fi, plus the definitive guide to turntables in our six-way blind-listening test. All from the UK's *only* officially growing hi-fi mag.

*Dan*

**Dan George** Editor  
dan.george@futurenet.com

FUTURE PUBLISHING, 2 BALCOMBE STREET,  
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Jordan Acoustics



## The NEW 3D Reference Turntable from Systemdek

### Systemdek Turntables - A Jordan Acoustics Exclusive



#### Systemdek 3D Precision

The late Peter Dunlop created the very first Systemdek Turntable over 30 years ago. Now 30 years later (2010), his two sons launch the groundbreaking 3-point suspended Systemdek 3D precision turntable, which has quickly become a runaway success.



#### NEW - Systemdek 3D Reference

For 2011, Systemdek have introduced the awe-inspiring Systemdek 3D Reference turntable. At 65kg, the 3D Reference will not only accommodate any tonearm between 9 - 12 inches in length, but the heaviest tonearms as well. It takes on the very best at any price because in our opinion, it is the finest turntable you can buy.

## bournemouth store

telephone:

# 01202 911 886

e-mail: [bournemouth@jordanacoustics.co.uk](mailto:bournemouth@jordanacoustics.co.uk)

address:

Unit 2 - The Old Cart Building, Parley Court Barns  
Parley Green Lane, Hurn, Bournemouth, BH23 6BB

Open: Tuesday - Saturday. Closed Monday.

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## glenrothes store

telephone:

# 01592 744 779

e-mail: [glenrothes@jordanacoustics.co.uk](mailto:glenrothes@jordanacoustics.co.uk)

address:

20-22 Cadham Centre, Glenrothes, Fife, KY7 6RU

Open: Monday - Friday. Closed Saturday.



### Centre of Excellence

Adam Audio Tensor  
ART Loudspeakers  
IsoTek  
Marantz Legendary  
McIntosh Laboratories  
Systemdek  
Wilson Benesch

### Where it all began

The Glenrothes Store in Scotland is where it all began and in just a short space of time, Jordan Acoustics established itself as one of the UK's top premier specialists of high-end Hi-Fi systems.

**BRANDS** (NOTE: Selected brands may not be available from both stores. Please call to confirm before travelling.)

Adam Audio  
Allnic Audio  
Analysis Plus  
ART Loudspeakers  
Audio Note  
Bel Canto  
Bryston  
Chord Electronics

Clearaudio  
Denon  
EAR/Yoshino  
Isotek  
Leben  
Marantz  
Mastersound  
McIntosh Laboratories

Musical Fidelity  
Nordost  
PMC  
Quadraspire  
SME  
Solidsteel  
Sugden  
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Please see our forthcoming blog on our website for further details

## The NEW Bournemouth Store is NOW open

Nestled in the luxurious grounds of Parley Manor in Bournemouth, our 18th Century Grade II listed showroom offers a high-end experience truly like no other. Launching with the exclusive accolade of 'Centre of Excellence' status for the brands **Wilson Benesch, IsoTek, Marantz Legendary, McIntosh, Adam Audio Tensor, ART Loudspeakers and Systemdek**, we hold an unprecedented level of choice for the purist for whom ordinary just won't do. All our other brands will, of course, be available too making for the most complete, independently chosen, specialist portfolio in the UK.



For the first time ever **Jordan Acoustics** has been recognised by a number of manufacturers as a true **Centre of Excellence** for their products. This coupled with our product knowledge and renowned aftersales support means it's not just our systems that are truly World Class.

**Jordan Acoustics - The UK's No.1 specialist retailer.**

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UPDATED MONTHLY



**WIN!**  
**31** A complete Rotel/  
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**WORTH**  
**£1,700**

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"This pairing is everything that 21st Century high end should be"

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**Subscribe and get Sennheiser earphones worth £45! (p32)**

## Cyrus to battle Naim

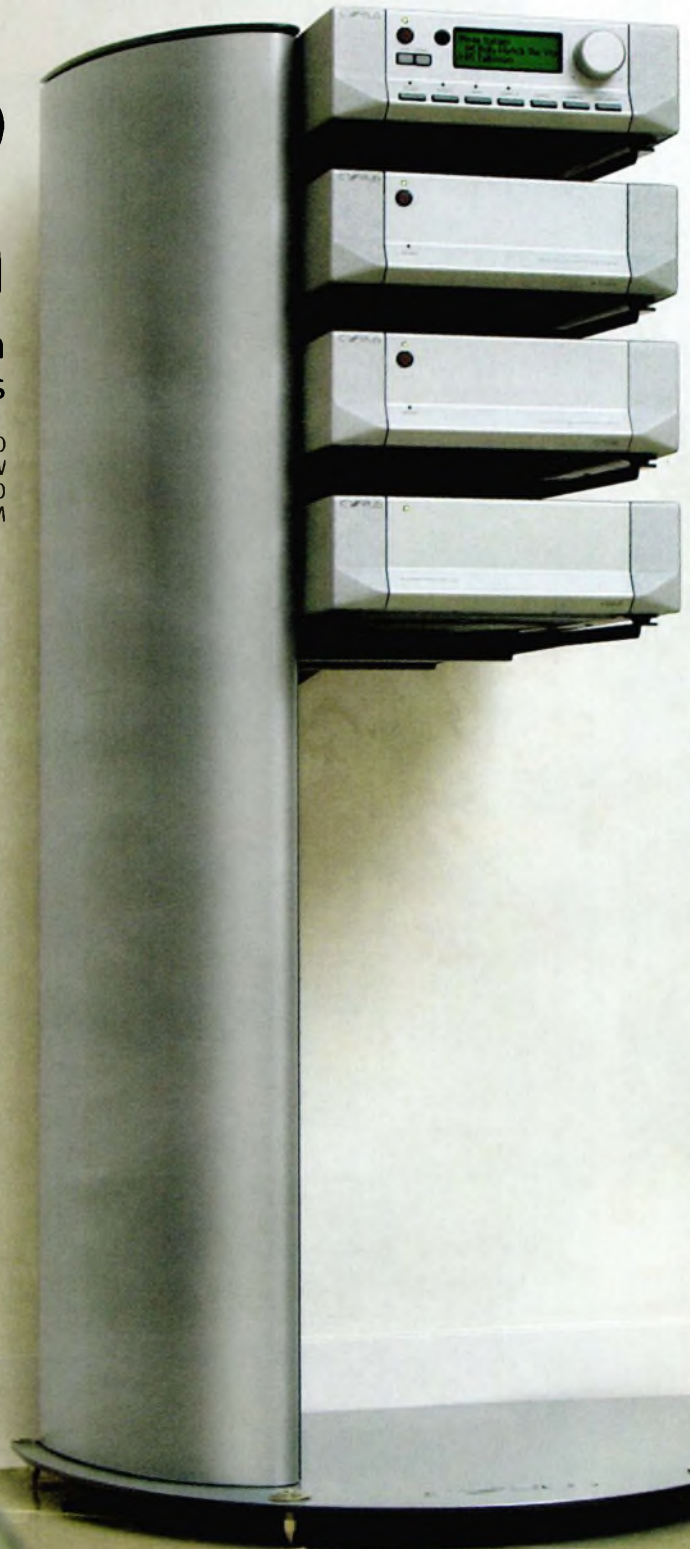
Cyrus joins the streaming revolution with a trio of high-value multi-taskers

**PRICE:** £1,400-£2,000  
**AVAILABLE:** NOW  
**CONTACT:** 01480 410900  
**WEB:** CYRUSAUDIO.COM

### PLUG AND PLAY

**THE THREE** Cyrus Streamers are all part of the UPnP standard, which allows them to communicate with any device that has been set up as a UPnP server. UPnP compliance allows for any of the new streamers coming on to the market to be able to connect and navigate through material stored on a network.

Cyrus feels that its N Remote will give it an advantage over other streamers when it comes to accessing the content as this is not covered in the UPnP requirements.





**C**yrus has made its move into the world of streaming. It has been done in emphatic style with it launching not one, but three new streaming products. The company claims that they are the result of 118,000 hours of research and development carried out since work on the project began in 2008.

First up is the £1,400 Stream X. This is, perhaps, the most conventional of the line-up and is a 96kHz-capable

with an internal digital preamp featuring multiple digital inputs, plus an iPod-capable USB. This means that power amps can be directly connected via the variable output, whilst the XP acts as a preamp for other digital sources that are connected to it.

The last of the three products is the £1,600 Streamline, an all-in-one variant featuring a 40-watt internal amplifier, plus an iPod-capable USB aimed squarely at the Naim UnitiQute.

The £1,600 Streamline is an all-in-one variant featuring a 40-watt amplifier aimed squarely at Naim's UnitiQute

device that can stream WAV, FLAC, MP3, WMA and AIFF over both wired ethernet and wireless connections. Cyrus regards this as the option for those who already have a product like its DAC XP preamp and DAC and simply want to add a streaming source.

For those who do not have a DAC XP and are looking for a more wholesale upgrade to their system, Cyrus has the £2,000 Stream XP. This mates the streaming facilities of the Stream X

All three models feature a bespoke two-way 'N Remote' control that will receive information from the unit and relay information to a full-colour display on the handset. The N Remote can buffer recently accessed album art to prevent loading it each time and can also learn additional remote codes to control a complete hi-fi system. Expect a world exclusive review of the exciting Stream XP in *HFC* 345 on sale 28 April 2011.



# BRYSTON

www.bryston.co.uk

## BDP-1 DIGITAL MUSIC PLAYER

### At last, easy access to high definition music files without compromise

The Bryston BDP-1 is a digital music player that enables you to easily play your music files (in virtually any format, including 192KHz/24-bit) directly from a USB storage device. And there are none of the performance shortfalls that can come from streaming music over wireless networks.

Controlled via a web interface on your Mac or PC or with an iPod/iPhone or iPad app, the BDP-1, partnered with the award winning BDA-1 DAC, is a state of the art high-resolution music playback system that integrates seamlessly into your existing hi-fi.

#### SOUND QUALITY



*'Makes playing music files easier than streaming and gives access to hi-res files with ease'*

**Hi-Fi Choice, March 2011**

*"I regard the BDP-1 as the most innovative source component I have ever come across"*

*"All I can say is: I want one"*

**The Inner Ear Magazine**

*"...it rendered these beautiful pieces in a natural, most analog-sounding way, with the performing space perfectly recreated."*

**Blu-rayDefinition.com, Feb 2011**

### Request a demonstration at:

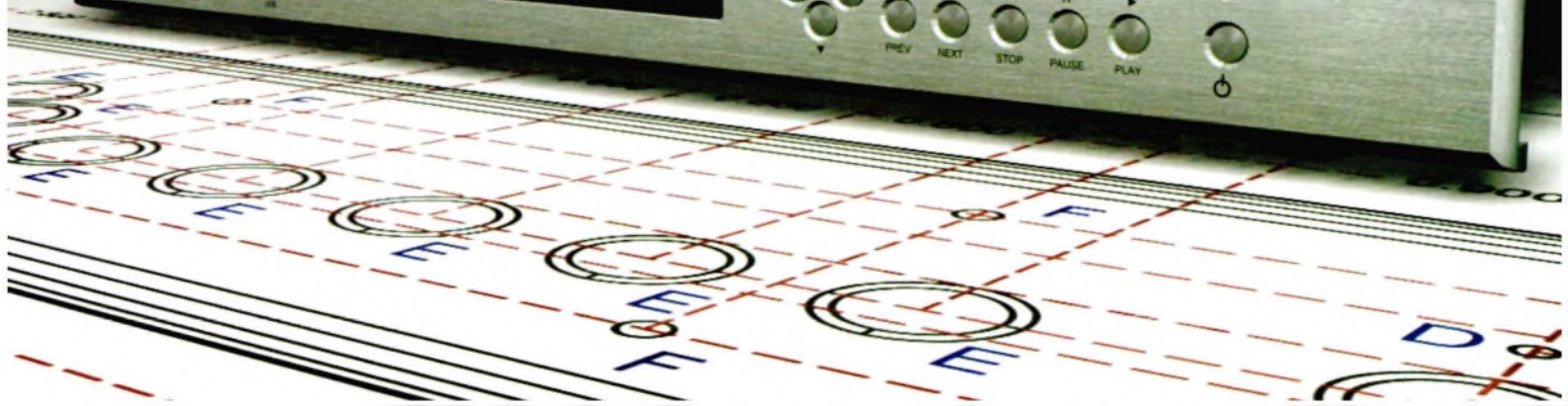
Holburn HiFi Ltd, Aberdeen • Jordan Acoustics, Fife • Hi-Fi Corner, Edinburgh • Lintone Audio, Gateshead • Audio T, Swansea  
Basically Sound, Norfolk • Unilet Sound & Vision, New Malden • Nottingham HiFi Centre, Nottingham • Audio T, Portsmouth  
Frank Harvey - HiFi Excellence, Coventry • Soundcraft HiFi, Ashford • Movement Audio, Poole • Zinc HT, Borehamwood  
The Cornflake Shop, London • Paul Green Hi-Fi, Bath • Audio Venue, Maidenhead • Sevenoaks Sound & Vision, Yeovil  
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# Neat feat

Neat unleash the latest loudspeaker in its Ultimatum range

**N**eat used the recent Bristol show to debut its new Ultimatum XLS loudspeaker, with the claim that it has 'the bass weight, scale and dynamics of a significantly sized floorstander.' This performance is achieved by an isobaric arrangement of the mid-bass driver for deep, clean bass delivery. This is partnered with a Sonomex tweeter, replacing the metal type used in older Ultimatum.

On the top of the unit, a pair of EMIT-type supertweeter drive units are fitted in a separate enclosure. These give the XLS a frequency response that extends all the way up to 40kHz. Although this is well beyond the threshold of human hearing, Neat says the extended response 'affects the content within the audible frequency range and lends an open, airy quality to the presentation.'

In keeping with the rest of the Ultimatum range, the XLS is available in a choice of five standard and three premium finishes.



**PRICE:** £6,000 **AVAILABLE:** NOW  
**CONTACT:** 01833 631021 **WEB:** NEAT.CO.UK



## Dock chic

**CONRAN AUDIO** is a new offshoot of the respected Studio Conran (widely respected for its design expertise) and its first offering is the Speaker Dock iPod and streaming dock. As well as offering a clever direct-docking facility for iPod and iPhones – that can be rotated to allow video to display correctly – the Speaker Dock is also equipped with the latest 'aptX Bluetooth' audio streaming. This allows CD-quality wireless streaming from any suitably equipped device.

Smart features include the input selection knob that changes colour depending on the input selected and the remote control that can be stowed in the side of the unit. The Speaker Dock is available in both black and white finishes.

**PRICE:** £250 **AVAILABLE:** NOW  
**CONTACT:** 01279 501111  
**WEB:** CONRANAUDIO.COM



## Solid Soniks

**NEWCOMER** Sonik Sircle has announced the new SIR (Seismic Isolation Rack), designed to address the issues of component isolation. Sonik Sircle claim it uses 'two-fold principles of resonance dissipation and seismic vibration isolation, by disrupting and dissipating energy within its frame and absorption / conversion by the tunable suspension components.'

The rack is made from high-quality polymer, cast Perspex sheets and will support equipment up to 12kg on the internal shelves and 25kg on the top. Additionally, the rack can be supplied with a heavy shelf capable of supporting 30kg.

**PRICE:** £1,175 **AVAILABLE:** NOW  
**WEB:** SONIKSIRCLE.CO.UK

# More than a feeling

New entry-level Bostons feature Ken Ishiwata tuning

**B**oston Acoustics' have employed Marantz's (a fellow member of the D&M Holdings group) audio guru Ken Ishiwata in the voicing process, which Boston claims has resulted in a much more European-oriented



**PRICE:** £149-£600 **AVAILABLE:** NOW  
**CONTACT:** +31 40 250 78 38  
**WEB:** BOSTONA.EU

presentation. The new A-Series is an eight-strong range featuring the company's proprietary Kortec tweeters, matched with new ceramic/glass fibre mid bass cones.

# FURUTECH

Pure Transmission Technology

Refinement Has a New Name

Debating Furutech's Top-of-the-Line Flux Cable series

## Flux Cable Series



Speakerflux



Lineflux (XLR)



Lineflux (RCA)



Powerflux-18UK

Furutech  $\alpha$  (Alpha) OCC Pure Transmission conductors terminated with beautifully-engineered high performance rhodium-plated connectors. The substantially-built extremely nonresonant connector bodies are finished in layered carbon fiber and nonmagnetic stainless steel providing improved mechanical damping for greater resolution, clarity, and powerful dynamics.



Jumperflux-S



Jumperflux-B



Flux-50filter



**FP-1363-S**  
**FP-1363-D**

High End Performance BS-1363 wall sockets with Pure Copper conductors. Rhodium or Gold plated.



**FI-UK1363(R)**  
**FI-UK1363(G)**

High End Performance UK mains plug, straight or angled.

Furutech Co., Ltd. Tokyo Japan

service@furutech.com www.furutech.com

## Sound Fowndations

25 New Road, Blackwater

Camberley, Surrey, GU17 9AY Great Britain

Tel : +44(0) 1276 501 392 info@soundfowndations.co.uk

# ADL

ALPHA DESIGN LABS

## Introducing Alpha Design Labs

Furutech is justifiably proud of its reputation for engineering, build quality and performance, and has won the loyal support of audio enthusiasts worldwide for their finely made and beautiful sounding cables and audio accessories. Now Furutech greatly expands its reach with a new entry-level line called ADL (Alpha Design Labs). ADL was created by Furutech to imbue its Pure Transmission Technology into carefully engineered innovative designs that everyone can afford. ADL components and cables are made with the same dedication to total resonance control and refinement as all of Furutech's many cables and accessories.



DLPTA Line - Plus

DLPTA Line - 1

DLPTA Line - 2

## ADL GT40 USB DAC with Phono stage !



The GT40 records vinyl and other analog sources at 16/44.1 or 24/96 using its bidirectional USB connection and switchable Line, Phono MM/MC analog inputs, plus it features L/R analog outputs, a separate headphone amplifier, gold-plated Teflon-insulated RCA jacks in a high-quality aluminum chassis with a beautifully machined volume knob. CD Redbook 16/44.1 and especially 24/96 files reveal a vivid, captivating sound unheard of at this price.



Formula 2 USB cable

Alpha design Labs Tokyo Japan

service@adl-av.com www.adl-av.com

## Sound Fowndations

25 New Road, Blackwater

Camberley, Surrey, GU17 9AY Great Britain

Tel : +44(0) 1276 501 392 info@soundfowndations.co.uk

# Elementary

New sub-£1,000 compact range from Leema Acoustics

**L**eema Acoustics is launching a complete new range of compact products this summer and all for under £1,000 each.

The new Elements range comprises a CD player featuring the high-performance Leema Quatro DAC, mated to a TEAC transport with dual outputs over both balanced and unbalanced connections.

This means the CD can be connected directly to power amps via Leema's LIPS system. A DAC featuring asynchronous USB and three optical and coaxial inputs apiece will also be available. The matching Elements integrated amp has 45 watts into eight ohms and also supports digital inputs, as well as balanced and unbalanced analogue line inputs.



**PRICE:** £1,000 EACH **AVAILABLE:** SUMMER 2011 **CONTACT:** 01938 811900  
**WEB:** LEEMA-ACOUSTICS.COM



## Svelte Sendor

**SPENDOR** has been hard at work putting the finishing touches to its A3 ultra-compact floorstander. A mere 80cm tall, the A3 features a 15cm polymer mid bass drive unit (designed and built inhouse), paired with a 22mm tweeter.

Sendor claims the upper frequency handling of the mid bass driver is good enough to allow the crossover to the tweeter to be handled at a much higher frequency than is usually the case, which means that the handover occurs outside human ear frequencies.

Sendor has also made a considerable effort to keep cabinet rigidity as high as possible, with asymmetric aperture bracing and polymer dampers to instantly convert spurious cabinet energy into inaudible heat.

**PRICE:** £1,295 **AVAILABLE:** NOW  
**CONTACT:** 01323 843474  
**WEB:** SPENDORAUDIO.COM

# Essex convert

Rega announces its first-ever DAC

**R**ega has entered the DAC market with a 24-bit/192kHz-capable unit, that incorporates thinking from the Isis CD player. The DAC features ten adjustable filters, to allow for a 'greater sense of musical naturalness.' A total of nine separate power supplies and a class

A output stage are also employed to help the sonic performance further.

A total of five inputs include two coaxial, two optical and an isolated USB connection. The DAC features a reclocking circuit that matches input and output phase to ensure that timing is perfect. Look out for our exclusive review next month.



**PRICE:** £498 **AVAILABLE:** NOW **CONTACT:** 01702 333071 **WEB:** REGA.CO.UK

## NEWS IN BRIEF

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



•**V-MODA'S** £127 Crossfade LP Custom headphone can be ordered in six colours, with a variety of engravings and custom text of your choice.

v-moda.com



•**BLACK RHODIUM** has just released the Aria DCT++ interconnect combining pure silver conductors with DCC treatment

blackrhodium.co.uk



•**PURE'S** new Evoke Mio spring/summer collection, based on the Evoke-1S, is now available in a range of five new colours

pure.com



•**UNITY AUDIO** has launched the £660 Bass-O-Nator, an acoustic treatment panel designed for recording studios and hi-fi listening rooms.

unityaudio.co.uk/



•**MAGICO** Q-Pods are a development of the technology created in its Q-Series speakers and, says the company, 'offer the next level of vibration and resonance control for components.'

magico.net

# Micro on air

Micromega goes wireless with a new £995 DAC



**M**icromega has launched the £999 WM-10 Wireless DAC. This 'high-performance audio streaming device' combines a high-quality DAC, with a built-in wireless receiver. This conforms to the 802.11n standard and is fully capable of transmitting files up to 24-bit/192kHz in size.

Micromega has ensured that the WM-10 conforms to Apple's AirPort Express standard to ensure that streaming from iTunes is trouble-free.

To maximise the sound quality, Micromega has designed a 25,000MHz clock, with a dedicated power supply to eliminate jitter on the incoming wireless signal.

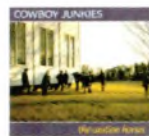
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## DESERT ISLAND DISCS

*Guy Sergeant*, of Pure Sound gives us four considered cuts



**BEETHOVEN**  
THE LATE STRING  
QUARTETS  
Challenging music, as Beethoven pushed back the boundaries. The result is colourful, dazzling and emotive, with brilliant playing by Quartetto Italiano.



**COWBOY JUNKIES**  
CAUTION HORSES  
An inspirational and transporting album from the Cowboy Junkies, which is fronted by the haunting voice of Margo Timmins to fantastic effect.



**KING TUBBY**  
FATHER OF DUB  
Inventive mayhem from the King of Dub. A great introduction to the genre and good value too, considering that you get 62 tracks over three discs in just one album.



**GLOBAL COMMUNICATION**  
76:14  
Time for something completely different. Lose yourself in some of the most far reaching ambient soundscapes. An absolute classic of the genre.

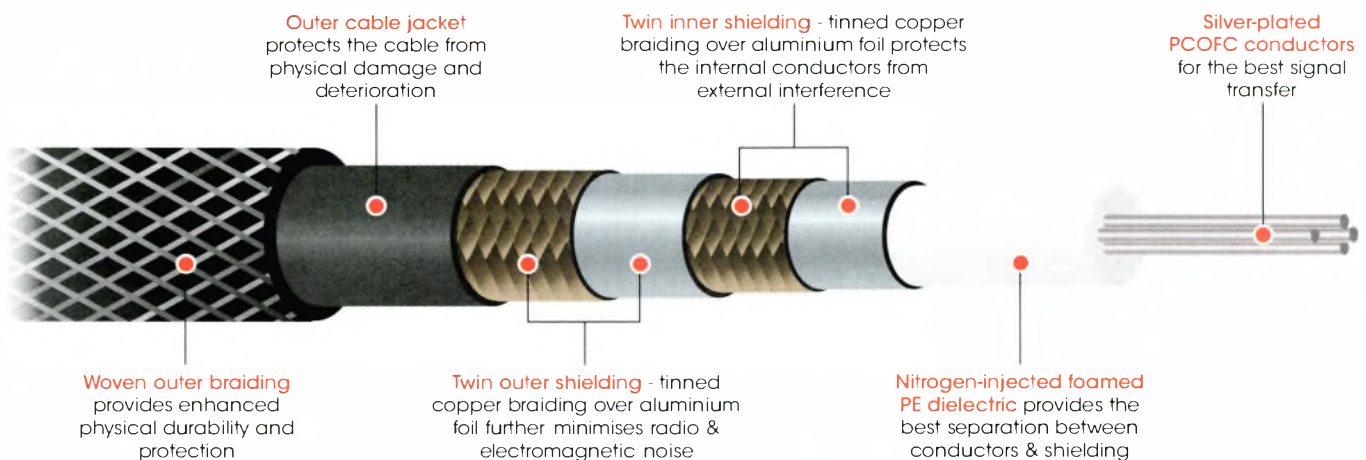
# Sigma. Serious Sound.



**VERDICT**  
★★★★★

**Hi-Fi Choice**  
March 2011

"We found the Sigma an excellent interconnect, producing finely detailed images... It has a very even tonal balance... the treble is open and clear, with very good, natural decay of sounds into ambience... and there's a real sparkle on intrinsically bright sounds like cymbals and violins... by the normal standards of sub-£100 interconnects this is something of a star performer."



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SHOW REPORT

# Bristol 2011

Speakers, turntables, streamers and amps, **Jason Kennedy** reports on the hi-fi innovations at this year's show

**W**ith all the exhibition space sold there was a buzz about this show before it had even started. A buzz which rose to fever pitch when the massed audio enthusiasts burst into the Marriott foyer on the first day. This show has grown in importance to the point where it is the most popular in the hi-fi events calendar. The driving force being the array of key manufacturers showing their latest wares.

This year's theme was clearly affordability. There was definitely some high-end exotica in action at Bristol, but even

more keenly priced components and accessories.

Three cable manufacturers revealed radically revised designs with one coming straight out of left field. Speaker makers, meanwhile, have been revisiting the sub-£200 sector with renewed enthusiasm, which has to be good for newcomers to the pursuit.

Computer audio solutions were clearly in the ascendant and there can't be many electronics companies left that don't offer a USB input on their DACs. Several, including Cyrus, Electrocompaniet and XTZ, have gone a long way to provide a hassle-free, sonically

rewarding result. So expect some review surprises soon.

## 1 CHORD CO. VEE PLUG

Chord has made a breakthrough with its phono plugs that is so dramatic that it has applied it to the entire range, save for the very top-end cables. The new plug, dubbed VEE for 'vibration eliminating enclosure', is made from ABS plastic and replaces the metal outer casing on both digital and analogue cables. The connectors within are still silver- or gold-plated with Teflon insulation, but the difference between the standard and VEE casings was nothing short of dramatic in Chord's demo. [chord.co.uk](http://chord.co.uk)

## 2 CHAPTER FOREWORD

Chapter Electronics is a British company that made its name with high-end switching PSU-

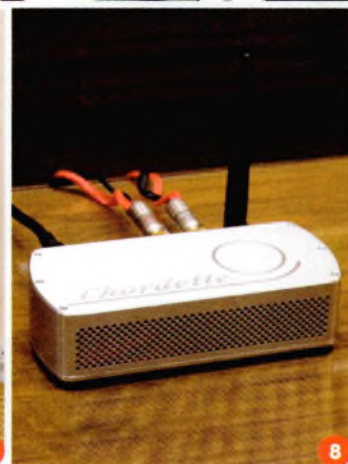
based amplifiers. With the Paperback series it is trickling down this high-end technology to a more affordable level. The Foreword CD player is a slot-loader with a multi-input DAC and Chapter's ultra low-phase noise clock and a balanced output stage, it also has a volume control and costs £3,995. The range also includes two-, three- and five-channel Paperback class D power amps each delivering 200 watts per channel. Prices start at £2,995. [chapterelectronics.co.uk](http://chapterelectronics.co.uk)

## 3 CYRUS STREAMLINE

Cyrus has taken the streaming plunge with three RF-controlled, net radio-receiving components. Streamline (£1,600) is the all-in-one Naim Unitiquest competitor with a 30-watt power amp, five digital inputs and a USB connection. Like its range-mates it can stream wired or wirelessly up to 24-bit/96kHz and incorporates a second-gen XP preamp. These can be hooked up to a NAS drive and run from an OLED display n-remote for full streaming operation without

**"This year's theme was keenly priced components and accessories."**





a wi-fi network. The Stream X (£1,400) is the minimal list option with no volume control and only digital output, while the XP is the £2,000 range-topper with high-quality DAC and second gen XP preamp onboard. [cyrusaudio.com](http://cyrusaudio.com)

**4 WILSON BENESCH GEOMETRY**

Sheffield's foremost audio technologist Wilson Benesch has developed its own tweeter dubbed Semisphere. This drive unit benefits from experience the company has had with the Murata Sphere supertweeter and because it's made specifically for WB's Geometry range, the designers has managed to reduce moving mass by a third compared to the Scanspeak used previously. It has side ventilation rather than rearward ala Bowers & Wilkins and output extends beyond 30kHz. The Vertex (£4,500) and Vector (£7,800) Geometry speakers combine this tweeter with WB's Tactic II main driver(s) in

standmount and floorstanding monocoque composite cabinets. [wilson-benesch.com](http://wilson-benesch.com)

**5 DALI ME9**

Scandinavian speakermeister Dali followed KEF's footsteps by showing a concept project at Bristol, a speaker built purely to show what the company is capable of with no holds barred. The ME9 is a very curvy and high-tech floorstander with a two-part composite construction and a curved front baffle that aims to focus five drivers at the listener's ears. Dali has built all the drivers specifically for the ME9 and these include a 45mm treble dome and a ribbon supertweeter, alongside two ten-inch bass drivers and a pair of six-inch wood pulp mids. [dali.dk](http://dali.dk)

**6 KEN ISHIWATA WITH BOSTON A SERIES**

Hi-fi guru Ken Ishiwata has been working with speaker wunderkind Karl Heinz Fink on Boston's new entry-level A

range. This 'European' input was chosen to give the speakers a worldwide appeal according to KI who showed us three bookshelf models starting at £169 for the A23 and two floorstanders that culminate in the £599 A360.

The range uses polypropylene main drivers for their consistency alongside soft-dome tweeters. The range's subtle styling is courtesy of industrial designer Kieron Dunk and you can have any colour you like so long as it's black or white. [bostonacoustics.com](http://bostonacoustics.com)

**7 ACOUSTIC SIGNATURE BARZETTI**

Sounding Italian, but hailing from Germany the £1,749 Barzetti is the latest and most affordable design from Acoustic Signature. Supplied complete with a Rega RB301 arm this superbly finished turntable has a six-kilo aluminium platter and is available in gloss black or white. The motor is run by an S Alpha electronic controller which is said to isolate the drive from variations in the mains. The bearing is hardened and polished steel in a sintered bronze shaft with a Tidorfolon base. We've not seen a tidier turntable for less. [as-distribution.de](http://as-distribution.de)

**8 CHORD CHORDETTE MAXX**

Chord's cute Chordette range has been supplemented by a newcomer called Maxx. This £800 (plus £140 PSU) DAC receiver manages to cram two channels of 40-watt class A/B power, a Bluetooth APTx receiver and digital-to-analogue convertor into its 160mm width. Chord is excited by Bluetooth APTx being incorporated into the Android operating system and the likelihood that conventional wi-fi networks will be replaced by this system in future due to its considerably greater efficiency. [chordelectronics.co.uk](http://chordelectronics.co.uk)

**9 EXPOSURE 2010S2 DAC**

For reasons unknown Exposure has never made a standalone DAC until now. The 2010S2 is a six-input, Wolfson-powered convertor, which will cost around £700. Unusually, it eschews RCA phono coaxial connections in favour of a proper 75-ohm interface and thus is the right way to do things, especially as the matching 2010S2 CD player has the same socket. It also has digital volume control, headphone output and a USB input. [exposurehifi.com](http://exposurehifi.com)

ANTHONY GALLO  
 ACOUSTICS

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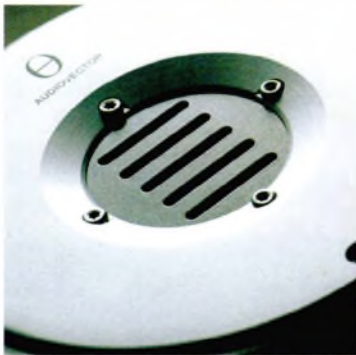
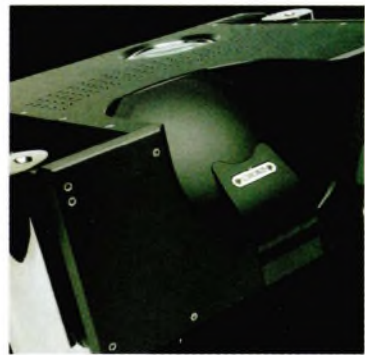
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**10 SPENDOR A3**  
Spendor has reduced the entry level for a floorstander by £400, with the sub-compact A3 at £1,295. This two-way comes in real-wood veneer and sports a 110mm main driver and 22mm-wide surround tweeter. It's joined by the latest variant on Spendor's long-running bookshelf, which is called the S3/5R2 (£850). The main driver here has been re-engineered with a new magnet and phase corrector. It also has the wide surround tweeter and, thanks to its sealed box nature, can be wall or shelf-mounted. [spendoraudio.com](http://spendoraudio.com)

**11 PRO-JECT EXPERIENCE V PACK**  
Henley Designs showed two variants on the theme of the Pro-ject Experience turntable. Both have an acrylic plinth, but are differentiated by arm and



cartridge. The V Pack has the latest Evo carbon fibre arm and an Ortofon Vivo Blue moving coil cartridge for £1,050, while the Two Pack has a 9cc carbon fibre arm in place of the older 9c and an Ortofon 2MM moving magnet for £775. The latter matching the price of the standard cartridge-less wooden plinth Experience. [project-audio.com](http://project-audio.com)

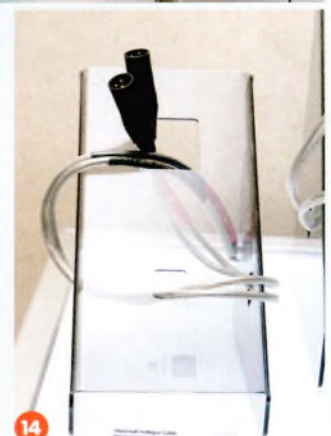
**12 VAN DEN HUL 3T**  
Van den Hul has completely revised its interconnect range up to the £1,000 price point. It's 3T, or true transmission technology, involves combining five types of metal and one non-metal conductor in a precise combination that is claimed to offer considerably improved long term stability compared to single metal designs. The 3T cables have a higher impedance than usual, but are said to offer greater flexibility, strength and resolution after a short burn-in time. The range starts at £240 for the Valley and includes a single unscreened model dubbed The Cliff. [vandenhul.com](http://vandenhul.com)

**13 TANNOY DC6T**  
Tannoy has added two new models to its Revolution range, the DC6T (£820) features a six-inch dual concentric driver for mid and high frequencies, with a titanium-



dome tweeter, which is allied with a multi-fibre pulp cone bass unit. The cabinet is trapezoidal in shape to avoid parallel surfaces and stands 950mm high. The DC6 standmount (£560) has the same dual concentric in a 365mm tall trapezoidal cabinet. Both models come in a finish dubbed Espresso, which suggests that no trees were harmed in its creation. [tannoy.com](http://tannoy.com)

**14 VERTERE PULSE**  
Touraj Moghaddam is the creative force behind Roksan, but clearly has too many ideas for one company and created Vertere in order to 'address weak links' in the audio chain. His first product is the Pulse range of cables, Touraj doesn't give much away about their make-up, but his samples reveal separately insulated multi-strands within each lead and these are terminated in custom-machined, copper alloy RCA phono plugs. Several variations exist including the hand-built Pulse interconnects for tonearms, as well as dedicated line level out and pre-out models. Entry level Pulse-B interconnect starts at £890 for a one-metre pair. [vertereacoustics.com](http://vertereacoustics.com)



**15 ELIPSON MUSIC CENTRE AND PLANET L**  
Elipson has been making spherical loudspeakers in France for over 70 years and following its purchase by Inovadis, it now has its sights on the design-conscious British audiophile. The Planet L is a 29cm, ported glass-fibre enclosure that houses a 6.5-inch coaxial driver, which can be mounted on a pole stand, wall bracket or hung in a hoop from the ceiling. Elipson's circular Music Centre is a DAB+, FM and CD player with 2x 120 watts of Bang & Olufsen class D, ICE amplification. It has a receiver for an iPod/Phone Klear wireless transmitter. [elipson.com](http://elipson.com)



**16 XTZ MH800 DSP**

XTZ makes a range of loudspeakers and electronics in Sweden and at Bristol the company launched its MH800 DSP system. This is a computer-audio set-up based on Dirac HD speaker optimisation software, which operates much like a soundcard on a computer, sending a signal that's phase-optimised to the speaker and amplifier that are part of this €450 package. The speakers themselves have a forward firing three-inch aluminium driver and a downward-firing 5.25-inch woofer. These are driven by an aluminium-cased, 40-watt ensemble sounded remarkably good for the money.  
*xtz.se*

**17 ELECTROCOMPANIET PD1**

A better established Scandinavian brand, Electrocompaniet brought its latest offering to the convertor table in the form of the £1,250 PD1. Electrocompaniet's angle is the EMS-1 – a dedicated wi-fi transmitter (£250) that

connects to your PC's USB output and sends a signal to the built-in receiver on the PD1. This avoids the need for a wi-fi network and a soundcard. The DAC has five inputs, including USB and the company was demonstrating it with an Apple iPod Nano in a PURE digital dock to good effect.  
*electrocompaniet.no*

**18 LEEMA ELEMENTS**

Leema showed examples of the three components in its forthcoming entry-level Elements range. With pricing under £1,000 they have the company's high-quality metalwork and LIPs control system alongside more volume controls than most.

The CD player has a Quattro DAC, an analogue volume control and two sets of balanced outputs, so that you can run a bi-amped system without a pre. The integrated amplifier has both digital (inc USB) and analogue (inc balanced) inputs with a 45-watt output, while the DAC has seven digital inputs and one analogue-in via 3.5mm jack.  
*leema-acoustics.com*

**19 PMC PB11 SIGNATURE**

Having given the treatment to its FB1i and TB2i PMC has brought the Signature touch to its PB1i floorstander. The process has involved PMC's designer Pete Thomas reworking the 24dB crossover with higher-quality components, a process which has resulted in greater transparency. The drivers remain the same: 27mm soft-dome tweeter, 75mm midrange dome and a pair of 170mm bass drivers, housed in one of the company's transmission line enclosures. The signature finish is rose palisander veneer with gold-plated fixings and each comes with a serial number plate and ten year warranty.  
*pmc-speakers.com*

**20 ACOUSTIC ENERGY NEOV2-4**

Acoustic Energy has beefed-up its Neo range with the biggest floorstander in its catalogue, the 1.2 m tall NeoV2-4. It gets its name from the Neodymium magnet that powers its ring radiator tweeter and promises high SPLs without the need for

massive power, thanks to a healthy 91dB sensitivity rating. Its cone drivers consist of two six-inch aluminium bass units and a five-inch aluminium midrange. At £700 the walnut finish is not real, but it looks the part.  
*acoustic-energy.co.uk*

The rapid growth of computer audio resulted in a wide array of great sounding approaches on demo at Bristol. Companies like Naim had their own systems in action, but the majority were using third-party solutions, such as the ripNAS or laptops of both Mac and PC persuasion.

The exciting thing is that this approach is bringing both great usability (thanks to the iPad) and great sound as a result of the various systems that companies like Cyrus, among others, are creating. There was a clear trend for streaming systems that operate without a computer or wireless network. These keep noise at bay and should make set-up a doddle.

Traditional formats are still being supported, of course, but the download revolution has clearly gripped the industry's imagination and this, combined with the expanding range of hi-res software, means that digital files represent the future for high-fidelity. ●



## Explore your music

The new streaming platform from Cyrus provides the perfect solution for all music lovers. These new streaming music players provide you with immediate access to your entire network music library. Plus you can listen to literally thousands of different internet radio stations from across the 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.



Cyrus has been designing, developing and manufacturing high performance hi-fi for over 25 years. This new streaming platform incorporates all our understanding of high-end audio design together with the art of knowing how to tune circuitry for musical advantage. It is understandable that with our reputation for exceptional audio engineering and network technology the result will inevitably appeal to the most discerning consumers.



SE technology award



SE CD player of the year



CD 8 SE CD player of the year



Cyrus 8 XP, November '09



### Did You Know

The n-remote is packed full of features including backlit keys and a motion sensing backlight to name but a few.

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For the latest news on products or to download a brochure, please visit [www.cyrusaudio.com](http://www.cyrusaudio.com)

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# Why USB can beat CD

Our US insider **Kevin Gallucci** has heard the future, where USB DACs are outperforming the best CD players in the world...

**W**hen asked about Classé Audio's forthcoming preamp, company President Dave Nauber said "I would rather have my phone and this preamp, than any CD player at any price with a conventional preamp." This is a bold declaration. And in the hi-fi world one that might get a few laughs, but like it or not USB-based audio is driving sound quality forward beyond that of CD.

In their infancy, USB DACs were forced to adapt to the rate at which the computer sent data packets and they had to adjust their master clock every millisecond to keep the audio data flowing without any dropout. But, computer-based audio took a monstrous leap forward when Asynchronous designs hit the market. Asynchronous USB DACs take complete control of the data flow and allow for the data packets to be sent at a fixed rate that is dictated by the USB DAC's own master clock. This design has revolutionised the USB DAC market and is why we have seen a storm of high-quality USB DACs for sale.

Going back to my earlier comment about USB-based audio driving quality, the learning curve for USB implementation was much shorter than it was for CD players. It took over 20 years to get CD players to be state-of-the-art; in a matter of 4-5 years, we have seen some USB DACs that match the world's best CD players and, in my opinion, a few that exceed the best.

If you think about it, CD players are inherently flawed. You take a non-built-in data disc and insert it into the tray. The system has to connect to it and then pull the data. CDs rarely perfectly sync with the laser. Hi-fi companies spend a lot of money to engineer precise transports that overcome this issue, but even well engineered CD players still have jitter which has negative

effects on sound quality. A USB set up is a better alternative, because the data is read from disc, but it is fixed in an exact spot and is designed to be in that exact spot. The best case scenario is going to be when hard-drives are all solid-state and moving parts are eliminated entirely. Solid-state hard-drives will be mainstream very soon.

## Computer savvy

Some audiophiles are scared of computers. After all, it isn't as easy as grabbing a CD, placing it into the CD tray and pressing play. The initial set up for a computer-based server might take a little longer, but once it is up and running, you're done. You have your entire music collection at your fingertips. I don't know about you, but no-interruption playback for hours sounds wonderful to me. What's more, you don't have to get frustrated with trying to read the tiny spines of your CD cases anymore! If done correctly you have a beautiful and simple user interface that allows for endless music options.

Audiophiles love the next greatest speaker, amplifier, and speaker cables, because they're simple items to hookup. When it comes to changing formats lots of audiophiles get scared, but you shouldn't fear the digital revolution. Having your entire music collection at your fingertips is a revelation, and you will spend more time just listening.

So can an iPhone that has high-resolution bit-perfect files beat the world's best CD players? I truly believe it can, as long as the files are being transmitted bit-perfectly to a superior DAC. USB implementation has developed far enough to make this possible, but you don't have to just take my word for it, go out and try it. The results will surprise you!

In a matter of 4-5 years, we have seen some USB DACs that match the world's best CD players and, in my opinion, a few that exceed the best



Classé Audio's new CP-800 pre/pro will make you think twice about ever owning a CD player again



**KEVIN GALLUCCI**  
Our US correspondent and former HFC Tech Labs manager, Kevin is a leading measurement expert and tech authority

**WHAT DO YOU THINK?**  
Can a phone and good-quality USB DAC really compete with the world's best CD players?  
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Beethoven Baby Grand in Piano Black

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# Radio redemption?

High-definition radio could soon be available to all says **Martin Pipe** as he considers a cutting-edge BBC streaming alternative

**R**adio is a big love of mine, not least because it provides a potentially limitless quantity of free music. In addition to the traditional FM/VHF and DAB services, the BBC also provides a means of tuning into its radio services online. The web-based iPlayer, which can be accessed from the relevant station's schedule page, is capable of high-quality stereo. And it's 16-bit, with a sample rate of 44.1kHz (against DAB's 48kHz).

Although the higher-quality stream offered to broadband UK listeners has a bitrate of only 128kbps, the AAC codec is used. More efficient than the MPEG-1 Layer 2 (MP2) that has underpinned the DAB service for over fifteen years, AAC can – bitrate for bitrate – deliver better sound quality. As far as DAB is concerned, only Radio 3 uses 192kbps. Subjectively, this is roughly comparable to 128kbps AAC – provided, of course, that your computer has a decent quality sound card and is connected to a hi-fi system.

However, the BBC has a newer trick up its sleeve. HD radio is available as a live stream for Radio 3 ([bbc.co.uk/radio3/help/radio3hd.shtml](http://bbc.co.uk/radio3/help/radio3hd.shtml)). A smattering of other BBC radio output – a recent example includes Radio 2's *Electric Proms* – has also been broadcast in this form.

As with the more established iPlayer, a computer is needed to receive this higher quality stream. I have, however, sampled BBC R3 HD with a Squeezebox Touch (HFC 338) and the results are superb – especially if you drive an external DAC from one of the player's digital outputs. The older Squeezebox Classic also supports this plug-in.

But 'high-definition' is a misnomer. The BBC's 'HD' radio service simply uses the same 16-bit/44kHz audio as the regular streams, but a higher bitrate (and thus less compression) is employed. In other words, the BBC isn't using the increased sampling-rates or improved resolution that an audiophile might associate with higher definition digital audio. The only benefit will be less-audible compression artifacts, assuming, of course, that your PC or other decoding device is suitably-transparent!

I put this to Rupert Brun, the BBC's Head of Technology for Audio and Music, who replied that: "the higher bitrate preserves much more of the detail in the original sound". He defines HD sound as "having a wide dynamic range (in broadcast terms) delivered to the audience at a quality of 320kbps AAC" and believes that these characteristics justify "the HD sound name".

Could there be a place for true HD radio? According to a blog written by Brun himself, the

BBC works at 24-bit resolution (albeit with a 48kHz sampling rate) all the way to the Radio 3 continuity-suite during Proms broadcasts. And so some kind of 'true' HD radio service is thus theoretically possible; were this 24-bit/48kHz 'source' to be available domestically, the improvement could be phenomenal!

A FLAC-type lossless 24/48 codec would halve bitrates from approx 2Mbps (PCM), to nearer 1Mbps. These requirements would be well within the capacity of a TV broadcast infrastructure (a SD digital channel is typically 3 - 3.5Mbps). The necessary receiver box – an opportunity for British hi-fi manufacturers like Arcam and Naim – would incorporate a storage facility, allowing the listener to hear the delayed transmission at a more convenient time. There's nothing like enjoying a Prom live, though; broadband could offer sufficient capacity for 'true' high-definition radio streams, thereby enabling the audience to enjoy *The Last Night of the Proms* with unparalleled clarity.

## Ultra-quality

However, there are problems – as Rupert Brun is keen to point out. "Pre-recorded material," he says, "comes from commercial CD, or from our playout system – which also operates at 44.1/16, so that material ingested from CD does not need to be sample rate-converted". He also explains that the BBC's "entire internet distribution for live and on-demand content" is also geared to this technically ancient standard. In his blog, we're told that a new playout system is due to be installed next year; however this, Brun states: "will not be configured for 24/48 working – it will be 16/48". The BBC may have a high-capacity circuit from the Royal Albert Hall to Broadcasting House, but this isn't alas true of all venues and so "very little content" would be available for a 24/48 service. There are other studio issues: "24-bit files need 50 per cent more storage space and a 50 per cent faster network than 16-bit ones," he explains.

Others are more upbeat. "We're very supportive of the BBC providing an ultra-high-quality audio service to meet the needs of the small but very vocal minority of listeners who want it," says radio manufacturer PURE's Colin Crawford.

Rupert Brun revealed that the BBC is hoping to integrate its (16-bit) HD radio into iPlayer and "provide a way of giving the listener a choice between SD and HD, as it does for video content". Not everyone has reliable broadband access, he concedes, and furthermore "some of the audience would be concerned about using up a monthly data allowance".

Broadband could offer sufficient capacity for 'true' high-definition radio streams, thereby enabling the audience to enjoy *The Last Night of the Proms* with unparalleled clarity



Cheap as chips: the Squeezebox Touch



MARTIN PIPE

Martin Pipe has been an audio enthusiast for 30 years, and a tech journalist for 20 of those. He also runs HFC's tech labs

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# Krell's angel

Krell's original range of Pure Class A amplifiers made it the hottest brand on the planet argues a glowing *Jimmy Hughes*

In the early '80s, a new US high-end electronics company exploded onto the scene with a range of killer products that included several Pure Class A solid-state power amplifiers. That company was Krell and its amps were big and expensive. But the 'baby' of the range – the KSA-50 – was just within the realms of practicality.

My first encounter with Krell came courtesy of the 100-watt KSA-100. Up until that time, Naim's NAP-250 had stood supreme. Then, out of the blue, there was a new kid in town, with a fresh repertoire of tricks, offering solid, crisp, detailed, yet sumptuous sound that had amazing space and depth. Suddenly, Naim had competition!

The KSA-100 was big, heavy and extremely expensive. The 50-watt KSA-50 wasn't exactly cheap, but it was relatively affordable. The \$64,000 question was – did it offer similar sonic qualities to its bigger brother? The answer turned out to be – yes; the smaller amp was definitely comparable.

Class A output is the least efficient means of configuring an output stage and most amplifiers that claim to be 'Class A' are actually a mix of Class A/B. With the latter, the idea is to tap most of the sonic benefits of Class A, without the drawbacks of heat. Pure Class A amplifiers tend to run very very hot.

## Krell fan

Indeed, so hot, the KSA-50 should've needed finned sinks along both its sides to dissipate all that heat safely. But actually, the KSA-50 only had a fairly small centrally placed heat sink, so a whisper-quiet cooling fan was employed to keep the temperature within acceptable bounds.

Effectively, the KSA-50 was a mini convector-heater masquerading as an audio product! By drawing cool air through the top and blowing warm air from the base, it noticeably warmed-up your listening room. This was great in the cold winter months, but not so good in summer!

While the KSA-50 'only' delivered around 50 watts output, it produced a huge sound that subjectively seemed far more powerful – a rich, warm tonal balance that was smooth, open and totally effortless. The sound had superb tightness and control, yet the overall impression was one of relaxed ease – a complete absence of strain.

It was a classic mix of opposites: the focus and command of a good solid-state design, with much of the mellifluous liquidity one expects with tubes. Indeed, the transistor KSA-50 sounded more like a tube amp than the contemporary Audio Research D70 – which (needless to say) actually was a tube amp.



Convector heater or amp? The mighty Krell KSA-50 amp

But perhaps the main virtue of these amplifiers was their ability to drive low-impedance loads without flinching. Ribbon loudspeakers like the Apogee Scintilla were extraordinarily demanding, presenting a near short-circuit that really tested an amplifier's ability to deliver current. Krell's KSA-50 and KSA-100 were among the few that could successfully drive such difficult loads.

Eventually, there was an official Mk II version of the KSA-50 and this offered the option of bridged-mono operation which doubled power output and improved sound quality. The Mk II sported a blue front panel, which distinguished it from the silver-grey of the Mk I. You can actually tell the vintage of a Krell KSA-50 by the colouring of the front panel – the darker it is, the later the production run.

But even between early and late Mk 1s there was actually quite a lot of difference. For example, the very first KSA-50s and KSA-100s, featured conventional frame-type power transformers. However, these were quickly upgraded to torroid types and there were many other changes made to improve sound quality.

Longevity was helped by the battleship-build quality of these amplifiers. They really were built to last and proof of this lies in the number of early Krell amplifiers that are still in daily use and sounding as good as ever. If one does fail, it can usually be repaired.

If a product sounded great thirty years ago, it should still pass muster today. The Krell KSA-50 and KSA-100 are living testimony to this. Within their power compass, they'll still give modern amplifiers a good run for their money. ●

They were really built to last and proof of this lies in the number of early Krell amplifiers that are still in daily use and sounding as good as ever



JIMMY HUGHES

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

## WHAT DO YOU THINK?

Do you remember the KSA-50 or 100 as fondly as Jimmy? Perhaps you disagree? Email us now: [hifichoice@futurenet.com](mailto:hifichoice@futurenet.com)

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# Letters

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## Sensational Spendors

I loved being reminded of the old British purchase tax games in Jimmy Hughes' tale of the Spendor BC1 (*Audio Icons*, HFC 342). Tax, and the efforts to avoid it, brought a smile to my face. I recall some of the Lotus kit cars of the '70s, that cost as much as the assembled version, but bolting it together yourself saved about 25 per cent of the tax.

And in the audio vein, I especially loved the Dynaco A25 – a two-way, two-driver speaker in the USA, that was still a two-way in Britain, but with the addition of a third driver, a cheap cone tweeter that wasn't even connected, thereby achieving professional status like the BC1 and avoiding the dreaded purchase tax.

**Allen Edelstein, USA, via email**

## Spendor rivals

Responding to your Spendor BC1 column, around 1970 I bought a pair of Rogers BBC Monitors, which were highly rated compared to the Spendor (one report claimed that the Rogers were slightly better performers).

I never heard the Spendors, as there were probably no dealers in Canada at the time and I don't know if the Rogers have an STC (Coles) tweeter, but they are nice-sounding speakers.

A couple of years later I built a set of transmission line monitors (Cambridge R50) and this model has the STC tweeter.

A few years later I built a pair of LS5/3as, because I had some KEF drivers left over (I still have both sets of speakers). Now I have a used set of Quad 63s, with the Gradient sub. Unfortunately, last summer they started to arc over and crackle, so the next major project will be to replace the panels.

**Joe Wdowiak, via email**

**HFC Jimmy Hughes replies;** "As I understand it, the BBC (having developed the smaller bextrene bass/mid driver) decided they had no use for a smaller monitor. So they licenced Spencer Hughes, who finalised the design and produced a



**Spendor's BC1: what's your view?**

commercial loudspeaker – the aforementioned BC1.

Then the BBC had a change of heart and realised that a medium-sized monitor would be useful after all. So it went ahead and produced its own version.

Which was better? Well, the Rogers cost more than the Spendor, but (for some reason) seemed to have poorer power handling – the bass driver was very easily blown. Ironically, when both models were re-auditioned by BBC engineers, with a view to deciding which speaker to equip their studios with, the Spendor was, I believe, chosen in preference."

## Standard setting

On the Letters page (HFC 343) Tim Tierney flags up DLNA and

laments the fact that few CE makers have adopted it (*Do it Jimmy!*). Actually, all of Onkyo's networked AV receivers have supported DLNA for the last three years, as well as offering DSD Direct via HDMI (without intermediate conversion to PCM). And guess what? Onkyo's 2010 series networked receivers handle FLAC files, too, as well as offering Last.FM, Napster, Internet radio and direct digital replay from iPhones/iPads/iPods. Not too many hi-fi amps that can do all that.

The Onkyo TX-NR5008 is the obvious option for an audiophile who wants to move into the hi-fi/AV/networked audio domain!  
**KS Rai, Onkyo PR, via email**

**HFC** It is easy to forget that multichannel AV equipment has been in the business of working to various standards and agreements for some years now as part of their onboard format decoding from Dolby and DTS among others. This makes them far more likely than two-channel audio to recognise and sign up to the various networking standards.

It is also fairly remarkable to see exactly how much some of this 'home cinema' product can do in audio terms. Of course, now we are welcoming Onkyo back into two-channel proper, we hope to see some of this multi-format compatibility and networking expertise make the transition into products as good as the Onkyo P-3000R and M-5000R reviewed on p72.



Unlike most of its range, Onkyo's latest offering isn't DLNA-capable

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**Bryston's BDP-1: is simplicity a virtue?**

### The simple life

I found your issue with both the Linn Akurate DS and Bryston BDP-1 (HFC 343) very interesting and the unspoken comparison between them is something I find fascinating. The Bryston receives some criticism for the comparatively limited functionality. This is certainly the case compared to the Linn, which appears to do everything bar make toast.

From my personal perspective, I am not so sure that the Bryston is at a disadvantage though. I do not fear computers in the way that some people of my relatively advanced age (63) do, but I confess that the Bryston has some appeal. I can rip and download music via computer, which has an existing and reliable relationship with my internet connection before transferring it to a hard drive (another operation I am entirely familiar with) and then to the Bryston.

The BDP-1 requires me to learn no new techniques or modify my existing equipment in any way (my Esoteric D-05 even has an AES input spare and ready to go). This might be a niche product but there are plenty of niches like myself who think this might be right for them. The Linn has a huge amount of potential, but the sheer scope of what it can do and the alterations to my existing equipment to allow it to do it are far more daunting. For those of us looking for added functionality without the hassle you can sometimes have too much of a good thing.

**Richard Nelson, via email**

**HFC** We do agree with what you are saying to an extent. The Bryston is incredibly easy to set up, with excellent build quality and an intuitive interface. Given that you have a (very good) separate DAC, the fact that the BDP-1 is only a transport will not be a problem for you, either.

We do feel that the Bryston is still a niche product because although ethernet and wireless

streamers are more difficult to set up initially, they offer a tremendous flexibility in what they can do going forward. The Linn will happily stream from a networked drive that is also being used by other streaming devices on the same network. The Bryston would need to have the information on the drives duplicated or stored centrally as well, before the same could be said of it.

We also feel that going forward the network-capable product offers more potential. The arrival of the Spotify app on the Squeezebox range points to the potential of network streamers to take their music from locations far removed from the building they are in. This is a very exciting development and one that we will always partly take into account when reviewing these products.

### Cold hard facts

I had a good reason to buy *Hi-Fi Choice* today, because I saw your article about DCT Snake Oil (*Opinion HFC 343*).

I have been a chemist for more than 30 years, before deciding to start an audio company five years ago. A year ago we started to develop our own interconnect and with regard to DCT put considerable thought into testing it. We like a no-nonsense approach so we had to blind-test DCT processed copper and found a serious industrial company doing this in a controlled way.

The process takes five days and includes computer-controlled cooling, processing at -196 degrees centigrade and warming up to room temperature. When we heard the musical results it

was easy to decide to go for DCT for our cable.

With regards to the article, you're right that DCT will in many cases (not for every metal) change the crystal structure. And a change is not per se an improvement. I agree with you that five per cent resistance change represents a minor effect. Continuous bending may destroy the lattice structure of the (copper) metal wire. So we believe that crystal structure is probably really significant.

The effects in copper wires of different thickness treated with DCT were similar in character. To us, DCT is a challenging process with excellent results.  
**Lourens Ouweltes, via email**

**HFC** Always good to hear from someone who has some hands-on experience of the matter. In a purely measurable sense, the effects of DCT are still not clear cut, but equally a number of companies with a creditable scientific background are very keen on the process and the results of the treatment. *Hi-Fi Choice* will continue to review cables as they come and this will include both treated and untreated designs.

### Size matters?

I enjoyed the luxury standmount *Blind-listening Group Test (HFC 343)* and it was good to see some key choices in the price point going head to head against one another.

The fact that the Spendors won through, with the Tannoys in second, did not come as a real surprise to me – surely the large size of the two winners must count for something?

As both of the winners were packing an eight-inch driver against the six-inch and smaller offerings of the Dynaudio, Monitor Audio and Opera (I'm going to have to ignore the Cabasse and assume the three-way design counted against it), would it not have been fairer to have six speakers with a closer



**Cryogenic cables make a big difference according to one reader**



**Is being the biggest speaker in the test a winning advantage?**

set of overall dimensions? I am a standmount user and looking at the overall measurements of the Spendor and the Tannoy, I'd struggle to accommodate them, even though they are notionally the same design.

**Simon Henderson, via email**

**HFC** In an ideal world, our Blind-listening group test participants would be near enough identical in design, price and dimensions as to be the same. In reality, we have to accept participants that are relatively close to one another. We also think that most would-be customers of luxury standmounts would not have to rule out the Spendors or the Tannoys, although we accept that they might have to change their stands to accommodate them.

We also don't feel that being the biggest or most powerful product in a test is the automatic winner. The previous speaker group test was a

field of five floorstanders and a single pair of standmounts – the Acoustic Energy AE1 MkIII's. Contrary to the 'biggest is best' theory, the Acoustic Energy was the comfortable overall winner with some very favourable comments from listeners.

We do believe that quality will always show itself in blind-listening group tests. , we will do what we can to keep the playing field level.

### Shocking stuff

This is our stereo centre after a 6.3 magnitude earthquake last week – not a cute cat picture but nearly a 'catastrophe'! All the equipment was ok and the shelves are now supported by solid rods rather than the push-in plugs which sheared off in the quake.

**Doug Dunn NZ, via email**

**HFC** Thanks for the photo- we are glad that no serious harm came to you or your equipment and Hi-Fi Choice wishes all our New Zealand readers the very best after last month's sad event.

**Earthquakes and hi-fi don't mix**



## LETTER OF THE MONTH

### Looking backward



PRIZE  
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The face of the future?

**READING THROUGH** the March issue (HFC 343), I have to ask if anyone else has had enough of retro? The Cayin pre/power seems to be a fantastic product, but it looks like something that will be appearing on the *Antiques Roadshow* any time soon and the *Blind-listening group test*-winning Spendors are hardly at the cutting edge of aesthetics!

The retro-obsession in design is a negative trend if pursued too far. Without forward-looking design we have nothing to work with in the future.

Surely we cannot be so short of ideas about how to move forward that wrapping technology in a bit of wood and hoping to invoke a bit of nostalgia from people who owned the equipment the first time around is the way to widen the appeal of this increasingly fringe pastime? ●

**Nick Hyde, via email**

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Thanks to our friends at Rotel and Bowers and Wilkins, we've got an amazing prize up for grabs this month – a complete system worth £1,700, that's ready to roll! It's based around the RCX-1500 all-in-one, which features CD, DAB and FM radio, digital inputs and the ability to stream music and internet radio over wireless and ethernet. There's also a powerful 100-watt Class D amp inside, to create a very capable one-box solution to system-building.

The RCX-1500 would be a fine prize on its own, but thanks to Bowers and Wilkins we are also offering a pair of CM1 speakers to create a barnstorming system. The CM1 remains one of our favourite small speakers with low colouration and fine imaging, coupled with sumptuous fit and finish.

This is a prize that will give one lucky reader a system offering flexibility, excellent sonics and superb build. Good luck!



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# Ken's den

HFC takes an exclusive look behind the scenes at Marantz and Ken Ishiwata's incredible £100k listening room. *Dan George* interviews the legend



Vinyl, CD or SACD – you can choose your format at Ken's den

**W**ho would you say are the real icons of hi-fi? We mean the movers and shakers, the 'personalities', the legends? For some, it might be innovators such as the late Julian Vereker, the founder of Naim Audio, or perhaps the very much alive and well Peter Qvortrup of AudioNote. And what about Marconi, even?

Amongst the living legends, there are probably only a few. Of those, some are very much 'behind the scenes', whilst others are customer-facing and at the forefront of the organisation at shows and events. Perhaps the most recognisable of these is hi-fi's biggest 'celebrity' – the unmistakable Ken Ishiwata of Marantz.

We could rightly say that Ken is a man who needs no introduction, but it wouldn't do him justice. As Brand Ambassador for Marantz, Ken is a highly visible part of the organisation. A committed contributor at hi-fi shows, he proudly hosts Kit demonstrations, which in our eyes, have been some of the most memorable in recent years (the frame-mounted, stacked pairs of Mordaunt-Short Performance 2 speakers first seen at Munich's High End show spring to mind!)

But Ken is more than just a face for Marantz, of course. What you may not know is that Ken

listens to every product that goes through development, from budget boxes to shiny pearls. And he does it in style. For Ken has built a listening room with a difference – a six-figure, boat-shaped shrine to musicality that has been designed from the ground up to transform boxes of chips, resistors and PCBs into bonafide music-makers.

*Hi-Fi Choice* was granted exclusive access to Ken's den and the man himself, so we jumped on the first plane to Marantz's Eindhoven HQ to discover more about the room and, of course, the man behind the music.

### Room with a view

**HFC:** What was the main goal for the room?

**KI:** I have been working at Marantz for many years on so many products, so I had to have a well-controlled room. But the well-controlled room for the usual audiophile is very damped, very dead. Such a room for me is not enjoyable for music, so I was thinking, 'how can I do it?' – working on a product you need (to hear) everything from, but at the same time with reverberance in the room controlled. Then you can enjoy music. These two combinations were the key with this room. That's the reason I had to spend so much time doing it. In this room I'm very happy. So far when people step into this room, they are all flabbergasted!

### Can you explain what you've done?

First of all (we did) the back wall, we have to have the midband completely well diffused to have equal soundstage width and depth. This was essential. On the side parts I damped them slightly, so I have some absorption. So – back wall diffusing, left and right wall some absorption, but then again right after that, completely diffusing. The depths (on the side walls) are different: each line has different frequency resonance. So, a well-diffused midband, then, of course, deflection from the back wall.

### Can you describe the size and shape?

Eight metres – it was (originally) a rectangular room, but the diffuser has made it a boat shaped (internally, that is).

### What were the biggest challenges you faced?

Low frequencies. That was the hardest part. Because mid and high frequencies we could change

easily, but low frequencies, to control it, was not easy.

### **Do you think the room is done, or like HFC's Jimmy Hughes you will be forever tweaking?**

No. I am happy! This is science! Once it is done, there's no need to change it. I'm really happy I can work on every product.

### **So all Marantz products come through this room?**

I listen to every single product in this room.

### **How much does a room like this cost?**

120,000 Euros. But many crazy audiophiles are spending more; considering that this is cheap!

### **What would you say is the biggest problem with typical listening rooms in the UK?**

First of all, they are very small. Because all house standards in the UK are tiny, you have to use small speakers. That's because bigger speakers with a lot of bottom end will not be any good in such tiny rooms. So if you spend time and perfect your preferred music with a tiny pair of speakers, you can get a really nice system for reasonable money. In a way I think it's lucky, because the (listening) distances are short: with bigger speakers, integration is going to be very difficult because of the distance you need from the speakers – they are too close.

So, (with) tiny two-ways, the distance between the main (drive) unit and tweeter is so close, then integration is there, so then you can have a proper soundstage. For me, in a small room you can't have big dynamics but everything else is there.

### **How can HFC readers improve their rooms?**

The only way is move around the speakers. The first thing you'll hear is that the bottom end changes. So you can start moving them and position the speakers where the bottom end is less disturbing. Then you go to the mid and highs, some reflection and absorption will be needed for the sound you want. Bottom end is the key.

### **Any other top Ken Ishiwata tips?**

Audiophiles try too hard and it becomes too dead. Don't overdamp: keep the room as live as possible, otherwise it becomes

dead music – you can't really enjoy it. You may be able to hear the sound from the equipment, but that's not what you really want; you want to listen to music. That's where a lot of people are making a mistake – they absorb too much.

### **What's your view of cabling, especially mains?**

Today, because so much digital equipment is generating noise, mains cables are very important. The influence of external equipment is unbelievable.

### **Do you think it is becoming more of an issue, then?**

Yes. And, unfortunately, every household is different. Certain cables will benefit certain households, but there are no guarantees some cables will work in other rooms. So you have to be very careful.

### **The clothes maketh the man**

*But what about the man himself? During our exclusive, one-to-one interview with Ken we were able to discover more about the man, his history and dreams for the future of hi-fi.*

### **How did your interest in hi-fi start and when?**

When I was small, I played the violin. Back then I wanted to hear old masters, but, of course, I couldn't afford it. So I started to make an amp myself. I should add that I was only 10 years old!

### **“So I borrowed the Marantz 7c, looked at all the circuits and built a copy.”**

Then I made my first mono amp – in those days, of course, it was mono – everything was with tube. The father of a friend of mine was a real audiophile and when I went to high school he invited me to his listening room and at the time he had a really wonderful room. Then, one day, he said: “Ken, you have to come.” And then he played the music – Studio London, *Come in my house*. I said: “Jesus, what did you do? What did you change? – it sounds so sexy today, completely different.” Then he pointed out a product: “I changed my preamp” – it was a Marantz Model 7c. So that was my first encounter, in high

school time and it really opened up my eyes.

### **Did he help you develop your own electronics?**

The problem was I wanted to have the Marantz, so I asked the price. Impossible! It was one and a half months' salary of my father, so I borrowed the 7c, took it home, opened it, looked at all the circuits, then got the correct parts and built a copy. (laughs). When I finished it I was so excited – “Now I'm going to have that sound.” Only nothing came out (laughs again) because the Model 7c was a very complex tube design. High school student knowledge was not good enough to understand!

Problem was it was oscillating and I didn't know. I finally managed get it to work, but the sound was completely different, nowhere near the original, I said: “What the hell?” Then, of course, I was using Japanese tube – Toshiba. The original one was a Telefunken tube, so I just swapped them. The sound changed completely again. Then I decided to change caps, resistor – every single part I changed, I said: “Holy shit!” Then I understood hi-fi: very complex but it's very interesting. That's the way I learned how hi-fi is.

### **So you've been at Marantz for over 30 years now – how has your role changed over the decades?**

32 years – I joined in the '70s. In the '70s, it was a competently different period for hi-fi. The company was owned by an American and Marantz Europe had a lot of communication problems with Marantz Japan, so they wanted to have a Japanese employee able to speak English, but at the same time an engineer. They also wanted someone who could understand the business, so they called me at Marantz Europe. And that's the way I joined the company.

To begin with I was problem-solver, communication problems on both tech and commercial. I spent the first year just getting (the two companies) to be more friendly towards each other and it worked out quite nicely! But back then they had a speaker factory across the French border and they were receiving designs from America, I said: “No way, you can never sell these.” So they

said: “Can you design?” And I said “Yes.” So then I started to develop speakers for Marantz and then I got involved in all the other electronics as well.

### **So when was the first 'Signature' product launched?**

When Marantz was sold to Philips it coincided with the time they were discussing introduction of CD with Sony. Marantz was very lucky from day one: they could go into the Phillip's laboratory and understand digital audio! Marantz was an analogue specialist, we didn't know anything about digital, but because we were bought by Philips, we could get access.

All the Japanese engineers there had a problem with English. But, I was always there and I made a lot a friends! I learned so much from those guys, as I didn't know digital either. I started to make the special editions in the UK only, that was the first sort of signature I started to put on the product.

Then we started on the CD63MkII. It was such a unique-sounding

**Not a copy – this Model 7c is the real thing and takes pride of place in the hall of fame outside Ken's office**



CD player – it wasn't neutral, but it played CD with emotion. And I said: "Jeez, I want to do something with this unit". So I took one and without thinking about cost I did what I thought was the best for it and the company said: "we must commercialise this", so then came the CD63 KI Signature – and that's the way it started.

**Big audio dynamite**

*With the gaps in our history lesson filled in, we were keen to gather Ken's opinion on past, present and future developments in audio.*

**What do think have been the key developments in hi-fi in the last 30 years?**

The biggest change was from analogue to digital. Another thing is speakers, affordable speakers – quality. Today you can make a relatively inexpensive system, yet get really high-quality levels.

**How important is test and measurement to Marantz? And how do you balance measured performance with your subjective listening?**

There I think we have to be very careful not to mislead people with specifications. That's what I find is the biggest problem today because people believe a 100-watt amplifier is much louder than a 70-watt, but the difference is small. So all these technical things on the specs and the reality is such a big difference – getting the consumer to understand is hard work. Measurement is important, but it's not the final goal. For me it's just a confirmation. So, 0.003 against 0.001 – so what?

**What's your view on the 'MP3 generation'?**

Today's MP3 file is actually based on a (Phillips) DCC algorithm! But we went into the psycho acoustic – certain things to the human ear are completely insensitive, but some things are very sensitive beyond the imagination. It's so

**"IPods are fantastic, because people are listening again to two-channel."**

tiny, but the human ear can detect it, that's the difficult part. That's an area we can still improve, but luckily, today, memory is so cheap, you don't need to compress it. You can keep the original uncompressed.

Yes, people are using MP3, but once the infrastructure is ready, like it is in Japan... every household has now got a fibre optic connection, so they can have two HD movies streaming! So, if the infrastructure is ready, it's no longer needed to have compression.

**So, when people are able to get music they want losslessly, you think it will kick-start interest in hi-fi again?**

You see today a lot of people using iPods, iPhones and MP3 players and if they can hear the difference (with hi-fi) then we have a chance. I believe in the nature of people, they always want something better, I trust in human nature.

**Do you think it's in part the hi-fi company's responsibility to educate consumers about ripping and playback quality?**

That's going to be very hard – they've used iTunes already, but even Apple does lossless. I believe those guys will change it and improve it, so that will help. People don't have to worry about (memory) space anymore, so once the program gives uncompressed as default then, of course, people can hear the difference.

**What's your view of the iPod family as transports – do you think the standard is high?**

Unfortunately no. Because the USB connection has a lot of problems. The signal coming out in not clean, there's a lot of jitter. To be honest, the proper way to do it is not to use the clock from the computer, you have to have the clock close to the D/A, then you manage bitstream from the computer. But still noise is coming in. Isolating it is not easy.

**Lastly, what can you tell us about new product developments in the future?**

People are much more into ripping music. Obviously we have to offer the possibility of doing that at the same time as keeping disc players, amps etc. We facilitate people with their new needs and lifestyle. But the basics don't change.

iPods for me are fantastic, because people are listening again to two-channel. It is a good opportunity to educate people. We have to pay attention to people's needs. Some people want

to connect to networks, or have NAS, so we have to give the possibilities.

Before we packed our hand luggage for the short flight to London, we settled in for some quality listening time. Despite access to a plethora of high-class speakers, including Mordaunt-Short Performance 2s, Ken's system on the day comprised a pair of modest Boston Acoustics speakers on the end of a £1,500 Pearl Lite system.

This modest set-up, in Ken's cleverly executed room, was nothing short of sensational. It reminded us of Marantz systems of old, specifically those KI-tuned, hot-rodged models of the 1990s.

Yet this was the Marantz of 2011. And that's what we think makes Ken such a valuable asset, his uncanny knack for musicality – and his record of maintaining a house sound throughout the decades, a sound which, incidentally, has been a *Hi-Fi Choice* favourite all these years. ●

**KEN'S CV**

**Name:** Ken Ishiwata

**Job title:** Brand Ambassador

**Job history:**

**1968** - Sent to Europe by Pioneer, one of very first Pioneer Europe members

**1978** - Joined Marantz as European Techno Commercial coordinator, solving both technical and commercial issues between Japan and Europe

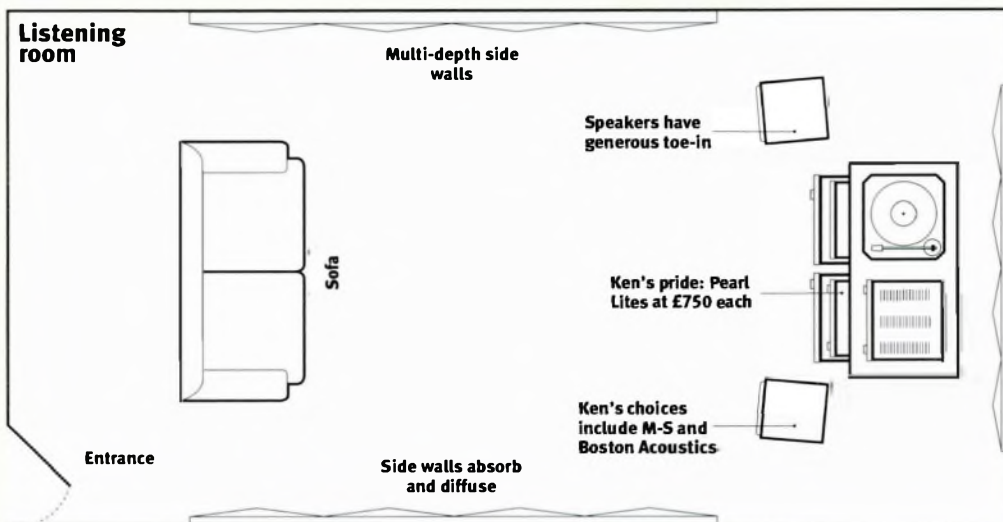
**1979** - (Head of above job) started to develop Marantz speakers for Europe in Belgian factory. Also started to contribute in Marantz Japan product developments

**1980** - onwards: after CD's introduction, I didn't carry name card with title any longer since people started to know who Ken Ishiwata was

**1990** - Due to Philips rules, I had to have a title. 'Brand Ambassador' was created

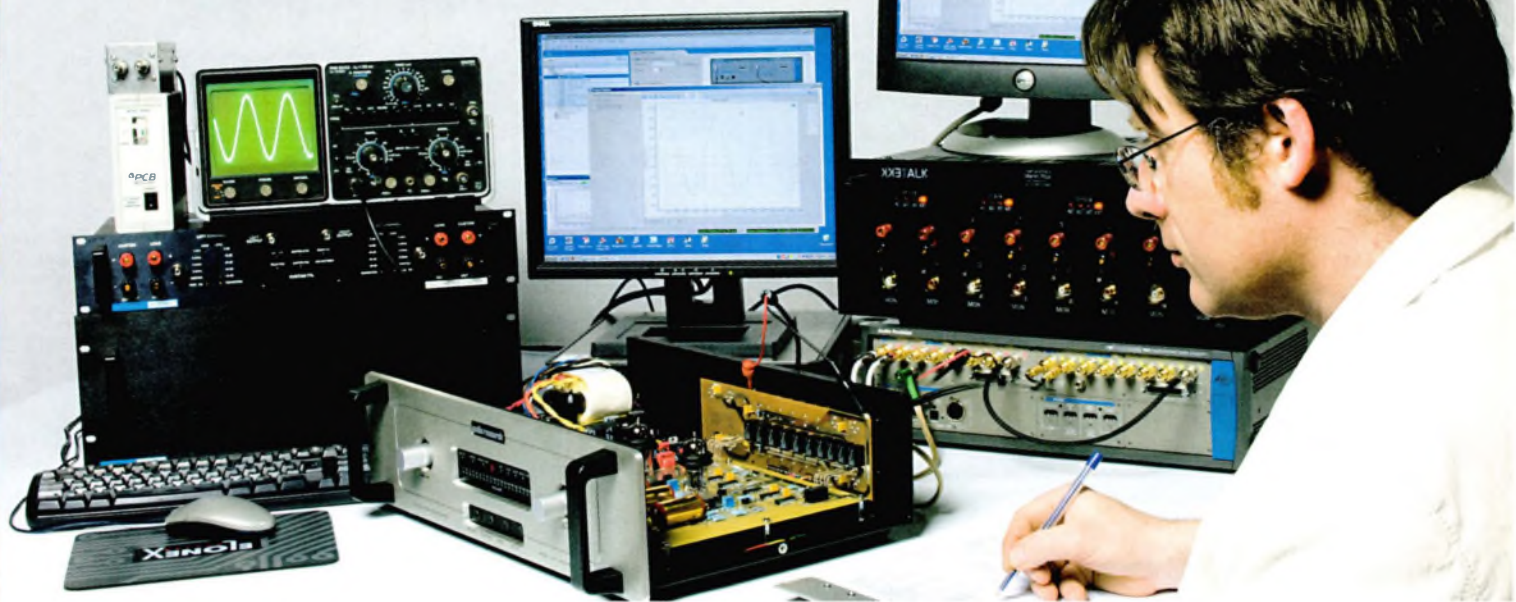
**Interests:**

Of course music, but I love everything beautiful – like paintings, photography and fashion



# How we test

Hi-Fi Choice employs the most rigorous test and measurement regime in the business and here we explain why our definitive verdicts count



## 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

**BLIND LISTENING** to turntables is a logistical nightmare. If every turntable is supplied with its own arm and cartridge, one could, in principle, set up six and connect each in turn to a system, but when it is necessary to swap a common cartridge between some of them it all becomes more than a little tricky.

Each turntable was set up and tweaked by ear for best performance,

then our test tracks were played on each and recorded digitally at high resolution (24-bit/88kHz). These recordings were assembled on to DVD-A discs and sent to our listeners to evaluate in the comfort of their own home. In this way, they could pick out the salient sonic characteristics of each deck fairly, without knowledge of which one they were listening to.

## SIGHTED LISTENING

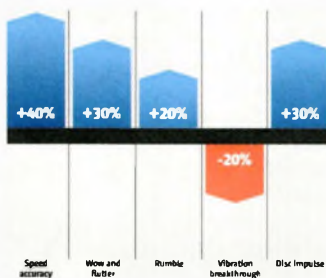
**IN ADDITION** to the 'blind' test, the author also spent a longer period listening to each system with various items of partnering equipment and a wider range of music. Apart from the obvious fact that this is how most people listen most of the time, this also has the advantage that interesting aspects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

## TECH LABS

### RESULTS AT A GLANCE



**MEASUREMENTS ON** turntables these days involve a mixture of analogue and digital equipment, with most of the processing being done on a PC. Special-purpose test LPs are used for measuring speed accuracy and stability, while rumble measurements rely on a custom-made rumble coupler. Disc damping and arm resonance are each tested by applying a calibrated impulse to the relevant components of the turntable and recording the output from the cartridge as it rests on a stationary disc.

Here we looked in detail at six main areas, five of which are condensed into our bar graphs. Significant and/or unusual findings are mentioned as appropriate in the lab report text.

#### SPEED ACCURACY

The simple way to check this is by playing a disc with a carefully-made radial scratch. The resulting click should come round once every 1.8s, checked on a waveform editor.

#### WOW AND FLUTTER

A specially-prepared lacquer (cut master disc) is used for this, bearing a pure sine wave tone, which is then analysed for pitch variation at low (wow) and higher (flutter) rates.

#### RUMBLE

Rumble comes from two sources: the motor and the main bearing. The former is checked with the belt removed, the latter with a rumble coupler attached to the spindle.

#### VIBRATION BREAKTHROUGH

We stand the turntable on a light table and apply calibrated impulses to the table, while the stylus rests on a stationary disc.

#### DISC IMPULSE

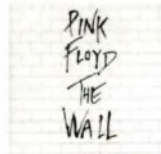
A calibrated impulse is applied to the stationary disc, near the stylus as it rests in the groove. The test is repeated to ensure good disc-to-platter contact.

### ▶ TESTING EQUIPMENT USED

**Cartridges:**  
Shure VTS  
Highphonic MC-A3  
**Phono stages:**  
Cambridge Azur 640P  
EAR 802  
**Amplifiers:**  
Exposure 3010  
EAR 519  
**Loudspeakers:**  
B&W 8035  
ATC SCM20  
**Cables:**  
Wireworld  
Furukawa  
Kimber

### ▶ TEST MUSIC USED

PINK FLOYD:  
THE WALL



SAVOURNA STEVENSON:  
TICKLED PINK



WILLIAM WALTON:  
FAÇADE SUITE



GUSTAV MAHLER:  
SYMPHONY NO 8



## THIS ISSUE'S BLIND PANEL

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



**KEITH HADDOCK**  
JOB: PR EXECUTIVE

**A VETERAN** PR operator with twenty-five years' experience in the industry, Keith supplies accelerators and sticking plasters for many famous and not so famous hi-fi brands.



**MARK HOCKEY**  
JOB: ACCOUNT COORDINATOR

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



**ED SELLEY**  
JOB: HFC STAFF WRITER  
**ED HAS SPENT** the best part of a decade selling, developing and supporting audio products. He now works full-time with *HFC*.

## DEFINITIVE VERDICTS

No other magazine offers an equivalent listening programme

Quite often a nervous manufacturer will get on the telephone to ask how things are going. The answer invariably has to be fundamentally noncommittal, albeit laced with cautious optimism, because any final judgements on the overall performance and value for money of an individual loudspeaker can only be arrived at once the whole test procedure has been completed and all the various strands can be pulled together.

Individual reviews have their place, especially when it comes to dealing with the more unusual and upmarket components. But the comparative *Blind-listening Group Test* is a much more effective means of evaluating a component, as each may be directly compared to a norm established by the group as a whole. Even though loudspeakers show rather greater variations in size of main drivers and enclosures than other components, this remains an exceedingly powerful tool.

TESTED THIS MONTH: TURNTABLES  
**TURN OVER NOW!**



# Blind-listening Group test

**TURNTABLES** £775-£3,100

## Which high-performance turntable is right for you?

We love vinyl here at *Hi-Fi Choice* so we tasked Technical Consultant **Richard Black** and his Blind-Listening panel to discover the best below £3,000

**IF YOU'RE SERIOUS** about your record collection, just as we are, then you'll need a serious turntable. But getting real hi-fi sound may cost less than you think. We've cherry-picked what we believe are six of the best value turntables on the market today, with prices ranging from £775 to £3,100, all for our Blind-Listening panel to assess.

Spending more than £1,000 opens up a whole new world of resolution, build quality and longevity, that more than makes up for the initial outlay. What better way could there be to make the most of your vinyl than a new turntable, equipped, perhaps, with one of the cartridges in our Mini-Test (p102)? From this month's half-dozen, a couple we've seen before, in more or less similar guise, but most are new to us and new, or at least very recent, to the market.

Back in the heyday of all-analogue hi-fi, it was often recommended to put as much money as possible into the source – meaning the turntable, arm and cartridge – and economise if necessary on the amps and speakers. That philosophy has become less popular

with the dominance of CD, but we would certainly agree that going to town a bit on LP is not a waste of money. Making a high-quality turntable inevitably involves precision manufacturing and is simply never going to be cheap, especially in the sort of quantities involved in specialist hi-fi.

**“Making a high-quality turntable involves precision manufacturing”**

All the same, there's an intrinsic simplicity in the task of playing a vinyl disc, which shouldn't be concealed by the sometimes elaborate means used to approach it. Spin the disc at a precisely constant speed, tracing it with a suitably mounted and aligned cartridge, while keeping mechanical resonances and stray noises at bay as far as possible, and you're basically there. Turn over the page to start discovering what our panel thought of our six newcomers.



**PRICING**

Collating six turntables at any reasonably close price is never an easy affair and this was no exception. Pro-Ject had the choice of putting in a more expensive model, but elected to send the Xperience 2.

With the Excalibur arm, the Townshend is the most expensive deck in the test by some margin, but equally can be had with a less expensive arm.

The four other decks are priced close enough together that a really great demo might encourage you to spend out on the most expensive, even if you were budgeting to buy the cheapest.

### ON TEST



**Funk Vector III/FXR £2,135 P43**

Certainly a funky shape, the Vector is the latest incarnation of original thinking by Arthur Khoubessarian, a veteran of the UK analogue scene. In many ways turntable design reduced to its fundamentals, it nevertheless includes refinements like electronic speed control and the Vector drive, a multi-pulley way to reduce the effects of the drive belt's sideways pull.



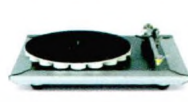
**Michell Engineering Gyro SE/TecnoArm £1,450 P45**

It is not an exaggeration to use the word 'iconic' for Michell's basic turntable design, many features of which date back to the 1970s. Good engineering never dates and the standard of construction of all the brand's products is legendary. It's a fully suspended deck, equipped here with Michell's arm, though other arms can easily be accommodated.



**Pro-Ject Xperience 2 Pack £775 P47**

Pro-Ject's range of turntables is wide and consistently offers fine, not to say astonishing, material value for money. This strikingly attractive example includes a carbon-fibre composite arm alongside its acrylic platter and chassis, with just about the only economy we can see being the simple AC motor. It's available with a pre-installed Ortofon cartridge.



**Rega P7 £1,325 P49**

Clearly descended in a straight line from the Planar models, the P7 includes some nips and tucks and some new thinking too, bringing the basic design significantly upmarket. There's a double drive belt, for example, and a ceramic platter replacing the original glass, all in the name of improving precision and neutrality of reproduced sound. The arm is updated too, though it looks as understated as ever!



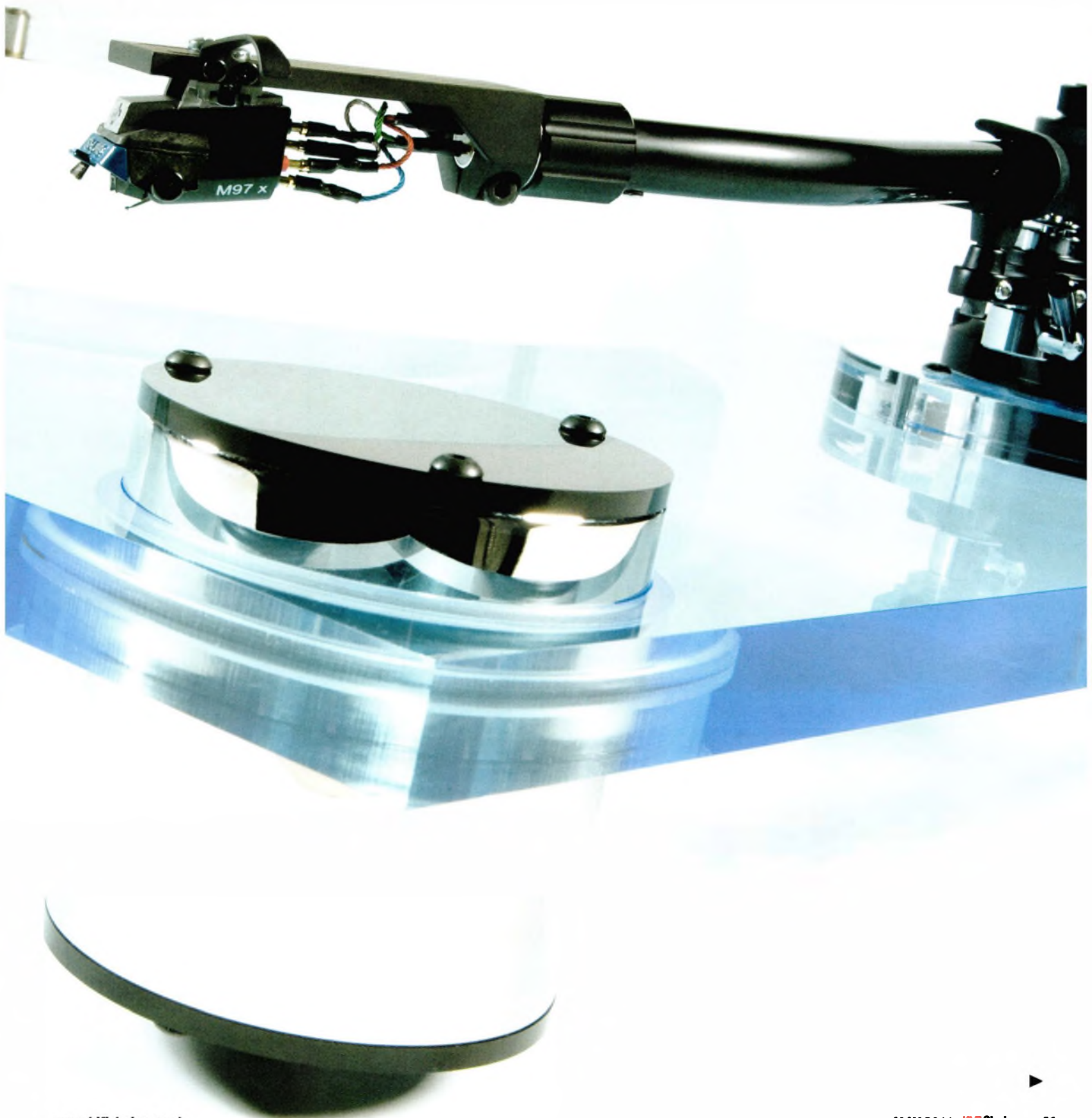
**Scheu Cello/Jelco arm £1,595 P51**

Scheu's products are not familiar in the UK, though the grapevine has been bringing interesting reports for some years. The basic idea of the Cello, an all-acrylic design, incorporates a nylon thread drive 'belt', the motor concealed in one of the mounting legs and that stunning blueish finish. A Jelco arm is included in the test price.



**Townshend Audio Rock 7 £3,100 P53**

The latest in a long line of turntables to bear the Rock name and its associated damping trough, the 7 is mounted on bellows feet, which give it good isolation. It was tested with Townshend's Excalibur II. Other less expensive arms can easily be used with the trough by fitting a small outrigger above the headshell.



# Finally... our definitive answer to the audio cable debate

## How can a mains cable make any difference?

How can one metre or so of cable between the socket and your Hi-Fi possibly make any difference to its sound? Well, in our opinion, based on years of detailed research and listening, it can make a huge difference – indeed, in many cases, we believe it can bring about a greater improvement than actually upgrading the piece of hardware itself.

Numerous customers have commented that their enjoyment of music has been dramatically enhanced after upgrading their mains cables. Here's just one example:

*"I don't often provide feedback. The fact that I have done so is an indication of how good I think this cable is... it is difficult to describe just how fantastic the system is now beginning to sound... There is a clarity and*

*focus to such a degree that I can now hear individual strings on guitars when chords are played. Where musicians were in the background before, they now accompany vocals in sharp focus and with tremendous subtlety. Absolutely beautiful ... When I bought my CD player, I also auditioned other players that were considerably more expensive. In my opinion, the improvement gained with the SuperKord is greater than I could have achieved by spending the money upgrading my player".* Mr Waghorn, Kent

## How do you decide?

There's a lot been said about mains cables over the years. We have pioneered research into this area since the 1970s. Russ launched the very first high-fidelity mains cable back in 1985. At the time they were considered with suspicion; as outside the mainstream of accepted Hi-Fi wisdom.

Even today mains cables still remain controversial. Those who have listened to them, and used them, swear by them. The Hi-Fi press give them five star reviews. But there are still sceptics, and that's good. No-one should ever just take what we say for granted.

But, when you have these conflicting opinions, who do you believe? How do you decide who to trust?

Well, here at Russ Andrews Accessories, we believe that the best person to decide whether one of our mains cables can improve your listening pleasure... is you!

**Simply put, you are the expert on your system. Not us. Not the reviewers. Not the sceptics. YOU.** That's why all standard-length Russ Andrews and Kimber cables and accessories come with a no quibble, 60 day money back guarantee.

## The Definitive Test

Order your cables from us and you get a full 60 days to listen and decide for yourself. If, after that time, you are not convinced that the product you have bought significantly improves your listening or viewing pleasure, send it back to us and we'll give you your money back. Simple as that. No argument. No quibble. Just a full refund and a thank you from us for giving them a try.

Here are a couple of our Award-winning cables that make an excellent starting point for upgrading your system:



Classic PowerKord™

## Russ Andrews Classic PowerKord™

- ✓ Eight woven, hyper-pure copper conductors
- ✓ Teflon® insulation
- ✓ Flexible protective sheathing
- ✓ Fitted with Wattgate™ 320i IEC
- ✓ Fitted with a Russ Andrews Fuse

1m cable £113.95

## Kimber Tonik analogue interconnect

- ✓ Three Ultra-pure copper conductors
- ✓ Polyethylene insulation
- ✓ Kimber UltraTike™ phonos

0.5m pair £55.50



Kimber Tonik analogue interconnect

Order NOW on **0845 345 1550** Int tel: +44 1539 797300  
or visit **www.russandrews.com**

 **KIMBER KABLE**  
Exclusive UK distributor



*Russ Andrews*®



# Funk Firm Vector 3 **£960** (with FXR II arm £1,175)

Funk Firm's Arthur Khoubessarian has broken the mould once again with the Vector 3, his latest non-resonant turntable

## DETAILS

- ORIGIN:** UK  
**WEIGHT:** 4kg  
**DIMENSIONS:** (WxHxD) 450x110x380mm  
**FEATURES:**
- 33/45rpm
  - Electronic speed change
  - Fine speed control
  - Captive arm lead
  - No lid available
- DISTRIBUTOR:** The Funk Firm  
**TELEPHONE:** 01273 585042  
**WEBSITE:** thefunkfirm.co.uk

**T**he Funk Vector is based on a very simple chassis made into a curvy shape and with a DC motor controlled electronically – fine control for each speed is available via a small screwdriver adjustment just behind the speed switch.

The 'Vector' part of the name refers to the Vector drive system, which uses two small idler pulleys in the belt path, in addition to the motor. The idea is to balance out the sideways pull from the belt so that the platter is less inclined to 'precess' around the spindle. A flat belt is used, which in principle should be more stable than a round-section belt, though the one on our review sample showed some tendency to twist.

Mounted on the metal subplatter is the main platter, made of Funk's 'Achromat' material which is a foamed plastic, designed to match the acoustic impedance of an LP and absorb mechanical vibrations efficiently from it and quickly turning them into heat thanks to its irregular structure.

New for this test is the FXR II tonearm, which we have been waiting for since about the mid-1990s, when we first heard Arthur Khoubessarian's exposition of its design principles. Again, it is intended to be less resonant than conventional arms.

Funk's answer to the problem of resonance uses a simple tube, quite thin-walled, braced internally with an X-section beam which contacts the tube along its length. It is mounted in a bearing assembly which is, in fact, that of a Rega arm, though with even higher-precision bearings than the (very good) ones that Rega normally uses.

In use it behaves much like a Rega, though the headshell is a slightly fiddly assembly using a mounting plate to fix the cartridge to a single slot on the end of the arm tube.

## Sound quality

Opinion was rather sharply divided over this deck's merits, one listener finding it evenly balanced across various aspects of performance, but ultimately a little bland, one liking it for its good tonality and detail and a third commenting several times on 'lifeless' and uninvolved sound.

This degree of variation between listeners is not unusual: different people are bugged by different aspects of performance and that's clearly the case here. What makes it interesting is finding out just what appealed to, or appalled, each listener.

The listener who was most impressed, valued analytical virtues in this turntable and we also felt from our sighted listening that it is at its best recovering the detail from a disc. Where it's not quite so assured

## TECH LABS

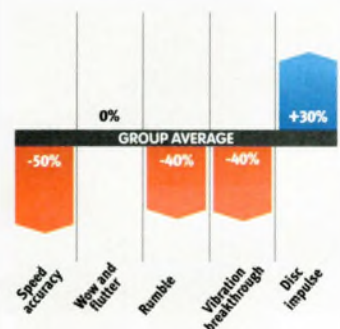
### LAB REPORT

Our biggest single concern about the Vector's technical performance concerns speed stability. When we received the deck its speed was out by about one per cent, which we put down to imperfect testing at the factory and corrected with the fine speed control. When we checked the speed a day later, it was more than one per cent out. This is a little worrying and suggests a problem with the speed control circuit.

Wow and flutter scored about average for the group, or good in general terms. Rumble measures quite high, entirely due to breakthrough from the motor which couples quite a lot of high-frequency noise into the chassis. Vibration breakthrough is quite high, as there's next-to-no suspension and a floating support of some sort would do this turntable no harm at all.

Disc impulse results are good and impulse tests on the arm (not part of the scoring) are very good indeed.

### RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY** ★★★★★  
**VALUE FOR MONEY** ★★★★★  
**BUILD QUALITY** ★★★★★  
**FEATURES** ★★★★★
- LIKE:** Very good at resolving fine detail  
**DISLIKE:** Speed seems inconsistent over time and bass can sound a little weak  
**WE SAY:** Full of intriguing technology, but doesn't entirely live up to its promise

### OVERALL





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# Michell Engineering Gyro SE £1,450 (including arm)

Full spring suspension and a competitive performance makes the Michell a strong contender

## DETAILS

**ORIGIN:**  
UK

**WEIGHT:**  
12kg

**Dimensions:**  
(WxHxD)  
500x170x380mm

**FEATURES:**

- 33/45rpm
- Manual speed change
- External power supply
- Captive arm lead
- Optional dust cover

**DISTRIBUTOR:**  
Michell Engineering

**TELEPHONE:**  
020 8953 0771

**WEBSITE:**  
michell-engineering.co.uk

**T**his deck is relatively unusual these days in that it includes a full spring suspension, which in turn is rare in using springs in tension rather than compression. Compression springs tend to suffer from problems with lateral stability – squash any compression spring and it is only too ready to jump out sideways. In tension, though, they are self-aligning, the downside being that they need more space. Here they are housed in the near metal ‘towers’ that flank the platter, immaculately fitted to the subchassis, thanks to Michell’s famous high-precision machining. The suspension is completely undamped and can bounce for many seconds.

There’s more precision metalwork in the bearing, which is substantial and mounts on the diecast subchassis. The arm base is mounted on the same casting, while the motor sits separately, unsuspended and protruding through a whole in the subchassis, which doesn’t actually contact it. A round-section belt drives the outside of the platter, with speed change being manual – there is no fine control of speed available, although it is a DC motor.

The platter is plastic, with Michell’s distinctive machined brass weights fixed to its underside to increase its inertia in a visually striking way.

The TecnoArm is basically a Rega RB250, but with some notable tweaks. A particularly interesting one is the way Michell drills several holes in the underneath of the arm tube and also bead-blasts the outside of the tube, both in the name of reducing resonance.

The counterweight is replaced with a precision under-slung one, with calibrated screw adjustment and the internal wiring is also replaced.

## Sound quality

Like the Funk, this deck seems quite adept at keeping surface noise at bay, though it was, perhaps, not quite as reticent as on the Funk. But such technical aspects of the sound were mentioned seldom in our listeners’ notes, which spent far more time discussing the way the Gyro SE plays music: it’s one of those hi-fi components whose performance encourages one to listen far more to the music than to the equipment and that’s all to the good.

There was the odd criticism from our listeners even so, for instance a comment that images are a little diffuse, somewhat enlarging each instrument so that each one tends to overlap a little with its neighbour, a rather unnatural (though not major) effect. There also seemed to be a consensus that bass definition isn’t quite perfect, but this is also a minor detail because the tonal quality of the bass is



actually very good. There’s plenty (though not too much) of it and it is well integrated with the rest of the spectrum, it just doesn’t have quite the precision of some decks.

Treble is good, too and timing received lots of positive comments. But more than all this, what we all enjoyed about this turntable is its energy, which keeps the music alive and vibrant across the gamut of genres and moods.

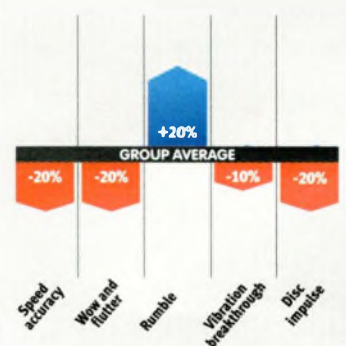
## TECH LABS

### LAB REPORT

As we’ve come to expect from Michell turntables, good attention to fundamental details has ensured very good results in terms of rumble and wow and flutter. The latter looks on the high side, but that’s by the standards of a good group and the actual figure (0.06 per cent) is still good by most standards. Absolute speed accuracy wasn’t great on our review sample, about 0.6 per cent fast, which is just about enough to make an audible difference to both pitch and tone of music.

What seems surprising at first, is the poor vibration breakthrough result, given the undamped suspension, but the problem here, is that the steel springs ring quite audible in the presence of external vibration, giving a breakthrough ‘signature’ that is tuned, in a relatively audible part of the spectrum and rings on for a second or more after the impulse has passed. Disc damping is moderate.

### RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

#### SOUND QUALITY



**LIKE:** Excellent timing really propels a very good performance

#### VALUE FOR MONEY



**DISLIKE:** Bass not always as detailed as some and sensitive to placement

#### BUILD QUALITY



**WE SAY:** Always a highly enjoyable listen, the Gyro SE offers plenty of detail and insight, too

#### FEATURES



### OVERALL





B O R A



« What the Bora offers that many others don't is a clear sense of musical flow and narrative and an organic way of dealing with musical information that makes it very easy to engage - not just with the notes, but with the expressive qualities that the performers bring to bear ».

Alvin Gold, Hi-Fi Choice October 2009

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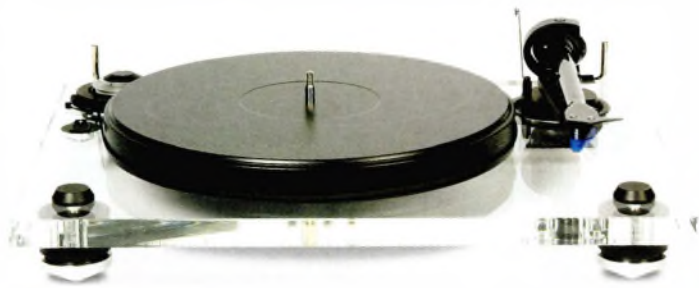
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**Cabasse**



# Pro-Ject Xperience 2 Pack **£775** (incl arm)

Brand new acrylic turntable combines Pro-Ject's impressive credentials with a top-quality hi-fi performance

## DETAILS

- ORIGIN:**  
Austria
- WEIGHT:**  
7.6kg
- DIMENSIONS:**  
(WxHxD)  
460x135x360mm
- FEATURES:**
- 33/45RPM
  - Manual speed change
  - Arm connections via phono sockets
  - Lid included
- DISTRIBUTOR:**  
Henley Designs
- TELEPHONE:**  
01235 511166
- WEBSITE:**  
project-audio.com

**A**crylic is not actually the perfect material for turntables, but it's a good one. It is reasonably stable dimensionally, not very resonant, quite tough and, of course, capable of being polished to a very high standard of finish.

In this case, it is supported on three very slightly compliant feet, adjustable to set the deck level, which are the only suspension in the design. Across to the left is the motor, a low-voltage AC type which is fed from a simple wall wart supply and which drives the outside of the platter via a square-section belt. Speed change is manual, but easy because the motor is fully accessible. AC motors tend to vibrate a little, so Pro-Ject has mounted this one on a simple elastic suspension.

The arm is familiar from previous Pro-Ject decks we've tested, with a tube of carbon-fibre composite, moulded seamlessly into the headshell and mounted at the rear on a full gimbal bearing assembly. The main bearing yoke is a large piece of metal and the base fixes securely to the turntable chassis, including a small metal box, underneath on which are mounted a pair of phono sockets and an earthing post – a more practical way, we feel, of connecting to the following preamp than the usual flying lead. The deck is available

pre-fitted with an Ortofon cartridge (also distributed by Henley Designs): ours arrived with a 2M Blue (£155).

## Sound quality

The reaction of each member of our listening panel to this deck was quite similar and generally positive. It didn't excite many superlatives, but engendered a good deal of respect for the way it resolves detail, balances tonality and images. At the same time, there was some concern noted about the bass. Although it has good reach and body, it can sometimes seem a little disconnected from the rest of the sound, creating an unnatural effect where there is clearly bass in evidence but nevertheless the sound seems slightly thin.

In the higher octaves, though, the midrange and treble is very well integrated and tonality is very neutral. There's a delightful open quality to the treble, which keeps the sound alive and makes for a very natural quality to the feeling of space on a good acoustic recording. Images are good, if not outstanding, with believable left-right spread and separation. Surface noise seems subjectively on the low side compared to most of the others in this group.

There were several comments on this deck's good rhythm and pace. It, perhaps, wasn't the very best in the



test, but was certainly one of the better performers in this respect. We had deliberately chosen the test tracks to present varied challenges in terms of timing and the Pro-Ject rose well to each. This was most marked in the chamber-orchestra track by Walton, which requires not just good rhythmic precision, but also agility and lightness of touch, which our listeners felt was achieved. It also propelled Pink Floyd with vigour.

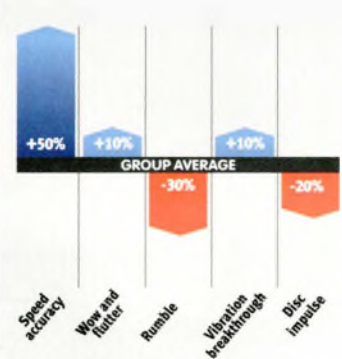
## TECH LABS

### LAB REPORT

We can't complain about speed accuracy – at better than 0.05 per cent it's on a par with some CD players. Wow and flutter is also excellent. Rumble is poor, though, entirely due to breakthrough from the motor at harmonics of 100Hz. This is a typical problem of AC motors and can to some extent be tackled by specialised external power supplies (the Xperience 2 just uses plain-vanilla mains, transformer down to a low voltage). Given how many LPs we've found over the years that have worse hum and/or rumble cut on them it's not a serious problem but it won't do any favours to lovingly made audiophile cuts!

Disc damping from the platter seems just a little below average for this group, but vibration breakthrough is quite low in level and has very little in the way of a tuned signature, which will help keep it unintrusive.

### RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY**  
★★★★★
- VALUE FOR MONEY**  
★★★★★
- BUILD QUALITY**  
★★★★★
- FEATURES**  
★★★★★
- OVERALL**  
★★★★★
- LIKE:** Lovely, open quality to the treble, low surface noise, good timing
- DISLIKE:** Bass not always well integrated with mid and treble
- WE SAY:** Another winner from Pro-Ject on value grounds, holding its own well against competition



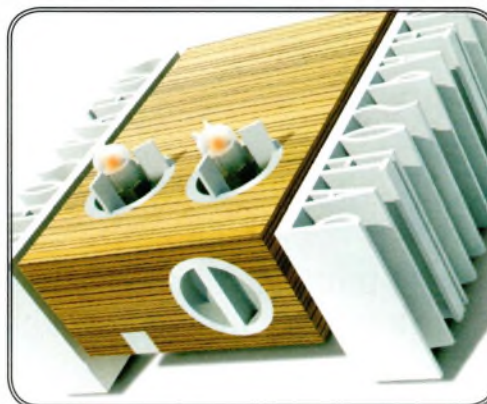


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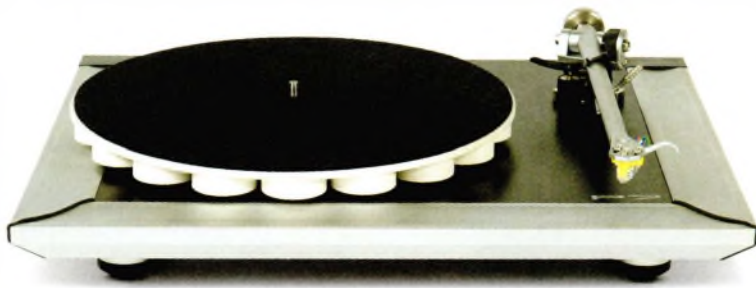
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# Rega **P7** £1,325 (including arm)

Rega's P7 has some impressive aesthetics, but the blind-listening panel are divided over its sound quality

## DETAILS

- ORIGIN:**  
UK
- WEIGHT:**  
7kg
- DIMENSIONS:**  
(WxHxD)  
450x105x370mm
- FEATURES:**
- 33/45RPM
  - Electronic speed change
  - External power supply
  - Captive arm cables
  - Lid included
- DISTRIBUTOR:**  
Rega Research Ltd
- TELEPHONE:**  
01702 333071
- WEBSITE:**  
rega.co.uk

**I**n so many respects this is a classic Rega, but it actually shares very few components with the famous old Planar models. It has an AC motor mounted directly behind the bearing, but it's a low-voltage motor powered from an external generator, which also allows electronic speed switching. It has a short belt drive to the subplatter, but there is actually a pair of round-section belts and the sub-platter is metal.

There's a hard, rigid platter with a felt mat, but instead of the original glass this one is made of ceramic, complete with Michell-style underslung weights around the periphery. We have mixed feelings about this platter recipe: sure, it's dimensionally stable second to none, but the hardness is not relevant when there's a felt mat in the way.

The chassis is still particle board, with a metal trim, which serves both visual and functional purposes, helping to damp and disperse resonances in the chassis.

The arm on the P7 is the RB700. Here the inheritance from the classic RB300 is even clearer and many of the parts are identical or, at least, identical in measurements. There are various changes, though perhaps most significantly in the method of mounting: this arm mounts via three screws through holes in the stainless

steel base plate, rather than the single large-diameter nut of the older models. The arm tube is given a special coating. There's a third hole in the headshell for cartridges that take a third bolt (including Rega's, of course).

In common with the RB300, the counterweight is made of tungsten and is intended to be adjusted for perfect balance, downforce then being applied by a calibrated spring. Most arms rely on moving the counterweight to set downforce, but a spring has the advantage of slightly increasing downforce as the arm rides up over a warp, making for more secure tracking of warped discs.

## Sound quality

One of the occasionally amusing results of blind listening is that products, apparently from diametrically opposed schools of thought, emerge as sounding quite similar and few would have expected a Rega to receive many similar comments to the Pro-Ject Xperience. That's what happened, though, with one listener even pointing out the similarity directly.

It was felt in general that the P7 had the edge in control and resolution and also integrated the bass better with the mid and treble, but its imaging and general presentation were thought quite a lot like those of the Pro-Ject.



In keeping with the traditions of the brand, a good rocking performance is invariably on offer with any disc of decent merit. In fact it's interesting how Rega has managed to keep that aspect intact from its earliest models, perhaps very slightly lessening the raw impact and at the same time adding more insight and better tonal balance. Effectively, if you always enjoyed the Rega sound, this could be just the deck for you!

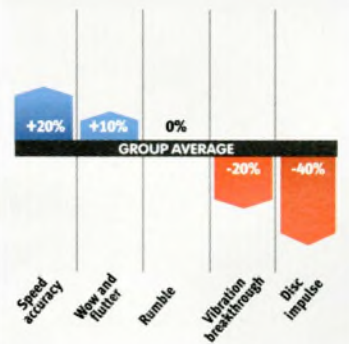
## TECH LABS

### LAB REPORT

Disc impulse measurements are always a weakness of turntables, which use a felt mat as these do very little to absorb the initial impulse. On the other hand, the tonal characteristic of the impulse is very good, with almost no ringing following the initial attack, so in practice the result won't be bad. There's a little motor-induced rumble in evidence, just about audible above the background and low enough to be disregarded with all, but the very finest LPs. Speed accuracy is very good, our sample running less than one-quarter of a percent fast and wow and flutter is kept to a very low value.

Vibration breakthrough is a little on the high side of average and although its character is quite bass-heavy there is also a minor, but persistent resonance in the low midrange. Again, a suspension platform could help.

### RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

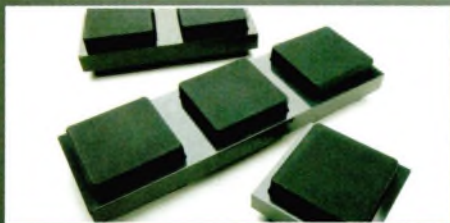
- SOUND QUALITY**  
 ★★★★★
- VALUE FOR MONEY**  
 ★★★★★
- BUILD QUALITY**  
 ★★★★★
- FEATURES**  
 ★★★★★
- LIKE:** Good kick and impact; plenty of detail on offer in an unforced way
- DISLIKE:** High treble not always as open as some
- WE SAY:** An attractive combination of Rega life and energy with more insight and refinement than older models

### OVERALL



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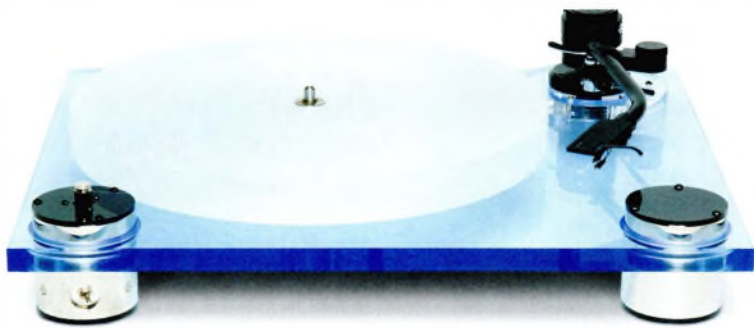
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# Scheu Analog Cello £1,595 (with Jelco arm)

A new contender on the UK hi-fi scene, this German-made turntable boasts a respectable track record

## DETAILS

- ORIGIN:**  
Germany
- WEIGHT:**  
6.5kg
- DIMENSIONS:**  
(WxHxD):  
425x120x340mm
- FEATURES:**
- 33/45RPM
  - Electronic speed change
  - Fine speed control
  - Lid not available
- DISTRIBUTOR:**  
Cool Gales
- TELEPHONE:**  
01225 478400
- WEBSITE:**  
scheu-analog.de

**A**lthough a relative newcomer to the UK, Scheu has been in business since the late 1980s. This makes it one of a number of turntable manufacturers who started up their business just as the LP was allegedly in its death throes. Perhaps, for that reason, the company's range is not vast, (there are only four turntables and three arms available), but distinctly exotic-looking in design.

The Cello (including a Jelco SA-250 arm) is a rectangular slab of acrylic with three feet, an arm mount and a bearing. The most obvious difference from other designs is that the motor is housed, very ingeniously, in the front left foot. It's a small DC motor with electronic speed control and a small toggle switch that selects the speed.

Instead of a drive belt there's a drive string. In fact, a thin thread can be a highly satisfactory trick and Scheu simply provides a small bobbin of fine nylon thread, just over a tenth of a millimetre in diameter! However, as it's up to the happy owner to cut a length of this and tie a knot in the right place, you may end up exhausting your supply of expletives. Eventually, one gets a good tight loop the right length which gives good drive to the frosted-finish acrylic platter.

## Sound quality

Once again, there was some disagreement among our listeners about the Scheu's bass: is it powerful and propulsive or a little shy? A little investigative work suggests the probable cause. Playing a variety of familiar discs suggested that the bass is rather better in lively, dynamic moments (a rock drum kit being a perfect example) than in sustained tuned notes (church organ, bass tuba and so forth). The latter tends to sound a little underwhelming, although taken in isolation it's not at all bad.

But the transient energy conveyed by the deck goes a long way towards making the sound very attractive. A closely related area of performance, 'pace', was also singled out for praise. This is a little more subtle than rhythm, involving as it does not just excitement but also, at suitable moments, restraint. That's necessary to keep the sound from being too frantic, something that we've all come across now and then.

Higher frequencies are well served by the Cello, with good detail across the board and very good life and vibrancy. The treble is always very clean, but prepared to scream and shout when the music demands it – no shrinking violet here! This can be deceptive, though, the treble occasionally

seeming restrained in recordings that are only moderately busy in the top octaves.

There was a little puzzlement expressed at the Cello's handling of dynamics. Just occasionally, detail seems a little muted, though as mentioned above it is generally good and surface noise seems slightly more prominent than via some of the decks. Imaging is good, instruments occupying a consistent and stable position in space and there is some decent depth in the image, too.

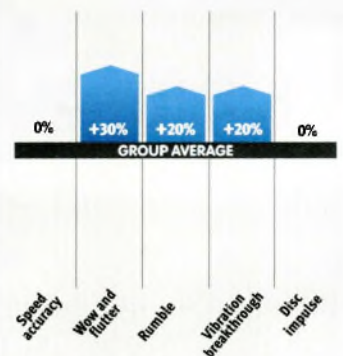
## TECH LABS

### LAB REPORT

We've given this deck a notional zero per cent, or group average, score for speed accuracy because the actual speed depends very slightly on the tension in the drive string – there will always be a minute degree of slip. This would make it nonsensical even to comment on the fine speed setting as the deck reached us, but it does mean that a quick check with a stroboscope disc will be an essential part of the deck's set up and, we suggest, weekly maintenance.

The drive string appears to do its job well though, as speed stability once set up is good and wow and flutter measured the lowest of the group, and about 0.03 per cent – about the lowest figure we've seen. Despite the lack of much suspension, vibration breakthrough scores quite well, not least because the deck has very little obvious resonance. Disc damping is about average for the group.

### RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY**  
★★★★★
- VALUE FOR MONEY**  
★★★★★
- BUILD QUALITY**  
★★★★★
- FEATURES**  
★★★★★
- LIKE:** Stunning looks with very good rhythm and pace!
- DISLIKE:** Slightly inconsistent bass and dynamics a little restrained
- WE SAY:** If you enjoy strongly rhythmic music, then this is the deck for you.

### OVERALL



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# Townshend Audio Rock 7 **£1,750** (with Excalibur III arm £3,100)

Townshend Audio's unique damping trough introduces a whole new approach to turntable performance

## DETAILS

- ORIGIN:**  
UK
- WEIGHT:**  
13kg
- DIMENSIONS:**  
(WxHxD)  
480x140x360mm
- FEATURES:**
- 33/45RPM
  - Manual speed change
  - Freestanding motor assembly
  - Captive arm leads
- DISTRIBUTOR:**  
Townshend Audio
- TELEPHONE:**  
020 979 2155
- WEBSITE:**  
townshendaudio.com

The Rock range of turntables has invariably been distinguished by the front-end damping trough, developed as a result of research at Cranfield Institute of Technology and commercialised by Townshend in the 1980s.

In many ways it's a very different turntable from the old 'Elite Rock' that made the brand famous.

Construction is based on 6mm steel plate, with the main chassis cut out in a pleasingly curvy shape – which accommodates the huge main bearing, the arm mounting and the three bellows suspension feet.

These are a development of another long-standing Townshend idea and consist of a spring inside a rubber bellows with a small air leak. This cunning arrangement gives a low-resonant frequency which helps attenuate audio-band vibration, along with enough damping to prevent uncontrolled bounce due to footfall or someone having just cued a disc.

The platter is made of white plastic and sits on a metal subplatter, driven by a round-section belt from the motor, an AC motor in a separate metal housing which does not contact the chassis directly. Speed change is manual and an ingenious arm-mounting plate is fitted, fully adjustable and clampable for rigidity.

Our Rock 7 was supplied with an Excalibur III arm (£3,000 the pair), like the original Excalibur using a thin-wall stainless steel tube, but now mounted in the base and bearing of a Rega RB250. The headshell is a space-frame assembly complete with paddle for the damping trough.

## Sound quality

Yet again, there was some disagreement over the handling of bass. The unusually tight grip that that front-end trough imparts on the sound isn't always to everyone's taste. Indeed, we'd go as far as to say that Rock bass can take a bit of getting used to and we would advise that you take any opportunity to do so, as many listeners find it very rewarding. A majority of ours certainly did, one pronouncing this his favourite deck of the group largely on the strength of its bass. As he pointed out, it's not so much that the bass goes down deep, more than it has excellent definition and clarity.

Further up the spectrum, the sound can occasionally be a little hard and lacking in communication. Only occasionally, though, and most noticeably when the upper midrange is very busy, as it is in music for multiple voices or close-miked symphony orchestra. In music where lower frequencies dominate there is a good deal of get-up-and-go in

evidence and that makes this a great deck for rock music – we also liked it for solo piano, though that wasn't part of the blind listening.

Imaging is good in terms of stability, though the overall width sometimes seems a little restrained. Rhythm and pace are good, too. They are not overdone, which can often be more tiring than a little reticence.

Detail from the Rock 7 is around the group average, but the extra resolution that the trough extracts from the bass does tip the balance slightly in the deck's favour overall.

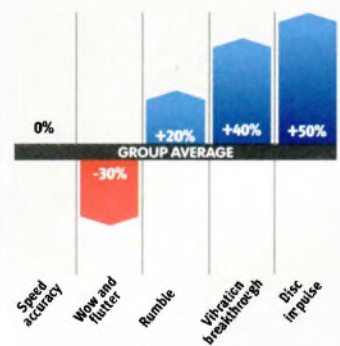
## TECH LABS

### LAB REPORT

The trough's operation is most obvious in a way that doesn't show up directly in our scores – in all the various impulse tests there's almost none of the subsonic vibration that we find with most decks. Subsonic noise is never useful and with some components (especially reflex-loaded speakers) can be a serious hindrance, so its absence here is welcome. The trough plays a small part in minimising disc impulse response, though most of that is down to the heavy, well-matched platter.

Our sample ran about 0.4 per cent fast, hardly worrying and had wow and flutter around 0.07 per cent, which may just be audible – we suspect drive-belt 'wander' to be the cause. Vibration breakthrough is by a significant margin the best in the group, thanks to the ingenious suspension. Rumble is around the measurement limit.

### RESULTS AT A GLANCE



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY**  
★★★★★
- VALUE FOR MONEY**  
★★★★★
- BUILD QUALITY**  
★★★★★
- FEATURES**  
★★★★★
- LIKE:** Very well-defined bass; good detail; well-judged rhythm and pace
- DISLIKE:** Occasional hardness in the higher midrange and treble
- WE SAY:** In many ways this is one of the least characterful decks around – in a good way

### OVERALL



# Lab conclusions

Modern turntables generally turn in good results, but the differences in measured performance reflect the engineering methodologies used

## TECH LABS

It's not surprising that turntables these days tend to turn in good results for most of the basic measurements. All the decks in this group have good wow and flutter figures and basic speed accuracy was fine for all apart from the Funk, which seems to have a problem with stability. All of them have a blameless bearing which contributes no discernible noise, though we were a little disappointed to measure (and indeed hear) clear motor breakthrough from a couple of them (Funk and Pro-Ject). It's not much of an excuse to say that most discs are worse: sure, that's true, but the sort of individual

who buys a proper turntable like these is likely to have some beautifully noiseless audiophile vinyl too.

What of resonance and immunity to external vibration? Results here varied considerably and we can't put hand on heart and say that any one deck was ideal. The Townshend Rock 7 has the best isolation, not quite the best we've ever seen, but good and also unfussy about footfall-type intrusions – some suspended decks can easily get excited into skipping and jumping by that. Disc impulse from the Rock is also good, but the chassis of the turntable is by no means immune to resonance and this shows up to some extent in arm

impulse testing – not part of the formal assessment as arms are interchangeable and not supplied with all the decks. The Michell, which should have very good isolation, actually falls down due to ringing in its undamped springs and chassis and, therefore, keen to contribute, as they also do to arm impulses.

The Funk Vector scored lowest for vibration breakthrough, while the Scheu managed to do pretty well for what is basically an unsuspended design. Its light, but well-damped platter gives good disc impulse results though. The Rega's felt mat gives a high-level, but quite well-damped disc impulse result.



The business of motor type used to be a major talking point. Linn and Rega used AC motors and now Funk, Michell and Scheu all use DC types.

The fact is, AC motors can be very easily set to run at a completely predictable speed without any need for sensors or complicated electronics, but they do tend to vibrate a bit, especially ones used in turntables.

The simple fact that the lowest W&F figures in the group belong to a deck with a DC motor should prove that the breed can be successfully tamed.

## RESULTS AT A GLANCE

Make/model	Funk Firm Vector 3/FXR II	Michell Engineering Gyro SE	Pro-Ject Xperience 2 Pack	Rega P7	Scheu Analog Cello	Townshend Audio Rock 7/Excalibur III
Price	£960 (with arm £1,175)	£1,450 (with arm)	£775 (with arm)	£1,325 (with arm)	£1,595 (with Jelco arm)	£1,750 (arm £1,350)
Sound	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Value	★★★☆☆	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Build	★★★☆☆	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Features	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Overall	★★★★☆	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Conclusion	Full of intriguing technology but doesn't entirely live up to its promise	Always a highly enjoyable listen, the Gyro SE offers plenty of detail and insight	A winner on value grounds, holding its own well against competition at twice the price	Attractively combines classic Rega life and energy with insight and refinement	Well worth the trouble involved in setting it up, especially if you enjoy strongly rhythmic music	One of the least characterful decks around: highly analytical

### Key features

	Funk Firm	Michell Engineering	Pro-Ject	Rega	Scheu Analog	Townshend Audio
Size (WxHxD)(mm)	450x110x380	500x170x380	460x135x360	450x105x370	425x120x340	480x140x360
Arm included	No	Yes	Yes	Yes	Yes	No
Cartridge included	No	No	Option	Option	No	No
Speeds	33/45	33/45	33/45	33/45	33/45	33/45
Electrnc speed change	Yes	No	No	Yes	Yes	No
Motor type	DC	DC	AC	AC	DC	AC

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

Speed accuracy	±1% <b>A</b>	+0.6% <b>A</b>	±0.05% <b>E</b>	+0.24% <b>G</b>	N/A (see text)	+0.4% <b>G</b>
Wow and flutter	0.05% <b>G</b>	0.06% <b>G</b>	0.04% <b>E</b>	0.04% <b>E</b>	0.03% <b>E</b>	0.07% <b>G</b>
Rumble	-70dB <b>A</b>	<-80dB <b>E</b>	-72dB <b>A</b>	-77dB <b>G</b>	<-80dB <b>E</b>	<-80dB <b>E</b>
Vibration breakthrough	-40%	-10%	+10%	-20%	+20%	+40%
Disc impulse	+30%	-20%	-20%	-40%	0%	+50%

# Blind-listening verdicts

In the year of austerity, it's good to know that you needn't spend the earth to get great sound, and better still, the best on test is a modestly priced looker...

**AS SO OFTEN HAPPENS** there were some distinct divergences of opinion over one or two of the turntables, but we were able to come to some consistent conclusions without too much difficulty -- and the differences of opinion are informative, not least because they are likely to be reflected among some of you, our readers.

Perhaps none was quite as varied in the reactions it produced as the Funk Vector. It does some things very well indeed and its resolution and analytical skills are admirable. It's less assured, though, at building believable musical images and its bass could do with a little more solidity. We also have concerns over its speed stability.

Four of the five decks scored identically overall, though of those the Rega accumulated the least score points. Its sound is lively and energetic and has a fair degree of detail, but we would really like a little more refinement overall. It never quite lit the fire for any of our listeners.

The Scheu Cello is attractive to look at and in many ways also to listen to. Its bass could, perhaps, use a little more heft, particularly when bass lines are flowing rather than percussive and its dynamics struck us as rather restrained. That's not a criticism one could fairly aim at the Townshend Rock 7, which is a lively performer by any reckoning but with excellent control too. Its bass is little short of revelatory, but the midrange and treble aren't always entirely pure and can sound a little hard.

The Pro-Ject Experience 2 Acrylic is, for us, just the latest in quite a succession of high-value turntables from that brand that we can't help liking a lot. Its price is extremely attractive and the sound needs no special pleading. It isn't the highest-resolution deck ever and maybe bass could be better integrated, but pace scores highly and treble is very natural. Simple, good value, easy to use -- why look further...? ●

## THE WINNER IS...

**BUT, IF YOU DO CHOOSE TO LOOK beyond the Pro-Ject -- nearly £600 further, to be fair -- you can aspire to the Michell Gyro SE. What persuaded us to rate it higher on aggregate than all the other contenders is its combination of sonic skills, most particularly its knack of disappearing so that the music definitely takes first place.**

**It's a little fussy about where its sited and it's worth noting here that our main listening test was based on each turntable being placed on a simple wooden table on a suspended floor, an average-to-demanding situation. Experiments with the Gyro SE, more carefully sited to some extent, alleviated mild criticisms of diffuse images and lack of ultimate clarity in the treble. It has great energy and an impeccable sense of timing and it makes it easy to hear into a recording and discern details. We have no hesitation in proclaiming this turntable the winner on this occasion.**



Compatibility with a range of partners is an essential ingredient of any turntable. Here are our top tips for building a synergistic system

### CARTRIDGE: Denon DL304 £300

About 20 years ago, we reviewed this cartridge in these pages and just loved it to bits. Now one of the true elder statesmen of hi-fi (though its sibling the DL103 beats it by some decades) it continues to set a standard that few at any price can aspire to. It has rather high compliance, which leads to a low arm-cartridge resonance in most systems, but we've never found that a huge drawback with most LPs on any turntable and the results in terms of tonal neutrality, detail and imaging are well worth it. Other cartridges may have more character, but this one is stunningly honest and terrific value.



### AMPLIFIER: Roksan Kandy K2 £750

One of the stars of our *Blind-listening Group Test* in HFC 344, this amp is particularly attractive to turntable buyers because it includes a phono stage and a good one at that. The fact that it only handles moving-magnet cartridges isn't necessarily a huge handicap, as there's always the option of a step-up transformer, such as the excellent Audio Technica AT2000 (HFC 338). The Kandy has lovely rhythmic precision and energy and combines this with very impressive analytical skills, making it a great choice for opening up familiar recordings to fresh scrutiny and fresh listening pleasure.



### LOUDSPEAKER: Spendor SP2/3R2 £2,295

Another recent *Blind-listening Group Test* winner (HFC 343), this medium-sized standmount model in many ways harks back to the glory days of LP. Again, it has good timing skills, but it also manages a highly neutral presentation and gives lots of insight into familiar recordings. We mentioned in our introduction the business of spreading the budget and this speaker costs more than most of the turntables, but in the context of a complete system it is a very attractive purchase, which can be relied on to sound great with analogue and digital sources alike.





# Naimstream champion

Exclusive! Can Naim's new high-performance streamer improve on the standard of its own CD players? **Malcolm Stewart** gives the answer...

**T**he number of digital streaming devices available to the hi-fi enthusiast continues to grow on an almost daily basis. Each player seems to have a distinct musical character and its own particular selection of features.

Take the new Naim NDX, for example. This truly versatile machine provides network music replay, internet radio, digital iPod/iPhone

connectivity and USB playback straight out of the box. Its integral DAC is available to external sources – CD players, set-top boxes and the like – through three S/PDIF inputs. There is also an optional module for any buyer who wants to include FM/DAB radio.

## DAC magic

The player follows Naim tradition in being performance-upgradeable



TALKING POINT

**SYSTEM AUTOMATION** is a worthwhile addition to the increasing complexity of today's Naim systems. System automation merely entails linking all the components with a cable terminated in 3.5mm jacks. After a few moments spent configuring each device (a once-only task), the next time you select, say, UPnP as a source on the NDX, it will switch the DAC to the appropriate input and then select the DAC input on the pre-amplifier – all from one action on a single remote control. The automation can also be controlled by an iPhone or iPad app.

through the addition of an XPS or 555PS power supply, along with the external Naim DAC. You should probably regard adding the DAC as an icing-on-the-cake move, because the integral DAC in the NDX is based on the same technology and its performance does not lag too far behind. It uses the same innovative, SHARC DSP-based buffering with fixed clocks, along with Naim's proprietary 16 times oversampling and low generated noise, digital filtering algorithms. The three S/PDIF inputs – two transformer-isolated coaxial and one buffered optical – will all accept signals at up to 24-bit/192kHz resolution.

To stream music from computers and NAS (Network Attached Storage) units, the NDX uses the well-established UPnP (Universal Plug and Play) protocol. Naim has also written its own version of this for its sources, the HDX and UnitiServe, which can also act as UPnP servers. We tested the NDX using these and the more widespread



Asset and Twonky servers installed on two NAS drives.

The NDX will operate wirelessly 'for convenience' but offers its finest and most reliable performances when connected by wire. As Naim says: "Delivering music over a network is not difficult, but doing it well requires an attention to detail that is still surprisingly rare in today's market."

If you are prepared to pay for a player that boasts numerous features including extensive isolation to ensure the pristine transfer of data, along with Naim's legendary exacting retentiveness about the smallest of details, why should attaching it by a length of Cat5 or Cat6 cable pose any problems? Using wireless with an NDX seems on a par with fitting remould tyres to a Lamborghini.

The player will stream WAV, FLAC, AIFF, AAC, Windows Media-formatted content, ALAC (from iPod), Ogg Vorbis and MP3 files from any appropriate UPnP server or USB-connected storage device. The iPod connection is especially

**"The NDX manages to combine the traditional Naim temporal fluency with cosmetic richness."**

noteworthy: it is Apple-authenticated and it bypasses the DAC in the device and feeds a digital signal directly to the NDX and its rather more sophisticated and painstakingly optimised Burr-Brown PCM1791A DAC circuitry. This, for example, uses very similar RAM buffer and master-clock jitter-removal techniques as the 'big' Naim DAC.

The NDX, like other digital components in Naim's range features a Ground Selector switch that needs setting according to the rest of the components in your system to avoid earth loops that can, in the worst case, cause audible humming or, in less severe instances downgrade the sound. It has two options: to connect the earth to the chassis or to

leave it 'floating'. If you have a Naim CD player in your system, the floating selection is correct for all other Naim components where a choice is offered. If you are including the NDX in a predominantly non-Naim system, you'll need to take you dealer's advice or trust your ears.

**Classic build and value**

The NDX is housed in a 'Classic' range, non-magnetic aluminium case, like the HDX hard-disk player, XPS power supply and the Naim DAC: so it is a substantial piece of gear and requires placing on its own shelf on an equipment rack. Whether that shelf is at the top or bottom really depends upon your aesthetic sensibilities. If you like black minimalism, perch it on the top shelf. If you do not, lower down will be fine but, either way you'll find it easiest to control with the n-Stream iPhone app.

The internal construction is as impressive and neat as we have come to expect from the Salisbury factory. The attention to detail is painstaking, especially the way in which the

**DETAILS**

- PRODUCT:** Naim NDX
- ORIGIN:** UK
- TYPE:** Network audio player
- WEIGHT:** 10kg
- DIMENSIONS:** (WxHxD) 430x80x310mm
- FEATURES:**
  - UPnP streaming performance
  - iRadio
  - Digitally-connected iPod integration
  - Convenient system integration functions
- DISTRIBUTOR:** Naim Audio
- TELEPHONE:** 01722 426600
- WEBSITE:** naimaudio.com



## Q&A...

WE SPOKE TO NAIM'S PR, STEVEN N. HARRIS, WHO PLACED THE NDX IN NAIM'S HIERARCHY



**HFC:** Why would someone who just wanted a streamer buy an NDX when they could save a great deal by buying a UnitiQute instead?

**SH:** The simple answer is performance. The NDX includes a DSP-based, reclocking, 40-bit, 16 times oversampling DAC – that is similar in design to the multi-award-winning Naim DAC – plus a large power supply. It's also upgradeable with a Naim XPS or PSS55. The UnitiQute is not: it is good but the NDX is significantly better and offers greater potential for improvement.

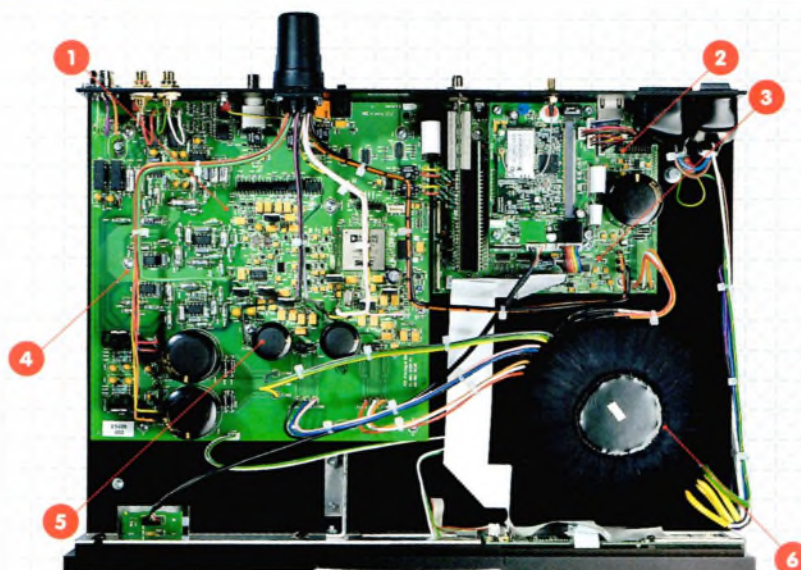
### How truly important is the 'new' System Automation function?

Ten years ago the answer would have been 'not especially', but we now live in a world where people expect extreme convenience, as well as a stunning performance. Once one moves to streaming and maybe the iPad or iPod Touch becomes the primary control, then it seems completely logical that the same device should control inputs and volume as well as sources.

### Are there any guidelines to follow when connecting an NDX to a network? Is there a list of approved switches and routers, for example?

That is a good question. We are just finalising a document giving advice on networks. To summarise pages of explanation and condense it into a few words is difficult, but we do think that the addition of a separate good-quality switch, to which only the NDX, NAS and UPnP server are connected (along with one connection to the existing network) means that general network traffic is kept away from the 'music'. It is not essential but it does make it simpler to get consistent performance playing high-res material.

## HIDDEN TECH



1 Opto isolation (clock control)

2 Ethernet

3 ARM9 uController

4 Analogue filter

5 24-bit/192kHz DAC

6 Large toroidal transformer

wiring is so tidily dressed and precisely routed. Those tiny details might add little to the performance individually, but in combination with the rest their contribution is remarkable.

Its value for money might seem questionable when compared to streaming devices from other manufacturers and, indeed, Naim's own products such as the UnitiQute, but one has to remember that the NDX is more than just a streamer. Its high-quality DAC can be shared with other devices that can exploit its outstanding performance.

Naturally, the NDX offers several control options, including front panel buttons, a remote control handset and (the slickest as far as we are concerned) app for the iPhone/iPod Touch or iPad.

### High-end performance

An industry visitor sat and auditioned a few rips on the NDX and admitted: that although he had "never understood all that pace, rhythm and timing stuff" it now made perfect sense. In essence, he walked into the room as a hard-core hi-fi nut, but left as a toe-tapping music lover, with a far more fulfilling appreciation of what makes music so captivating when it is sympathetically reproduced.

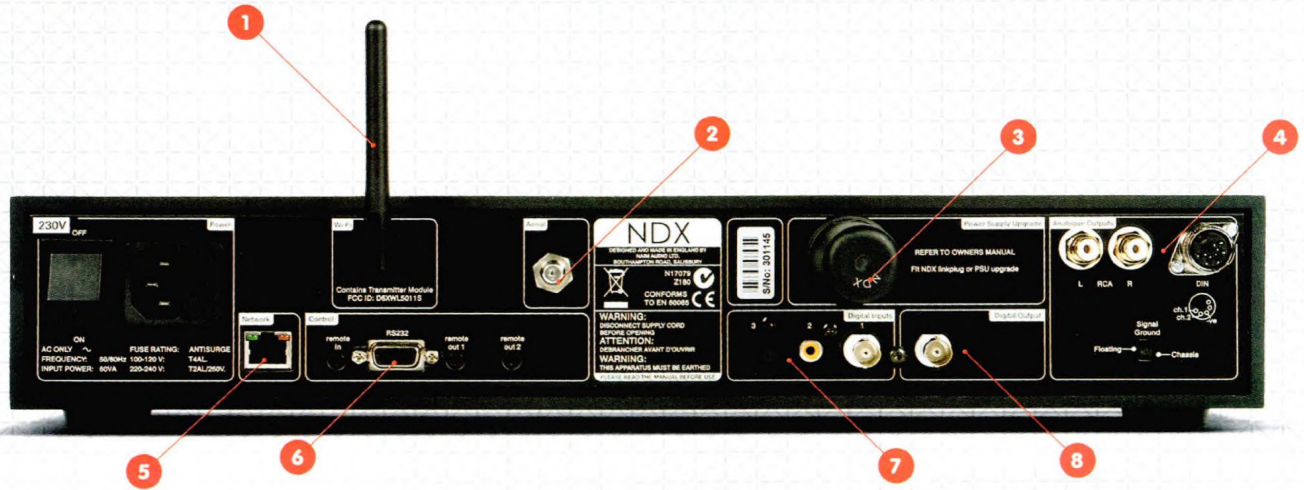
The NDX is certainly sympathetic and is so right across the board: it

seems completely musically agnostic, even to the point of relishing high-quality examples of the country genre; the likes of Willie Nelson, Emmylou Harris and Caitlin Rose.

A major appeal of the NDX is that it manages to combine the traditional Naim temporal fluency, with the cosmetic depth and richness that one normally associates with predominantly American high-end equipment. We were surprised to find ourselves concentrating on the timbral qualities of instruments and voices while listening. It effortlessly brings out the single-coil pick-up sting of a raw Telecaster guitar, while being equally effusive about the complex harmonic texture of rosin-coated bows on violins and cello in a string quartet and vividly contrasts the differing tonalities of modern and ancient horns in orchestral ensembles.

Despite the straightforwardness with which the NDX reveals all these fine distinctions and nuances, there is never any impression of the sound being at all disjointed or chromium-plated, a problem that befalls much hi-fi equipment in its attempts to convey detail. The NDX manages to sound natural and unforced at all times and this makes it easy to listen to music that could never be described as 'easy listening'.

**CONNECTIONS**



- 1 Wireless network connection
- 2 DAB aerial
- 3 Upgrade socket for external power supply
- 4 Conventional and DIN analogue outputs
- 5 Wired ethernet network connection
- 6 RS232 and IR link through for custom install connections
- 7 Digital inputs
- 8 Digital output over BNC

Helping it in this respect is a very well-balanced frequency response with an explicit, but controlled performance, particularly at the extremes of the spectrum. The Telecaster 'sting' is truly apparent, but never offensive or grating; it simply has the realistic incisive tone and resonance of a cranked Tele' over-driving a small valve amplifier head. Meanwhile the bottom end displays quite awe-inspiring power through the Naim DAC, which is itself no shrinking violet in this respect. This pays dividends with bass lines like that on *Money for all* on the David Sylvian album *Sleepwalkers* and less overtly so on works such as José Carreras' *Misa Criolla*, where it creates a truly atmospheric and dramatic impression of the recording space.

Its portrayal of vocal harmonies is sublime. The voices of Caitlin Rose

and backing singer, Rayland Baxter gel magically on *Shanghai Cigarettes* and add a genuine frisson to the song. And that, after all, is what great hi-fi is about: delivering emotional buzzes that make you feel rewarded. The NDX manages that none-too-easy task with alacrity.

In truth, it is vividly revealing of the quality and character of voices, which readily enhances its portrayal of all vocal music. It is a genuinely expressive piece of machinery that not only articulates the words a singer uses, but also communicates the emotions behind them. It is an amazingly plausible and persuasive audio player with all manner of vocal music. It makes listening an experience filled with soul.

The question that remains on everyone's lips, however, is 'is it significantly better than a

**HOW IT COMPARES**

**A COMPARISON of the NDX and the comparably priced CDX2 isn't strictly on a level playing field: the NDX has distinct advantages over the CDX2, not least in terms of being able to play music that exceeds 16-bit/44.1kHz resolution. Even having to overcome these disadvantages does not prevent the CDX2 turning in a performance that is hugely creditable and typically Naim in character.**

Ultimately, though, the NDX easily demonstrates why digital streamers represent the way forward. There are no night-and-day differences here, no gaping chasms in the performance of one compared to the other. The type of differences between components at this performance level are rarely black and white: they are more like subtle shifts along a scale of grey shades. However, while they might be subtle, their effects are anything but: the NDX clearly makes music sound far more natural and soulful.

comparably priced Naim CD player?' To discover the answer read the comparison box-out, left.

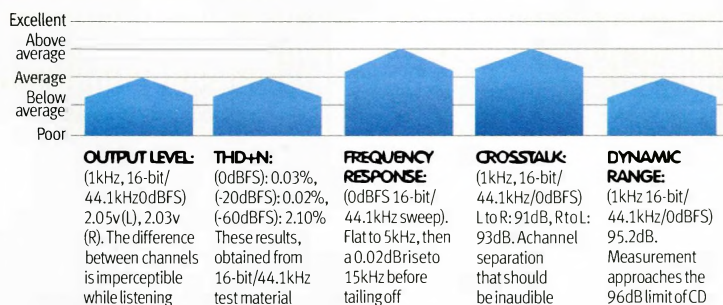
**All things considered**

The NDX is a classic Naim Classic product that retains all that range's traditional communicative musical personality traits augmented by strong leanings toward the cosmetic presentation favoured by the high-end scene. It's an interesting, rather than schizophrenic mix that might well attract new buyers to the Naim fold. It also has a respectable amount of life style appeal thanks to its slick operation with an iPhone/iPad app and its meaningful integration with iPod products.

Ultimately, though, it is the superlative and supremely communicative performance that makes certain it stands out from the crowd. ●

**TECH LABS**

**RESULTS AT A GLANCE**



**Hi-Fi Choice**

**OUR VERDICT**

- SOUND QUALITY** ★★★★★ **LIKE:** The ideal combination of vivid performance and understated styling
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Sample was rather finicky about making a network connection
- BUILD QUALITY** ★★★★★ **WESAY:** After changing the connected GigaByte switch the NDX performed flawlessly
- SPECIFICATIONS** ★★★★★

**OVERALL**





# High-end challenger



Despite just an 11-watt output this gorgeous, retro integrated tube amp is easy to love says our very own 'golden ears' *Jimmy Hughes*

**H**ow much power is necessary for most kinds of music given an average-sized room? Well, the Consonance Cyber 10 Signature offers just 11 watts RMS at 1kHz, with harmonic distortion rated at about one per cent at seven watts. Frequency response goes from 6Hz to 60kHz (-3dB) at eight watts output and a signal to noise ratio of 87dB is

claimed. Input sensitivity is 180mV. These are certainly decent figures, although distortion levels are higher than a typical solid-state design.

Of course, choosing a big, powerful amplifier – one with sufficient output to meet whatever demands we make of it – is eminently sensible. But some low-powered tube amplifiers, like the Cyber 10, promise a certain extra 'something' that bigger, more

powerful solid-state designs just can't equal.

## Cybersphere

The Cyber 10 is a revised version of the original model and features four 2A3 Triode output tubes, two 5AR4 valve rectifiers, as well as two 12BH7s and a single ECC-83 tube. Improvements include higher-grade capacitors, hand-wound transformers and valve rectification in the power supply.

In terms of features and facilities, the Consonance keeps things simple. There are five unbalanced analogue line inputs and a single unbalanced analogue line output. The transformer-coupled loudspeaker outputs cater for impedances of four or eight ohms and volume levels can be adjusted via a remote handset.

To improve performance, Consonance uses AC voltage for the tube heaters, rather than DC. While this risks the possibility of hum pickup, voltage levels have been kept

### ▶ DETAILS

**PRODUCT:** Consonance Cyber 10 Signature 15th Anniversary Model

**ORIGIN:** China

**WEIGHT:** 25kg

**DIMENSIONS:** (w x H x D)  
340 x 200 x 430 mm

**FEATURES:**

- Output for speaker: 4 ohms, 8 ohms

- Output power: 11 W x 2 RMS 1kHz

- Input Interfaces: 5 set (RCA) 1, 2, 3, 4, 5

- Output Interfaces: 1 group (RCA)

- Power consumption: 80W

- Vacuum tubes: 2A3 x 4, 6SN7 x 2, 12AX7 x 2

**DISTRIBUTOR:** Alium Audio

**TELEPHONE:** 01273 325901

**WEBSITE:** opera-consonance.com

**WEBSITE:** opera-consonance.com

**WEBSITE:** opera-consonance.com

**WEBSITE:** opera-consonance.com



low (2.5V) to avoid this. Moreover, each output tube has its own 'hum pot', which allows individual adjustment for minimum noise.

Given that low-powered amplifiers tend to be used with speakers having a sensitivity of around 94dB/W or greater, residual noise can be an issue. But even partnering this amp with loudspeakers in the 99dB/W range failed to reveal any audible hiss or hum. It's a very quiet and noise-free unit.

### Beautifully finished

The Cyber 10 offers excellent build quality, with beautifully finished brushed-aluminium metal work over a steel chassis and smart wooden trim. The unit is solidly made, weighing in at about 25kg. The mains and loudspeaker output transformers are located towards the rear of the unit, with the tubes at the front.

For those who might feel anxious about having hot tubes exposed, Consonance provides a ventilated steel cover that encloses the valves and prevents damage. It does the job, but its squared-off 'boxy' shape interrupts the gentle curve of the front panel and wooden top section, and (for us) slightly spoils the look of the amplifier.

Internally, the amp is a mix of hard-wiring and printed circuit boards. Layout is neat and uncluttered. Our review sample came fitted with Chinese-made



**VALVES HAVE 'characteristics' – specific qualities, depending on type. For those into such things, there's a whole lore about specific valve types and how they perform.**

**One of the most favoured is the Triode. Unfortunately, Triodes offer limited wattage. In the case of the push-pull Cyber 10, it's 11 watts. While this is definitely a limitation, it's important to remember that sound quality is subjective. What counts is not absolute output (wattage), but the impression of power. This is especially significant when you're trying to create the sonic illusion of a big, powerful sound with limited resources.**

**A 'big' sound is not one that's merely loud. It has to do with tonal depth, resolution, and a sense of breadth and presence.**

Electron 2A3 triodes and Full Music 12BH7s. A Slovakian ECC83 and Russian-made Sovtek 5AR4s completed an all-star international line-up.

### Charm and excite

We partnered the Cyber 10 with Consonance's CD2.2 Linear Mk II – a wonderfully natural-sounding AA filterless CD player that matches the amplifier in terms of styling and sound. The first thing that grabbed us (after a few days spent running-in the electronics) was its smoothness and refinement.

It delivers a very beguiling sound that's warm and relaxed, yet at the same time detailed and incisive. It has a velvety smooth, almost liquid sort of presentation, but isn't lacking

**“Listening to its pure pleasure – it manages to charm and excite in equal measure.”**

in immediacy or impact. Given that it only offers 11 watts, the Cyber 10 sounds amazingly big, solid, and powerful.

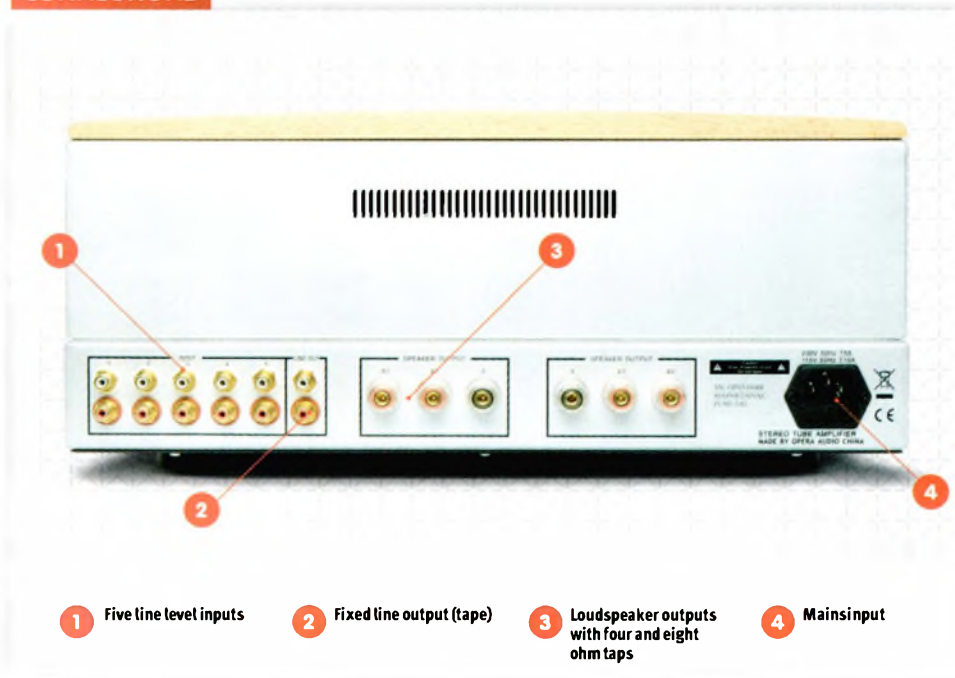
Surprisingly gutsy, it's definitely an amplifier that punches well above its weight. Listening to it is pure pleasure – it manages to charm and excite in equal measure. But, be warned: to obtain the best from this amplifier, you need sensitive loudspeakers – probably around 94dB/W or higher.

Obviously, this figure is a generalisation – much depends on the size of your room, how close you sit to the speakers, the kind of music you prefer to listen to and how loud you like your sound. But, the more efficient your loudspeakers are, the more dynamic headroom you'll have for difficult demanding music with loud peaks.

Bass and treble extremes are well balanced. The top end is crisp and articulate, yet never 'leads' the mid-band or bass. Overall, the sound is beautifully integrated and homogenous. Bass sounds full and firm, with good depth and a proper sense of power and weight, while the mid band is smooth and accomplished

Played within its power compass, the sound is relaxed and refined – so much so, it comes as something of a shock if/when you play things too loud and suddenly the amplifier hits the buffers and runs out of steam. Fortunately, the 'end stop' has a nice

### CONNECTIONS



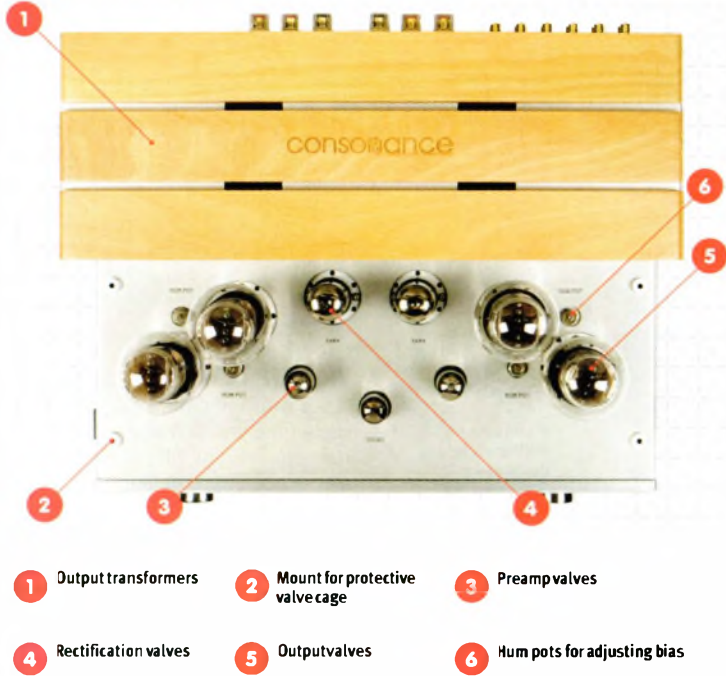
1 Five line level inputs

2 Fixed line output (tape)

3 Loudspeaker outputs with four and eight ohm taps

4 Mains input

HIDDEN TECH



- 1 Output transformers
- 2 Mount for protective valve cage
- 3 Preamp valves
- 4 Rectification valves
- 5 Output valves
- 6 Hum pots for adjusting bias

fat cushion that helps soften the blow, disguising what's actually happening, if at all.

When you push the amp very hard, the resulting congestion and compression can come as a surprise, because – prior to the moment of distress – everything sounds so very comfortable and relaxed. And, ironically, the kind of sound this amp produces – smooth, clean, natural – almost invites you to listen loud.

The Cyber 10 offers users the choice of four- or eight-ohm loudspeaker outputs. The 'correct' output is the one that sounds loudest – indicating an optimum impedance match. However, it's often the case that the four-ohm

**“If you want something that’s beguilingly sound, then this really is an amp you must hear.”**

setting delivers a slightly darker more controlled end result – albeit, with some loss of power.

We tried both outputs with a pair of Impulse H1 horns and settled for the eight-ohm tap. For some reason, the sonic difference between four and eight ohms isn't as big as it sometimes can be and we, therefore, felt it best to have maximum power. However, do sample the four-ohm tap – even if your speakers are nominally eight ohms.

**BUILDING A SYSTEM**

**IS 11 WATTS** output really enough – even assuming speakers with around 94dB/W sensitivity? And how can you tell if it isn't? Recordings vary in terms of their dynamic range, and (paradoxically) compression can subjectively make music seem louder and more 'dynamic', by increasing its forcefulness.

Sometimes, what sounds strenuous and challenging isn't. For example, a pop album that's heavily compressed may seem loud and powerful. But, with no peaks, there are no sudden demands. Conversely, unaccompanied female voice can be very taxing – with dynamic peaks that can easily exceed 12dB above mean average.

Of crucial importance here is the sensitivity of the speaker. Subjectively, a 3dB difference in efficiency might not seem that significant to the ear, but it translates to a doubling or halving of power for the amplifier. So, choosing a speaker that's just 3dB more sensitive, effectively 'doubles' your amplifier's output power.

Being transformer-coupled, the Cyber 10 has a fuller, 'fatter' bass than many direct-coupled solid-state amplifiers. You don't get lean super-tight, ultra-controlled low frequencies with this amplifier. Instead, the bass has a looser 'breathier' quality; not 'loose' in the sense of flabby, but nicely rounded, warm and relaxed.

The amplifier produces a satisfying room-filling sound with all types of music. The performance is crisp, open and well balanced, with excellent 'scale' and dynamics. Having encountered the original Cyber 10 some years back, we'd unhesitatingly say the new Anniversary edition offers a worthwhile improvement.

**Sonic alchemy**

The Cyber 10 is an outstanding amplifier. Most listeners will quickly fall in love with it – just as we did! It does have limitations in terms of maximum power output and these need to be considered before purchase. But, providing your loudspeakers aren't too insensitive, there should be few problems.

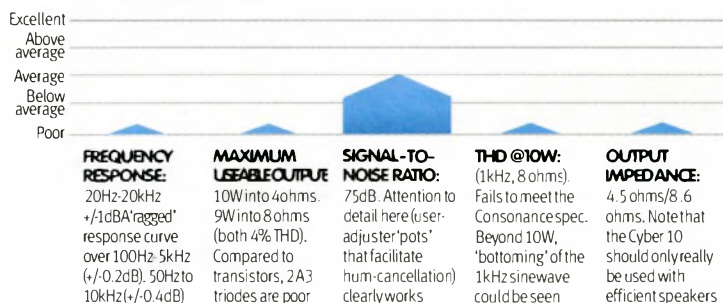
It's a sad fact of audio life that this sort of sonic alchemy and high-output power, are not easy to achieve simultaneously. Ultimately, you have to compromise.

For head-bangers with a taste for loud music, the Cyber 10 is probably not a wise choice – unless, of course, ultra-sensitive speakers are used.

But if you want something that's beguilingly refined, with a liquid smoothness that caresses the ear, yet offers crisp attack, then this really is an amplifier you must hear. But, be warned; it's a very tough act to follow. Once you experience what it has to offer, it might not be easy to find something better. ●

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Clean beguiling sound quality and well balanced
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** With just 11 watts you'll need to choose your speakers carefully
- BUILD QUALITY** ★★★★★ **WESAY:** Gorgeous tube amp delivering high-end performance at a realistic price
- FEATURES** ★★★★★

OVERALL



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# The final frontier

Primare's beautifully built, full-width phono stage is the perfect partner for serious vinyl systems says analogue addict **Jason Kennedy**

**P**rimare's new R32 has got to be the biggest phono stage on the market for under a grand. In fact, you could fit a dozen Dynavector P75 MkII stages inside it! Size is not usually considered a bonus in such devices but it has two benefits: you get a component that matches the rest on your rack and it's extremely well built. You also get plenty of space between the power supply and the internal circuitry. When you are amplifying the pitiful output of a moving coil cartridge you need the quietest environment you can get and this is one way of achieving it.

## Back in black

In 2009, we reviewed Primare's R20 phono stage (*HFC 320*), which was half the width of the R32 and nearly half the price, but had the unusual feature of variable gain for the MM input only. The R32 also has this quirk, which suggests that it uses the same circuit. However, all that extra space allows for a totally revised and largely dual-mono power supply.

Components used in the low-noise design include polypropylene caps and an R-core transformer with separate windings for left and right channel power supplies. Primare also uses Tantalum and low-impedance caps in this crucial part of the

amplifier. There are, however, no capacitors in the DC signal path, which might explain why it has such impressive grip in the bass.

Wide-spaced RCA in and output sockets flank a pair of impedance selectors for MC cartridges (changing MM gain involves removing the lid).

## Economies of scale

Build quality is superb – Primare's aluminium casework is top-notch gear and looking at the majority of the competition at this price you wonder how it can be done. Presumably it's down to using the same chassis that the company employs for other components and the economies of scale it brings.

The only practical flaw in the design is the placement of the grounding post – this is quite a way from the input sockets which meant that only one of the earth leads on our SME arm cable would reach. The sockets themselves are very decent, though, – much like the overall build.

## Detail resolution

As suggested above, this is a solid sounding stage. It's a little on the dry side by the standards of the Trichord Dino+ that we use as a reference, but is more revealing, incisive and sure-footed.

## ► DETAILS

**PRODUCT:** Primare R32  
**ORIGIN:** Sweden/China  
**TYPE:** MM/MC phono stage  
**WEIGHT:** 8.5kg  
**DIMENSIONS:** WxHxD: 430x95x380mm  
**FEATURES:**  
 • Impedance settings: 10; 20; 50; 100; 200; 500 and 47k ohm  
 • MM Gain: 41.5/46.5dB  
 • MC Gain: 62dB  
 • Colour options: black, titanium  
**DISTRIBUTOR:** Kama-AV  
**TELEPHONE:** 01423 358846  
**WEBSITE:** Primare.net

With the low-ish output of a van den Hul DDT II (0.4mV) gain is a little on the low side, but not to the point where dynamics suffer – you just need to wind the wick up a bit more. We really like the solidity of timing that it brings to the sound of every slab of vinyl that's spun, be it a high-tempo or chilled-out tune, you always know where each note starts and stops. This is partly because of the balance, but largely because detail-resolution is very good, the acoustic around voices is well defined and they can really project into the room with remarkable realism.

It's better at texture than tone and is not for those looking for a lush sound, rather it brings some of the precision of digital formats to vinyl which is preferable to excess warmth.

## Bass grip

The combination of superior build quality, a good selection of matching options and a taut, revealing sound make the R32 a good buy, even at its high price.

It doesn't have quite the thrill power of last month's Dynavector stage, but it does give you more bass grip and an equally engaging end result. If you want to add a bit of substance and integrity to the sound of your vinyl and have the shelf space, the R32 is winner. ●

## Hi-Fi Choice

### OUR VERDICT

**SOUND QUALITY** ★★★★★ **LIKE:** Revealing and substantial, with plenty of impedance settings

**VALUE FOR MONEY** ★★★★★ **DISLIKE:** Ground post is a long way from input sockets

**BUILD QUALITY** ★★★★★ **WE SAY:** If you are into vinyl for the music, this is one of the most revealing examples on the market

**FEATURES** ★★★★★

### OVERALL





# Fine Dyning



Danish-made with in-house drive units, the DM3/7 is one of a dying breed of well-priced 'homemade' speakers says **Paul Messenger**

One of several ranges from this upmarket speaker brand, the 'plain-Jane' DM-series loudspeakers are primarily intended to combine Dynaudio's core technologies within cost-effective suits of clothes.

The DM3/7 is certainly no exception, being a straight two-way that combines two 170mm bass/mid drivers operating in parallel and a 28mm doped fabric dome tweeter inside a decidedly plain and understated enclosure. But while the DM3/7 won't stand out in any fashion parade, it does look neat enough in its own understated way and also incorporates much of the fundamental engineering content found in the company's more costly models.

The DM3/7 is actually the latest of a DM-series that currently comprises three stereo pairs and a centre-front AV model. It's also the first floorstander and, in some respects, it's rather similar to the less costly DM2/10 standmount that we reviewed in *HFC* 299. It might be a very different shape and have two bass/mid drivers instead of one, but

the total diaphragm area is actually quite similar. Indeed, given that the DM2/10 recently disappeared from the website product listings, it seems very probable that the DM3/7 is actually seen as the replacement for that large standmount.

In fact, its two 115mm diaphragms are about 10 per cent larger than the DM2/10's solitary 155mm diaphragm. The enclosure volume is also slightly larger (by about 20 per cent) and the port is tuned to a rather lower frequency. This does give it several advantages: its smaller drivers, for example, will deliver wider dispersion and better crossover integration and its unusually large diameter (75mm) voice coils will also considerably increase the already prodigious power handling.

A single pair of terminals accept 4mm plugs or bare wires, but not (easily) spades. Bungs are supplied for blocking the ports if preferred.

## Great Danes

Designed to be wide enough to accommodate the 170mm main drivers, the enclosure's extra-thick front panel is matt charcoal, with

## ► DETAILS

**PRODUCT:**  
Dynaudio DM3/7  
**ORIGIN:**  
Denmark  
**TYPE:**  
Floorstanding 2-way  
loudspeaker  
**WEIGHT:**  
18kg  
**DIMENSION:**  
(WxHxD)  
204x960x275mm  
**FEATURES:**  
• Reflex port bass  
loading  
• 1x 28mm  
transparent doped  
fabric dome tweeter  
• 2x 170mm  
magnesium silicate  
polymer cone/dome  
diaphragm bass/mid  
drivers with 75mm  
voice-coils  
• Unique Dynaudio  
drive units  
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dynaudio.com

slightly chamfered vertical edges (a full-height, black fabric grille is also available). The other four visible faces are finished in either black or rosewood wood-effect laminate. A little MDF plinth provides solid fixing for the substantial 8mm spikes, but doesn't increase the stability footprint at all. Indeed, this is actually slightly smaller than the enclosure itself, which not only seems something of a wasted opportunity, but looks unlikely to pass the EC's 'tilt test' – though it's by no means alone in doing so.

Technical specifications and aesthetics aside, when viewed in the overall context of today's hi-fi marketplace, the price might still seem a bit on the steep side for a laminate-finish floorstander, but that

**“The overall balance is well judged, while the bass alignment proved particularly effective.”**

has much to do with the country of manufacture (in this case Denmark) and the dramatic effect that Chinese production has had on driving down prices elsewhere.

What's more, Dynaudio pays little attention to the fashion trends that seem to drive the loudspeaker scene, and even though its various ranges tend to look sober and restrained, it is still one of very few manufacturers to sell its products into both the domestic and pro audio sectors.

## Well adjusted

The DM3/7 is innately very well balanced overall, albeit notably full through the bass region in normal (i.e. ports left open) mode and with the speakers well clear of walls. This seems to be the best all-round compromise: using the bungs to block the ports might prove helpful, especially if the speakers have to be placed close to a wall. However, close-to-wall siting tends to boost the 50-100Hz octave, while the ports here deliver maximum output down at around 30Hz.

Although the bass is strong, experience has shown that bass quality matters much more than relative quantity and the bottom end is undoubtedly one of this speaker's strengths. Furthermore, by tuning the ports to a very low sub-30Hz, they avoid being excited by programme material – a problem that particularly afflicted the far smaller Contour S 1.4 (*HFC* 343)



**HI-FI CHOICE HAS** reviewed a number of floorstanding competitors to this Dynaudio M3/7. Notable examples include the Bowers & Wilkins CM8 (*HFC* 344), the PMC GB1 (*HFC* 306) and the Kudos X2 (*HFC* 307).

Of the four, the Dynaudio is the largest (though not the heaviest) and has the biggest bass driver area too. Although its top end is sweet enough, it does fall short of the other three in midband excitement and expression.

This is also one of the four not to feature a real wood veneer finish. Does that matter? Rather less than you might think, given the quality of today's laminates. Sure, real wood still has its own cachet, but you do have to pay for it – both the UK-made PMC and Kudos are much smaller and simpler than the Dynaudio, while Bowers & Wilkins takes advantage of low-cost Chinese manufacture.



Dynaudio's smaller drivers deliver wider dispersion and better crossover integration to the effect that both the bottom and top ends of the audio band are very well handled

**FEATURES**



- 1 The tweeter has a 28mm soft fabric dome diaphragm and operates above 1.8kHz
- 2 Twin 170mm bass/mid drivers have 115mm magnesium silicate polymer cone/dome diaphragm bass/mid drivers and 75mm voice-coils
- 3 Chunky enclosure is finished in black ash or rosewood wood-effect
- 4 Plinth provides accommodation for the chunky 8mm spikes, but fails to extend the stability footprint
- 5 Single terminal pair accepts 4mm plugs or bare wires
- 6 Generous size rear port is tuned to a very low frequency, around 30Hz



**TALKING POINT**  
DYNAUDIO MAKES its own drive units, and the bass and midrange units, in particular, are very different from the norm. Their diaphragms are a combination of cone and dome, the latter forming a large diameter dust cover that is an obvious clue to the similarly large diameter voice coil that lurks underneath. Whereas the majority of cone drivers have voice coils that vary in diameter between 25mm and 45mm, Dynaudio uses 75mm diameter voice coils, which has both advantages and disadvantages. The pluses include greatly enhanced power handling and better diaphragm drive. The inevitable down side is that, despite using light aluminium wire, the extra weight of a much larger voice coil significantly reduces the speaker's sensitivity.

be a mild loss of dynamic expression here, with the net result that the overall sound somehow lacks some get-up-and-go. It's all quite smooth and inoffensive, with generally good neutrality and overall balance, but it's not a particularly exciting experience, especially when operating at very low volumes.

While sound quality is clearly the most important part of any loudspeaker, it's by no means the only relevant factor in the overall mix of engineering compromises that make up any design. For example, the uniquely large (75mm in diameter) voice coils used in Dynaudio's bass/mid drivers have several important implications. Because they're large, cooling is relatively efficient and power handling is, therefore, prodigious.

As a result, however, and despite using low-density aluminium wire, the weight penalty means that the midband sensitivity is quite modest. And although the load is less demanding than some Dynaudio models, it's still quite forceful.

**Balancing act**

There is much to like about the DM3/7. It looks rather attractive in the company's typically discreet style, though a larger plinth would improve both the appearance and the overall stability. The overall balance is exceptionally well judged – significantly better than the DM2/10, in fact – while the bass alignment proved particularly effective, giving fine extension without any significant unwanted emphasis on performance.

While both the bottom and top ends of the audio band are very well handled by this speaker, the midband was rather less impressive, so the end result remains a little understated in complete contrast to its DM2/10 predecessor. ●

and, to a much lesser extent, the DM2/10. So the bass here is full, very extended and free from boom or thickening. It drives along pretty well, with good weight and scale plus some authority and while it might not match the grip or tension of larger and more costly designs, its delivery is certainly as good or better than others in its price class.

**Tower of power**

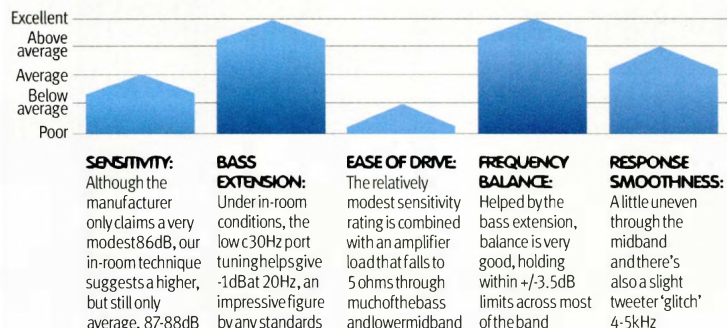
The sound quality is impressive at the top end of the band, too. The treble sounds sweet and clear and its relative level is beautifully judged, while the vital transition through the voice band

from the midrange to the treble is equally well handled, avoiding any aggression yet also sounding reasonably open and very coherent. Stereo imaging is good too, at least in terms of its central focus. Certainly no boxiness is apparent here, but midband transparency seems somewhat limited, so image depth is a little restricted.

While the DM3/7 performs very well at both ends of the audio band, its midband isn't as impressive. Voices have slightly pinched and nasal coloration – this is not severe enough to be irritating, but it is audible in comparison with more costly references. There also seems to

**TECH LABS**

**RESULTS AT A GLANCE**



**Hi-Fi Choice**

**OUR VERDICT**

- SOUND QUALITY** ★★★★★ **LIKE:** A fine balance with impressive bass and a sweet top end
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Midband lacks some excitement and dynamic expression
- BUILD QUALITY** ★★★★★ **WE SAY:** Sound has a fine overall balance and impressive bass weight, but midband lacks excitement
- EASE OF DRIVE** ★★★★★

**OVERALL**





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# iTunes goes hi-fi

iTunes is a great music library but is only an average media player, Pure Music promises to change all that says **Jason Kennedy**

**T**here are numerous media players available for PCs, but none of them will work directly with an iTunes library. Given the popularity of the iPod and the huge appeal of Apple touch products like the iPad, iTunes is on a serious roll but it isn't hi-fi.

Pure Music calls it software, a high-resolution music server for Apple Macs, which makes it something of a rare breed (the only other member of which is the considerably more expensive Amarra software – see Opinion HFC 334). When we visited CES in Las Vegas (HFC 343), the majority of companies using Macs as their main source were using Pure Music as a player and controlling it with an iPad, so it was extremely rare to find a room without a Mac in it.

## Back to FLAC

Pure Music appeals for a number of reasons: it retains the iTunes interface, which is an easy system for accessing music and making playlists; it automatically changes the sample rate to match the source material –

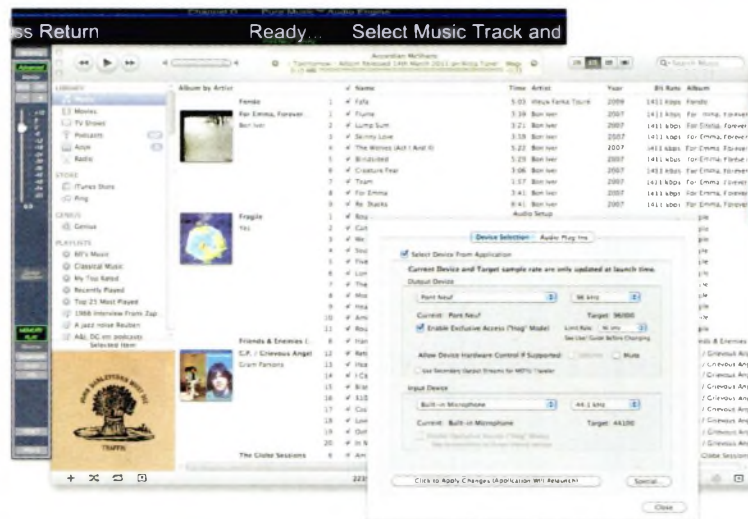
something that you ordinarily have to go into Audio MIDI set up to do every time you play a hi-res file – and it can upsample to suit the DAC it's streaming to. It will do this either in multiples of two, so that 44.1 becomes 88.2 or higher, or push sample rates up to the highest that the DAC can accept (384kHz). It's also very easy to switch upsampling for A/B comparisons.

The resulting stream can be sent via USB, optical digital or a dedicated soundcard. The user guide gives you comprehensive instructions on how to get the best sound quality from a Mac, often involving minimising CPU usage during playback and the Pure has a memory play mode which furthers the same cause.

As well as the iTunes native formats, like WAV, AIFF and Apple Lossless, it can also play FLAC files which iTunes does not support. Finally, for the benefit of your iPad/iPhone/Touch, Pure can be driven with the Apple Remote app.

## One to beat

In market terms, Pure Music is almost in a field of its own and while



## DETAILS

- PRODUCT:**  
Pure Music 1.74a
- ORIGIN:**  
USA
- TYPE:**  
Music server software for Apple Mac computers
- FEATURES:**
- Automatic sample rate switching
  - Gapless playback and memory play
  - Supports iTunes compatible formats
  - Native FLAC support
  - Optional real-time 64-bit upsampling
  - Up to 384kHz sample rate
  - Sample rate converter
  - Multiple output support
- DISTRIBUTOR:**  
Channel D
- WEBSITE:**  
channld.com

there are numerous players available for the Mac they don't work with iTunes nor offer playback of hi-res files. Sonic Studio's Amarra (\$695) is its only real competitor on the Mac platform, but is currently limited to a maximum 192kHz sample rate.

## Detail improved

We used Pure Audio on an iMac and a Macbook (both running OS 10.6), with the Resolution Audio Cantata Music Centre (HFC 336/342) using Ethernet and USB connections.

Comparing Pure with iTunes alone made the latter sound soft and woolly. Pure increases focus, integrity of sound and image solidity. There is significantly greater definition and this improves timing as well as detail resolution, so bass lines are much more on the ball and transparency of better recordings is clearly enhanced.

This is further improved with the Less is More controller mode, which minimises practicality, but delivers an increase in solidity of sound (it means you can't use the Remote interface) for dedicated listening. Upsampling by a multiple of two (44.1 to 88.2) also helps in detail terms and seems to make the music hang together more cohesively.

## Effective tool

We also compared a Macbook's optical digital output to the Cantata with the optical output of a CD player into the same DAC. The original disc has the upper hand over a WAV rip in terms of focus and attack but the difference isn't huge, using a coaxial connection from the CDP widens the gap.

Pure Music clearly offers a lot for the iTunes/Mac user searching for better sound and the free 15-day trial makes it something that every Mac and DAC enthusiast should consider. This combined with excellent support from Channel D makes it more than worth the asking price. ●



## Hi-Fi Choice

### OUR VERDICT

- PERFORMANCE**  
★★★★★ **LIKE:** Brings a whole new level of detail, focus and musicality to the Mac
- FEATURES**  
★★★★★ **DISLIKE:** Only works on Macs OS 10.5 and up
- EASE OF USE**  
★★★☆☆ **WE SAY:** This has got to be the least expensive and most effective way to turn an iTunes Mac into a decent music server
- VALUE**  
★★★★★

### OVERALL







# Triumphant return

Get ready – Onkyo is back in ‘serious’ hi-fi after a 20-year gap and *HFC’s Ed Selley* reckons this new pre/power is a real *tour de force*

**O**nkyo has been out of the high-end hi-fi market for almost twenty years – long enough for us to believe that they had left it for good. But the brand is back and it has come out shooting. The components you see here are part of a new range of elite, flagship hi-fi products for 2011. This on its own would be good news.

What makes it even better is the fact that these units are no-compromise designs, packed with features and with some very handsome styling, not to mention a whacking great pair of VU meters on the power amplifier which hark back to when Japanese high end was a force to be reckoned with.

This is also not a one-off exercise. These components are the first of a



**ONKYO SEEMS** to be hedging its bets, allowing for the P-3000R and M-5000R to be used as an analogue and digital hub or for you to select a more conventional digital source. The C-7000 CD player (available soon) is fitted with an AES digital output allowing you to choose whether to use the onboard D-A conversion or as a transport into the preamp.

number of new two-channel products. If these future products are as technically interesting as these two units here, we can't wait.

## Entirely symmetrical

The M-5000R power amp is the more conventional of the two units. It uses a Class A/B layout to achieve 80 watts into eight ohms, rising to 150 into four. The decision to use Class A/B is interesting, as many recent Onkyo stereo amplifiers have been Class D. The revision back to more conventional technology suggests that Onkyo feels there is life in the old power-hungry dog yet, at least at this price point. The internal



layout is entirely symmetrical and terminates in a hefty pair of speaker posts.

Used in stereo mode, the M-5000R can only be used with unbalanced RCA inputs, but a single XLR input is fitted allowing use as a monoblock. The VU meters on the front can be used at two different sensitivity measurements or can be switched off if too distracting. The inner child in us liked the meters far too much to do this and although not the most accurate gauges going, they do give a useful heads-up if you are overdriving.

The £1,700 P-3000R preamp is rather more unusual in comparison to the competition. As well as three line inputs, a tape loop and a MM phono stage, Onkyo has fitted no less than six digital inputs. These include a balanced AES-type fitting and a USB input, as well as a pair

**“In a word – fabulous. Even from cold, the Onkyo is an open and fluent performer.”**

of each of the more conventional coaxial and optical connections.

All six inputs are decoded by a pair of 32-bit/192kHz Burr-Brown PCM1795 DACs and are selected off the same rotary selector as the analogue inputs. If you are not using the digital inputs, the entire board can be powered-down and the digital inputs disappear from the list selected by the input dial. This connectivity puts the P-3000R in a different group altogether to most similarly priced preamps.

The presence of a high-quality dual-mono DAC board means that

the budget for a digital source need not be as high as might otherwise be the case for a conventional all-analogue preamp. Were we seeking the moon on a stick, we would have really liked the phono stage to support moving coil cartridges and for one of the two pre-outs to be a balanced type, to more easily allow the use of mono M-5000Rs, but this is still a huge amount of functionality for the money.

Both components are built in a fashion that is classic Japanese high end (although both are actually assembled in Malaysia). Panel gaps are minute, the top panel fixings are secured by beautifully countersunk bolts to keep the top panel flush and the controls move with a precision and solidity that suggests an equal amount of attention has been lavished on bits you cannot see.

#### DETAILS

**PRODUCT:**  
Onkyo P-3000R preamp and M-5000R power amp

**ORIGIN:** Japan/Malaysia

**TYPE:** Analogue and digital preamp, two-channel class A/B power amp

**WEIGHT:**  
P-3000R 11kg;  
M-5000R 23.5kg

**DIMENSIONS:**  
P-3000R (WxHxD)  
435x99x333.1mm  
M-5000R (WxHxD)  
435x87.5x432.5mm

#### FEATURES:

- Preamp with moving magnet phono stage, three line inputs and digital board
  - 2x preouts
  - DIDRIC Distortion reduction circuitry
  - Six digital inputs, 1x AES, 1x USB 2x coaxial and 2x optical
  - Front panel display
  - 80-watt stereo power amp with symmetrical internal layout
  - Bridgeable
- DISTRIBUTOR:**  
Onkyo
- TELEPHONE:**  
01628 473350
- WEBSITE:**  
eu.onkyo.com

## Q&A...

WE SPOKE WITH NICK HAMADA, ONKYO'S EUROPEAN PRODUCT AND MARKETING MANAGER



**HFC: Is this design philosophy representative of future Onkyo two-channel product?**

**NH:** Yes it is. The new design ethos will be applied to both two-channel and multichannel products in the future.

**Has there been a conscious move away from Class D for stereo amplifier design?**

No, we're still continuing to research our digital amplifier technology just as we are our analogue amplifier technology. We believe that in the future amplifiers will have to be digital, for the sake of the earth. Today's reality, however, is that analogue amplifier technology still delivers better sound quality at real world prices.

**Will the CD player be joined by a network player or similar device?**

As we announced at IFA 2010, we do plan to introduce a network player in the near future.

**Do the digital inputs on the amp mark a move to amps becoming the 'hub' of a system more like AV product?**

We think that new-generation hi-fi amplifiers have to work with new digital media, such as FLAC files, iPods and streaming services, many of which can actually offer better quality than CD!

Since our homes still contain both analogue and digital content, new-generation hi-fi components are effectively already 'hubs', but with the key difference that accurate D/A conversion is as important as the amplification.

Accuracy, musicality and flexibility are the key characteristics of today's new breed of hi-fi components.

## CONNECTIONS



- 1** MM phono input
- 2** Analogue line inputs
- 3** Tapeloop
- 4** Pair of pre-outs
- 5** Digital inputs
- 6** Single set of large binding posts
- 7** Unbalanced stereo inputs
- 8** Balanced input for mono operation

Other than the display of the preamp – which might have looked slicker if a dot matrix had been used (it can be switched off) – this pair is built to the standard that is to be expected from similarly priced competition product.

### Competition-beater?

The result of this unusual pairing is subtly different to most of the key competition. The Onkyo delivers a competitive power output and is built to the standards we expect at the price, but the selection of inputs on the preamp and the high-quality DAC board put it far ahead in terms of convenience. This is an amplifier designed with present and future developments in source equipment in mind rather than a 'by the

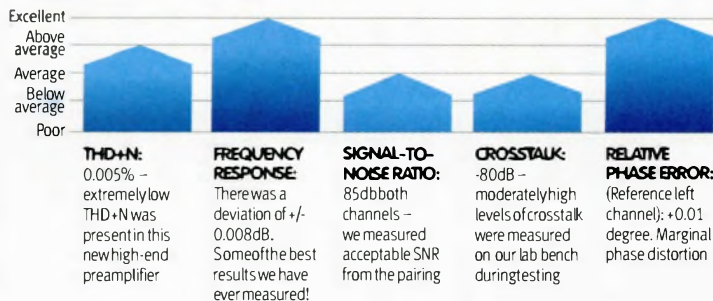
numbers' exercise. The last ingredient to what could be a very tasty recipe indeed is how it sounds.

In a word – fabulous. Even from cold, the Onkyo is a fluent and open performer. The 80 watts of the M-5000R feels unburstable in use and the pairing can deliver all, but the most extreme levels from most speakers. This ability translates into short listening sessions becoming all-evening affairs as you work through your music collection seeing what the Onkyo brings to their reproduction.

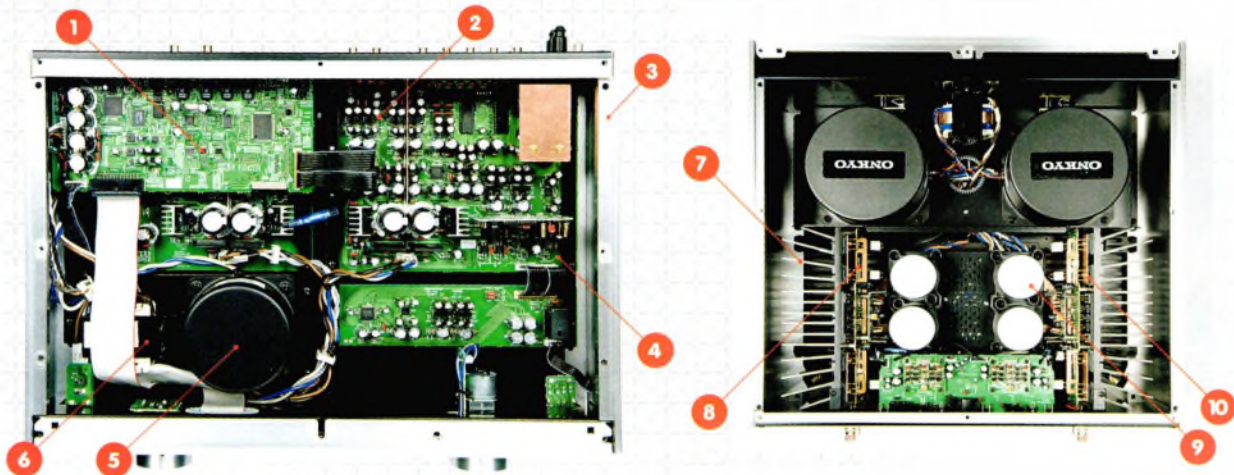
In the course of listening, the Onkyo shows itself to be a magnificent all-rounder with a real set of talents that benefit virtually all genres of music. This isn't a rockers' amp or a

## TECH LABS

### RESULTS AT A GLANCE - P-3000R



**HIDDEN TECH**



- 1** Digital-to-digital converter for USB input and dual 32-bit Burr-Brown PCM1795 DACs
- 2** Preampstage
- 3** Separate anti-vibration aluminium panels
- 4** All PCBs float are are cushioned by internal struts
- 5** Toroidal transformer
- 6** EI transformer for all non-audio functionality
- 7** Giant internal heatsink
- 8** All circuit boards are cushioned by internal struts
- 9** 4x selected audiophile-grade 27,000uF main power capacitors
- 10** Quad push-pull amplification design with three-stage inverted circuitry

classical music amp. In the widest possible sense, it's for the music lover.

**Astonishing vitality**

The analogue inputs of the P-3000R are essentially transparent and allow the character of the source to be clearly present in the performance. Connecting a Michell Gyrodec and Naim Stageline phono stage is like listening to them directly with no sense of any intervening electronics present. It almost goes without saying that the P-3000R proves totally silent in use, providing a unobtrusive backdrop to performances.

The digital inputs of the P-3000R do, if anything, have a greater personality. The digital board of the Onkyo is astonishingly insightful and able to extract incredible detail from recordings. The pairing will not flatter poor recordings, however. They're happier with the compressed version of a

good recording than the lossless version of a poor one. These traits extend to the USB input which – once the connected PC has been given the latest USB drivers available – work seamlessly and silently. The performance over USB is identical to the more conventional digital inputs.

**Rewarding listen**

Tonality with voices and instruments is wonderfully lifelike and unfailingly accurate in a soundstage that grows and shrinks perfectly with the size of the piece being played. The Onkyo is equally happy capturing the intimacy of a solo performer in a small studio as it is with an orchestra on the rampage in the largest of venues.

The timing and rhythmic ability of the pairing is also extremely high. Ask the Onkyo to pick up the pace and it does so effortlessly, but always slow down again when you need it



**THE DUO** did not seem fazed by the pair of Neat Momentum 4s that we used for the majority of listening. Given that the Neats are a fairly difficult drive, we don't think your choices will be too limiting. We liked the partnership with the Neats, but if your budget can stretch to it, the astonishingly capable PMC fact.8 (HFC 327) ought to be on your audition list. The digital inputs mean that cost-effective products like Onkyo's own DS-A1 dock should give a good account of themselves via a digital connection.

to. Part of this fluency is down to the superb bass performance.

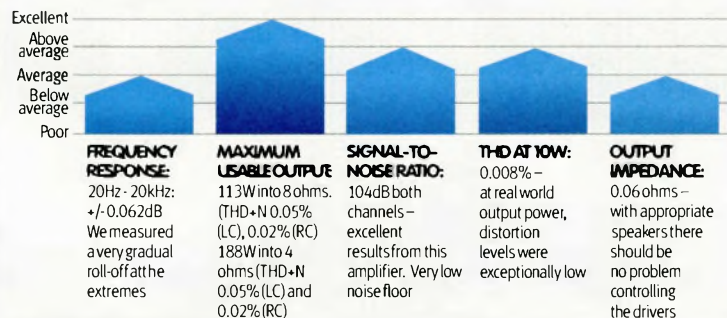
This pairing is everything that 21st Century high end should be. The M-5000R is an accomplished performer, able to find the measure and tempo of any recording thrown at it. The P-3000R is a fantastic combination of conventional technology well implemented and an excellent and insightful set of digital inputs.

The expected benefits of upgrading to an amplifier in this class are realised in no uncertain terms. At the same time, the Onkyo offers a step up in performance for all, but the most accomplished digital sources.

We've waited twenty years for an amp of this calibre from Onkyo. If these units are a statement of intent for Onkyo hi-fi product to come, we can't wait to see what the brand can do in 2011 and beyond across the whole spectrum of price points. ●

**TECH LABS**

**RESULTS AT A GLANCE - M-5000R**



**Hi-Fi Choice**

**OUR VERDICT**

- SOUND QUALITY** ★★★★★ **LIKE:** Superb-sounding combination with excellent build and impressive flexibility
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Will not flatter poor recordings
- BUILD QUALITY** ★★★★★ **WE SAY:** Offers excellent sonic performance and a huge choice of connection options
- SPECIFICATIONS** ★★★★★

**OVERALL**





Clarity HDMI



Concept Audioconnect



Connoisseur HDMI



Concept Speaker



Clarity Sub Woofer



Clarity Coaxial

# The NEW name in British designed quality AV cables.

Monkey Cable ONLY specialises in making high class Audio Visual Cables. We do not make or sell anything else. So whatever your requirement, whichever range you choose, (Concept, Clarity or Connoisseur), rest assured your audio visual experience will be as pure as your equipment can deliver.

We know and understand the pleasure our customers take from their Home Entertainment systems and the satisfaction in getting the best from their equipment. It is with this passion that we have developed the Monkey Cable brand to deliver not only great cables but also great value.





# Portable perfection

**Richard Black** discovers an exciting and unique proposition – a high-resolution portable player/recorder with upsampling and a built-in DAC

**I**ncluding, but by no means limited to, the various iPod models, there are currently dozens of portable music players out there – hundreds if you include mobile phones, most of which have some kind of music-playing capability. Many of them give very decent results, but they're not really Hi-Fi with capital letters: commodity consumer electronics, more like.

## True audiophile

The Colorfly is something a bit different. It's a portable music player all right, but it's aimed fair and square at the true audiophile, the individual who owns a carefully selected system of high-quality components and a decent library of recordings.

It is an expensive item as portable music players go, but even at three times the price of an iPod Classic it's far from ruinous when one considers its abilities and possibilities. The most significant feature is its high-resolution capability: not only CD-format WAV files, but native or losslessly

compressed files up to 24-bit/192kHz can be played.

A couple of other details that are likely to appeal are the full-size quarter-inch headphone socket (there's a mini-jack one too) and the real analogue volume control: but what are those phono sockets? They look as if they might be line out, but no, they are digital in and out. Digital out is obvious, digital in less so, but it turns out the Colorfly can be used as a DAC and also as a sample-rate convertor (upsampler).

## Internal chips

The DAC function makes more sense when you realise that the large headphone socket has an output level of 2V with the volume at maximum, so with a suitable adaptor you can use this as a line-level source. That's a high-res source, don't forget and it's an audio device, not a computer, with all the convenience that implies, plus no moving parts, hence no noise. Memory is 32GB of internal chips, plus a micro-SDHC socket to take cards up to 32GB. At the time of writing, 16GB cards cost about £1

## DETAILS

- PRODUCT:** Colorfly C4 Pro  
**ORIGIN:** China  
**TYPE:** Portable hi-res player/DAC/upsampler  
**WEIGHT:** 260g  
**DIMENSIONS:** (WxHxD) 70x125x20mm  
**FEATURES:**
- 32GB internal storage
  - Micro-SDHC socket
  - WAV/lossless files to 192kHz, 24-bit
  - DAC mode
  - Upsampling mode
  - Outputs for high-impedance and low-impedance headphones
  - Analogue volume control
- DISTRIBUTOR:** JSLFunk  
**TELEPHONE:** 07846 552032  
**WEBSITE:** colorfly.eu

per GB and 1GB is about one hour of 24/96 audio with lossless compression.

## Solid walnut

You'll already have noticed from the photos that this is one smart-looking baby. In fact, in the flesh it's simply gorgeous with its solid walnut body. It's bigger than other portables, but still fits in a jacket pocket and feels fabulous in the hand. Internally it's built with the sort of parts you expect to find in high-end CD players and DACs. And the sound?

There's no doubt that this is a whole different ballgame of portable sound. We took advantage of the higher-than-usual output levels and conducted quite a lot of listening with Grado's fabulous GS1000 headphones, which the Colorfly can drive louder than we'd ever want to listen. More importantly, it drove with a combination of grip and sweetness that really does make for a high-fidelity experience. You get the kind of detail that would not disgrace a pretty upmarket CD player heard via a good headphone amp.

We did most of our listening with 16-bit/44kHz material because most of the world's recordings come like that, but high-resolution recordings, do show up their advantages through equipment of this calibre.

## Astonishingly capable

As a component in a domestic hi-fi set-up, the Colorfly also makes a very good impression. Whether playing its own files or acting as a DAC, it achieves performance results that would not embarrass a full-size component of similar price, or indeed rather higher.

We ran a few basic lab checks too, and performance is technically excellent, with jitter unmeasurable and distortion very low – exceptionally low, in fact, even when driving a headphone load. This is an astonishingly capable little box. ●



**Hi-Fi Choice**

**OUR VERDICT**

<b>SOUND QUALITY</b> ★★★★★	<b>LIKE:</b> Clear, detailed and simply captivating sound
<b>VALUE FOR MONEY</b> ★★★★★	<b>DISLIKE:</b> User interface takes a little getting used to; limited battery life (about 6 hours)
<b>BUILD QUALITY</b> ★★★★★	<b>WE SAY:</b> In a field of one as an audiophile portable. It also achieves wonderful things in a fixed system
<b>FEATURES</b> ★★★★★	

**OVERALL**  
★★★★★



# Bronze Age



High-performance speakers needn't cost the earth – **Ed Selley** listens in on the latest evolution of the popular Monitor Audio Bronze Series

**M**onitor Audio has been producing the Bronze series, its entry-level full-size speaker range, for some years now. And the latest update takes the line-up from BR to BX status and features a full choice of standmounts, floorstanders and supporting multichannel equipment. Design refinements include single-bolt driver fixings and HiVE reflex ports borrowed from the more expensive ranges. The £500 BX5 tested here, however, is the smaller of two floorstanding models.

It's a relatively compact 870mm tall with plinth and can be shortened by simply screwing the floor spikes into the bottom of the speaker. Doing this has an effect on the stability, but no real effect on sonic performance.

Finished in the relatively light Natural Oak finish, this is a handsome and well-proportioned loudspeaker. The fit and finish is excellent with smart touches like magnetic grill tabs that give the speaker a flush front. The only slightly discordant note is the plastic Monitor Audio logo on the top, but the overall effect is still excellent for the asking price.

## Easy driver

The BX5 has a claimed sensitivity of 90dB/w and an impedance of eight ohms, making it a very easy load for an amp to drive. We obtained excellent results with a 70-watt Electrocompaniet ECI3 and the considerably less powerful Peachtree Audio iDecco (HFC 344). Both amps can drive the BX5 to very high levels, which would suggest that the speaker can be used with pretty much any amp from 25 watts and up.

The speaker is also relatively easy to position. The cabinet is both front and rear ported, but Monitor Audio supply a pair of foam bungs that can be used to reduce flow from the rear port and allow a relatively close placement to a rear wall.

## Thrill a minute

Set a little over two metres apart with a slight toe-in and 20 centimetres or so from the wall, the BX5 presents a believable and full soundstage. This presentation is filled with a lively and open feel. Given an upbeat piece of music, the Monitor Audio's are a thrill a minute to listen to and their timing and



## DETAILS

**PRODUCT:**  
Monitor Audio BX5

**ORIGIN:**  
UK/China

**TYPE:**  
Floorstanding  
loudspeaker

**WEIGHT:**  
12kg

**DIMENSIONS:**  
(WxHxD)  
215x868x248mm

**FEATURES:**  
• 2.5-way  
floorstanding  
loudspeaker  
• Twin 5.5-inch  
C-CAM mid-bass  
drivers

• 1-inch C-CAM  
tweeter

• HiVE Port  
technology and  
single bolt driver  
mountings

**DISTRIBUTOR:**  
Monitor Audio

**TELEPHONE:**  
01268 740580

**WEBSITE:**  
monitoraudio.com

pace are extremely enjoyable. Given the relatively small cabinets, the bass response is impressive in both depth and presence and this low end underpins performances and imparts considerable authority. There is aided by the lack of "honking" or colouration from the bass ports.

Given more relaxed music, the BX5 never truly loses its slightly boisterous side, but equally could never be called dull or uninteresting and the assured timing means that even complex pieces stay very cohesive and easy to follow

## Live performances

Tonality with voices and instruments is good, although they can become slightly hard-edged if the BX5 is really pushed. At more usual domestic listening levels, however, the performance is always assured and confident.

Live performances, in particular, give the BX5 the chance to place musicians and the audience accurately in relation to one another and give a real sense of the original performance space. Poor recordings can push the harshness levels, but well-recorded and high-resolution material allows them to demonstrate remarkable insight – considering the price point.

## Sound choice

A combination of talents makes the BX5 a sound choice at the asking price. Partnered with a relatively neutral amp of almost any normal output, it is an engaging and entertaining performer – especially if your listening tastes lean towards more up tempo music.

Its performance, coupled with its compact size and attractive appearance, mean that this is a very talented and likeable speaker that should be able to slot happily into many different modestly priced hi-fi systems and deliver the goods. ●

## Hi-Fi Choice

### OUR VERDICT

#### SOUND QUALITY



**LIKE:** Attractive and compact design with fast, engaging sound

#### VALUE FOR MONEY



**DISLIKE:** Can be a little relentless and forward if wrongly partnered

#### BUILD QUALITY



**WESAY:** A well built and extremely accomplished performer that deserves an audition

#### EASE OF DRIVE



### OVERALL







# Star qualities



This new compact DAC/preamp from 'prosumer' digital clocking expert Antelope is better equipped than anything else says **Jason Kennedy**

**A**ntelope Audio is putting Bulgaria on the hi-fi audio map with a new cutting-edge DAC/preamp built for the Pro World. The Zodiac Plus is an innovative compact cube that has digital, analogue and USB inputs, a volume control on the outside and a 24-bit/192kHz convertor inside. But what separates it from the pack is the company's

expertise in digital clocking. Antelope's Pro heritage also shows in the dual headphone sockets on the front panel and the full range of XLR sockets on the back.

### Auto-detect

The Zodiac Plus is the middle model of three Zodiac DACs, the base model is due this spring and the Zodiac Gold sits at the top of the tree at

### ► DETAILS

**PRODUCT:** Antelope Zodiac Plus

**ORIGIN:** Bulgaria

**TYPE:** Digital-to-analogue convertor/preamp

**WEIGHT:** 2kg

**DIMENSIONS:** (WxHxD) 165x112x190mm

**FEATURES:**  
• Digital inputs: 2x Toslink, 2x coax, AES/EBU, USB

• Digital outputs: AES/EBU, S/PDIF

• Analogue inputs: RCA phono, TRS balanced

• Analogue outputs: XLR balanced, RCA phono

**DISTRIBUTOR:** Item Audio

**TELEPHONE:** 01782 621225

**WEBSITE:** antelopeaudio.com

£500 more than the Plus. All three inhabit a squat 110mm-high case, yet each is generously equipped with a well-featured array of rear sockets, including the usual S/PDIF options on coax and optical, as well as XLR sockets for the Pro-grade AES/EBU connection system with inputs and de-jittered outputs.

Analogue outputs are provided in both balanced and single-ended varieties and there are two analogue inputs, one standard RCA phono pair and one called TRS balanced – this is a 6mm jack connection for patch cables in the studio and not one we've seen on domestic audio before. As already stated, there is also a pair of 6mm headphone jacks on the front panel next to the volume and balance controls – the former is of the analogue variety and so does not have the potential to drop bits in the way that certain digital ones do.

Input selection is via a single button, which scrolls through the auto-detected inputs whose



abbreviated names are shown in the LED. When the Zodiac locks onto the source it displays the sample rate on offer, which is useful if you are using a PC with high bit rate files and want to be sure that the computer is outputting the correct sample rate.

This display also shows output level while the control is being used and briefly thereafter, which is a nice touch. The only obvious omission is of a remote control for volume and input. You get one of these in machined aluminium with the Zodiac Gold and it would certainly have been handy if a more affordable handset had been included here.

Word clock inputs are pretty scarce in domestic audio, but pretty much the norm in the studio where they are considered pretty fundamental. In our world, only Esoteric and dCS have this feature and their prices are dramatically higher. The Zodiac Plus has its own onboard clock, a shielded, 'oven controlled' one at that. This means that it's kept at a constant temperature, improving stability and, according to Antelope, brings significant sonic benefits in turn.

The USB will accept signals up to 192kHz, but the use of a mini B socket is slightly odd and limits the array of good-quality USB leads that can be used, one is supplied in the box (albeit rather a long one for best results). Item Audio supplied a high-end alternative from Polestar, but



**IN THE PRO AUDIO world where clocking is taken rather more seriously than elsewhere, multi-room studios usually have a master clock running all of the ADCs and DACs to an extremely high degree of precision. Accurate clocking is important because timing is crucial to undistorted digital audio. CD's 44.1kHz sample rate indicates that the analogue signal's amplitude is sampled 44,100 times per second. So even at this rate it's easy to imagine that a slight variation in clock accuracy will change the nature of the signal, it may only be a small change but it causes jitter and this in turn produces the hard, cold sound that we associate with early CD players and the lack of image depth that afflicts contemporary ones. Jitter is a prime reason why few digital sources have an analogue sound.**

that takes things to the opposite extremes by being unduly short.

### Signs of the Zodiac

Whilst the Zodiac is not a big box for the money it clearly doesn't scrimp on socketry and features, things like mute and mono buttons are very handy. Build quality is good, rather than impressive and the case is aluminium, as are the control knobs, both of which are very smooth in operation.

If the sound quality is anything to go by then the money appears to have been spent where it counts, on the circuitry. It has separate power supplies and PCBs for the analogue and digital sections and a Burr-Brown 1792A 24/192 convertor at its heart.

**“The Zodiac Plus is an exceptionally resolute and entertaining convertor/preamp.”**

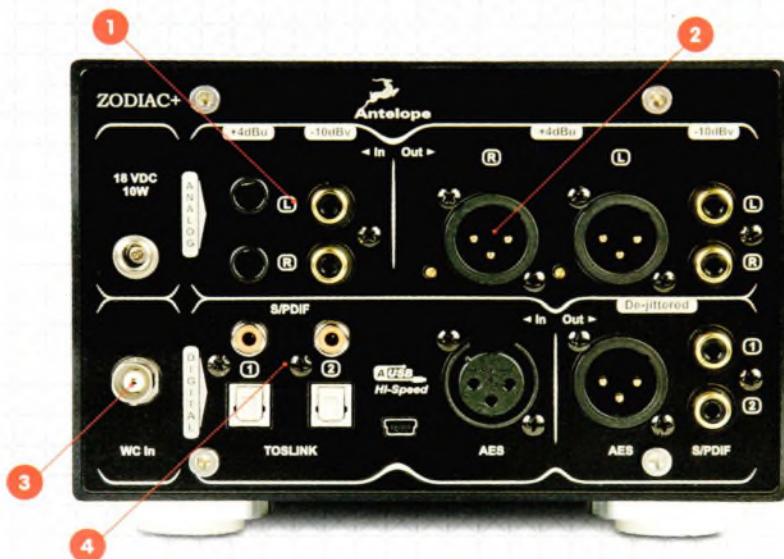
There's no shortage of decent DACs at this price point, but few of them have a volume control, let alone the array of in- and output options. The convertor that comes closest to the Zodiac Plus in respect of features is the Benchmark DAC1 Pre HDR (£1,595). It also has volume, twin headphone sockets and USB, alongside analogue inputs, but no AES/EBU.

The Cyrus DAC XP is more expensive and devoid of USB, but can be very revealing. However, we wouldn't expect it to give the Zodiac too much trouble in a transparent system with a good source. The real competition comes from more traditional DACs like the Naim DAC, which is only a little more expensive, has two standard USB B sockets and quite significant power supply upgrade options. This is one area where Item Audio feels the Zodiac Plus can be upgraded and it is possible to use the linear supply from the Gold model for the purpose, albeit for a higher combined cost than the Gold itself.

### Slow burn

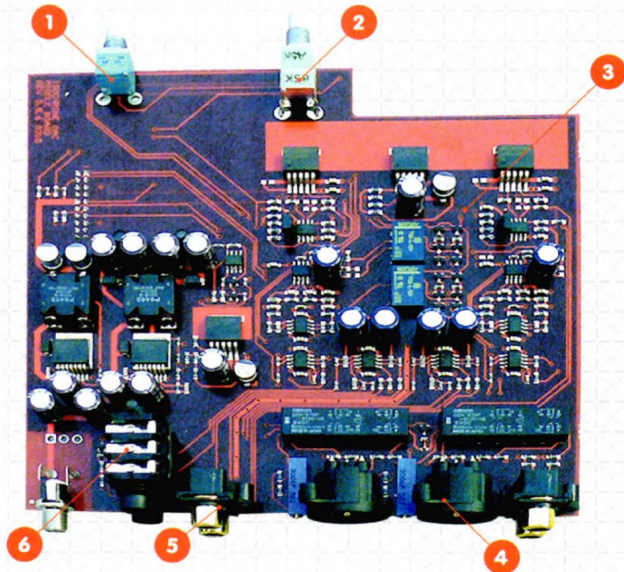
The Zodiac Plus is one of those components that is initially subtle, but which grows in one's estimation every time a familiar track is played and very soon it becomes difficult to go back to the system as was. It is very low on character and extremely clean in a smooth, rather than crystalline

### CONNECTIONS



- 1 Analogue inputs: TRS balanced jacks and RCA phono sockets
- 2 XLR and RCA phono outputs
- 3 Word clock input
- 4 S/PDIF inputs via coaxial and optical

**HIDDEN TECH**



- 1 **Input selection pot**
- 2 **Volume pot**
- 3 **Preamp section**
- 4 **Balanced and unbalanced output stage**
- 5 **Lower board contains DAC section**
- 6 **Adjustable analogue input controls**

Picture credit: www.6moons.com

**SYSTEM BUILDING**

**WE SPOKE** to Mark Welsh at Item Audio about the best way to realise the potential of the Zodiac Plus and he came up with a number of options based on the DAT1 computer transports that he builds. These come in various forms, but start at £999 for a Linux-based unit, which Mark suggests you use with the Zodiac and a pair of Focal Solo Be 6 loudspeakers (£1,349). The latter is a two-way active design from the Pro World that has a beryllium tweeter and 6.5-inch composite cone mid/bass.

At the other end of the scale, he would partner the DAC with a Windows DAT1 (£1,399), Monarchy Audio SE100 monoblocks (£795 each) and Paradigm Signature S6 loudspeakers (£6,999).

The Monarchy is a class A/B, 100-watt solid-state power amp from the US, while the Paradigm is a four-driver, three-way floorstander with another beryllium tweeter and two seven-inch bass drivers alongside a midrange in the same diameter.

With a Mac supplying signal via a Polaris USB lead, the result is considerably more powerful and dynamic than is usually the case – there isn't so much space and air on Rachmaninov's *Symphonic Dances*, but a heck of a lot of welly.

Bass is also strong point. Orchestra's can produce an awful lot of power in full flight, but this is not often apparent to the extent that it is here. This quality is even more distinct, when you use the onboard volume control and bypass the preamp. Unless you have a particularly good preamp this direct approach is likely to give the best result where dynamics are concerned.

Regular CD via coax from a player (rather than transport) is particularly engaging as well. It is exceptionally coherent and calm under pressure, which means that the heaviest tracks remain open and three dimensional.

**Benchmark two**

The Zodiac Plus is an exceptionally resolute and entertaining convertor/preamp, that is better equipped than any other DAC we've seen, outside of the megabucks fraternity and even then only MSB's Platinum IV comes close. The only limitation that we can see is the unusual choice of a mini-USB input, at present there aren't any audio-specific cables for this connection.

In all other respects, this unusually well equipped and compact convertor is in another league to most of the similarly priced competition. If refined resolution of dynamics, timing and image depth are your bag and you can use its preamp potential, then it's a bargain. It is extremely revealing. It's kind to lesser recordings and allows great ones to knock your socks off.

We are intrigued to hear what a dedicated external word clock can do for it, but as it stands it should have the competition quaking. ●

fashion. There are apparently no rough edges across the band, which must be a bonus in the studio, where listening levels are reputedly even higher than in our *Hi-Fi Choice* listening rooms.

There is a lot to enjoy in its performance. Stereo separation is outstanding – instruments being precisely placed in the lateral stage, which contributes to excellent image depth and solidity. Stevie Wonder's *Superstition*, for example, reveals unusually distinct reverb effects that we have not previously encountered.

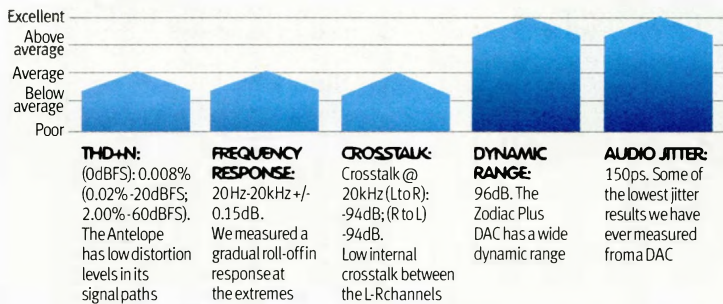
Image quality is particularly apparent when using the Antelope with Bryston's BDP-1 digital transport via its AES/EBU output.

**"This well equipped and compact convertor is in another league to the competition."**

This combination pulls out a staggering levels of detail from a number of very familiar tracks – harmonics, reverb and temporal subtleties are brought to the fore that usually remain hidden. It does this rather better than Bryston's own DAC in truth, which seems a shade unsophisticated by comparison. In part this is because the highs are a lot smoother, but there is plenty of high-frequency detail as well, so there is no sense of roll-off.

**TECH LABS**

**RESULTS AT A GLANCE**



**Hi-Fi Choice**

**OUR VERDICT**

- SOUND QUALITY** ★★★★★ **LIKE:** Remarkable resolving capabilities and more inputs than the majority of DACs
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** USB-B socket is a strange choice. A remote handset would be a boon
- BUILD QUALITY** ★★★★★ **WE SAY:** Raising the bar in a certain sector of the market, Antelope has made it so with the Zodiac Plus
- FEATURES** ★★★★★

**OVERALL**



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**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?**

What made the eighties special for you? And what do you remember of 1982? Email us now: [hi-fichoice@futurenet.com](mailto:hi-fichoice@futurenet.com)

Where were you in 1982? For Billy Joel fan **Simon Berkovitch**, it was a year of musical change as rock dinosaurs moved aside for punk, new romanticism and the NWOBHM. So fasten your DeLorean seatbelts, as the music doctor takes you back to the eighties...



hen considering genuine innovation in audio, the release of a Billy Joel album wouldn't be top of anybody's list. His 1982 offering *52nd Street* is, like *Uptown Girl* devilishly unmemorable, but on the first of October of that year, this was still the first album to be commercially released on a groundbreaking new format – Compact Disc. Hitting the shops in Japan alongside the world's first CD player, Sony's CDP-101 (see *Back to the Source* p86), this much-heralded debut was to revolutionise the way we enjoyed, consumed and collected music.

Fast forward 25 years and it's estimated that 200 billion of the silver sonic beer mats have been sold around the globe. Admittedly, the format is now in decline, with CDs being increasingly superseded by other forms of digital storage, but as the price of players gradually came down, early adopters' whoops of delight on experiencing the new format were shared by larger sections of the general public throughout the 1980s.

Although vinyl is now enjoying something of a renaissance in independent and audiophile circles, the initial appearance of a convenient, compact format capable of storing 74 minutes of uncompressed audio sounded the death knell for many bulky, easily scratched 12-inch record collections. But, for vinyl record-collectors with foresight, the early '80s were a good time to scoop up many collectors' ill-judged cast-offs. The release of players and more discs in the United States the following year may have opened the floodgates for CD, but the beloved LP was still the dominant force in the UK at the time.

But into what musical landscape did the embryonic CD format find itself? In a musical

landscape redrawn by the possibilities of Punk and New Wave, this was a year of survival and reassessment for many of the rock titans that made up your collections in the previous decade. So, roll up your single buttoned, pastel jacket's sleeves and put on your oversized red framed Christopher Biggins-style specs and check your digital watch – it's time to investigate the musical landscape of 1982.

**Enter the mainstream**

1982 was a year of major events in many respects. Michael Jackson release *Thriller* – an album that goes on to be the biggest seller of all time – and one that elevates the promotional video to an art form, pushes MTV culture into the mainstream and sends his own star into orbit. Ex-Black Sabbath frontman Ozzy Osbourne was a busy boy, finding the time to get arrested for urinating on the Alamo, bite the head off a live bat onstage in Iowa and marry his manager Sharon in the space of a year. Madonna releases debut single *Everybody* and Paul Weller winds up The Jam, hitting the top of the singles charts for the last time with the anthemic *Beat Surrender*.

Although the cinematic backdrop of the time was cutting edge, evidenced by sci-fi classics *Blade Runner* and John Carpenter's *The Thing*, mainstream music hadn't been as polished and accessible since pre-rock'n'roll. The 'back to basics' rallying cry of Punk in 1976, may have had an immediate effect on the underground, spawning a plethora of inventive subgenres that energised the independent music scene in the early 1980s, but it was going to take more than a return to three guitar chords or wild underground

experimentation to force the musical establishment to its knees.

Examining some of the major releases of 1982 acts as a reminder of how much the old guard still held sway over punters' spending power. Big names – and so-called rock dinosaurs – still dominated the charts as the latest albums from Roxy Music (*Avalon*), ex-Fab Paul McCartney (*Tug of War*) and Queen (*Hot Space*) all shifted plenty of units this year. Each of these releases from these major artists demonstrated a new slickness creeping into proceedings, informed by the evolution in digital studio technology and musicians' increasing fascination with the potential of synthesisers.

**Only the strong survive**

Although Roxy Music, McCartney and Queen experienced relatively smooth transitions into the early 1980s, many bands and musicians associated, rightly or wrongly, with the musical excess of the previous decade struggled to find their feet in the new decade. Progressive rockers Caravan (*Back to Front*), Space-rockers Hawkwind (*Church of Hawkwind*) and national treasure Roy Harper (*Work of Heart*) may all have released albums in 1982, but only the most die-hard fans could have regarded them as amongst the most seminal work of the artist in question, reflected in their meagre sales.

But as some bands from the progressive era floundered, others – like Asia and Genesis – evolved into mainstream pop, trading in the wizard's beards, denim loon pants and complicated time signatures of a few years previous for designer stubble, shiny suits and chart sensibilities. Indeed, Genesis and its offshoots cast a long shadow over 1982.



## BLINDED WITH SCIENCE

For one brief moment, a so-called novelty hit placed the avant-garde onto many people's turntables for the first – and possibly last – time since Yoko Ono had made her unique presence felt on The Beatles' *Revolution 9* on 1968's *White Album*.

Laurie Anderson had scored a freak number two hit the previous year with the minimalist, beatless classic *O Superman* (not to be confused with Black Lace's similarly named *Superman*) – all vocoder vocals and wordless, looped chants, courtesy of the Eventide Harmonizer.

Many who bought 1982's subsequent parent album *Big Science* – memorably picturing the future Mrs Lou Reed with hands outstretched in whited-out sunglasses – expecting more of the same would surely have had their minds scrambled by the often challenging performance art textures contained within.

This classic album gained a welcome deluxe re-release on CD in 2007.

“At least John Lennon had a decent excuse for putting out a stopgap LP this year: Mark Chapman.”





The mother band itself released both the successful albums *3x3* and *Three Sides Live* this year and Peter Gabriel and Phil Collins both enjoyed solo success with pop albums *Peter Gabriel and Hello, I Must Be Going!* respectively. It's been a long, strange trip from *Fox Trot* and *Nursery Cryme*.

## Greatest hits

Indeed, it could be argued that 1982 was seen as a time of artistic water-treading for many of the previous decade's key players. Although hardly a new medium, the 'greatest hits' LP was increasingly conspicuous this year, with The Eagles and Eric Clapton marking time with the 'best-of', largely seen as a sign that bands had run out of steam. Whereas the title of ABBA's hugely successful *The Singles – The First Ten Years* can be seen as optimistic at best in the context of both couples divorcing, at least John Lennon had a decent excuse for putting out a stopgap LP this year: Mark Chapman.

Although not a Greatest Hits, Led Zeppelin's *Coda* was a full stop for the band, piecing

together discarded material from the band's decade-long period of musical domination. It could be argued that on the strength of the band's last official studio album, the John Paul Jones-dominated *In Through The Out Door*, the once unstoppable musical force would probably have faltered in the 1980s had the group survived the death of drummer John Bonham: Jimmy Page's soundtrack to the movie *Death Wish II* wasn't exactly chock-full of molten Zeppelin riffs, for example.

## Forgive us our synths

From Gary Numan's hymns to alienation (*Telekon*), to the vapid posturing of Duran Duran (*Rio*), 1982 was a big year for the synthesiser. On the face of it, artists like Depeche Mode, Heaven 17 and Ultravox have little in common with the spiky musical chaos of punk rock, but all share a return to simple, hook-driven songs.

The hit singles of the year bear this theory out: Soft Cell's *Tainted Love* and *Say Hello, Wave Goodbye*; Duran Duran's *Hungry Like the Wolf*; and Yazoo's *Only You*. The wholesale rejection of the electric guitar – the driving force and totem of rock and roll – is arguably very Punk, also finding favour in more experimental quarters.

Although a different type of New Wave was preening its way to *Top of the Pops* and teenagers' bedroom walls, a different breed of New Wave was launching a counter-attack against the sound of the synthesiser and its effete operators. The New Wave of British Heavy Metal – NWOBHM for short – was gathering pace in 1982 with the release of a landmark album for the genre: Iron Maiden's *The Number of the Beast*. It had taken a change



of lead vocalist, putting Bruce Dickinson in the pilot's seat and a shift in songwriting for the band to enter a period seen as classic by many fans. Despite the bombastic, storming-the-gates-of-hell guitar style, the songs on *The Number of the Beast* retained a definite pop sensibility. Yes, they were Metal numbers, but they were super-catchy and had massive choruses – *Run To The Hills* being a case in point. Perhaps the NWOBHM had more in common with the New Romantics than they'd care to admit.

With pop firmly back in the commercial driving seat, the rougher, more innovative edges of music were smoothed and buffed still further as the decade lurched onwards from 1982. For many, the excitement and knife-edge invention of the progressive rock era was replaced with MTV-friendly muzak fronted by cornball automatons. The technology may have evolved to embrace the future, but the throwaway teen idol mentality harked back to the bland 1950s, at odds with the promise of the future.

We won't relive the worst excesses of the '80s – next time, we'll go back to a time when the exhilarating sound of the electric guitar was once more defiantly in vogue. Or is that go forward? Time travel is ever so confusing. ●

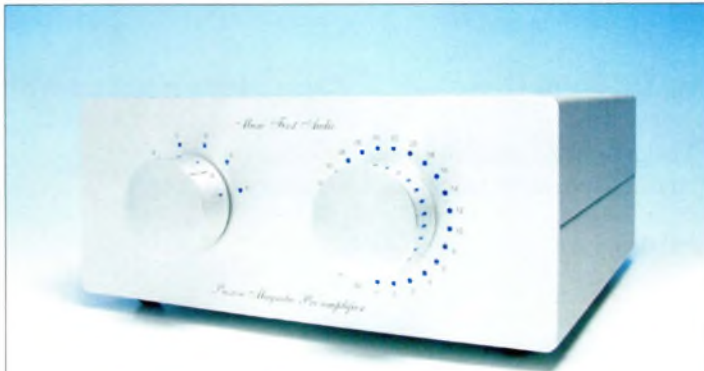
## BACK TO THE SOURCE

Even though you'd have to suffer Billy Joel on it, if you were a hi-fi nut with a spare 168,000 Yen – just north of £1,250 in today's money – burning a massive hole in his pocket, the launch of the first CD player in October 1982 – Sony's CDP-101 – would have been a done deal.

Looking at the CD player through 21st century eyes, the CDP-101 doesn't look as antiquated as one may expect from a hi-fi product nearly 30 years long in the tooth, perhaps testament to its iconic design, complete with standard-issue horizontal tray-loading system.

It was launched worldwide the following March, and the rest was audio format history – one whose dominance has only recently been challenged.





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**90** **Ottorino Respighi**  
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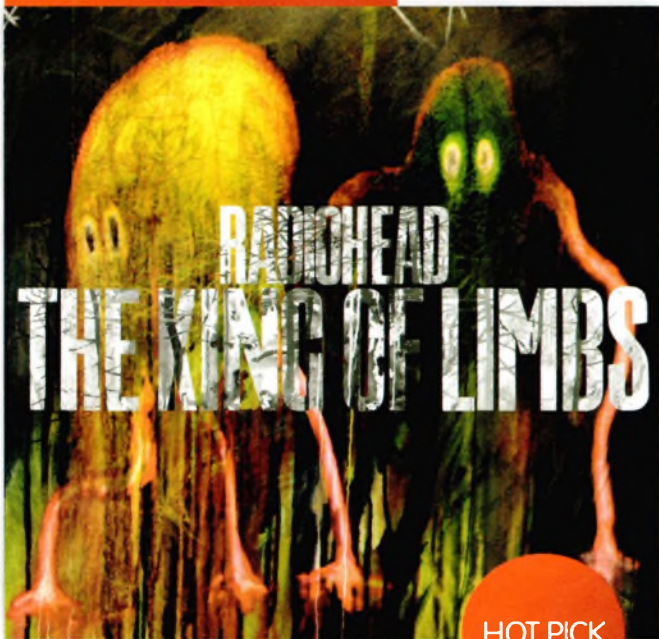


**91** **Willie Nelson**  
Country Music

# Music reviews

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

## ALBUM OF THE MONTH



HOT PICK

### Radiohead The King Of Limbs

Xlrecordings.com

★★★★

Ticker Tape/XL

Download

**RADIOHEAD HAS LONG** passed the point of releasing albums in the conventional, old-fashioned way. Announced at just five days' notice before its unexpected release as a £6 download, the band's eighth album appeared as if from nowhere to confound the record industry, retail and the critics. Especially the critics.

Denied our usual privilege of exclusive pre-release copies, we were only permitted a first listen of *The King Of Limbs* at exactly the same time as everyone else on 'D-Day'.

The result, of course, was a publicist's dream, as the release of a pop record took on the 'breaking news' import of flag-waving protestors toppling a middle-eastern dictatorship. In marketing terms, the three-

pronged release strategy devised by the band is also mightily clever. Many fans who have already paid to be the first on the block with the download, will rush to the record store a month later to buy the more conventional CD release and then again in May for the so-called 'newspaper' edition, including vinyl, artwork and other accessories, by which time many of the same consumers will have purchased the same eight tracks three times over. So, the burning question: does *The King Of Limbs* live up to the hype – and how many times should you buy it?

The answer is, of course, that even a beyond-the-grave release from a holy trinity of,

**“Your only decision is whether to buy this music, once, twice or three times.”**

say Lennon, Hendrix and Marley, would probably struggle to match the gravitas afforded this release – sorry, event – in the feverish world of NME and its indie camp followers. Yet that said, this is a very fine Radiohead album. Sometimes spacious and at other times claustrophobic; in parts astonishing; and in parts a little predictable – but less so than any band has the right to be when they're eight albums into their career.

It's an album often driven by hyperactive bass and drums, chopped up and processed to create a fidgety, almost neurotic effect on tracks such as *Bloom* and *Feral*. On first listen, it's these distended rhythms which dominate, particularly as there seems to be a conscious

attempt to eschew the anthemics of *OK Computer*.

Gradually the subtle, half-buried melodies emerge and Thom Yorke's vocals sound more soulful and less histrionic, particularly on *Lotus Flower*, the magnificently haunting *Give Up The Ghost* and the spooked, piano-led ballad *Codex*.

Jonny Greenwood's guitar is also considerably more muted than his vaulting heroics on *The Bends* and *OK Computer*, as if Radiohead was a little too determined not to be hailed as the saviours of that threatened dinosaur called 'guitar rock'.

When Greenwood does assert himself, as on *Separator* or his heavily treated slide playing of *Codex*, the effect is ethereal rather than epic.

Yorke and his band has done it again and your only real decision is whether you're stricken enough to buy this remarkable music once, twice or three times. **NW**  
**Standout tracks:** Lotus Flower; Give Up the Ghost; Codex



Radiohead: If you go down to the woods today



**Primal Scream**  
Screamadelica (Deluxe 20th Anniversary Edition)

sonycmg.com

★★★★

Sony

2-CDs

**SCREAMADELICA** was an album that nearly didn't happen. After the rush that surrounded the 1990 Creation singles *Loaded* and *Come Together*, the Scottish indie band were hard pushed to put together enough money to pay ambient maestros The Orb to work on *Higher Than The Sun*. That song's June 1991 release has been accorded *Sgt Pepper* status by the rave generation as the coming together of dance and rock cultures. After that the floodgates opened.

These new editions, with a fresh cut by Kevin Shields, demonstrate how schizophrenic the new music was. With Jimmy Miller overseeing some very Stonesy mixes like *Movin' On Up* and *Damaged* (much more of the same can be heard on 1992's *Dixie Narco EP* which accompanies this) the rest of the album exhibited the ecstasy rush and comedown – at its most infectious with singer Denise Johnson on *Don't Fight It, Feel It* and at its most narcotic on the The Orb's aforementioned masterpiece. The music in-between, particularly an overlong Jah Wobble version of *Higher*, has dated; but the sheer bravery of making such an album means it deserves its legendary status. **MP**  
**Standout tracks:** Don't Fight It, Feel It; Higher Than The Sun; Come Together; Loaded



**Queen**  
A Night At The Opera

islandrecords.co.uk

★★★★★

Island

2-CDs

**AT THE TIME** of its 1975 release, Queen's fourth release was reported to be the most expensive album ever recorded. It was also arguably one of the most ambitious, as the band trampled down the boundaries of conventional rock music and jumped seamlessly from prog-rock to music hall parody via dream-pop, metal screech and the outrageous pseudo operatics of *Bohemian Rhapsody*.

The remastering emphasises every detail of Roy Thomas Baker's meticulous multi-tracked production. At the same time there's a pastiche-like quality which suggests that for all the pomposity, Queen's most enduring trait is that they never took themselves too seriously. **NW**  
**Standout tracks:** I'm In Love With My Car; Bohemian Rhapsody



**Simon & Garfunkel**  
Bridge Over Troubled Water

legacyrecordings.com

★★★★★

Columbia Legacy

2-CD/DVD

**REPUTEDLY TAKING** 800 hours of Columbia studio time, the 25 million-selling career peak of Simon and Garfunkel has been unfairly overshadowed by its over-familiar gospel-tinged title track. Old school rock 'n' roll happily jarred against plaintive ambient ballads, 'ethnic' musics and a panoramic production which put the New York folk duo firmly at the top of the world's charts for years.

The 40th Anniversary edition may have a live CD and a DVD of a rare 1969 TV rendition, but it's the music that still haunts, particularly the cinematic feel of *Only Living Boy In New York* and the Andean pipes of *Los Incas* which are now even more plaintive, more real than ever. **MP**  
**Standout tracks:** The Boxer; El Condor Pasa; The Only Living Boy In New York



**Ottorino Respighi**  
Roma

bis.se

★★★★★

Bis Records

CD (SACD/CD hybrid)

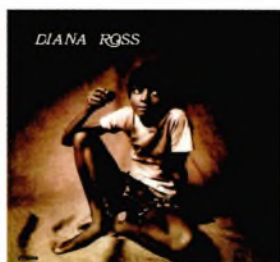
**AN ORCHESTRAL** *tour-de-force*, *Roma* is brilliant, opulent, colourful, loud, quiet and breathtakingly exciting. All three tone poems are imaginatively scored for huge orchestral forces that include a recording of a nightingale to heighten atmosphere.

These are sumptuous extrovert accounts that positively revel in the kaleidoscope of moods and tone colours unleashed by Respighi.

The recording has fantastic dynamic range and amazing detail, with massive amplifier/speaker-busting climaxes. It sounds best as an SACD, but even the CD layer offers demonstration-quality sonics. One to play with the neighbours out. **JH**  
**Standout tracks:** 11 L'Ottobrata (Feste Romane)

**AUDIOPHILE VINYL**

**Diana Ross** Diana Ross [speakerscornerrecords.com](http://speakerscornerrecords.com)



★★★★ **Motown/Speak Corner**  
180g

**AFTER A DOZEN** number one hits with the Supremes, Diana Ross could easily have continued her solo career in the same pop-tastic vein. But as the cover

on her 1972 debut album suggests, her liberation from the confines of a girl group gave her the confidence to do things a little differently, albeit with no less success.

The music is largely written by Motown's hitmakers Ashford and Simpson whose *Ain't No Mountain High Enough* was so successful that this album was retitled in America.

The 12 songs are artfully crafted and avoid many of the clichés associated with Motown's sixties' sound, it's clearly a top-dollar production with strings, horns and very slick playing all round.

But Ross is the shining star, bringing a breadth of expression and vocal talent that raises the album above the potential of the production standards of its time. This is a superb pressing, but there's no getting away from the compression and bandwidth limitations of the original. It was undoubtedly a commercial sound in 1970, but by today's standards it's clearly limited. This doesn't get in the way of the music, but merely reflects the era. **JK**  
**Standout tracks:** All I Need to Get By; Dark Side of the World



**Asa**  
Beautiful Imperfection  
dramatico.com  
★★★★★ **Dramatico**  
CD

**NIGERIAN/FRENCH** singer-songwriter Asa (pron Asha) sings soul-pop tunes in English with a reggae lilt and for her second album, has produced a quietly brilliant collection of songs about love and loss. It's upbeat, more personal and with bucketloads of hummable tunes and catchy hooks, all sung in her distinctively smoky alto voice that has just a touch of the Macy Grays to it.

The sound is fully rounded, rich and intimate, but with plenty of room for the palette of guitars, percussion, bass, organ and occasional horns to breathe. The largely acoustic, live-in-the-studio approach comes with a loose-limbed, easy going feel that sounds polished but not too smooth. **DO**  
**Standout tracks:** Be My Man; Why Can't We; Dreamer Girl



**Bootsy Collins**  
Tha Funk Capital Of The World  
mascotrecords.com  
★★★★★ **Mascot**  
CD

**THE JAMES BROWN** and Funkadelic bass machine is like a stick of rock with 'funk' written all the way through it. It's in his DNA and for his first album in five years he's recruited a galaxy of guest stars including senior rappers Chuck D and Snoop Dogg, soul legend Bobby Womack, bluegrass banjoist Bela Fleck and the likes of Samuel L Jackson and Rev Al Sharpton.

Amazingly, it sounds like the most consistently grooving album he's done in decades. There's a rawness to the sound and a tautness to the groove that harks back to Bootsy's stint with the godfather rather than the coked-up studio limbo where he spent much of the eighties and nineties. **DO**  
**Standout tracks:** Don't Take My Funk; Mirrors Tell Lies



**Gustav Mahler**  
Symphony No2 'Resurrection'  
emi.com  
★★★★★ **EMI**  
2-CDs

**IT WAS HEARING** a performance of Mahler's mighty *Resurrection* symphony that made 12 year-old Simon Rattle aspire to become a professional conductor. He made a memorable recording of the work for EMI back in 1986 and this new performance has some impressive moments. It's a commanding, grandiose account, while the closing minutes of the finale possess thrilling presence and power that lifts you out of your seat.

The sound is typical EMI/Berlin; smooth and full, with an open treble and wide dynamic range – though you'll need a big powerful system to recreate those massive full-blooded Mahlerian tutti-passages. **JH**  
**Standout track:** 5 Finale

## BLU-RAY DVD

**Jeff Beck** Rock 'n' Roll Party Honouring Les Paul eagle-rock.com



★★★★★ **Eagle Vision**  
DTS-HD Master Audio 5.1, Dolby Digital 5.1, LPCM 2.0  
**JEFF BECK HAS BEEN** enjoying a revival of late, one that started with a concert at Ronnie Scott's, alongside Eric Clapton (among others)

and which continues with this remarkable performance from New York.

In the Iridium Jazz club, a one-time haunt of guitar and recording pioneer Les Paul, Jeff features alongside Imelda May and her band, a quartet with a distinct leaning toward rockabilly. Most of the material is culled from the Les Paul and Mary Ford songbook, but Beck has added a good selection of rock 'n' roll classics including *Peter Gunn* and *Twenty Flight Rock*, the latter sung by ex-Stray Cat Brian Setzer. There's an extra about Jeff's

guitars, but he whips most of them out for the gig. The huge Gibson has the best tone and the Les Paul is pretty sweet, but the white Strat reveals why Beck is a legend.

The sound is appealingly live and the lack of effects gives the guitar a cleanness that is rare on modern recordings – Beck has clearly aimed for that Les Paul sound and hit the target.

As with other Eagle Blu-rays, the best results are on the LPCM track, which makes the most of the sound. **JK**  
**Standout tracks:** Walking in the Sand; Please Mr Jailer

## HIGH-RESOLUTION DOWNLOADS

**Jon Thorne and Danny Thompson**  
Watching the Well

naimlabel.com  
★★★★★ **The Naim Label**

16-bit/44.1kHz stereo



**BASSIST JON THORNE** composed this 12-part suite as a feature for and celebration of his mentor

and friend, bass super hero, **Danny Thompson**. Conceived as a performance piece, it merits being listened to in its entirety and in the running order in which it's presented to appreciate the beauty of this neo-classical music's 'journey'.

Although only mastered at 16-bit/44.1kHz, this music still manages to sound hauntingly beautiful. The orchestral ensemble, voices and Thompson's double bass are presented with unerring delicacy. The arrangements are sublime and aesthetically it's a pure delight. **MS**  
**Standout tracks:** Hesse/Reprise; Watching the Well

**Willie Nelson**  
Country Music

hdtracks.com  
★★★★★ **Rounder Records**  
24-bit/96kHz stereo

HOT PICK



**WILLIE NELSON** genuinely succeeds in making country music palatable – for those not born in a Texas trailer

park. His vocal style always seems far more plausible than the majority of contemporary country singers and he is accompanied here by several of America's finest country players.

The 24-bit recording has all the qualities of the Grammy-winning *Raising Sand* (Robert Plant and Alison Krauss), which is hardly surprising given T-Bone Burnett's involvement as co-producer. He presents a cohesive, but almost under-produced sounding musical backdrop with sufficient space left for Nelson's voice to manoeuvre its way to the front of the proceedings. **MS**  
**Standout tracks:** Dark As A Dungeon; Drinking Champagne

# Rhythm Kings

We asked Naim to assemble a real-world system with speakers, that everybody could enjoy. It's XS all areas for 'golden ears' *Jimmy Hughes*

**B**rand loyalty. For most consumers it's barely skin-deep. But, with fans of Naim Audio, brand loyalty is not far short of religion. For believers in the gospel according to St Julian, there are no alternatives. Naim represents the Alpha and Omega of hi-fi: nothing else compares...

Well, maybe that's a slight overstatement. But only just. Naim Audio devotees are definitely among the most partisan on the planet. Why? Simple: the company makes very good products and has a coherent consistent philosophy regarding sound quality. Naim is a company you can depend on – a company you can trust.

It announced the XS series of components back in June 2009. The range consists of a CD player, tuner, preamp and power amp (or integrated amp), plus separate power supplies for upgrade purposes. Although the XS series is almost entry level by Naim standards, it offers surprisingly good performance and excellent value.

Before listening to the system complete, we sampled the various items separately, to get a feel for how individual components performed – starting with the CD5 XS. First impressions were of a crisp, focussed and impressively immediate sound that was extremely clear and exceptionally clean. Clarity and definition were unusually good, comparing favourably with CD players costing considerably more.

The player came with a demo CD with tracks taken from Naim's own record label and those chosen really highlight the player's musical strengths, as you might expect.

## Tangy overtones

The CD5 XS has a fresh clean focussed sound that brings out lots of tangy overtones and harmonics. Transients have biting attack and immediacy. Tonally, the balance is perhaps a shade forward, but voices and massed violins sound open and natural. There is nothing lazy or lethargic about the sound; it is full of energy and life.

Adding a FlatCap XS power supply enhances things. It bolsters the CD5 XS's internal power supply and brings an immediate improvement to all the areas that had previously seemed so good! There's cleaner, deeper bass, sharper, faster transients and wider dynamic contrasts.

**“Cymbals sizzle and shimmer, drums have explosive attack, piano notes ring and sustain.”**

Track 10 of the sampler disc (Sampler 7) – *Passage to Thought* by the Patrick Noland Group – has much intricate and subtle cymbal/percussion work. Unaided, the CD5 XS delineates this with superb precision and clarity – or so we thought. But, after adding the FlatCap XS, the sound becomes even crisper and more lucidly defined.

*Passage to Thought* features a simple piano part backed by some subtly expressive percussion work. With the FlatCap XS in place, the music seems to contain more 'incidents' – small details that catch your attention – such as the way a cymbal is struck, or the individual way its sound decays.

## COMPONENTS



### 1 NAIM CD5 XS CD PLAYER £1,950

Red Book player with fixed analogue outputs (Din/RCA) and switchable digital output. 210VA toroidal mains transformer, new low-impedance psu for digital clock; hard-wired clock psu regulation. Upgradable with FlatCap XS. New main circuit board.



### 2 NAIM NAC 152 XS LINE PREAMP £975

Short signal paths. Line level output for headphones. New main circuit board – preamp section similar to SuperNait. Six line inputs – 4x Din/RCA; 1x 3.5mm jack; 1x powered input for phono stage. Auto-switching 3.5mm jack socket on front for iPod.



### 3 NAIM NAP 155 XS POWER AMP £1,115

60 watts per channel into 8 ohms; 90 into 4 ohms. Single-sided circuit board. New 400VA mains transformer. New reservoir caps (same as SuperNait). Castellated heatsinks with shorter paths to reduce power supply impedance. Improved earth routing.

COMPONENTS



**4** NAIM FLATCAP XS  
POWER SUPPLY **£745**

Two separate Dual-Rail 24V supplies. 215VA toroidal transformer. Powers two separate XS products; or both outputs can be used for the NAC 152XS, with a second FlatCap for the CD5 XS. Changes made to supply decoupling/isolation.



**5** NEAT PETITE SX  
LOUDSPEAKER **£1,285**

6.5-inch doped-paper cone bass/mid driver with ferrite magnet assembly and vented voice coil for improved power handling and reduced dynamic compression. Soft-dome fabric tweeter with internal damping and non-resonant rear chamber.





**LEFT:** Neat's Petites are an intelligent match for the XS electronics  
**RIGHT:** Nothing grey about these electronics  
**BELOW:** Green day; there's lots to be said for one-make synergy

of quality, with something of the airy sparkle, impact and crisp immediacy you experience when you hear real acoustic instruments playing unamplified. It's a very tactile sound: cymbals sizzle and shimmer; drums have explosive attack; piano notes ring and sustain.

On older recordings – many that had sounded well on LP, but now seem tonally thin and hissy on CD – the CD5 XS has a rejuvenating effect, resolving detail so that the music sounds more focused and articulate. This allows you to play things at a lower volume level, thereby minimising background noise without loss of immediacy.

Next, we tried the NAC 152 XS preamp, using it in place of a more expensive pre and quickly noticed sonic qualities similar to those of the CD5 XS – the same sort of crisp clarity. Adding the NAP 155 XS power amp further enhanced results, creating a greater sense of presence and immediacy.

The result was extremely impressive – and very addictive. Once primed, we wanted more! Musically, we experienced a direct, involving, responsive quality of sound that commanded 100 per cent attention. Not in a 'loud' hectoring manner, but drawing you in by making the music/performance sound interesting and worth listening to.

Via other CD players, Noland's piano seems the main focus of interest – your ear is drawn to individual notes and chord sequences – with the percussion part apparent, but somewhat in the background. With the CD5 XS/FlatCap, the piano-tone seems richer, with more 'ring' and greatly increased sustain.

### The music speaks

But, more importantly, the percussion suddenly sounds like it is speaking to you. You can hear lots of tiny nuances – subtle flecks of tone colour and dynamics – that make the music far more interesting and expressive. While all this had been evident with the basic CD5 XS, adding the FlatCap noticeably enhances the effect.

Additionally, you can more easily follow the piano and percussion parts without having to mentally blot one-out in order to concentrate on the other. Instead of two separate sounds competing for attention, the individual lines complement one another to create a meaningful, cohesive musical dialogue.

Dynamically, the sound has a snappy, bracingly brusque, 'live' sort





The electronics seem unusually adept at creating the impression of a coherent musical narrative. So when (say) a cymbal is struck, it makes sense in the context of the music being performed. Complex rhythms, which might otherwise seem like a jumble of unrelated sounds, suddenly have a discernable shape and rationale.

Something else that also impresses, perhaps surprisingly going on past history, is the way the system images. You really get a vivid sense of left/right 'placement' in the stereo soundstage and an excellent portrayal of hall acoustics. If the balance was close and 'dry', you really hear it; when a venue was spacious and reverberant, you heard that, too.

Interestingly, the CD5 XS is the first Naim CD player to offer a digital output. Naim always deliberately omitted this feature, believing it worsens the sound due to cross-contamination. So, the CD5 XS's transformer-isolated digital output is switched off when the player's analogue output is used – a small but crucially important detail.

Other design details include a redesigned main circuit board with four-layer PCB and improved ground planes. The NAC 152 XS also has a new main circuit board and (like the CD player) can be upgraded with a FlatCap XS. A single FlatCap XS can power both components, or you can buy two FlatCaps for even better results should the budget allow.

Up to this point, we'd been using the Naim components with our own full-range, horn-loaded loudspeakers. Results were immensely impressive –

especially given that each item (while not dirt-cheap) is reasonably affordable. You could pay far more than Naim asks and get significantly less for your money with other brands.

### Can Neat be beat?

Everything now hinged on the Neat Petite SX loudspeakers. Would they let the side down? Could such diminutive enclosures really do justice to Naim's electronics? Although slightly deficient in terms of extreme low frequencies, they don't sound thin or over-bright.

With some small speakers, one really misses the lack of bottom-end weight. But, with these Neats – while there is no great bass depth, this somehow does not detract from your enjoyment of the music. Tonally, the sound is not 'thin' and musically there's always enough going on to hold your interest and attention.

The Petite SX sounds crisp and open, smooth and well balanced. It is able to reproduce the timing and tactile immediacy of Naim's electronics, without sounding congested or unbalanced. The upper frequencies sound airy and spacious, yet trenchant and focused, with excellent dynamics and attack.

While deep bass might be lacking, the Petite SX is one of those small speakers that does a very good job of kidding you otherwise. The bottom end sounds surprisingly full, clean, and articulate, with good pitch definition. Moreover, the bass doesn't mess up the midband and treble. So the sound retains its clarity. The cabinets are solidly made, very rigid and beautifully finished. There



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are two rear-facing ports and internally, the crossover is a simple hard-wired affair that looks to be first-order for the bass (a large air-cored series inductor) and second-order for the tweeter. The option of bi-wiring is offered.

The speaker will almost certainly be at its best in small-to-medium-sized rooms where you're able to sit fairly close – we see them as good near-field monitors, able to create a vivid soundstage when listened-to at close-range. Despite being fairly small, the speaker creates a surprisingly big sound.

### All systems go

Naim has always taken a 'systems' approach to hi-fi and believes careful matching is the key to excellent results. The XS series is outstandingly good and (as we said earlier) you could pay a lot more and not achieve anything like as good a result overall. But – is Naim for everyone?

It certainly helps if you like a sound that's engaging, energetic and informative. Naim is not for the lazy casual listener. It's for those passionate about music, who listen with keen interest and involvement. If your idea of good hi-fi is something that sounds smooth, warm, and soporific, look elsewhere.

But if you're looking for something to excite and enthrall – something that keeps you listening late into the night, then Naim could well be your brand. But, be warned: discovering Naim tends to be addictive. And (bankruptcy aside) there's no known cure. ●



# Help & advice

We've got the answers to everything you've ever wanted to know about hi-fi and weren't afraid to ask. Email us now at [hifichoice@futurenet.com](mailto:hifichoice@futurenet.com) or write to: **Hi-Fi Choice Q&A, Future Publishing Ltd, 2 Balcombe Street, London NW1 6NW**

## YOUR EXPERTS



### PAUL MESSENGER

**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.



### ALVIN GOLD

**EXPERTISE:** HIGH-END

**HAVING WRITTEN** for a huge range of magazines, both internationally and in Britain, Alvin has a very full 30 years of reviewing under his belt. A guru of all component types, he's now extending his expertise by building PCs for audio too.



### JASON KENNEDY

**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.

## ASK US A QUESTION TODAY!

**Our experts are on hand to answer your questions. Whether you're looking for future-proof upgrades, advice or help with your current set-up, our two-channel Einsteins have all the necessary expertise and several hundred years of combined audio knowledge to slake your thirst and support your passion for perfect sound. Email your questions now: [hifichoice@futurenet.com](mailto:hifichoice@futurenet.com)**

## QUESTION OF THE MONTH

**Q** I like both the ATC SCM-40 and the PMC FB1i loudspeakers. Which, in your view, is the best and which amp would be the most suitable to partner the winning pair?

*Athanasios Karadimas, via email*

**A** Both of these designs are very fine loudspeakers and choosing between them really ought to be done with a demonstration. If we were making the choice, we would probably plump (just) for the PMC FB1i, as we love the superbly sorted

low end that the transmission line allows. We would start by partnering the FB1i with the superb Creek Destiny (HFC 342), which has the power output required to make the most of the PMC's coupled with an excellent set of features, including the very clever passive preamp function.



## Full rebuild

**Q** I have been a keen follower of hi-fi for at least ten years, although very tight finances have dictated the following set-up: Pro-Ject Debut II with original arm and Ortofon OMB 5e connected using the original cables; Eclipse CD101 2 CD player connected with a QED Reference Audio 1 phono cable, Leak Troughline 3 tuner into an Arcam Alpha 8R amp.

My speakers alternate between AR6s and a recent Christmas gift of Monitor Audio BR1s on Soundstyle Z1 stands. The BR1s have opened up the treble but they are not as rich as the AR6s. My musical taste ranges from classical to metal, although I admit to mainly listening to rock and Radio 2.

I am now in a position where I can spend some money over the next few years and I am keen to upgrade. I expect to be able to spend about £1,000 per year and would like to use this ideally to buy one product at time.

I have my eye on the new Audiolab 8200CD (HFC 340) and was thinking of – for the future – using the Logitech Squeezebox Touch (HFC 338) through its DAC. I am also considering using another Logitech as a source for a second room set-up. With the Logitechs feeding off a NAS, would this provide better sound than the Olive 3HD (HFC 341), which would appear to provide similar functionality at this price?

I would also like to upgrade my vinyl and currently use the onboard phono



The Leema Pulse III integrated amp's digital inputs will support the Logitech Squeezebox

stage on the Arcam. I would like to buy a Gyrodec secondhand, however this will likely be next year's project. In the meantime, my cartridge is getting long in the tooth and I was thinking of changing it to a Grado Prestige Gold.

My concern is that my Arcam will not allow the sources to shine. Therefore, I would like your advice on whether I should be considering upgrading the amp first and if so what would you recommend. I would like ideally to have an onboard phono stage, however this is not a deal-breaker. I am also not averse to buying second-hand kit.

I would also like to know your thoughts on the Grado and is it a good choice to roll over onto the Gyrodec? Lastly, regarding my Leak, I think it could do with a refurbishment – do you have any recommendations on who could do this?

**Scott McLaren, via email**

**A** The Arcam was a fine amp in its day, but we suspect that looking at some of the amps that featured in our recent Blind-listening Group Test (HFC 342) would be a good place to start for cohesive upgrades. Indeed, something like the Leema Pulse III might be a different way of going about things. It would be a big step forwards from the Arcam and offers digital inputs that would support a Squeezebox and allow the Eclipse to be used as a transport. There is also an internal phono stage that supports both moving magnet and moving coil phono stages

We like the Grado, but suggest that some of the candidates in this month's Mini-test on p102 – like the Ortofon 2M red and Shure M97XE – might also be worth considering. The Pro-Ject arm will not handle very heavy cartridges, but should otherwise be OK. In turn, the Gyrodec

should sound good with a cartridge of this type but support further upgrades in time.

Finally, if you are looking for work to be done on a Leak, look no further than GT Audio (gtaudio.com) who come highly recommended in this area.

### Soft power

**Q** I am currently the happy owner of an XTZ system but need some advice on upgrading. I would like to add the accompanying power amp, but as I only listen at around ten watts would I hear much of difference as it is not more volume that interests me? If so, would it be possible to add, say a valve power amp instead, while using the XTZ amp as a preamplifier to greater effect?

I listen to jazz and vocal music and would appreciate your input.

**Darren Lines, via email**

**A** Low-power valve amps can add a certain magic to proceedings and the genres that you listen to are prime candidates for them. Whether you will hear the benefits, will depend in part on your loudspeakers and your budget. Using a low-powered valve amp will require sensitive speakers that present an easy load on the amplifier.

For valve amps in the sub-20-watt category, like the Consonance Cyber 10 (p 60), speakers with a sensitivity of, at least, 90dB/w are required to let the amp show what it can do. That being said, it would be well worth looking at the Consonance as a complete replacement.

If you still need digital inputs, it would be worth checking out the Emillé Ara (HFC 343). This is a very lovely-sounding amplifier indeed and is fitted with a pair of digital inputs that make it a surprisingly flexible design, particularly for a valve amp.



Marantz's NA7004 makes streaming simple

Your choices for valve power amps that are roughly equivalent in price to the XTZ unit are more limited, but for under £2,000, Prima Luna, Audio Note and Icon Audio all make designs that are well regarded and offer power outputs that range between ten and 70 watts.

### Super streaming

**Q** I read lots of stuff about streamers/servers etc, at serious prices but little mention is ever given to Sonos. I have a Sonos zone bridge (keeps the cost down as I do not need music in this room) fitted to my router and in my living room I have a Sonos Zone Player. This is connected digitally to the 24-bit/384kHz upsampling DAC of my Cambridge Audio Azur 840C CD player. Amplification is from a Cambridge Audio 840A.

Quite frankly, the sound is identical to CD when playing FLAC files (most of my CDs are stored this way) and music played via Spotify Premium through Sonos is also very good. I must admit I haven't heard these expensive servers, but for the price differential they would have to be pretty good. The only thing the Sonos system won't do is play 24-bit files which brings me to a question.

Would I notice any difference playing a downloaded 24-bit/96kHz FLAC file from my Toshiba laptop using a Musical Fidelity V-Link USB to S/PDIF convertor connected coaxially to my Cambridge CD player's DAC, in comparison to a standard FLAC file played through Sonos (which would be upsampled to 24/384 in any case through the Cambridge)?

**Ernie Long, via email**

**A** High-resolution files can offer a big step forward in audio performance, but they are still not a very common way of buying music. If you are able to find what you want on a high-

resolution file, there should be an improvement.

While the Cambridge offers 384kHz upsampling, which repeatedly studies a 44.1kHz file and interpolates additional data from doing so, this should not be confused with a native high-resolution file that has all this data present and does not require any of it to be created.

The laptop with a V-Link would be a cost-effective way of experimenting with these files and seeing if you want to pursue it further. If you do, many of the streamers we have tested recently will handle high-res material up to 192kHz, without needing an external DAC.

### Squeezing more out

**Q** I bought a Squeezebox Touch last month to experiment with streaming audio and I am hooked! The ripping process is in full swing and I am now looking at an external DAC to boost the performance of the Squeezebox. I had originally intended to retain my Marantz SA-11S1 to play my small collection of SACDs and discs that I did not want to rip, but now I am looking to sell this and replace it with a DAC.

As such, I can afford to spend up to £2,000 on an external DAC. I need at least one coaxial input and would find USB a useful feature and as the Marantz is going, I can make use of the balanced Chord Company cables it was using. I did like the sound of the Marantz, so any similarities would be a benefit. The Bryston BDP-1 looks interesting but I am open to other suggestions.

**James Dent, via email**

**A** The DAC market is an embarrassment of riches at the moment and you have a huge number of products to choose from. The Bryston is a fine choice, but you may want to start the search at a lower price point to see if the performance you are looking for is available there. The Benchmark DAC1 that



The Emillé Ara: an excellent and engrossing sound



**The meticulously detailed Naim Audio DAC**

triumphed in our Blind-listening Group Test in HFC 341 offers the connections that you are looking for and delighted us with excellent sound quality and phenomenal build.

Equally, if you are looking to spend the full amount, the Naim Audio DAC (HFC 328) is too strong a proposition at £2,000 to ignore simply because it does not have XLR outputs. The Naim has superb connectivity, excellent build, the potential to upgrade via external power supply and, most importantly, excellent audio performance that made it a Hi-Fi Choice award winner.

### Complete the cycle

**Q** I upgrade one component at a time, aiming to provide enough of a step forward so that it should be able compatible to the rest of the system being upgraded.

It is now time to look at speakers again, after picking a pair of Quad 22Ls four or so years ago. Since then, I have added a Moon i5.3RS integrated amp and a Bryston BCD-1 CD player. Cabling is by van den Hul and the overall balance of the system is great, but the Quads are starting to show some limitations. I have a budget of up to £4,000 to buy a speaker that will work well with these components and survive the next set of upgrades.

**George Callow, via email**

**A** This sounds like an effective upgrade method. If we assume that the size of the listening room has proved amenable to the Quads, we would suggest you consider the Mordaunt-Short Performance 6 (HFC 308) in either its standard or LE form. This needs a fair bit of running in, but offers a superbly detailed and cohesive soundstage that is astonishingly fast and open.

If you were looking for a more laid-back sound, the Tannoy DC8T (HFC 328) might be of more

interest. The big drivers give it superb low-end grunt and it is a very handsome-looking product to boot. Both the DC8T and the Performance 6 are more than capable of working well with electronics from the price point above your current equipment so the longevity is there.

If you can stretch the budget, one of our Products of the Year, the PMC fact.8 (HFC 327) is hard to ignore. This is a superb design with clever adjustable crossovers and excellent bass response. It might not look as dramatic as the other two suggestions, but the quality of the performance is hard to ignore and it will complement a wide range of electronics.



**Mordaunt-Short Performance 6 three-way floorstander**

## THE HI-FI CHOICE GUIDE TO: IPOD INTEGRATION

EXPERT ADVICE



**THE IPOD HAS** become pretty much the *de facto* portable music player and as such the options for those wanting to connect them to their hi-fi systems are many and varied.

At the most simple level, an interconnect from either the 3.5mm socket of the iPod to a line input of an amplifier is one option – some amps even fit a matching 3.5mm input. Slightly more sophisticated cables go from the dock output of the iPod for a fixed output. More effective sound quality and easier control can be had by using an iPod dock. These range from £10 upwards and more sophisticated docks such as the PURE ID-20 (HFC 342) offer a digital output for connection to a DAC. With lossless files, the sound quality of these docks can be very high indeed.

A number of products arriving on the market can have an iPod attached to them directly over USB and display the contents over their menus and allow replay via their internal DAC's. Products such as the Naim UnitiQute are especially effective in this regard.

Finally products such the Marantz NA7004 (HFC 344) use AirPlay and will simply see any iPod touch or iPhone on the same wireless network and will play at the touch of a button. ●



Sevenoaks Sound & Vision and Audio T are in the process of merging their respective businesses and will become one of the largest independent hi-fi and home cinema chains in the UK with over 50 stores nationwide.

Until the merger is complete, which will take a few months, Sevenoaks Sound & Vision and Audio T will remain separate legal entities.



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### ROKSAN CASPIAN M2 CD / AMPLIFIER

The award-winning M2 amp boasts 85wpc, ultra low noise transformers and five line inputs while the matching CD features a 24-bit DAC along with dedicated power supplies for the outputs.

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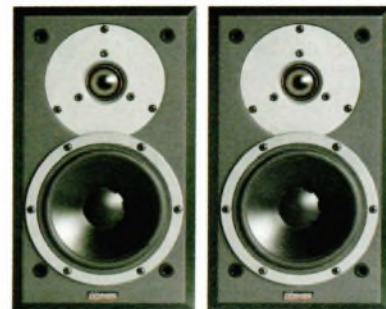
**MARANTZ NA7004 NETWORK AUDIO PLAYER**

Connect to your favourite music whether it's from your PC, external hard disc, radio broadcast or via Internet Radio or music service. **£649 OR LESS! SAVE £70**



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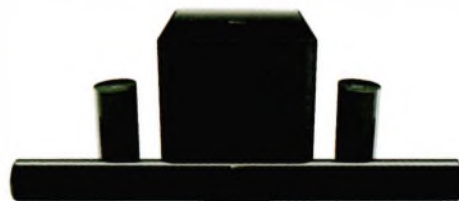
**ROKSAN KANDY K2 CD / AMPLIFIER**

Enjoy true hi-end performance with this award-winning integrated amplifier and its matching CD player. **£749 each SAVE £200**



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NEW

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**YAMAHA CD-S300 • A-S500 CD / AMPLIFIER**

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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.



**CYRUS** STREAMLINE • STREAM X • STREAM XP

# Minitest

Richard Black looks at four of the best cartridge options for upgrading modest turntables

## Audio-Technica AT120E/T

PRICE: £79 CONTACT: 01235 511166  
WEBSITE: EU.AUDIO-TECHNICA.COM

**AUDIO-TECHNICA** is one of the two leading cartridge brands from Japan (the other of course being Denon). It maintains a good range of models, both moving-magnet and moving-coil, this being one of the former. Its appearance looks quite budget and the packaging is nothing fancy, but there's some clever technology inside including AT's 'Paratoroidal Signal Generator' assembly. This is the company's implementation of a moving-magnet generator: it's not fundamentally different from other types, but it is ingenious and is claimed to involve less electrical and mechanical connections than other MM versions. An aluminium cantilever couples it to the stylus, which has a simple elliptical profile. The stylus is removable and needs to be removed to fit the cartridge, although we were surprised by how hard a pull is needed to separate the stylus assembly from the rest of the unit. Mounting is via to semi-circular holes in the plastic top plate – not the strongest assembly ever and we would advise against over-zealous bolt-tightening.

AT quotes an unusually wide range of tracking weights for this cartridge – 1 to 1.8g: we settled on 1.5g, which gave secure tracking on all normal discs. A couple of audiophile test discs gave it slight problems at any setting, but that's common to many cartridges. It seems fairly insensitive to Vertical Tracking Angle (VTA) and we found it to sound sweet and well detailed across a range of discs. Its bass is a little unpredictable, generally strong but sometimes slightly underwhelming with sustained bass notes. Tonal balance is good, extended in the treble but not over-bright.

**VERDICT** ASUPERB cartridge that is widely compatible and produces sound that's always decent. Particularly good with rock and similar music.

★★★★★



## Ortofon 2M Red

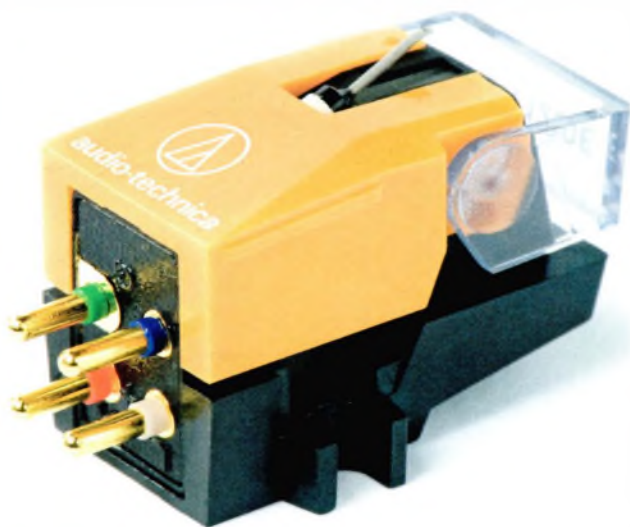
PRICE: £80 CONTACT: 01235 511166  
WEBSITE: ORTOFON.COM

**ORTOFON HAS PUBLICLY** stated its aim to be the 'last firm standing' if and when cartridge production ever dries up. Luckily that sad end seems to be nowhere in sight and the firm's range is still enormous and easily the widest on the planet. What's more, several of that range are all-new designs, including the 2M series, among which the Red is the base model. Its design is striking and evidently influenced by the faceting of gemstones, appropriately enough. The body is actually made of plastic, with a metal top plate in which are tapped holes for mounting to the headshell. This is by far the most convenient way of mounting a cartridge, but do take care not to use over-long bolts which could, if tightened carelessly, do a lot of damage! An elliptical-profile diamond is used and the generator assembly uses split-pole pins – these are part of the magnetic circuit and the idea is to improve extreme treble response, which is typically a weak point of moving magnets.

Ortofon cartridges are very informative and well extended at both frequency extremes and this one seems to fit that pattern. In fact the treble is notably clean and tidy, full of life without ever becoming strident or harsh. Bass is assured, not quite as full as some but that's probably a good thing. We found tracking very confident across the recommend downforce range, so settled on the minimum, 1.6g. VTA is unusually critical for an elliptical stylus, though the arm height was about average in the end. It's worth experimenting, because at best this is one of the most detailed cartridges we've come across at this kind of price.

**VERDICT** A LITTLE FUSSY about set up, but care is rewarded with sound that's admirably balanced and full of unforced detail.

★★★★★



## Rega Bias 2

PRICE: £65 CONTACT: 01702 333071  
WEBSITE: REGA.CO.UK

**REGA SEEMS TO MAKE** quite a point of not telling us anything about its cartridges. Well, not much, anyway – we're told that this is an elliptical-stylus model and that its ideal tracking weight is 1.75g. There's also mention of parallel wound coils, which are responsible for the particularly high output (at about 7mV for the usual 5cm/s modulation, about 3dB over the average) and also have a hand in giving the cartridge its unusually low resistance of 170 ohms. Coil resistance isn't often mentioned much in connection with moving-magnet cartridges, but it plays a part in determining the cartridge's intrinsic noise and with a suitable phono amp this one will be one of the quietest out there, certainly exceeding the noise performance of any disc, which is all to the good. The body is part metal, part plastic and the stylus is not replaceable.

We found no cause to disagree with Rega's assessment of optimum tracking force, the sound seeming well balanced between tracking in tonal evenness at the recommended figure. VTA is forgiving though of course azimuth/overhang adjustment is as critical as ever and this is slightly awkward due to the cartridge's tapered shape. Once set up, though, the Bias 2 is a very civilised performer with very good bass extension and 'kick', though that's never at the expense of insight. We felt the treble can sometimes sound just a little constricted, most obviously in acoustic recordings which have plenty of sparkle and ambience: these seemed less clear than we've heard them. Midrange detail is very good, though, and stereo imaging is excellent.

**VERDICT** REMARKABLE BASS, with weight, extension and attack combining most harmoniously. Midrange good too, although treble is not always as informative.



## Shure M97xE

PRICE: £82 CONTACT: 01992 703058  
WEBSITE: SHURE.CO.UK

**SHURE MAY NOT HAVE** quite the profile it once did in the cartridge world, but it maintains a modest range of both hi-fi and DJ models: this is the flagship among the former. It includes several features reminiscent of the famous V15 series, most obviously the 'Dynamic Stabiliser', a small carbon-fibre brush which rests on the disc during play and, thanks to its damped hinge, provides improved tracking of badly warped records and much reduced subsonic rumble from all discs. You don't have to use it, as it slips safely out of the way.

The other major link with past Shures is the high compliance of the suspension. This may seem a trivial matter, impacting solely on the arm/cartridge resonance which is inevitable but not necessarily critical, but high compliance means the cartridge will track heavily modulated records better at a low tracking force. This in turn means less frictional drag between stylus and groove and hence less localised heating, which is considered to be the main cause of disc and stylus wear. In addition, high compliance means less reaction on the arm, lowering the impact of the arm's 'sound'. The stylus in the M97xE is elliptical, mounted in a thin-wall aluminium cantilever. A metal mounting plate is used with semi-circular holes.

With or without the Dynamic Stabiliser, this is an exceptionally detailed and sweet-sounding cartridge. It has very good bass, deep and lively, but never overstated and particularly fine midrange, which presents a fantastic amount of information without ever losing the essential melodic thread and flow of a piece of music. Treble is very good too, though it lacks the last degree of finesse that fancier stylus profiles can bring.

**VERDICT** UNUSUALLY GOOD insight from what is by today's reckoning a budget cartridge. Bass and midrange are to high-end standards and treble is just as assured.



Cartridges are notoriously fussy about set up. One degree of azimuth error, or one millimetre of overhang can easily double the distortion at certain points across the disc's surface – so it's worth

taking some trouble over alignment. VTA is also worth some attention, though this must be done entirely by ear. It also interacts with tracking weight, so if you adjust one it's worth checking that

the other is still optimal. Finally, MM cartridges are quite sensitive to the capacitance of the cable used from arm to preamp and of the preamp's input. If this is adjustable, try different settings.



For sale / Wanted

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## FOR SALE

**PRO-JECT** Debut/phono SB (silver) turntable. £40. Buyer collects. **0208655 3539** or [emailadelesluce@hotmail.co.uk](mailto:emailadelesluce@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 728773** (Shropshire).

**QUAD** ESL 63 speaker, excellent condition, with stands, total Quad rebuild 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 headphones 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).

**MARTIN LOGAN** Source electrostatic speakers in mint condition, as new £1,250. **02380 224003** (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, perfect, original boxes only £1,500. **003902 2150930** or [email fedepenz@hotmail.com](mailto:fedepenz@hotmail.com); (Italy).

**BANG & OLUFSEN** Beocenter 2600, two Beovox speakers £90. **01723 375222** (N Yorks).

**ARCAM** T61 tuner (silver), boxed with remote. Rega Planet CD (black), boxed with remote. Bowers and Wilkins DM602S3, boxed. KEF Q3 speakers. Open to offers, buyer collects. **01977 695385** (W Yorks).

**PMC** DB1i speakers. Purchased March 2010. Mint condition, book-matched walnut veneer, fabulous sound. Genuine reason for sale, £600. **01233 713250** (Kent).

**SUGDEN** Mystro integrated amplifier. Purchased Feb 2011, lightly used. With box and can be posted. £895. **01782 785734** (Staffordshire).

**QUAD** 44/405 amplifier. Serviced by Quad with little use since. All leads and manuals. Marantz 63KI Sig CD player £75. **01162 833959** (Leics).

**ATLAS** Hyper 2 speaker cable. 2x 8 metre runs. (£240) £120. Chord Carnival 4.5 metre runs (£54) £27. **07749 424206** (Ipswich).



Sugden Mystro – great at £1,250, a steal at £895

**MONITOR AUDIO** RX8 speakers (black). Boxed as new condition with 20 months warranty, £450. Cambridge 840A and 740C (silver). 840A £430 and 740C £320. **07765 275482** (Leeds).

**A.R.T** speakers. Immaculate condition with boxes. (£1,000) £450. **07789 464739** (Warwickshire).

**LEAK** stereo 30w amp. Connoisseur BD1 deck. Wharfedale Super Linton W30D speakers. Sensible offers for the lot or will split. Buyer collects. **07949 545560** (W Yorks).

**COUNTERPOINT** SA-12 dual-channel hybrid power amplifier, 85 watts per channel into 8 ohms. Excellent sound with good clarity and drive ability. Great value £275. **01923 855359** or [email: wombat.jr@talktalk.net](mailto:wombat.jr@talktalk.net) (Hertfordshire).

**LECTOR** CDP 7TL, Italian valve player with separate PSU. Latest current spec model, mint. (£2,400) £1,100. **0208473 9890** or [email: Johnvarcoe@sky.com](mailto:Johnvarcoe@sky.com) (London).

**NAD** C355 BEE integrated amp, titanium, nine months old, excellent condition. (£250) £200. No offers, buyer collects, genuine reason for sale. **01933 626185** (Northamptonshire).

**SONY** SCD1 SACD/CD player. £2,000 of Audiocom modifications including Ultralock £1,850. Now

£5,000. Musical Fidelity V-DAC, as new £100. **01462 670786** or [email: jr812@hotmail.com](mailto:jr812@hotmail.com) (North Herts).

**EUPHYA** Alliance 270 40-watt, high-end amplifier. Remote control, five inputs, inc M/M. Silver casing, mixture of non-magnetic metal and perspex (£1,745) £750. **01243 528010** (West Sussex).

**MARANTZ** PM66-KI signature amp £90. SA67-SE CD player £50, or £130 the pair. Both boxed with remotes, manuals etc (black), excellent condition. **01529 307976** (Lincolnshire).

**MURPHY** A674SR, early stereo radiogram, 1962. MW, LW, VHF, magic eye tuning. Garrard turntable plays 16, 33, 45, 78. In working order, wood cabinet in good condition. Buyer collects £60. [Email: zen135838@zen.co.uk](mailto:zen135838@zen.co.uk) (Surrey).

**WANTED:** Yamaha CDR-H1500 digital audio recorder in black. Must have original box and accessories and be pristine. **07941 842605** (West Sussex).

**MARANTZ** CD6002 and PM6002 CD and amplifier (silver), £135 each, £250 the pair. Cambridge Audio Azur 740A amplifier in silver. As new condition £260. **07970 115378** (Bristol).

**NAIM** CDX2 CD player £1,350. Soundstyle tripod four-shelf equipment rack

**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!

£45. Heybrook S1 speaker stands £40. Aiwa ADF700 cassette deck, boxed £35, or last three items £100. **01691 610589 (Shropshire).**

**MARANTZ** SA-7S1 CD player. Owned from new. Still regarded the reference CD player. (£5,199) £3,200. **01296 437314 or email: jez35@btinternet.com (Bucks).**

**AUDIOLAB** 8000Q preamp, £220. Audiolab 8000P 100-watt power amp (black), £240. Both boxed mint, seven months old. **07876 197 188 (Nottingham).**

**REGA** P3/24, TT PSU, Funk Firm 5m Achromat, Isokinetic GT2s subplatter (£120), Dynavector DV-20x2 moving coil cartridge (£500). Three month's old, as new, selling for £600. **07930 878582 (North London).**

**HITACHI** FT-5500 FM/AM digital tuner £20. Cambridge Audio A1 v2.0 amplifier (some marks on case) £35. Pioneer DV-636D DVD player some marks on case £50. **01932 856971 (Surrey).**

**VPI** Scoutmaster turntable/JW memorial nine-inch arm/SDS controller/VPI heavyweight clamp. Immaculate. Boxed with manuals. (£3,500) £1,500. Ortofon Jubilee MC less than 50 hours use. (£1,500) £600. Get both for £2,000. **07973 892901 or email: patmarcus172@googlemail.com (Solihull).**

**BEAM** Echo Avantic 1950s integrated stereo amp. Requires attention. Offers. **07866 364770 or email: hughpenfold@yahoo.com (Oxford).**

**QUAD** 22L2 speaker (£900) £600. Quad 606 amp and preamp £250 each. Luxman DP300 turntable £300. Sony 557 ESD CD player £100. Also sensible offers please for a Nakamichi BX300E tape deck and Luxman T102L digital synthesiser. **01935 412949 or email: albhue@hotmail.com (Scotland).**

**BOWERS & WILKINS** 801D (Rosent). Four years old, as new condition. Complete with all original packing. £6,500, no offers. Very heavy, buyer to collect. **Tel/Text: 07929 721714 or email: b.revill@hotmail.co.uk (Nottingham).**

**FINITE ELEMENT** HD02 maple three-shelf equipment rack, mint, (£3,450) £2,450. Ayre Acoustics Signature 1.5m power cables with Furutech plugs, boxed. £350 (two for £600). **01797 253073 majba13@yahoo.co.uk (East Sussex).**

**ARCAM** Solo CD/FM/DAB immaculate condition, used as second system, boxed £680. Monitor Audio Silver RS6 in Natural Oak, immaculate, light use, boxed £380. Sennheiser HD650 Reference headphones, immaculate, boxed, less than 10 hours use, £220. **07786 962373 or email: nick.j.dee@hotmail.com (Warwickshire).**

**ROKSAN** Radius 5 turntable, in maple, extremely good condition, upgraded with a Tabriz tonearm, £950 or will separate: turntable £550 and tonearm £400. **07725525001 or email: alan.strudwick@googlemail.com (South Wales).**

**RUSS ANDREWS** Crystal Ag. hi-end interconnect (£850) £299. Same spec as Hero Ag and fitted with WBT Ag Phonos. **07981 025698 (Bristol).**

**ROTEL** RA-05 amplifier, mint, £220. Rega R200 arm with new spare bias belt, £65. Pair of Rothwell attenuators £25. **07850 775814 or email: Mike.eady@royalmail.com (Midlands).**

**ASR** Emitter1, version blue, three-box amp, £4,750. Marantz SA7-S1 SACD player £2,950. Both good condition and 2.5 years old. **07831 500338 (Worthing).**

**GRADO** SR25i headphones, boxed and mint. Will accept £750 on. **07891 533084 (Swansea).**

**SENNHEISER** HD650 headphones £175. Creek OBH21SE headphone amp £125. Russ Andrews 4m speaker cables, £75. Alternatively £350 the lot. All good condition and boxed. **07729600847 (West Sussex).**

**REVEL** F32 speakers (Maple veneer), unmarked, original packaging, £1,350 **01243 582411 (West Sussex).**

**EASTERN ELECTRIC** M520 valve amp, as new, 12 months old. 25 watts. (£2,000) £1,050.

**02920 628861 or 07971 296699 (Cardiff).**

**SHANLING** CDT 100 CD player. Valve or solid-state output, valve headphone output. Onboard preamp if required. Mint condition, boxed with manual. New (£1,650) £550. Can email photos if required. **01424 446282 (Sussex).**

**GARRARD** 401 £1,000ono. Turntable power supply £300ono. Technics Equaliser £150. Class A amplifier power supply £300ono. Arcam 9 power amplifier £250ono. Maplin 50-watt board £25. **020 7499 8729 (Cambridgeshire).**

**SME** Model 10 precision turntable with Series V tonearm (£5,700) £3,200. One owner, superb condition, will demonstrate, photos available. Original packaging. Buyer collects. **01604 410726 or 07711 702836 (Northants).**

**DENON** CD player DCD1500 mk11, immaculate, hardly used, very good sound and build quality, £125 or £200 with my TDL RTL 3 transmission line speakers. **07751 537148 (Oxon).**

**DYNAUDIO** Master Evidence (Cherrywood and Gloss Black). Very rare opportunity to own a pair of superb speakers. Excellent condition (£78,400) £28,000 ono. Photos available. **07970 028771 or email: white-a64@sky.com (South Bucks).**

**QUAD** II Forty Monoblocks in unmarked, as new condition. Svetlana Cryogenically treated KT88 valve upgrade. Absolutely fantastic condition. Boxed with manuals (£4,000) £1,850. **02380 224003 (Southampton).**

**AYRE** CX7 silver CD player, very lightly used, mint condition, boxed, looks and sounds wonderful, genuine sale. Latest version costs over £2,400, bargain at £1,200. **07851 715446 (Watford).**

**SONY** 7.1 AV amp/receiver STR-DN1000, black, 7x 85 watts per channel, 4-in-1 auto HDMI, auto calibration, tuner, DTS-HD, True HD, DTS-Es etc, purchased Dec 09, hardly used £190.

**01843 586261 (Kent).**

**DYNAUDIO** Contour S3.4, (Piano Black) excellent condition (£5,060) £2,250 ono. Bower and Wilkins' SCMS surround speakers (Black Ash), perfect condition £850 ono. Primare amp 30.1, very good condition £500 ono. Arcam FMJ CD36 silver, excellent condition £575 ono. **07970028771 or email: white-a64@sky.com (South Bucks).**

**MERIDIAN** 504 FM tuner lightly used, in pristine condition. Complete with user guide. (£660) £350 ono.

**07841 011397 (Leeds).**

**ART AUDIO** Maestro Valve monoblocs x2. 50 watts each and ART valve preamp VP1, vgc, serviced recently by ArtAudio (with new valves). Original around £9,500, only £2,500. Can demo. **01476 579201 (Grantham).**

**T+A** Pulsar 1230R CD player (silver) immaculate condition, recently serviced includes remote, (£1,800) £700. Can demonstrate. Also, Exposure 3010 integrated and power amplifiers, condition as above £400 each. **01482 887409 (East Yorkshire).**

**BOWERS AND WILKINS** CM1, eight months old, mint, original packaging including stands £250. **01757 289375 or email: gregory@469btinternet.co.uk (Selby).**

**MERIDIAN** 508.24 CD player, £400. Primare A30.1 100-watt amp, £400. Sennheiser HD595 headphones, £50. Sony MDS-JE780 Minidisc, £50. Videologic DRX-601E DAB tuner, £40. Cash only, buyer collects. **01428 605002 (S.W. Surrey).**

**ART AUDIO** 'Diavolo' 300B SE amp (11+11w), polished stainless-steel chassis with gold anodised trims £1,600. Sony SACD 555ES SACD player (champagne finish) £350. Can demo. **0145441361 or email: beedeel@yahoo.co.uk (Bristol).**

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# Hi-Fi Choice

## 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.

### Reviews online

We've also included *techradar* listings where our reviews appear online.

To access selected *Hi-Fi Choice* reviews, simply type: [techradar.com/](http://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

### 111 \_ Turntables

A selection of our favourites, from a £190 Pro-Ject to a £115k Continuum

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The best in both magnetic and moving coil cartridges

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Surf the airwaves with any one of these carefully selected tuners

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Badge-winning headphones for your personal listening pleasure

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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

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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

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Priced per metre, these are our top recommendations for taming speakers

## LOUDSPEAKERS

### 119 \_ Stereo speakers

An invaluable guide to the best loudspeakers for your system

## STANDS & SUPPORTS

### 123 \_ Equipment supports

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

### 125 \_ Dealer guide

A veritable *pot pourri* of hi-fi dealer classified advertisements

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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

Any one of these fine players will make sweet music for years to come

**Up to £1,000**

Badge	Product	Price	Comments	www.technradar.com	SACD compatible	ELEC dig output	OPT dig output	CD-RW compatible	BAL analogue out	Headphone socket	Variable output	Issue number
●	<b>Advance Acoustic MCD-204</b>	795	CD player with warm valve sound. Harmonically rich and inviting performance		●	●	●	●	●	●	●	342
●	<b>Audiolab 8200CD</b>	700	No SACD support, but excellent detail, neutrality and communication		●	●	●	●	●	●	●	340
●	<b>Cambridge Audio Azur 6508D</b>	400	Musical, precise, involving and with great energy at a superb price		●	●	●	●	●	●	●	340
●	<b>Denon DCD-1510AE</b>	900	If the SACD format is what you're into, then this player is capable of some impressive sounds		●	●	●	●	●	●	●	335
●	<b>Exposure 2010S2</b>	710	Paired with the 2010S2 amp, this CD player is a fine performer with plenty of detail		●	●	●	●	●	●	●	344
●	<b>Harman/Kardon HD990</b>	550	Highly detailed with excellent extension at both extremes and impressive resolution	/594818	●	●	●	●	●	●	●	323
●	<b>Marantz SA7003</b>	600	Highly civilised sound may not be to all tastes, but there's plenty of detail to be heard		●	●	●	●	●	●	●	323
●	<b>Marantz Pearl Lite SA-KI</b>	899	A key CD/SACD player at an attractive price, with support for digital		●	●	●	●	●	●	●	338
●	<b>Marantz KI Pearl Lite</b>	750	Excellent sound, this CD player has also dropped in price from £920 to £750 since our review		●	●	●	●	●	●	●	344
●	<b>Micromega CD-10</b>	799	The cheapest in the range, the CD-10 has been fine-tuned to please the audiophile		●	●	●	●	●	●	●	328
●	<b>Moon CD.5</b>	999	Admirably energetic music-maker from this very well-built player		●	●	●	●	●	●	●	335
●	<b>Pro-Ject CD Box</b>	300	This player belies both its size and its price with sounds worthy of a decent mid-range system		●	●	●	●	●	●	●	338
●	<b>Rega Saturn</b>	898	Strikingly full-voiced, the Saturn offers a sound that feels remarkably real		●	●	●	●	●	●	●	344
●	<b>Roksan Kandy K2</b>	899	State-of-the-art technology and precision engineering produces a fine CD performance		●	●	●	●	●	●	●	335

**Above £1,000**

Badge	Product	Price	Comments	www.technradar.com	SACD compatible	ELEC dig output	OPT dig output	CD-RW compatible	BAL analogue out	Headphone socket	Variable output	Issue number
●	<b>Arcam CD37</b>	1,300	Excellent detail and imaging, neutral tonality and above-average bass resolution	/395096	●	●	●	●	●	●	●	340
●	<b>Audio Research CD5</b>	5,055	Audibly better than most CD players on the market – assertive and very dynamic	/455309	●	●	●	●	●	●	●	312
●	<b>Consonance Droplet CDP3.1</b>	1,995	A CD player which gets to the nub of what music is about. Engages the listener every time		●	●	●	●	●	●	●	322
●	<b>Copland CDA 825</b>	3,985	This a highly revealing player that delivers music in a realistically engaging form		●	●	●	●	●	●	●	332
●	<b>Creek Destiny</b>	1,400	This player presents the music and nothing but the music and is thoroughly recommended		●	●	●	●	●	●	●	328
●	<b>Cyrus Audio CD 8 SE</b>	1,200	A highly civilised player which can, nevertheless, deal convincingly with raw music	/399370	●	●	●	●	●	●	●	323
●	<b>Icon Audio CDX1 Signature</b>	1,350	Has an open, vinyl sound with a very high listenability factor		●	●	●	●	●	●	●	341
●	<b>Krell S-350A</b>	2,695	Accomplished CD player with real breeding underpinning its excellent performance		●	●	●	●	●	●	●	341
●	<b>Leema Stream III</b>	1,495	This is a superb CD player that improves on the performance of its predecessor, the Stream		●	●	●	●	●	●	●	339
●	<b>Marantz UD 8004</b>	2,450	Sophisticated and highly capable universal player that just about does it all		●	●	●	●	●	●	●	336
●	<b>Meridian 808.3 Signature</b>	10,000	Extraordinarily revealing and open CD player with a first-class performance level		●	●	●	●	●	●	●	339
●	<b>Micromega CD-20</b>	1,249	No SACD, unfortunately, but without doubt one of the better mainstream players		●	●	●	●	●	●	●	332
●	<b>Mimetism 20.1</b>	5,107	An impressive player that produces a very convincing and musical sound		●	●	●	●	●	●	●	330
●	<b>Moon CD3.3</b>	2,200	Excellent detail and a fine choice for those who like their music straight from source	/594609	●	●	●	●	●	●	●	328
●	<b>Moon 750D</b>	7,950	Very few CD players can extract as much information off the disc as the 750D		●	●	●	●	●	●	●	331
●	<b>Naim CD5 XS</b>	1,790	Its composure and openness results in a musical performance that is extremely seductive		●	●	●	●	●	●	●	334
●	<b>Primare CD32</b>	2,200	Smart, slick and with balanced outputs, this CD player looks every bit the high-end part		●	●	●	●	●	●	●	344
●	<b>Resolution Audio Cantata</b>	5,995	CD player/streamer that's revealing enough to set it far apart from the competition		●	●	●	●	●	●	●	336
●	<b>Roksan Caspian M2</b>	1,600	This impressively engineered CD player is punchy and dynamic, with excellent timing		●	●	●	●	●	●	●	338
●	<b>Theta Compli Blu</b>	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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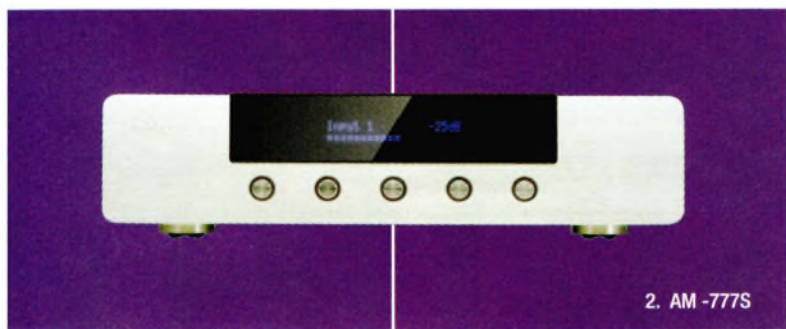
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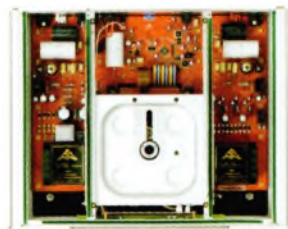


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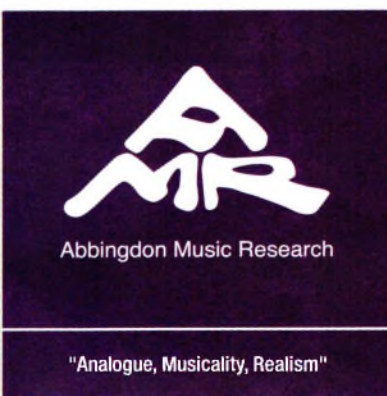
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## Turntables

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Suspension subchassis  
Supplied with arm  
Issue number

Badge	Product	Price	Comments		Speeds		Issue number
●	<b>Clearaudio Concept</b>	1,100	One of the easiest ways of getting into analogue, with excellent results for the price		33/45	● ● ●	338
●	<b>Continuum Caliburn</b>	125,000	Luxury turntable with state-of-the-art design includes Cobra tonearm and Castellon stand	/587169	33/45/78	● ● ●	320
●	<b>Dr Feickert Woodpecker</b>	2,995	Offers superb bass, excellent build quality and range of arm choices		33/45	● ● ●	335
●	<b>Edwards Audio TT1</b>	325	Classic, no-nonsense design, with exemplary performance at the price		33/45	● ● ●	342
●	<b>The Funk Firm Funk V2</b>	1,390	Not only as beguiling as those that preceded it, this turntable is also more substantial to boot		33/45	● ● ●	324
●	<b>Hanss Acoustic T-30</b>	3,600	The only multi-armbase deck in its price range, it boasts image stability and precise bass		33/45	● opt opt	331
●	<b>Lumley Heliosphere</b>	2,495	A distinctive-looking turntable with a unique sound and a performance that reflects your vinyl	/560765	33/45	opt opt	319
●	<b>Michell Tecnodec</b>	608	Needs careful partnering but can deliver a very sophisticated result for the money		33/45	opt	309
●	<b>Michell Gyro SE</b>	1,140	A marriage of shot-putter-strength, build quality and robust audio		33/45	● ● ●	338
●	<b>Michell Gyro SEduction</b>	2,245	Limited edition version of above with TecnoArm, HR power supply and blue-steel finish		33/45	● ● ●	342
●	<b>Pro-Ject RPM-1 Genie 3</b>	190	The Genie is that rare thing of a product with good looks, fine build and excellent sound		33/45	● ● ●	332
●	<b>Pro-Ject 6 Perspex</b>	1,280	Plenty of detail and good rhythmic qualities (arm included)		33/45/78	● ● ●	338
●	<b>Pro-Ject X-Pack</b>	1,000	Combines very strong elements (Ortofon Rondo Red) a killer package with top sound and value		33/45	● ● ●	309
●	<b>Roksan Radius 5.2</b>	1,399	Sophisticated design with accomplished sound quality, excellent imagery and good isolation		33/45	● ● ●	338
●	<b>SRM Arezzo</b>	699	The Arezzo is an excellent source component for those wanting a superb turntable for vinyl replay	/625025	33/45	● ● ●	325
●	<b>Townshend Rock 7</b>	1,720	Has the ability to pull detail out of a vinyl groove, making it the most resolute turntable at its price		33/45	● ● ●	324
●	<b>Townshend Rock V/Excalibur II</b>	7,000	If you want to hear everything that's on a record then there's no better machine for the job		33/45	● ● ●	307

## Phono cartridges

MM and MC recommendations



Badge	Product	Price	Comments		Replaceable stylus	Issue number	
					MM	MC	
●	<b>Dynavector DV-20X2L</b>	499	Revealing and open sound from a well-built and easy-to-align MC cartridge			●	342
●	<b>Dynavector Karat 17D3</b>	699	One of the most thrilling-sounding cartridges on the market			●	334
●	<b>Goldring Legacy</b>	595	An MC cartridge better suited to the smoother-sounding turntable, it unearths a mountain of detail			●	328
●	<b> Grado Prestige Gold 1</b>	150	Unusually assured 'presence' region is the basis of a beautifully musical and involving presentation		●		338
●	<b>Ortofon Rondo Red</b>	385	Delivers detail, power and resolution and makes a good case for its price			●	307
●	<b>Ortofon Cadenza Red</b>	750	There's much to admire in this cartridge's fine detail and unfussy presentation			●	330
●	<b>Ortofon Vivo Red</b>	200	Never less than musically convincing, this all-in-one cartridge is remarkably capable			●	338
●	<b>van den Hul Condor XCM</b>	2,400	A stunning cartridge with stereo imaging, dynamics and resolution to die for			●	265

## Phono stages

Make your turntable sing



Badge	Product	Price	Comments		MM phono inputs	MC phono inputs	Adj impedance	Adj gain	Issue number
●	<b>Dynavector P-75 MkII</b>	595	A stage that will put spring in the step of any decent cartridge you can throw at it		● ●				344
●	<b>Lehmann Audio Black Cube</b>	335	This phono amp is a very distinguished performer with an MM source		● ● ●				335
●	<b>Linn Uphorik</b>	1,850	Exceptional sound quality, the Uphorik could easily win over the next generation of LP enthusiasts		● ● ●				334
●	<b>Pro-Ject Tube Box SE II</b>	435	The big picture is the most evident thing here, but the finer details are there, too		● ● ●				335
●	<b>Soundsmith Strain Gauge</b>	6,100	Revolutionary kit assembly that rewrites the rules about vinyl playback	/618387					324

**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

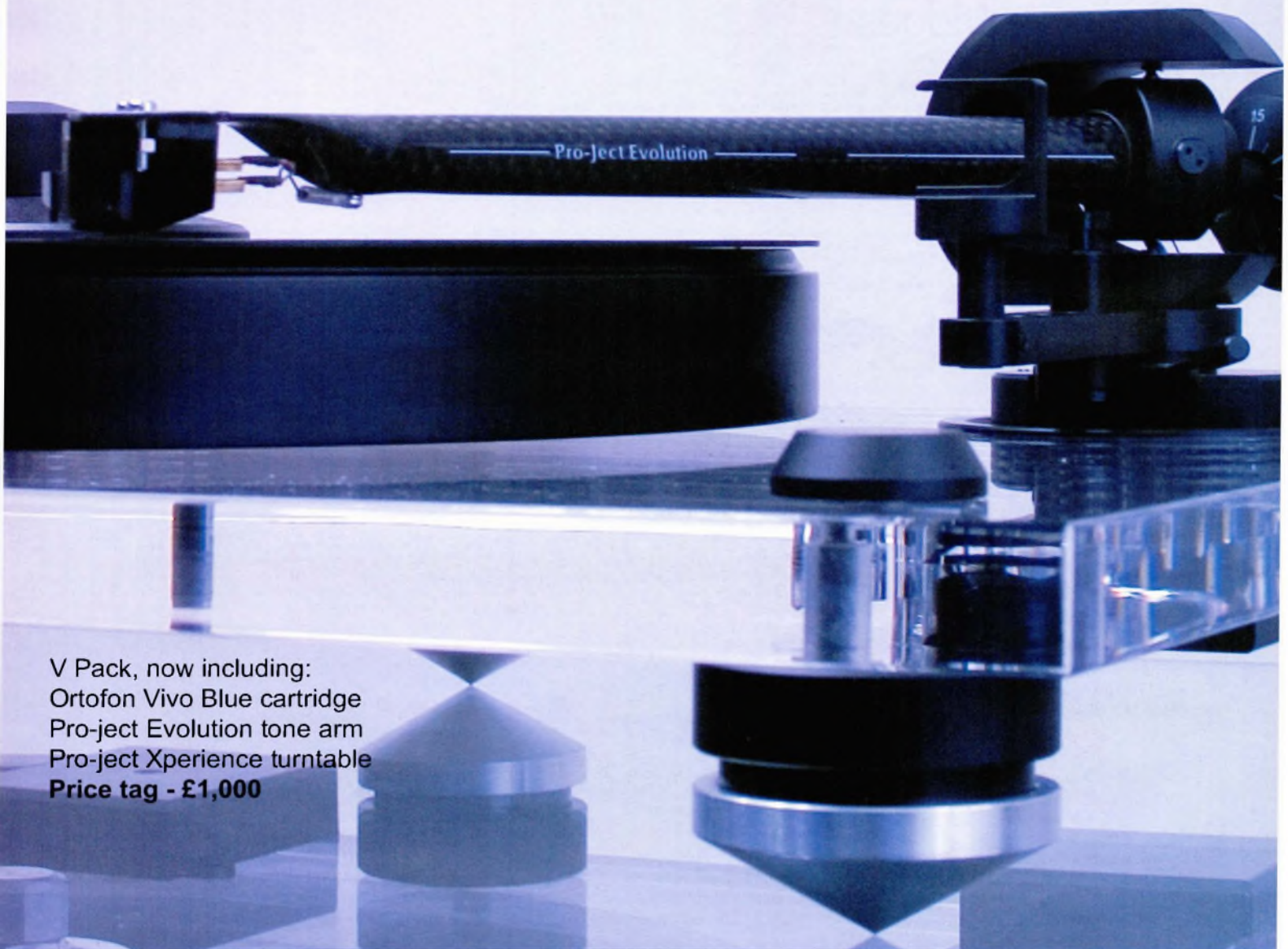




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**BADGES KEY:** RECOMMENDED = ● EDITOR'S CHOICE = ● GROUP TEST WINNER = ● BEST BUY = ●

## Radio tuners

Surf the airwaves with these carefully selected tuners



### FM tuners

Badge	Product	Price	Comments	www.techradar.com	Wavebands	Presets	RDS	Rot. tuning knob	Sig. Strength Meter	Remote control	Issue number
●	<b>Creek Audio Evolution</b>	350	Sound is detailed, cohesive and extended both tonally and spatially – very classy		FM, AM	80	●	●	●	●	308
●	<b>NAD C426</b>	220	If you aren't already wedded to DAB, then this is a very attractive purchase		FM, AM	80	●	●	●	●	339
●	<b>T+A T1210R</b>	1,200	High-end looks are matched by the sound, which is detailed and sophisticated		FM	100	●	●	●	●	283

### DAB/FM tuners

●	<b>Arcam FMJ T32</b>	600	A highly cost-effective way of optimising the airwaves. iPod functionality is a bonus	/559242	DAB, FM	100	●	●	●	●	319
●	<b>Onkyo T-4555DAB</b>	400	Admirably free of grain or obvious tonal blemishes, this tuner achieves a high standard		DAB	40	●	●	●	●	298

### DAB/FM portables

●	<b>Monitor Audio Airstream 10</b>	225	The range of features on this DAB/FM/Internet radio is certainly impressive	/636713	DAB, FM, Web	4	●	●	●	●	337
●	<b>Pure Sensia</b>	250	One of the smartest table radios around, offering wireless computer-sourced music		DAB, FM, Web	40	●	●	●	●	331
●	<b>Roberts Revival</b>	200	A handy way to get internet radio and media streaming throughout the house		DAB, FM, Web		●	●	●	●	344
●	<b>Tivoli Networks+10</b>	239	FM reception is excellent and a cut above everything else this radio has to offer		DAB, FM, Web	5	●	●	●	●	344
●	<b>Vita Audio R1 MkII</b>	160	Limited to DAB/FM and line inputs, but the sound quality is very good		DAB, FM, Web	10	●	●	●	●	337
●	<b>Vita Audio R2i</b>	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	Weight (grams)	3.5mm jack adaptor	Issue number
●	<b>AMG Q701</b>	500	A welcome addition to the ranks of the world's finest transducers		●	●	●	●	235	●	341
●	<b>Audio Technica ATH-W1000X</b>	649	Fine advert for the virtues of closed-back headphones, with great bass and background noise reduction		●	●	●	●	350	●	334
●	<b>Beyerdynamic DT770</b>	179	One of the most tonally satisfying closed-back headphones around with excellent detail		●	●	●	●	270	●	333
●	<b>Beyerdynamic T1</b>	880	A characterful, enjoyable music-maker with a detailed, weighty sound		●	●	●	●		●	331
●	<b>Bowers and Wilkins P5</b>	250	A superb headphone with B&W's sound and build quality sealing the deal		●	●	●	●	195	●	333
●	<b>Grado SR60i</b>	100	A strong contender with out-of-class sound in most areas: a brilliant budget all-rounder	/603478	●	●	●	●	210	●	322
●	<b>Grado SR80i</b>	120	A beautifully neutral and open-sounding headphone that's lively and energetic too		●	●	●	●		●	322
●	<b>Grado GS1000i</b>	1,100	A superb transducer, capable of astonishingly high performance standards	/624782	●	●	●	●		●	325
●	<b>Grado PS1000</b>	1,795	Offer excellent detail and effortless dynamics, but they can be heavy to wear after a while		●	●	●	●	500	●	329
●	<b>Klipsch Image X10i</b>	229	Natural sound and fit; lightweight and unobtrusive in-ear headphones		●	●	●	●	10	●	342
●	<b>Sennheiser HD380</b>	140	This model offers good sound and is a worthy alternative to in-ear monitors		●	●	●	●		●	327
●	<b>Sennheiser HD800</b>	1,000	These headphones will convert loudspeaker listeners to the delights of personal stereo performance	/619269	●	●	●	●	350	●	324

**SPECS KEY** **ELECTROSTATIC** Uses electrostatic film instead of more common cone or dome dynamics. **SUPRA-AURAL** Earpads sit on ear rather than around it. **CIRCUMAURAL** Earpads rest on the head around the ears. **OPEN BACK** Vented capsules let sound in and out. **CLOSED BACK** (●) Sealed capsules. **WEIGHT** In grams. **3.5MM JACK ADAPTOR** Allows connection to personal stereos, computers etc.

### 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



#### **Beyerdynamic T1 £880**

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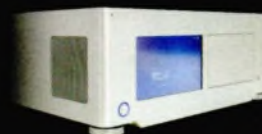
## Nano

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## Quad

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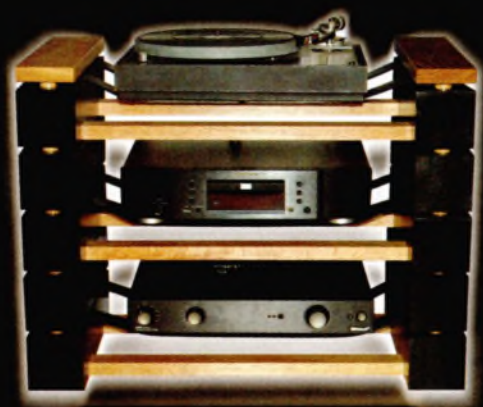
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# Amplifiers



Our pick of the best one-box amps out there

**Up to £1,000**

Badge	Product	Price	Comments	www.techradar.com	Line inputs	Phono input	Remote control	Headphone socket	Power output (watts)	Issue number
●	<b>Audio Analogue Crescendo</b>	599	In a room of appropriate dimensions, this amplifier has real musical presence		5				50	329
●	<b>Cambridge Audio 840Av2</b>	800	A chunky powerhouse with features aplenty, this amp offers detail and delicacy (silver finish)		8				120	327
●	<b>Denon DCD-1510AE</b>	900	Offers a taste of high-end excellence at an affordable price		5	MM/MC			70	335
●	<b>Exposure 2010S2</b>	752	Impressive amplifier with preamp output, the 2010S2 was a blind group test winner		6				75	344
●	<b>Marantz KI Pearl Lite</b>	750	Impressive performer with a well-filled phono-amp board and now down to £750 from £920		5				90	344
●	<b>NAD C3226BEE</b>	320	Unusually confident into awkward loads and very assured especially in bass. Treble a touch recessed	/603281	7				50	322
●	<b>Rega Mira 3</b>	460	Competent performer that makes an excellent system with the matching Saturn CD player		5				60	344

**Above £1,000**

●	<b>Arcam A38</b>	1,480	A winning combination of sonic virtues including highly developed detail and musicality		7	opt			100	332
●	<b>Creek 5350 Evolution</b>	1,075	One of the most attractive amps in its price range, with a sound that's immediately satisfying		5	MM/MC			120	334
●	<b>Creek Destiny 2</b>	1,600	Excellent tonal balance and gorgeous, effortless detail		6	opt			116	342
●	<b>Cyrus 8xp d</b>	1,550	Best heard in the context of a Cyrus system, this amp nevertheless has some great qualities		6				80	342
●	<b>Electrocompaniet PI-2</b>	1,600	A superb all-rounder, with insight on one hand and effortless musical flow on the other		6				100	327
●	<b>Electrocompaniet EC15</b>	2,750	Big, characterful and beautifully built amp, with equally big and unforced sound		6				120	340
●	<b>Emillé Ara</b>	2,450	An extremely competent valve amp in its own right with a useful set of features		2				22	343
●	<b>Leema Pulse III</b>	1,495	Offers a clean, smooth sound and has an unusually wide array of inputs		6	MM/MC			70	342
●	<b>Leema Tucana II</b>	3,425	Highly featured, well-built and not short of power, this is a highly resolute and organic amp	/612396	7				148	323
●	<b>Luxman L550A-II</b>	3,000	An accomplished all-rounder that's able to handle virtually any system		4	MC			20	335
●	<b>Micromega IA-100</b>	1,125	Fast and fluid performer that brings a touch of panache to its role		5	MM			100	332
●	<b>Mimetism 15.2</b>	5,415	A powerful amplifier with great dynamics and high resolution that's rare even at this price		6				180	330
●	<b>Musical Fidelity M3I</b>	1,000	Extremely engaging performer, this power amp boasts excellent sonics and solid build		6				70	337
●	<b>Peachtree Audio iDecco</b>	1,000	A well-equipped amp/DAC one-stop solution for iPod and digital audio users		2				40	344
●	<b>Peachtree Audio Nova</b>	1,099	This amp/DAC combi is a fine heart for a computerised desktop system		3				80	341
●	<b>Primare I32</b>	2,200	Gorgeous sound, while the prospect of future upgrades is truly mouth-watering		3				120	344
●	<b>Resolution Audio Cantata</b>	3,995	This perfectly formed amplifier reveals that the language of music is easy to understand		4	opt			50	342
●	<b>Roksan Caspian M2</b>	1,600	This muscular-sounding amplifier is load tolerant and more powerful in practice		6				85	338
●	<b>Unison Research Unico Nuovo</b>	1,650	A truly successful marriage between tubes and solid-state amplification		7				100	339

# Pre/power amplifiers



Separate boxes can bring clear advantages

**Up to £2,000**

Badge	Product	Price	Comments	www.techradar.com	Line inputs	Phono input	Remote control	Headphone socket	Power output (watts)	Issue number
●	<b>Cambridge Audio Azur 840E/840W</b>	2,000	Enterprising technology delivers a pre/power combo that always sounds detailed and controlled		8	opt			200	309
●	<b>NAD C165BEE/C275BEE</b>	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**

●	<b>Audio Research DS450</b>	7,000	Power amp features a very neutral transparent sound with lots of power and low-running temperature		2				450	337
●	<b>Bryston BP16/ 2B SST2</b>	5,700	Preamp and power amp combo offers superb sound quality	/608649	6	opt			100	323
●	<b>Bryston BP26</b>	3,670	Cracking preamp brings detailed results		8	opt			308	
●	<b>Cayin SP-30S/SP-40M</b>	3,346	Smooth clean sound quality, this combo is well-balanced and natural-sounding		4	MM			40	343
●	<b>Classé CP-700/CA-M400</b>	9,200	Pre plus mono power combo with superb build, huge power and enormous flexibility		6	opt			400	293
●	<b>Cyrus Mono X300</b>	2,495	A power amp with a rare combination of speed and resolution		2				300	341
●	<b>Linn Akurate Kontrol/2200</b>	7,550	Reviewed as part of an entire system (streamer and speakers), this combo offers a crisp, open sound		2				200	343
●	<b>Mark Levinson No. 326S</b>	8,000	Excellent USB implementation, natural sound and solid build. Excellent performance levels		7				338	
●	<b>Musical Fidelity M6PRE/PRX</b>	4,998	For those wanting a powerful high-end pre/power combo at a realistic price, this is a fantastic package		9				260	340
●	<b>Roksan Caspian M1</b>	2,800	A powerful and enjoyable-sounding amplifier combo that brings out the strengths of its CD player		5				85	307
●	<b>Rotel RC158/RB1582</b>	2,100	It looks high-end and it really sounds the part, too		5	MM/MC			200	336
●	<b>Trilogy 909/990</b>	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 USB	Balanced output	Digital output	Issue number
●	<b>Linn Akurate</b>	4,500	Fast album/track access and the extended playing times make this a winner		●	●	●	●	343
●	<b>Logitech Squeezebox Touch</b>	260	Player has excellent sound and performs well, even with high-end partnering equipment		●	●	●	●	338
●	<b>Marantz NA7004</b>	720	Easy to use, the NA7004 makes getting into streaming simple and all for a great price, too		●	●	●	●	344
●	<b>Naim Unitiqute</b>	1,350	All-in-one streamer/player has excellent features and is easy to set up with strong performance		●	●	●	●	339
●	<b>Olive 4HD</b>	2,200	Allows the music fan to dispense with physical media and download from hi-res internet sites		●	●	●	●	333

**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 convertors are back and the price has come right down

Badge	Product	Price	Comments	www.techradar.com	Coaxial input	Optical input	Sampling rate (kHz) USB	Headphone socket	Volume control	Issue number
●	<b>Benchmark DAC1</b>	950	Very clean sound with plenty of detail and also good rhythmic drive		●	●	●	●	●	341
●	<b>Cambridge Audio DacMagic</b>	230	Detail and imaging are very good and a decent feature count only adds to the appeal		●	●	●	●	●	331
●	<b>Furutech GT40</b>	395	The perfect 'missing link' between analogue and the home computer		●	●	●	●	●	342
●	<b>Lavry DA10</b>	1,028	Can be ruthlessly revealing of deficiencies in once-admired recordings		●	●	●	●	●	341
●	<b>Musical Fidelity V-DAC</b>	155	Boasts good pace, impressive detail and sound per pound it's hard to beat		●	●	●	●	●	331
●	<b>Naim Audio DAC</b>	1,950	Sounds meticulously detailed without detracting from the cogency and flow of the music		●	●	●	●	●	328
●	<b>Pro-Ject DACBox FL</b>	205	This is a very appealing product in many ways and opens new windows on recordings		●	●	●	●	●	331
●	<b>PS Audio Digital Link III</b>	899	A simple no-fuss product that just sounds great and at its price is something of a bargain		●	●	●	●	●	341
●	<b>iBasso D4 Mamba</b>	225	Connected to a computer, this DAC/headphone amp brings sound into the audiophile league		●	●	●	●	●	330
●	<b>iBasso D10 Cobra</b>	276	As a DAC/headphone amp for a computer-based system, this is a real audiophile blessing		●	●	●	●	●	326

**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
●	<b>Black Rhodium Polar Illusion</b>	250	A good all-rounder, with clear and purposeful bass and particularly fine treble		●	●	●	●		321
●	<b>Chord Co. Indigo Plus</b>	995	Costly, and high-class cable needs running in, but this is a finely detailed design overall	/608313	●	●	●	●		323
●	<b>Peerless Sigma</b>	70	A cable that belies its modest price with sound that's detailed, neutral and full bodied		●	●	●	●		343
●	<b>QED Ref Audio Evolution</b>	63	Tonally favours the bass, but overall detail and imaging are very good		●	●	●	●		343
●	<b>QED Signature Audio S</b>	190	Mellifluous and rounded, this cable is a great choice for lovers of the human voice		●	●	●	●		332

### Digital interconnects

●	<b>Atlas Mavros</b>	285	By any reckoning this is a very revealing wire		●	●	●	●	E	336
●	<b>van den Hul The Wave</b>	65	The results this cable achieves are excellent and it scores highly for value		●	●	●	●	E	336

### Speaker cables (price per metre)

●	<b>Black Rhodium Jive</b>	14	Bi-wire cable which is full of sonic virtues. It's highly practical, too		●	●	●	●		339
●	<b>Kimber 4VS</b>	155	In the right system, this cable is a good choice (price reflects 2.5 metre terminated pair)		●	●	●	●		329
●	<b>Monster MCX-1s</b>	5	Notable for its bass, perhaps a touch overdone at times but could be a good foil to small speakers		●	●	●	●		280
●	<b>van den Hul The TeatracK</b>	35	A bi-wire cable with a sound that's impeccably timed, neutral and full of detail		●	●	●	●		339
●	<b>Wireworld Oasis 6</b>	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.



**BADGES KEY:** RECOMMENDED = ● | EDITOR'S CHOICE = ● | GROUP TEST WINNER = ● | BEST BUY = ●

# Stereo speakers

The most influential link in the chain



Up to £1,000

Badge	Product	Price	Comments	Size: width-height-depth (cm)	Floorstander	Ease of drive	Bass from (Hz)	Close to wall	Issue number
●	<b>Acoustic Energy Aegis Neo 3</b>	363	Pretty, neutral floorstander sounds open with wide dynamic range and good bass weight	20,90,5,24	●	A	24	●	294
●	<b>Acoustic Energy Radiance 1</b>	600	Limited bass, power handling and dynamics, but exceptional mid-to-treble voicing	18,5,32,25	●	A	33	●	325
●	<b>Amphion Ion L</b>	900	Sharp styling, fine mid/treble coherence a sweet treble, but less happy bass alignment	16,2,32,6,26,5	●	A	40	●	310
●	<b>ATC SCM11</b>	867	A very fine little speaker t at its best with natural recordings where it adds little	21,38,25	●	A-	55	●	293
●	<b>AudioPro Avanti A.10</b>	350	A tough and effective little speaker – overall balance is quite smooth and even	19,29,26	●	A+	38	●	319
●	<b>Bowers and Wilkins CM1</b>	488	Luxury miniature has laid-back sound, low coloration and fine imaging, but weak dynamics	16,5,28,28	●	A-	40	●	279
●	<b>Bowers and Wilkins 684</b>	699	A fine all-rounder at a realistic price, has a smooth, even and nicely open balance	/483503 20,91,30	●		22	●	315
●	<b>Castle Knight 2</b>	400	A true resurgence for the Castle brand, the Knight 2 has a beguiling sound quality	20,38,33,5	●	A+	42	●	338
●	<b>DALI Ikon 6</b>	999	Needs care with setup, impressively transparent and obsessively detailed sound	19,100,33	●	A	37	●	271
●	<b>EB Acoustics EB2</b>	669	Excellent value speaker, its composite enclosure gives a very clean and neutral sound	22,5,45,30	●	A	64	●	341
●	<b>Focal Chorus 706V</b>	389	Advanced drivers deliver an even, healthy dynamic expression and tension	22,39,25	●	A	27	●	319
●	<b>Focal Chorus 726V</b>	950	Compact and realistically priced, the Chorus 726V is a good all-round performer	22,99,37,5	●	A	25	●	325
●	<b>JBL Studio L880</b>	700	Good value floorstander with neutrality, massive headroom and plenty of punch	22,99,37	●	A	25	●	275
●	<b>KEF iQ50</b>	599	Looks cute and very discreet, with spacious imaging, good balance and a sweet treble	/483527 17,5,81,5,26	●	A	23	●	315
●	<b>Mission MX5</b>	600	An engaging listen and worth an audition, if you have the room	25,99,5,39	●	A-		●	341
●	<b>Monitor Audio BR5</b>	450	Not the best dressed in its class, but detailed, bold-sounding and good value	17,85,25	●	A-	36	●	293
●	<b>Monitor Audio Silver RS8</b>	850	Bold, dynamic sound, it's an easy load that works well in larger rooms	90,18,27	●	A	33	●	276
●	<b>Monitor Audio GS10</b>	900	More neutral tonally than some recent MAs, the GS10 is is easy to drive	20,36,27	●	A-	40	●	284
●	<b>PMC DB1i</b>	985	Could be more neutral, but a very effective musical communicator	15,5,29,23,4	●	A+	30	●	334
●	<b>ProAc Tablette Ref Eight</b>	704	Stunning standmount with electrostatic-like imagery. Its brother is even better!	15,27,23	●	A+	40	●	267
●	<b>Q Acoustics 1010</b>	110	Neatly styled miniature has limited bass and power handling, fine midband voicing	15,21,5,19,5	●	A	48	●	286
●	<b>Q Acoustics 1020i</b>	140	Outstanding value, t smooth well-balanced and lively sound makes a fine communicator	/516273 17,5,25,26,5	●	A+	60	●	318
●	<b>Rega RS1</b>	390	Clever close-to-wall speaker has a fine coherence and good communication skills	15,32,23,6	●	A	23	●	319
●	<b>Russ Andrews SP-1</b>	352	This tweaked Focal 705V RA has a sound that is immediate, engaging and, and great fun	19,2,31,5,24,8	●	A+	65	●	309
●	<b>Spendor S3/SR</b>	750	Lacks dynamic muscle and loudness potential, smooth neutrality and g bass extension	16,5,30,5,190	●		25	●	310
●	<b>Tannoy Revolution DC4T</b>	599	Ultra-compact, lacks bass weight and dynamic tension, but sounds open and coherent	488857 15,85,16	●		40	●	316
●	<b>Tannoy Revolution DC6</b>	900	Pretty compact standmount, delivering a lively bass and smooth, coherent midband	23,36,5,23	●	A	40	●	307
●	<b>Teufel T500</b>	568	Good value, solid build and an extended warranty	19,5x105x32,5	●	A-		●	340
●	<b>Wharfedale Diamond 10.5</b>	480	Despite the price, the 10.5 ticks many of the boxes, with superior voice band coherence	/636778 22,88,30	●	A-	50	●	326

Above £1,000

●	<b>Adam Audio Tensor Delta</b>	8,400	This active loudspeaker brings a powerful range of capabilities to its performance	33,56,34	●	A	50	●	329
●	<b>AE Energy Radiance 2</b>	1,000	This speaker boasts fine neutrality, sweet top, fine imaging and wide dynamic range	18,5,92,25	●	A	30	●	334
●	<b>AE Energy Radiance 3</b>	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
●	<b>AE AE1 MkIII</b>	2,000	This speaker has a lovely midband smoothness and superior image focus	18,5,31,25	●	A	24	●	337
●	<b>Amphion Argon 3L</b>	2,300	Solid build ensures an impressively clean sound with loads of bass and fine neutrality	19,92,5,30,5	●	A	44	●	322
●	<b>Aspara HL6</b>	4,300	Acoustic material sounds great and there are many strengths in design and performance	18,5,93,34,5	●	A		●	332
●	<b>ATC SCM16A</b>	2,376	Makes a great case for the active speaker. Includes built-in amps and is good value	27,45,33	●	ACT	42	●	300
●	<b>Audioplan Kontrapunkt IVB</b>	2,898	Boasts exceptional stereo imaging and mid-through-treble coherence	16,35,26	●	A	45	●	329
●	<b>Audiovector Ki3 Signature</b>	1,890	Very attractive and discreet, with fine stereo imaging and low coloration	14,98,27	●	A		●	343
●	<b>Audiovector S3 Super</b>	2,600	Useful ability to upgrade, offers good musical communication and stereo imaging	19,103,31	●	A	50	●	328
●	<b>AVI ADM9</b>	1,125	Active mini-monitors that are exceptionally accurate and dynamic sounding	20,30,26	●	ACT	60	●	301
●	<b>Bowers and Wilkins CM8</b>	1,250	Exceptional looking speaker with a fine midrange and superior imaging	16,5x96x28	●	A	60	●	344
●	<b>Bowers and Wilkins 802</b>	11,500	This high-end speaker has an airy, spacious midband, with clean bass reproduction	36,8,138,56,3	●	A	27	●	337
●	<b>Cabasse Bora</b>	2,200	A real enthusiast's choice with high sensitivity, strong bass and powerful dynamics	/618354 33,27,50	●	A	52	●	324
●	<b>Canton Vento 820</b>	1,200	Really emphasises the benefits of the standmount, with great freedom from boxiness	22,36,31,5	●	A+		●	342
●	<b>Focal Chorus 826 V</b>	1,349	Times nicely, goes loud with ease and will produce precise imaging if appropriately set up	28,104,37,5	●	A	45	●	287
●	<b>Focal Chorus 816WSE</b>	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
●	<b>Focal Chorus 826W LE</b>	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
●	<b>Focal Electra 1027 Be</b>	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
●	<b>Free FS1</b>	3,500	An elegant design with the minimum of wiring. Wireless with Sonos or Airport Express	16,87,27	●	ACT	35	●	301
●	<b>Gamut Phi5</b>	3,040	Lovely discreet floorstander has excellent sound and several very clever engineering touches	17,100,24	●		20	●	305
●	<b>Green Mountain Audio Rio</b>	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)

Shapes and sizes for every budget

Badge	Product	Price	Comments	www.techradar.com	Size - width, height, depth (cm)	Floorstander	Ease of drive	Bass from (Hz)	Free space	Close to wall	Issue number
●	<b>Guru QM10</b>	1,595	A very clever close-to-wall standmount with fine imaging, that sounds a lot bigger than it looks	/465869	30,25,2,23.2	A	26	●	●	●	317
●	<b>Jamo R 907</b>	6,600	Arguably the more 'chummy' of Jamo's dipole flagships, powerful bass and open midrange	/498515	44,118,9.7	●	A	30	●	●	317
●	<b>JBL Everest DD66000</b>	44,000	Awesome performance in the true meaning of the word & exceptional musical communication		111,96,5.47	●	A	50	●	●	331
●	<b>Kudos X2</b>	1,350	Attractive presentation alongside a lively sound makes for an involving experience		16.6,78,20.6	●		27	●	●	337
●	<b>Linn Akurate 242</b>	7,300	Wide, smooth high-frequency dispersion, with excellent sound		21,100,38	●			●	●	343
●	<b>Magico V2</b>	18,000	High pricing derives this speaker's superb painstaking engineering & impressive performance	/624700	25.5,115,30	●	A	32	●	●	325
●	<b>Magneplan Magneplanar 1.6</b>	2,500	Great with acoustic and classical material, this dipole panel speaker has superb sound quality		48,165,5	●	A	43	●	●	329
●	<b>Mission 796</b>	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
●	<b>Monopulse 42A</b>	1,995	Oddball styling, fine bass-to-mid balance and dynamics and superb voice coherence		26,110,25	●	A	25	●	●	302
●	<b>Monitor Audio PL200</b>	4,750	A costly, but beautifully presented loudspeaker with outstanding voicing and character		25.5,100,28.5	●	A-		●	●	330
●	<b>Mordaunt-Short Perf 6 LE</b>	4,799	Striking moulded enclosure minimises coloration, overall balance is smooth, neutral and open		24,115,43	●	A	22	●	●	308
●	<b>Neat Momentum 3i</b>	1,790	Sounds bigger than it looks, with good coherence and an impressively wide dynamic range		22,38,27		A-	23	●	●	302
●	<b>Opera Callas</b>	3,195	Technically innovative multi-tweeter system, this is a grown up and articulate performer	/429144	23,375,34			32	●	●	311
●	<b>Opera Seconda</b>	1,995	Fine styling and finish, plus very superior voicing, if a shade lacking in warmth		24,102.5,31.5	●	A	20	●	●	314
●	<b>Pioneer S-2EX-W</b>	5,200	This speaker offers superb midband neutrality and exceptional clarity	/587272	291,56.5,42.5	●	A	37	●	●	320
●	<b>PMC GB1i</b>	1,525	Fine voice reproduction, overall agility and well-judged balance		15.5,87,23.4	●	A	40	●	●	337
●	<b>PMC FB1i</b>	2,100	A floorstander that boasts impressive bass extension and a smooth sweet top end	/429594	20,100,30	●	A	20	●	●	329
●	<b>PMC fact .8</b>	5,250	Beautiful styling, alongside a superb all-round sound with a notably wide dynamic range		15.5,105,38	●	A	55	●	●	327
●	<b>PMC IB2i</b>	8,900	Delivers a top class sound quality, fine imaging and exceptional dynamic grip	/617595	33,74,46.5	●	A	25	●	●	324
●	<b>PSB Synchrony One</b>	3,500	Slim and discreet floorstander that delivers superb sound quality and flexible bass	/516267	22,109,32.5	●	A	45	●	●	318
●	<b>Revel F32</b>	3,200	Meticulously balanced, tonally neutral design makes for a taut, well disciplined sound		22,105,39	●	A	20	●	●	256
●	<b>Revolver Screen 3</b>	2,799	Visually dramatic and very successful in delivering genuine high-quality hi-fi sound		50,140,11		A	35	●	●	329
●	<b>Roksan Caspian FR-5</b>	2,475	Sharp-looking speaker sounds exceptionally open and lively without aggression		20,100,25	●	A	22	●	●	290
●	<b>Sonus faber Luito Monitor</b>	1,690	Subtly designed, elegant-sounding package, especially with good recordings	/603221	18.5,35,33.5		A-	55	●	●	322
●	<b>Sonus faber Minima Vintage</b>	2,490	Easy, graceful-sounding compact, a natural for acoustic material at moderate volume levels	/455417	20,33,27.5		A-	55	●	●	312
●	<b>Sonus faber Cremona Audit.</b>	3,350	Open, exciting and with surprisingly good bass, this is 'The Little Speaker That Could'		20,35,37		A	50	●	●	305
●	<b>Spendor SA1</b>	1,295	Very high-quality sub-miniature with notably superior sound		16.5,30.5,19		A	30	●	●	334
●	<b>Spendor SP3/3R2</b>	2,295	Lovely overall balance with fine voicing and transparency		27.54,5.32.5		A		●	●	343
●	<b>Tannoy Definition DC8</b>	2,500	Stylish-looking, this speaker is a fine communicator with clean, crisp and dynamic sound		27,47,26			55	●	●	343
●	<b>Totem Sttaf</b>	1,695	This speaker delivers good scale with a fine midband		16x85x24.2	●	A		●	●	340
●	<b>Triangle Genese Lyrr</b>	3,300	A well-balanced speaker with generous sensitivity, fine imaging and good expressiveness		23,30.3,113.3	●	A	30	●	●	338
●	<b>Teufel Ultima 800</b>	2,498	Exceptional value for money due to direct sales and easy system-matching		22,98,37	●	A	42	●	●	335
●	<b>Vivid Audio K1</b>	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
●	<b>Wilson Benesch Curve</b>	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
●	<b>Wharfedale Opus</b>	1,500	Great material value and a solid, if bright and forward sound. Has great loudness potential		26,100,5.41	●	A	23	●	●	314
●	<b>Yamaha Soavo 2</b>	1,200	Cunningly crafted with a beautiful balance that always sounds lively, open and involving		22,38,35		A	28	●	●	296
●	<b>Zu Essence</b>	3,750	Realism and communication skills are more than compensation for balance shortcomings		30.5,1.25,30.5	●	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



**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
●	<b>Audiophile Base Std Supp't</b>	1,200	Expensive and quite bulky, but sound is unusually detailed and resonance-free	57	46,35	3	<b>MDF</b> 302
●	<b>Blok Stax 300</b>	180	A simple and effective design that gives some useful isolation across most of the audio band		40,46	3	<b>MDF</b> 334
●	<b>Custom Design Inert Matt</b>	70	Isolation platform can improve the sound of hi-fi components, but is a bit small for most kit		40x25		<b>Metal</b> 311
	<b>Custom Design XL4</b>	380	Simple construction pays off in smart looks. Sound contribution is minimal		60,42	4	<b>Glass</b> 293
	<b>Custom Design Milan</b>	509	Good-looking stand with nothing more to complain of than slight muddying of detail	57	48,39	4	<b>Glass</b> 302
●	<b>Hi-Fi Racks Podium</b>	500	A keenly priced piece of high-class furniture that also happens to sound great		59,5		<b>Wood</b> 320
●	<b>Isonoe Isolation feet</b>	98	A set of four isolation feet that are ideally suited to microphonic kit like turntables				<b>Alloy</b> 327
●	<b>Magic Racks MR1</b>	600	At its best it's very effective and gives real isolation across the audio band	59			<b>Rubber</b> 344
	<b>Partington Minim</b>	470	Adds its own character to rock, but to the detriment of acoustic sounds	78	45,37	5	<b>Glass</b> 302
●	<b>Quadraspire QX25 Support</b>	25	Beautifully simple design, cheap and easy to use. Excellent with CD players				<b>Acrylic</b> 327
●	<b>Quadraspire Sunoko-Vent T</b>	800	The sound is detailed and largely uncoloured, while the design is rigid and beautifully veneered		59,47	4	<b>MDF</b> 334
	<b>Russ Andrews Torlyte Rack</b>	988	Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice	68	54,49	4	<b>Torlyte</b> 240
●	<b>Townshend VSSS</b>	1,380	This attractive Seismic Sink retains the same excellent vibration-killing sound quality	76	35,50	4	<b>Glass</b> 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 Filled	Welded	Shelf type	Issue number
	<b>Anvil Sound Display Stand</b>	229	A variety of smart looks available – sound is clear and precise	50	20,17	●		1 293
●	<b>Custom Design RS300</b>	110	An attractive stand whose lack of coloration suits it to high-resolution systems	56	16,5,18	●		1 281
●	<b>Custom Design SQ404</b>	220	Robust four-pillar design gives very low coloration and maximises performance	61	18,16,3	●		4 283
●	<b>Partington Ansa 60</b>	119	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent	62	18,15	●		4 232
●	<b>Partington Dreadnought BS</b>	299	Sound is better defined in almost all areas than cheaper, slimmer stands can offer	62	17,23	●		5 309
●	<b>Partington Heavi II</b>	499	Robust to the nth degree, this stand helps produce very precise bass and upper frequencies	53	31,22	●		6 287

**SPECS KEY** **HEIGHT (CM)** Height of equipment support and speaker stand (not including spikes) in centimetres. **TOP PLATESIZE (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



**Partington Dreadnought BS £300**  
Probably the best speaker stand for the money – heavily engineered and backed up with sound theory, the Dreadnought is real class



**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

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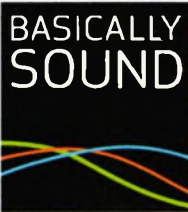
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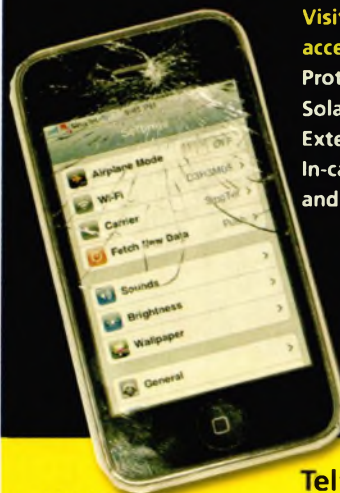
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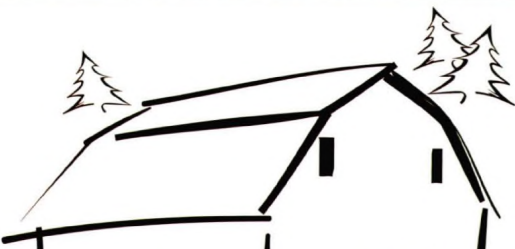
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# The future's bright

**Jimmy Hughes** is uninspired by the current choice of downloads, but the promise of better-than-CD-quality is still exciting

Undoubtedly, the biggest frustration facing CD collectors back in 1983/4, was the absence of certain pieces of music and/or performances from the catalogue. It was a good few years before all the Mahler symphonies could be bought on CD, for example, and likewise, albums by The Beatles.

In those early days, there were lots of CD 'fence sitters' – cautious would-be converts who watched and waited before jumping on the bandwagon. Was CD just a marketing gimmick, or was it going to stay the course? Many looked for signs that the record companies were committed to the new medium.

So when, at the tail-end of 1983, Polygram issued their first opera sets on CD, people collecting classical music really sat up and took notice. Why? Because it sent out a strong clear signal that CD was a serious medium and here to stay. It confirmed – to even to the most cynical – that CD was something to invest in with total confidence.

Many believe CD was an immediate success, commercially. Not so. It's often forgotten that CD took a good three years to fully establish itself in the marketplace. Once buyers began seeing more and more titles being released on silver disc, it was only a matter of time before the new medium became dominant.

Despite this, it was still at least 12-15 years before CD did justice to the huge back-catalogue of music recorded prior to 1983. And even now – over a quarter of a century later – there are still many recordings that have never been reissued on CD. So, if you're considering switching horses, the 'early years' can be frustrating.

Collecting music tends to be a slow process. In my case, it probably took the best part of 15-20 years before my collection of CDs equalled the vinyl I'd amassed. The problem was partly financial – initially, CDs cost twice as much as LPs. But it was also down to many recordings/pieces of music simply not being available on CD.

Speaking personally, only downloads that offer better quality than CD interest me; I can't really see the point of CD-equivalent downloads unless it's of music (or a special performance) I simply have to have, and which cannot be bought in CD format. Otherwise, if it's on CD, I'd rather have it as a silver disc.

With that being the case, I don't feel massively inspired when I look at what's currently available on the download market. Speaking as someone mainly interested in classical music, there are far too many 'holes' in the catalogue – a dearth of choice, even with popular repertoire.

## Does any of this really matter?

Why fret? The catalogue will doubtless grow in time. Meanwhile, you can bolster downloads with CD material – perhaps ripping your existing silver disc collection to a hard-drive. Perhaps. But, can I really be bothered? For me, it smacks of the days when we spent half our lives transferring LP collections to cassette.

In a contracting market, record companies find ways of getting music collectors to buy new improved versions of albums they've already got. We've had 'expanded' editions and special 'remastered' reissues, but mostly on Red Book CD. The lure of hearing old favourites in much-improved sound is hugely tempting. At least it used to be!

So, if I learned that companies like Universal (who control classical labels Deutsche Grammophon, Decca and Philips) and Sony (who control Columbia and RCA) were regularly going to offer newly remastered back-catalogue downloads in better-than-CD quality, I'd be very interested and excited. But realistically, will that ever happen?

Having a regular supply of new recordings in the best-possible sound quality is the lifeblood of the hi-fi industry – and (perhaps) even the record industry, too. When achieving the highest-possible level of quality no longer matters, we're all sunk. Why bother spending lots of cash on a hi-fi system, if the source material lets it down?

In retrospect, the unwillingness of Universal, Sony, and EMI to support higher quality alternatives to CD (like SACD) was a failure of Corporate Nerve. The Big Guys needed to show commitment – so that doubting punters would be convinced to invest – but they didn't. Small independent labels can't be expected to fight these battles. ●



## EMI Meeting

Board stupid: quality isn't high on the agenda for the big boys it seems

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